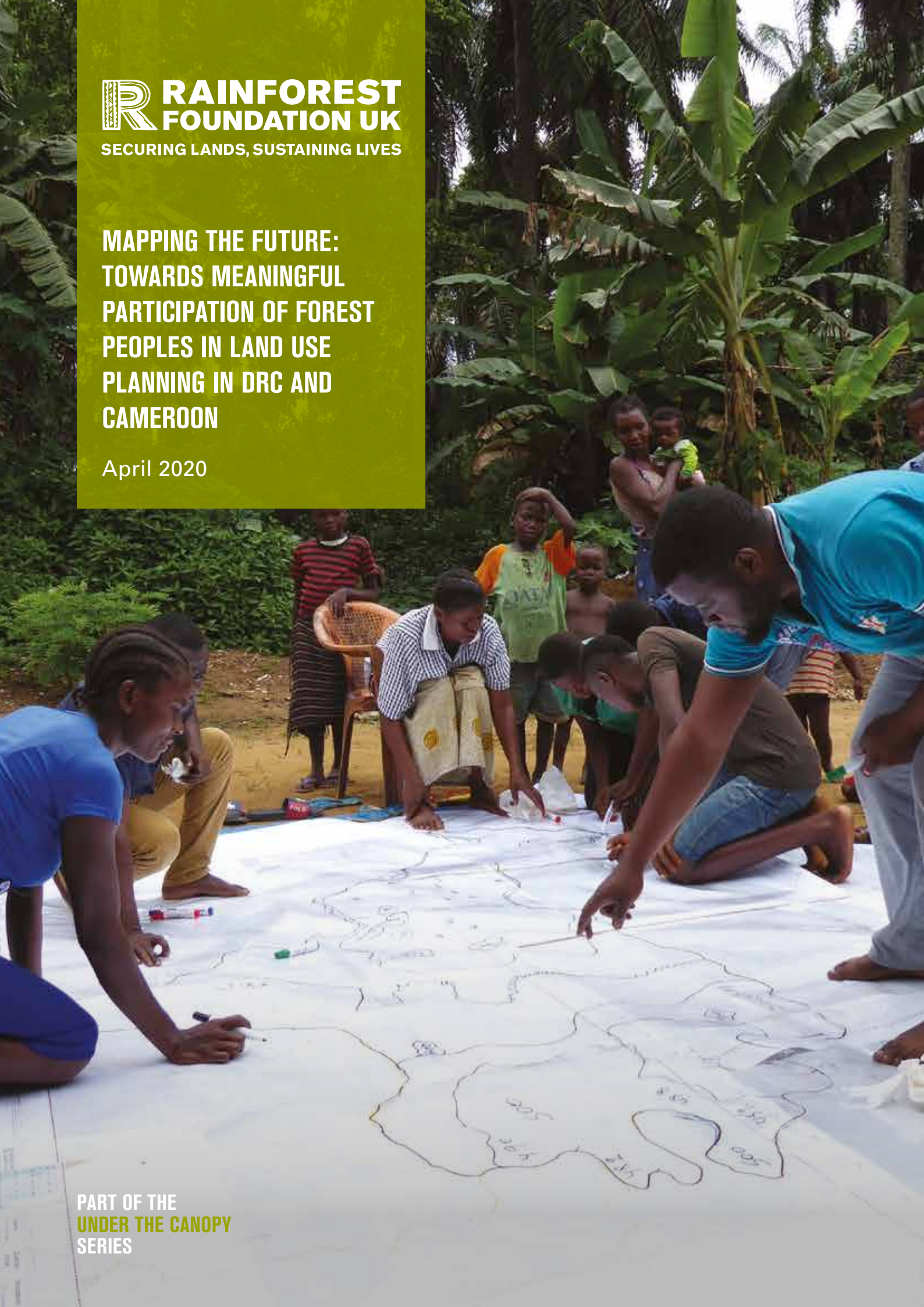
RAINFOREST FOUNDATION UK

SECURING LANDS, SUSTAINING LIVES

MAPPING THE FUTURE: TOWARDS MEANINGFUL PARTICIPATION OF FOREST PEOPLES IN LAND USE PLANNING IN DRC AND CAMEROON

April 2020



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EXECUTIVE SUMMARY

The Congo Basin rainforest constitutes one of the world's great biodiversity reserves, plays a crucial role in regulating the global climate and directly sustains the lives of millions of people. It is widely accepted that current land regimes in the Central African countries are inadequate to address the myriad of overlapping and competing claims, uses and pressures on the forest and in recent years there has been a wave of land and forest reforms launched across the region.

Such processes hold both inherent risks and opportunities for forest-dependent communities. On the one hand, an overly top-down approach relying exclusively on satellite imagery and remote sensing data could result in land allocations being made purely on the basis of, for example, timber stocks, soil type or biodiversity and carbon levels rather than existing forest occupation and customary tenure. This problem is particularly acute in a context where communities are weakly represented, lack land rights and where there is an absence of reliable and transparent geographical information on their customary use, ownership and possession of forests.

On the other hand, land use planning can be a mechanism for clarifying and securing communal tenure in forests areas - something increasingly recognised as being fundamental to good land and forest governance. Reforms underway in Cameroon and the Democratic Republic of Congo both foresee a role for local government in land use planning (sectors, councils), in theory providing an ideal interface between communities and wider planning processes and for testing 'bottom-up' participatory approaches that integrate local rights and requirements.

In order to determine key variables for success, this study looks at previous experiences of land planning in the Congo Basin as well as best practices from elsewhere in the world. Using this model, we identify opportunities, barriers and needs in the two countries, finding that:

GOVERNANCE, LAW AND POLICY

- Robust national land use policies and strategies are needed that strengthen local autonomy in land use planning in line with international best practice, such as the FAO Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests.
- Such policies must also clarify the role of different actors, and how land use plans intersect with those developed at higher scales and different sectors.
- Land use planning is not an end in itself and must be accompanied by approaches that genuinely devolve property rights and management responsibilities to local communities such as through community forest legislation and ultimately broader reform of tenure systems.

PLANNING INSTITUTIONS

- The mandate and capacity of planning ministries must be strengthened to avoid capture by powerful ministries and vested interests.
- The pace of devolution to local planning institutions must be accelerated through much greater investment in the local offices of planning ministries and by implanting multi-disciplinary cells in them.
- Much greater resources need to be directed at local and national civil society to support and monitor land use planning processes.
- Where possible, land use planning functions at the community level should be rooted in existing customary institutions and tenure systems rather than imposing artificial structures that are unlikely to have buy-in. At the same time, there should be special measures to ensure the meaningful participation of often marginalised groups such as women and indigenous people.

IMPLEMENTATION

- The provision of data and multi-disciplinary support to land use planning processes must be improved to inform decision-making.
- Plans developed should be realistic and actionable and they should build on traditional knowledge and practices, in line with available resources and capacities of local communities to implement them.
- The capacities of communities to effectively represent their interests in local level planning processes vis a vis the private sector, large conservation organisations and local authorities should be strengthened.
- Rather than waiting for lengthy national level reforms to unfold, starting land use planning from the village level building upwards to the sector and council levels (and beyond) should be considered. Such an approach could encourage buy-in across scales, and kick-start much needed institutional and private sector investment in rural areas.
- Piloting of land use planning in 'hotspots' – areas where there is significant overlapping and competing claims on forests – should be encouraged in order to develop best practice on multi-stakeholder approaches.
- In the meantime, legal requirements for due diligence and public consultation need to be strengthened and enforced to stop unilateral land allocations undermining collective planning processes.

FIGURE 1 – LAND USE PLANNING DEFINED

From the outset, it is important to clarify the various concepts and terms related to land use planning *(Aménagement du Territoire)* which are often misunderstood, hampering progress on this issue. For the purposes of this study, a working definition of land use planning as provided by the FAO/UNEP, Guidelines for Integrated Planning for Sustainable Management of Land Resources, 1999, is used:

Land use planning is a systematic and iterative procedure carried out in order to create an enabling environment for sustainable development of land resources that meets people's needs and demands. It assesses the physical, socio-economic, institutional and legal potential and constraints with respect to an optimal and sustainable use of land resources, and empowers people to make decisions about how to allocate those resources.

GLOSSARY OF TERMS

Land use plan: A plan that determines the stratification of land use categories within a landscape, the geographical distribution and location of these zones, their relationship to each other, and the developmental purposes and objectives of them.

Zoning: A process of identifying geographic areas separated by differing land uses as a part of a broader land use planning process and creating rules that govern use in those geographic areas. Land suitability analysis: A process of comparing land use requirements with the properties of land units.

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Land cover: The observed (bio)physical cover on the earth's surface, usually described as types of forest, wetland, impermeable surfaces, agriculture, etc. The difference with the concept of land use stands in that the latter shows how people use the landscape – whether for development, conservation, or mixed uses.

Land tenure: There are two main types, or in some cases a combination of both: a formal system, regulated by statutory laws with official ownership and title recognition; and a traditional system in which land use and user rights is regulated according to customary (often unwritten) rules and practices.

Participatory mapping: A method for documenting geographical attributes through the active involvement of local people.

Macro-zoning: A process of dividing a large geographic area into broad land use categories or intended large-scale designations and allocations (such as for 'production forest', 'protected areas' etc). Usually at a scale of 1/200,000 or above.

Meso-zoning: Executed at the landscape level, might include specific designations, such as logging concessions or national parks. May be executed at a scale of around 1/50,000 – 1/200,000. Micro-zoning: Executed at a small scale, from 1/1,000 to 1/5,000, and involve site-specific zonal planning. Can form part of the process of creating meso or macro-level plans.

Sequencing: The order of land use planning and zoning processes at different levels (local, regional, national) and for different sectors.

CONTENTS

LIST OF ACRONYMS

CAFI	Central African Forest Initiative
CAR	Central African Republic
CARPE	Central Africa Regional Program for the Environment
CBNRM	Community-based natural resource management
CIFOR	Centre for International Forestry Research
CLD	Local Development Committee (DRC)
DAFO	District Agriculture and Forestry Offices (Laos)
DIAF	Department of Forest Inventories and Management (DRC)
DLMA	District Land Management Authority (Laos)
DRC	Democratic Republic of the Congo
EDT(s)	Decentralised territorial entities (DRC)
FAO	Food and Agriculture Organization of the United Nations
FPIC	Free, Prior and Informed Consent
GIS	Geographical Information System
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit (currently named GIZ or Deutsche Gesellschaft für Internationale Zusammenarbeit) - German Corporation for International Cooperation
IRD	Institute of Research for Development
IRLUP	Integrated Regional Land Use Planning Process (Namibia)
LUP	Land Use Planning
MAF	Ministry of Agriculture and Forestry (Laos)
MINAT	Ministry of Aménagement du Territoire (DRC)
MINEPAT	Ministry of Economy, Planning and Regional Development (Cameroon)
MEDD	Ministry of Environment, and Sustainable Development (DRC)
MINFOF	Ministry of Forestry and Wildlife (Cameroon)
MLR	Ministry of Land and Resettlement (Namibia)
NAFRI	National Agriculture and Forestry Research Institute (Laos)
NGO(s)	Non-governmental organization(s)
NPFE	Non-Permanent Forest Estate
NLMA	National Land Management Authority (Laos)
NTFP	Non-timber forest product
PDL	Local development plan (DRC)
PIREDD	Integrated REDD+ Programme
PLADDT	Local Land-use and Sustainable Development Plan (Cameroon)
PFE	Permanent Forest Estate
REDD+	Reducing Emissions from Deforestation and Degradation
UCRT	Ujamaa Community Resource Team (Tanzania)

1. INTRODUCTION: SETTING THE SCENE

1.1 LAND USE IN THE CONGO BASIN

The management of land in the Congo Basin matters. Spanning the Democratic Republic of Congo, Republic of Congo, Gabon, Equatorial Guinea, southern Cameroon and the south-west of Central African Republic, the Basin constitutes one of the world's great biodiversity reserves and is a carbon store of global significance. The forests covering much of the region are believed to have been inhabited by humans for 50,000 years and today directly sustain the lives of an estimated 50 million people, including several hundred thousand indigenous 'Pygmies'. The region has huge development needs, with countries consistently ranking towards the bottom of the global development indices while competition for control of its abundant natural resources continues to fuel insecurity and outright conflict.

The main land use strategy of Central African governments and their development partners over the past decades has been to retain state control of land and to divide forest areas into large bounded spatial units, mainly in the form of commercial timber concessions or as strictly protected areas (see Table 1 and Figure 3). Despite hundreds of millions of dollars investment in so-called 'sustainable forest management', much of the logging industry continues to be synonymous with political patronage, poor and unsustainable management practices, weak tax revenues and conflicts with local people[1]. The region's protected area network has also been linked with very negative social impacts and human rights abuses of forest dependent people, whilst being of questionable efficacy in protecting key species[2].

TABLE 1: CONGO BASIN LAND ALLOCATIONS FOR INDUSTRIAL LOGGING AND PROTECTED AREAS (HA)[3]

Country	Total land cover	Estimated low land forest cover	Protected areas	Industrial logging concessions
Cameroon	46,942,810	20,370,000	4,152,315	10,519,581
CAR	62,456,800	5,833,000	6,873,515	3,724,974
DRC	234,427,510	107,181,000	25,795,541	12,841,130
Gabon	26,044,600	22,416,000	3,013,840	11,890,022
Republic of Congo	34,736,700	20,932,000	3,687,384	12,866,097
Total	404,608,420	176,732,000	43,522,595	39,000,674
Percentage of total area	-	44	11	10

Source: Forest cover (Mayaux et al, 2013); Logging concessions and protected areas (COMIFAC, 2013).

[1] Lawson (2014), Global Witness (2018).

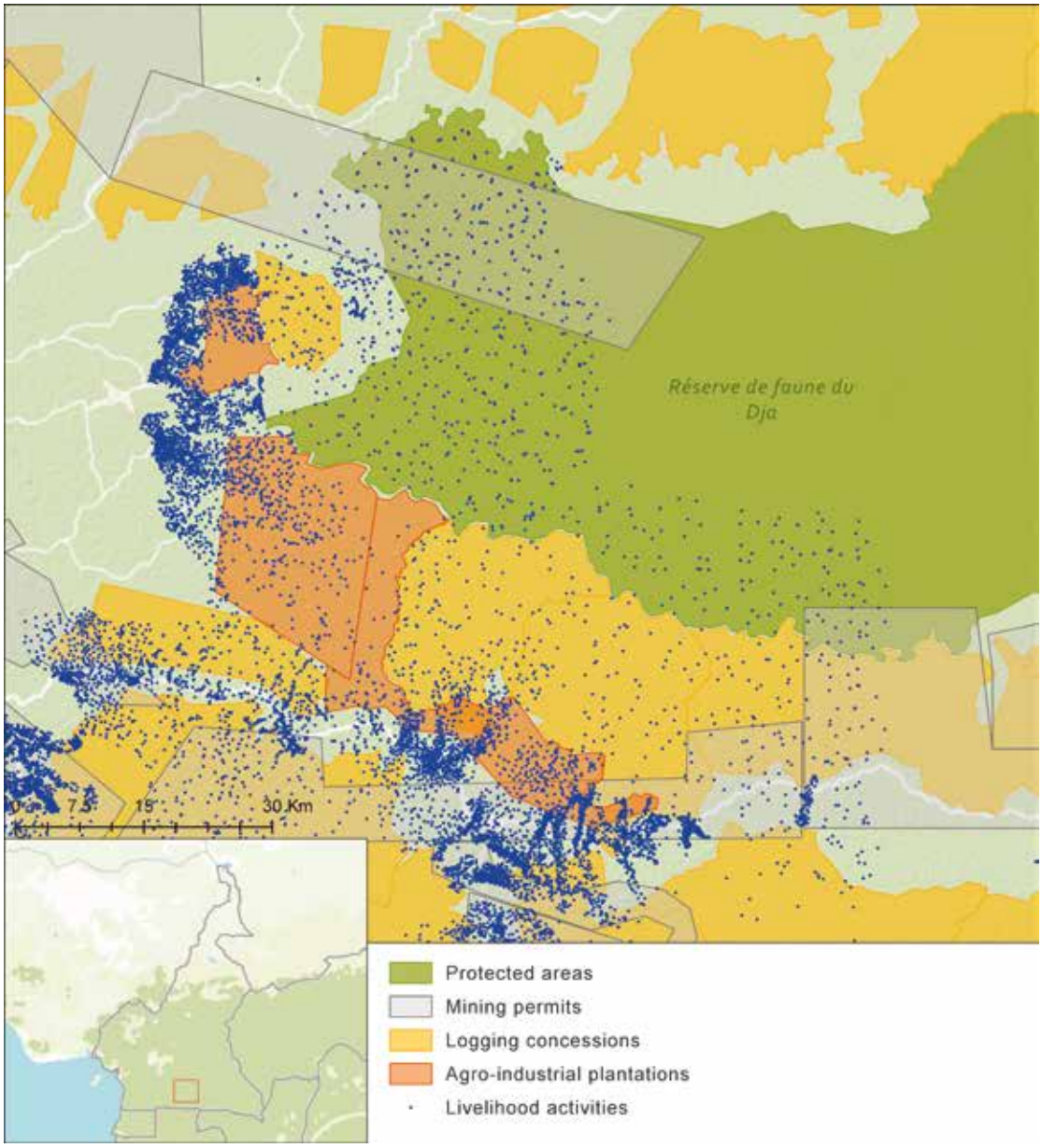
[2] Out of a recent research sample of 34 protected areas of around 200 in the region, 26 were found to have partially or completely displaced communities from their ancestral homelands, without any known compensation, in only 12 protected areas was there any form of consultation with local communities and in only two cases did this happen before the establishment of the park. For more information, visit http://rainforestparksandpeople.org.

[3] Note this table is only a rough guide, with forest cover estimates especially subject to different interpretations.

Such allocations have commonly been on lands claimed and used under longstanding customary systems, which, evidence suggests, remain well established and widespread across the region[4]. This has effectively rendered thousands of communities as landless, with areas 'reserved' for them mostly restricted to degraded agricultural land next to roadsides or rivers, deemed unsuitable for commercial exploitation or biodiversity conservation.

The one notable exception to this is in the DRC, where a 2002 moratorium on the allocation of industrial logging concessions has meant there is in excess of 70 million hectares of primary forest alone potentially available for alternative forms of forest management[5]. However, currently less than two percent of the forest area in the region is under any kind of formal communal tenure arrangements.

FIGURE 2 – MAP SHOWING OVERLAPPING LAND USES IN SOUTHERN CAMEROON



Source: MappingForRights, World Resources Institute.

[4] USAID (2010).

[5] Note that this calculation does not include other forest types such a savannah or mixed forests that may be suitable for community forest development. Nor does it include non-forest sector allocations such and mines and hydrocarbons, which in the view of the authors are not be necessarily mutually exclusive to forest-related activities.

1.2 INCREASING DEMAND FOR LAND

Already by far the largest formal land use in the region, the **forest sector** (timber industry) is set to grow further in the coming years. Meanwhile, millions of additional hectares of forests will be needed if Central African governments are to honour commitments to the UN Aichi Targets of designating 17 percent of their national territories as **protected areas**[6] while **REDD+ projects and jurisdictional programmes** have become increasingly prominent, particularly in the DRC.

While the forest sector remains dominant, new forces are driving land use change. Demand for land has increased markedly in recent years from agribusiness, oil exploration, mining activities and associated infrastructure development as countries in the region seek to attain 'emerging economy' status in the coming decades[7].

With land at a premium in Southeast Asia, the Congo Basin is becoming a new frontier for production **of palm oil and other commodities**[8]. Central African governments, for their part, see these investments as central to their development plans. In Cameroon, the Ministry of State Lands (MINDCAF) has since 2012 been engaged in a nationwide process to identify and reserve large areas of land to offer to national and international investors. This has included suitability mapping for palm oil, the development of a *Plan National d'Investissement Agricole* as well as a national palm oil strategy. Agribusiness has been slower to emerge in DRC, presumably because of less favourable investment conditions such as poor governance, restrictions on foreign ownership, poor infrastructure and weaker market access. Nonetheless, the country has some of the largest untapped arable lands on earth, and the government has plans to create 22 agro-industrial parks that would cover millions of hectares.

In terms of **mining, hydrocarbons and infrastructure development**, Cameroon, in particular, has ambitious plans that could transform land dynamics in the country, the extent of which are set out in the 2009 Growth and Employment Strategy Paper. Large-scale projects already underway include the Kribi deep-water port and North Congo-Kribi railway transport iron ore reserves from Mbalam (Cameroon) and Nabeba (Republic of Congo) as part of a wider integrated system to extract and transport minerals and oil in the rainforest areas to the Atlantic coast. The DRC has announced plans to exploit huge oil reserves overlapping much of the forest estate while investment and construction of large-scale infrastructure is also accelerating, due in large part to Chinese investment[9].

Palm oil concession in Cameroon. Mokhamad Edliadi, CIFOR

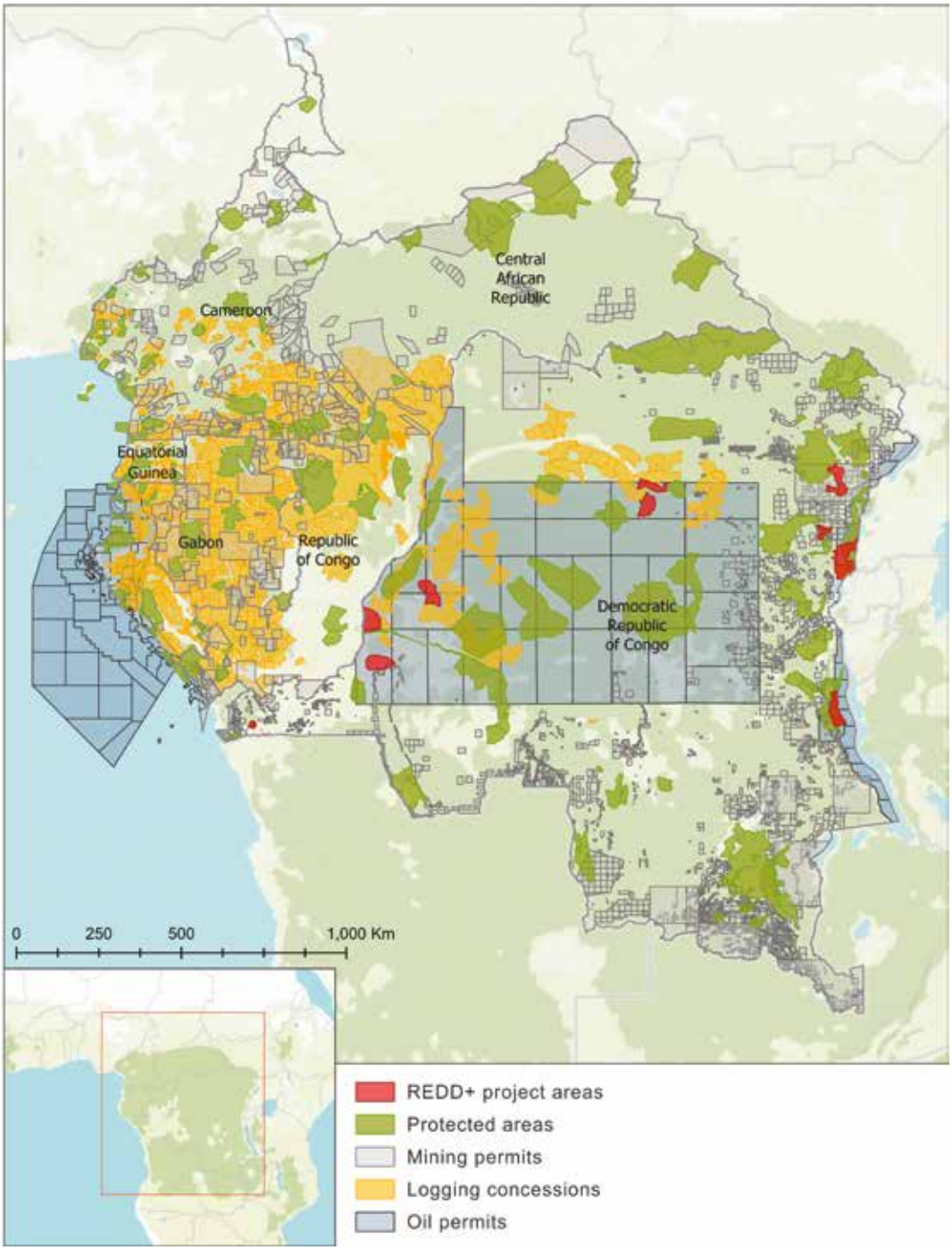
[6] See Aichi Target 11 of the UN Convention of Biodiversity. Note there is now an ongoing effort to revise this target upwards to 30 percent by 2030.

[7] CAR, Republic of Congo and Gabon seek to become 'emerging economies' by 2025, Democratic Republic of Congo by 2030 and Cameroon by 2035.

[8] See, for example, Rainforest Foundation UK (2013).

[9] For example, in 2008 China and DRC struck a $9 billion agreement where China would provide loans for highway and railway construction in exchange for mineral resources such as copper and cobalt.

FIGURE 3 – MAP OF FOREST COVER AND LARGE-SCALE LAND ALLOCATIONS IN THE CONGO BASIN



Source: MappingForRights, World Resources Institute

At the same time, there are certain **demographic pressures on forests, livelihoods and services** with growing populations in some rural places but with net urban migration reported in others. Forest loss is also accelerating in many areas, although is still far less in comparison to the rainforests of the Amazon and Southeast Asia.

1.3 DECENTRALISATION AND THE RIGHTS OF FOREST COMMUNITIES

While unregulated demand for land poses clear risks for communities and forests in the region, there are forces shaping land use that do give cause for optimism. At the international policy level, clarification and securing property rights of rural communities is now a generally accepted feature of good natural resource governance[10]. Policy instruments such as the *FAO Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security* have been widely promoted since 2012, including at the level of the G20, Rio+ 20 and UN General Assembly, while land tenure features as a crosscutting issue in the Sustainable Development Goals. Partly because of this, community land rights, on paper at least, have gained an increasingly higher profile in the portfolios of the Congo Basin countries' foreign assistance partners[11].

There have also been perceptible changes in national laws and policies concerning the rights of forest dwellers, including at the highest edifices of the legal system. For example, the 2006 DRC Constitution (revised in 2011) refers to the state's "sovereignty" over land as opposed to "ownership" and explicitly recognises customary rights as individual and collective private property rights, even though there exists no provision for this in land law or a functional and coherent cadastral system for registering these[12].

There have been several other recent developments on decentralisation and the rights of forest dwellers that could positively reinforce community involvement in land use planning. For instance, the DRC Environment Ministry (MEDD) finally completed the legal framework for community forests in February 2016[13]. A National Community Forest Strategy was adopted in February 2018 to guide implementation across the national territory[14], with the government setting an initial target of 2,465,000 hectares being under community control by 2023[15].

1.4 NEW IMPETUS ON LAND USE PLANNING AND OPPORTUNITIES FOR COMMUNITIES

All of this has led to an increase in overlapping land uses, claims, jurisdictions and rights in forest areas that outdated and poorly resourced land administrations and cadastral systems have been inadequate to address. The case for an overhaul of the region's land regimes is clear, and in recent years, there has been a wave of land reforms and pilot initiatives launched across Central Africa. Ministries in charge of land tenure and territorial management have either been strengthened or new ones created. Revisions of outdated land codes in DRC, Cameroon and Central African Republic (CAR) were instigated in 2012, although progress on all fronts has been slow.

Land use reforms in DRC, the Republic of Congo, Cameroon and Gabon are at different stages but all seek to promote multisectoral approaches to land use planning, and each to varying degrees emphasises the role for decentralised planning institutions as well as local communities in some cases.

The guiding text for land use planning in **Cameroon** is Law N° 2011/008 of 6th May 2011 providing orientation for the management and sustainable use of land. The law is explicit that local municipalities (councils) have an active stake in land use planning through the adoption of Local Land Use and Sustainable Development Plans' *(PLADDT)*. Indeed, decentralisation and the participation of decentralized territorial units are included in the law among the guiding principles for land-use planning[16]. Councils, which are supposed to be elected bodies, are also permitted to participate in regional-level planning processes, in theory allowing their constituents' requirements for land use planning to be elevated to higher levels.

In April 2017, the Ministry of Economy, Planning and Regional Development (MINEPAT) validated a National Plan for Territorial Planning and Sustainable Development, and is developing similar plans in the ten regions.

[10] See, for example, World Resources Institute (2016), Rights and Resources Initiative (2017).

[11] The Congo Basin programmes of GIZ, DFID, USAID, NORAD and the World Bank all now have significant components dedicated to land governance in forest areas.

[12] P.E Kenfack (2014) and Paul de Wit (2013).

[13] See DRC Community Forest Law 011/2002, Legal Decree 14/018 and Implementation Order 025.

[14] See Stratégie nationale relative à la foresterie communautaire (SNFC).

[15] See Programme National Environnement, Forêts, Eaux et Biodiversité (PNEFEB-2).

[16] Law N° 2011/008 of 6th May 2011.

TABLE 2 – LAND USE PLANNING SCHEMAS IN CAMEROON

Schema	Function
National schema	Envisaged as a broad outline to guide future land use nationwide, setting the main long-term orientations, and not as a detailed spatially explicit "map". It is to be revised every 5 years. It seems to be envisaged as an exercise driven by the government, without involving large scale public consultation.
Regional schemas	The translation of the national schema at the level of the region, and they are also to be revised every 5 years. They are elaborated by the region but it is clearly stated that councils participate in this.
Sector-specific schemas	Further define the national schema for a specific sector.
Local land management plans *(Plan Local d'Aménagement et de Développement Durable de Territoire – PLADDT)*	Cover one or more council areas and further define the regional schemas. Councils are the lowest geographical units of planning envisaged in the law. It is also the only level of planning that directly engages with local stakeholders to produce spatially explicit and detailed maps.
Contract plans	Negotiated between the State, the region and/or decentralized territorial units, and define the responsibilities for implementing land use planning processes.

Source: Acworth (2016).

DRC lags somewhat behind Cameroon in terms of developing land use policies, with the colonial era *Décret du 20 Juin 1957 sur l'urbanisme* (urban planning law) remaining the main legal frame of reference for territorial planning in the country. The attempted modernisation of the current land administration is largely being developed in the context of efforts to reduce emissions from deforestation and degradation (REDD+). A coherent, inter-sectoral approach to land use planning is seen as essential to balance the country's development needs with its commitments to reducing emissions under the UNFCCC Paris framework. Land use planning features as one of the seven pillars of the DRC's national REDD+ Framework and US$1 billion Investment Plan[17].

With the support of the United Nations Development Programme (UNDP) and the Norway-backed Central African Forest Initiative (CAFI), a land use planning (Aménagement du Territoire) reform programme was launched in 2015, followed by the creation of the Ministry of Spatial Planning and Renovation of the City in 2017 (now Ministry of Land Use Planning). Among other things, the reforms aim to develop a national land use policy, support land use planning in integrated emissions reductions programmes (PIREDDs) and develop guidance and specific quality standards for participatory zoning of village lands. It is also foreseen that land use planning functions will be devolved to the sector level (roughly equivalent to municipalities, or councils, in Cameroon) and through the implementation of local development plans and natural resource management plans at the community level.

In both countries there is thus a potential basis for testing and developing 'bottom-up' approaches to land use planning which integrate community rights and local requirements. Indeed there are already a handful of small-scale land use

[17] The seven pillars of the national REDD+ Framework and sustainable development strategy are agriculture, land use planning, governance, land tenure, energy, demography and forests.

planning projects involving local communities being piloted in the region such as in Nguti Council, south-west Cameroon, across a number of locations in Mai Ndombe province in western DRC and in Balanga and Bangengele sectors of Maniema province in the east of the country.

While these reforms offer real opportunities, there remain significant political, institutional and technical barriers to participatory land use planning. In order to address these, **Section 2** provides a brief history of land governance in Central African forests and looks at past experiences and lessons learnt from previous attempts at land use planning in the region. **Section 3** explores positive examples of land use planning from elsewhere in the world in order to identify necessary conditions for success. **Section 4** then uses this theoretical framework to assess the current status land use planning reforms underway in DRC and Cameroon, looking at constraints and opportunities in the two countries. **Section 5** then provides specific recommendations for governments, donors and civil society actors.

2. LESSONS FROM BEFORE: A BRIEF HISTORY OF LAND USE PLANNING IN CENTRAL AFRICAN FORESTS

The legal and political origins of the land situation in the Congo Basin can be traced back to colonial times. Before this era, indigenous peoples and local communities living in the area that would eventually become the Congo Basin nations had customary land rights systems that probably covered the entire territory. These customary systems were not always perfect, particularly for women or indigenous groups, but included bundles of rights to land and resources as well as processes and procedures for dealing with conflicts and disagreements[18].

Following the early European exploration of Central Africa in the 1800s and the Berlin Conference of 1884-1885, many of these rights were effectively overturned by the colonial authorities who declared land to be the dominion of the state[19]. For the purposes of resource capture, states were carved further into districts and zones, lands declared "vacant", resources extracted in an often cruel and deadly manner, and some areas leased as concessions to private companies to help fund administration of the state[20].

State control over forest lands and resources remained an important feature of the Congo Basin countries' political economies into independence[21]. Although certain aspects of customary law were recognised by legislators, creating an often-incoherent dualism with modern law that persists today, inherited legal concepts were generally maintained or even reinforced by post-colonial regimes[22].

The policies of the World Bank and International Monetary Fund during the 60s and 70s further encouraged a shift away from communal land holdings that were seen by the Bretton Woods institutions as an impediment to structural adjustment programmes. This helped perpetuate a general distinction between forest land, under the control of the state, and agricultural land which could be privately owned. In this model, forests have primarily been viewed in terms of economic potential (timber) or biodiversity value with local people perceived as, at best, merely latent beneficiaries, or at worst as serious threats[23].

The most recent wave of World Bank-sponsored forest reforms in the region during the 1990's and 2000's resulted in forest codes and classification systems that roughly divided the forest estate into permanent and non-permanent forests. Permanent forests have been mainly reserved for national parks and other protected areas that form part of the public domain, as well as production forests which are generally leased as industrial logging concessions as part of the private domain. Non-permanent forests (in Gabon, the *domaine forestier rural*, or in DRC, *forêts* protégées) are those generally reserved for subsistence agriculture, community forest initiatives, forests owned by individuals or as a 'land bank' for future land-use needs.

[18] Réseau Ressources Naturelles and Rainforest Foundation UK (2016).

[19] The Berlin conference is often regarded as the formalisation of the 'scramble for Africa', eventually leading to the partition of the continent by European powers and the elimination of most forms of African autonomy and self-governance. See Pakenham (1991).

[20] See, for example, this account of King Leopold's reign over the Congo Free State. (Hochschild, 1998).

[21] It is believed that Mobutu Sese Seko retained his hold on power partially due to the support of "rents" collected from the exports of enclave production of primary products (minerals, oil, timber, crops) from the estates of large corporations.

[22] For example, Cameroon's 1974 land laws went a step further by revoking a nominal provision in colonial law that allowed communities to register their domains. See Alden Wily (2011).

[23] Hoare (2006).

TABLE 3 – FOREST CLASSIFICATIONS IN THE 1994 CAMEROON FOREST CODE

Permanent Forest Estate (PFE) (forêts permanentes)	Non-Permanent Forest Estate (NPFE) (forêts non permanentes)
• State forest (forêts domaniales) – the private estate of the state • Production forest (forêts de production) for timber extraction • Protected areas and forest reserves - for the protection of wildlife and ecosystems • Council forest (forêts communales) – under the control of a local council	• Communal forest (forêts du domaine national) - neither gazetted nor subject to management plans – mostly managed according to local "traditional" rules • Community forests (forêts communautaires) - leased to community organisations, and used according to management plans • Privately owned forests (forêts privées)

TABLE 4 – FOREST CLASSIFICATIONS IN THE 2002 DRC FOREST CODE

Classified Forests	Permanent Production Forests	Protected Forests
• Forests set aside for conservation purposes • Government legally committed to this representing 15% or 17% of the national territory • These forests are subject to legal restrictions regarding user and exploitation rights	• Forests allocated as long-term concessions	• Can be 'contracted' to private entities • Reserved for activities such as small-scale farming (art. 42) • Can be allocated as community forests (art. 22). • This general category of protected forests is often referred to as the 'basket' category *(la corbeille)* as it covers all the forests that do not fall within classified or forest of exploitation.

The way these forests have been zoned, however, has served to largely reinforce this artificial separation of people and forests. The non-permanent forest domains are basically a residual forest category consisting of what is left over from the other categories within the forest nomenclature. Typically, this domain bares little relation to existing forest tenure systems practiced by thousands of communities and can be more easily declassified, or subsequently reclassified into other categories. Even within this, other than in Cameroon, legal implementation orders necessary to enact community forest legislations have been notoriously slow in coming, meaning that until recently communities have had little means of obtaining formal forest tenure in most areas[24].

Margherita Maffii

[24] DRC only completed the legal framework for community forests in February 2016, for example.

2.1 LESSONS FROM RECENT FOREST ZONING EFFORTS IN THE CONGO BASIN

Rarely, if ever, has zoning been based on "micro-level" assessment of actual tenure and traditional rights regimes: instead it has been largely based on remote sensing data, which can identify major categories of vegetation. As a result, zoning exercises frequently omit or underrate the needs and rights of local communities, particularly of indigenous peoples, timber interests are given priority over all other forest uses. **– Hoare, 2006**

The most recent attempts to zone forests in Cameroon and DRC were carried out in the context of the forest sector reforms described above. The short case studies below provide several important lessons for future land use planning activities in the region that are summarised at the end of this section.

2.2 CAMEROON MACRO FOREST ZONING, 1995[25]

The basis of the current land regime in the tropical forest areas of Cameroon, and its associated problems, can arguably be traced back to the 1995 national 'plan de zonage'. As part of a package of forest sector reforms, the then Ministry of Environment and Forestry embarked on a process of zoning the forest into permanent and non-permanent forest estates (see Table 3). *The plan de zonage* was originally conceived of as an indicative framework that would serve as a basis for consultations with local communities but is widely considered to have ended up as a *de facto* land use plan for the entire high forest estate[26].

The plan was developed from a series of base maps showing areas of human occupation and cultivation; ecological types; soil characteristics and tendency for erosion; agricultural potential; accessibility; forest resources; and other resources. Much of this information, including the areas of human influence, was gathered from the interpretation of satellite imagery and aerial photos. Crucially, such an approach omitted geo-spatial information on customary land rights, forest uses and shifting cultivation patterns which may not be visible under the forest canopy[27], and was particularly inadequate to capture the low-impact forest use systems of semi-nomadic indigenous peoples such as the Baka and Bagyeli. As such, the plan bore "little relationship to the systems of land usage practised in Cameroon"[28].

Although consultations with local populations on the plan were foreseen, the time and resources allocated for this purpose were insufficient and resulted in an inevitable bias towards commercial logging and strict nature conservation interests. Consultations were mostly limited to within the confines of what was already proposed by the plan de zonage, and the only issues that were truly open for negotiation during the Permanent Forest Estate registration process were the precise boundaries of the proposed "macro-zones" and access rights within these limits[29]. Furthermore, the Canadian company that was contracted to prepare the plans was paid solely based on outputs achieved, which some have argued served to undermine the quality of national ownership and participation in the process[30].

Consequently, hundreds of communities and their forest resources were absorbed into the permanent forest estate, which in the end accounted for about 9 million out of a total of 14 million hectares in the resulting plan[31]. Areas remaining in the non-permanent forest estate, on the other hand, were on often on degraded land and have often been considered inadequate to meet communities' livelihood needs. Community forest legislation passed in 1994 has provided some limited scope for communities to obtain forest management rights to these areas but has faced implementation challenges[32].

[25] Adapted from Hoare (2006).

[26] See Lescuyer et al. (2001), Ooste (1999).

[27] Burnham (2000), Vermeulen (1997).

[28] Brown (1999).

[29] Acworth and Dkamela (in press).

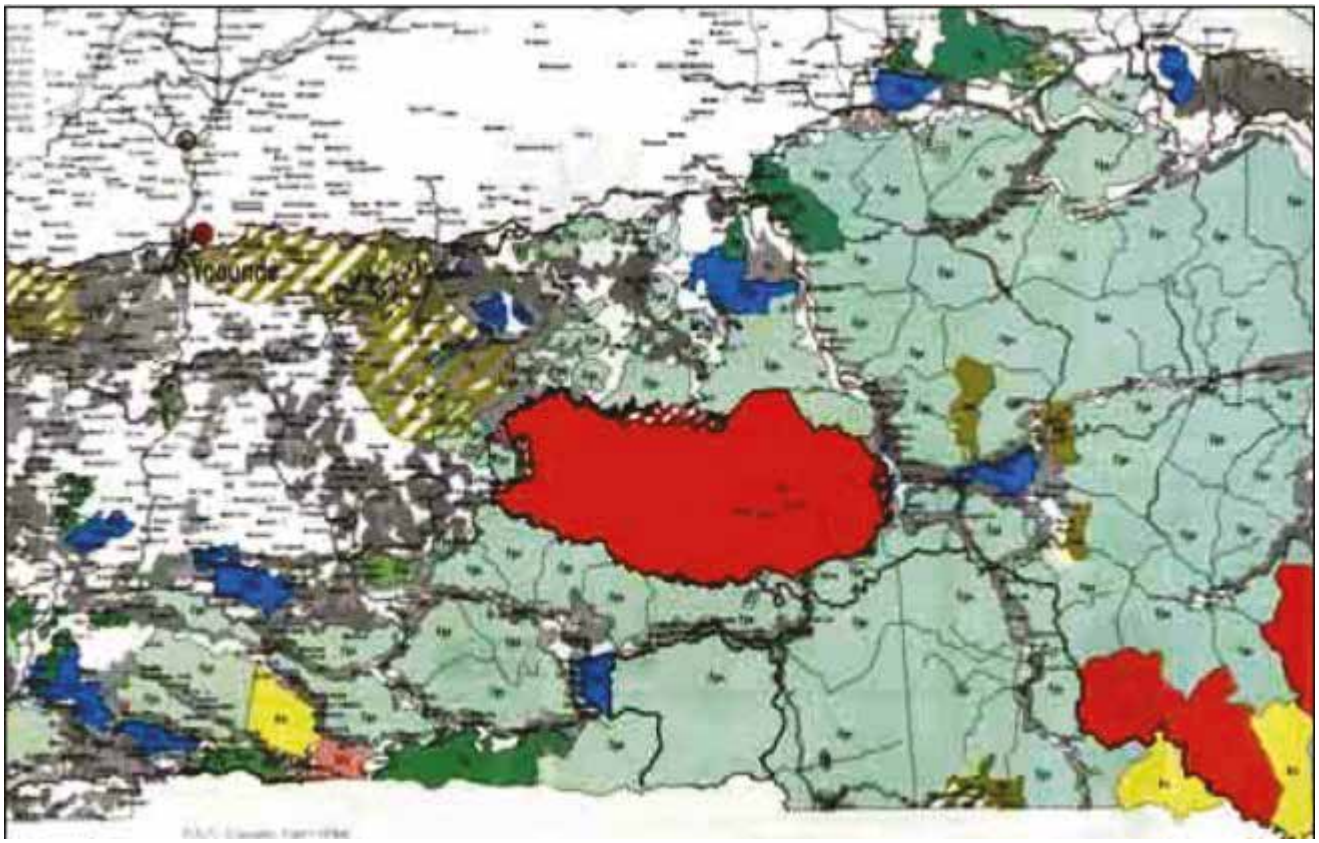
[30] Brown (1999).

[31] Lescuyer (2003).

[32] Although there are some good examples, there is large consensus in literature that community forestry in Cameroon has thus far not achieved the expected outcomes and have been subject to conflicts both within communities with other actors. Reasons that have cited for this include restrictions on the size and term limit of the concessions, overly bureaucratic and centralised governance, sharp differences between the economic and financial returns, conditional factors including communities' technical and managerial skills, access to finance, legal resources and market information. For more information, see Rainforest Foundation UK (2014).

A further weakness of the Cameroonian *plan de zonage* was that the plans were 'sectoral' – with the Ministry of Environment and Forestry developing its own plans while the Ministries of Mines, Agriculture and others issued their own permits. This lack of inter-ministerial coordination has resulted in as many as five overlapping land uses in some areas, mostly superimposed over longstanding customary claims.

FIGURE 4 - A SECTION OF THE 1995 PLAN DE ZONAGE FOR SOUTHERN CAMEROON



Red indicates protected areas; Green is production forests. Source: Hoare (2006).

2.3 THE NATIONAL DRC FOREST ZONING PROCESS, 2003 - ONGOING

In what threatened to become a post-war free-for-all in the exploitation and destruction of the country's huge forests, the government, with support from the World Bank, set out a reform agenda to make logging a sustainable industry[33]. In 2002, a new forest code was passed, millions of hectares of illegal logging contracts were eventually cancelled and a moratorium on the allocation of new ones was put in place[34]. Following violations of the moratorium, a 2005 presidential decree was issued to reinforce the order and to put forth several legal requirements for the moratorium to be lifted[35]. Of these, arguably only one of them: "geographic programming of future allocations over a three-year period defined through a consultative process" remains to be fulfilled.

What this vaguely worded condition actually entails has been the subject of fierce debate and there has been little progress on zoning DRC's forests ever since. On the one hand, proponents of the logging industry have argued that this could be met by a simple process of macro zoning, mainly using remote sensing data. Central forest planning agencies leading the process have argued this is a necessary first step to identify the broad forest classifications. In 2011, the Department of Forest Inventories and Management (DIAF) within the Environment Ministry published a macro-zoning guide which is mainly designed to aid decision-making on the allocation of timber concessions and the extension of classified forests. Although earlier versions of the guide did so, the final version omits key passages on things such as continuous participation, consultation or indeed any reference to micro-zoning[36].

On the other hand, Congolese civil society has strongly resisted this approach, fearful of a Cameroon-type scenario whereby the so-called 'indicative plan' would end up as definitive. Rather, they have stressed that documentation of community land rights should be a prerequisite to land attribution based on zoning and planning. In response, the Environment Ministry with technical support from the US Forest Service (USFS) published a micro-zoning guide in 2014. The guide contains sensible advice on issues such as community participation, representation and free, prior and informed consent (FPIC) but does not address the key issue of sequencing, and moreover carries no legal weight. A further flaw in the forest zoning process in DRC is that it has largely taken place in a context where until recently there was no legal provision for communities to obtain formal rights to their forests.

As with the Cameroon *plan de zonage*, a lack of effective coordination with other relevant ministries has been an issue. From the outset in 2003, the process has been largely driven by DIAF, which has led to a strong focus on the forest sector. Efforts to build multi-stakeholder consensus date back to the creation of the National Steering Committee for Forest Zoning (CNPZ) in 2009[37] but haven't yet resulted in tangible, high-level buy-in from the powerful ministries such as mines and hydrocarbons, or indeed agreement with civil society representatives on the way forward.

2.4 LANDSCAPE PLANNING AND MESO-ZONING IN CARPE LANDSCAPES, 1995 - ONGOING

Another major attempt to zone the Congo Basin forests has been through the Central Africa Regional Program for the Environment (CARPE). This 25-year, three-phase programme has essentially been managed by a consortium of international conservation organisations[38] and is primarily aimed at supporting the sustainable management of twelve priority landscapes which cover 680,300 km^2, or just under 40% of the region's total forest area[39]. Eleven of these

[33] World Bank, « République démocratique du Congo Secteur forestier Mission de prise de contact (17 février – 7 mars 2002) Aide mémoire », p. 2.

[34] Arrêté ministériel n°CAB/MIN/AF.FE.T./194/MAS/02 du 14 mai 2002 portant suspension de l'octroi des allocations forestières.

[35] Décret n°05/116 du 24 octobre 2005.

[36] De Wit (2013).

[37] Arrêté Ministeriel 107/CAB/MIN/ECN-T/JEB/09 Portant sur la création, composition, organisation et fonctionnement du comité national de pilotage du zonage forestier.

[38] The partnership consists of several international NGOs including the World Resources Institute (WRI), African Wildlife Foundation (AWF), the Wildlife Conservation Society (WCS) and the World Wildlife Fund (WWF).

[39] Based on an estimate of the Congo Basin forests covering an area of about 1.8 million km^2.

landscapes were identified as priority areas for conservation in 2000 based on a region-wide evaluation, because of their 'relative taxonomic importance' and 'overall integrity'[40]. The landscapes have since been zoned into three categories (i) protected areas, (ii) extractive industry areas or (iii) community-based natural resource management zones (CBNRM).

However, the methods used to determine these zones have been contested. Perhaps inevitably given the actors involved, there appears to be a strong technical bias towards biodiversity objectives, such as creating wildlife corridors between protected areas. Communities have been marginalised in the methodology in a number of different ways. First, CBNRM zones have been confined to areas that do not already fall within existing allocations for commercial logging and strict nature conservation, regardless of how these macro zones were established in the first place (i.e. if local people were consulted) or whether they are being managed sustainably. This has essentially denied hundreds of communities that fall within these areas the prospect of securing rights to their lands.

Second, these areas have largely been derived from spatial modelling software often based on very partial data from satellite imagery of human settlements and forest clearance from rotational agriculture and from incomplete censuses. As with the Cameroon plan de zonage, this kind of approach is problematic because it risks ignoring socio-political realities, customary tenure and land use patterns, historic processes and complex dynamics that underpin resource use in these territories[41]. An evaluation of phase two of CARPE concluded that land use planning operations were "generally conducted without [the] involvement [of indigenous peoples]" despite them being "the most forest-dependent peoples of the sub-region"[42].

A third weakness of the CARPE landscape planning model is that it has occurred largely outside of the legal and administrative confines of the host countries involved. The geographical locations and prescribed governance model of the landscapes do not correspond to administrative divisions or legal structures, and, therefore, have been relatively ineffective in securing buy-in from governments and communities. Furthermore, whereas protected areas or concessions in the extractive industry zones hold some form of legal status, communities based in the CBNRM areas do not have any ownership rights. Other forms of tenure, such as community forests, are still embryonic (DRC) or have not always provided viable livelihood alternativess (Cameroon)[43]. This has made the CBNRM zones highly vulnerable and indeed they have and indeed there have been cases where they have been subsequently reclassified[44].

In theory, these macro zones should be subject to detailed micro-zoning at a later stage to map out different actors, land use patterns and future needs, and to be adjusted at the macro level if necessary. Yet local perceptions of such exercises are often highly negative, with communities often believing them to be more about limiting their access and use of forests. This is hardly surprising given that they are mostly carried out by conservation agencies or commercial loggers, with whom they often have deeply problematic relations, and where there are clear potential conflicts of interest at play.

Following criticism of the first two phases of CARPE, the third iteration of the programme and other USAID investments in the region have placed a greater focus on community rights and on wider governance issues[45].

[40] https://carpe.umd.edu/

[41] Rainforest Foundation UK (2016).

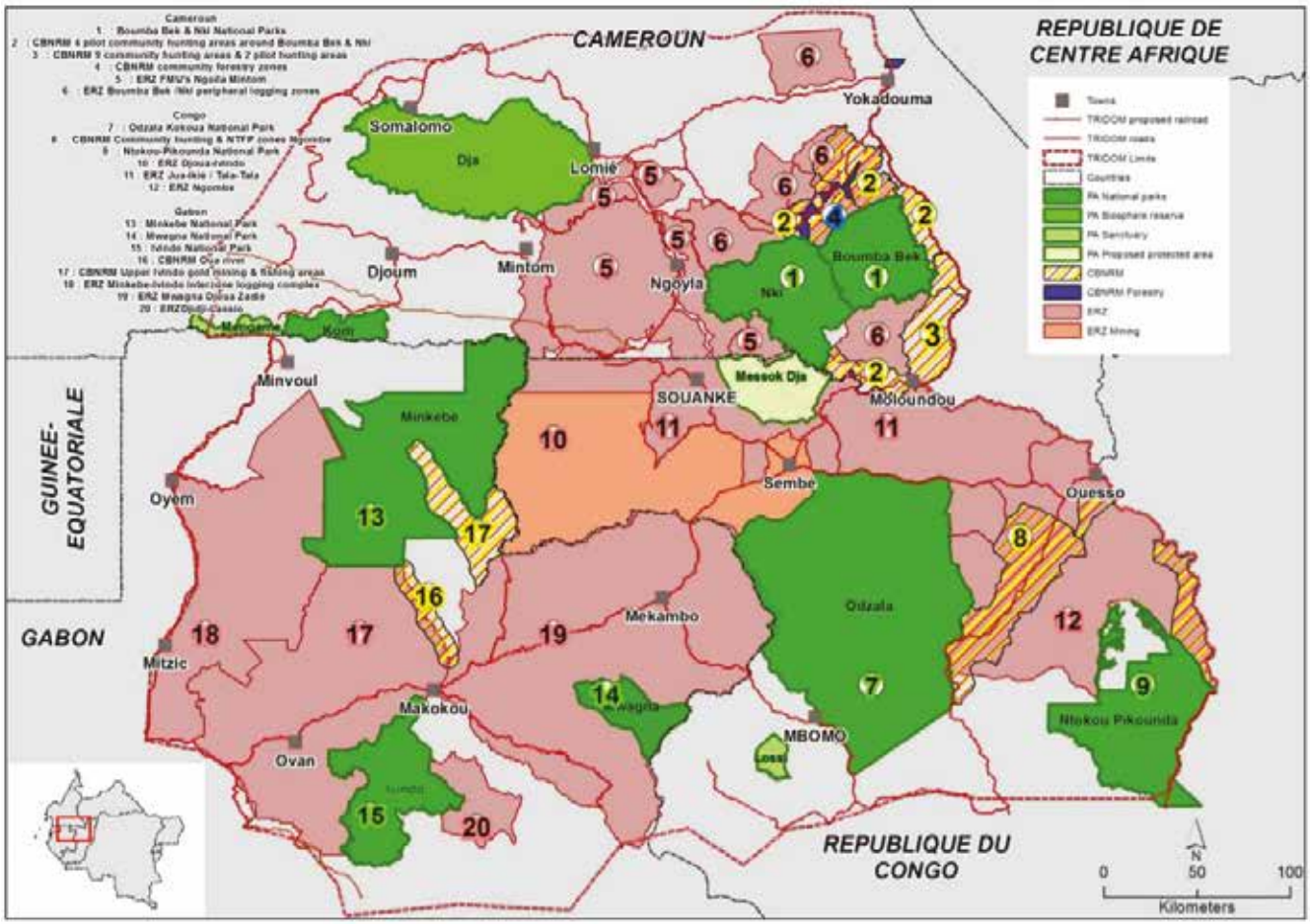
[42] ECODIT (2010).

[43] Rainforest Foundation UK (2014).

[44] This has been the case in the Maringa-Lopori-Wamba landscape in DRC, for instance, where the proposed Lomako CBNRM area just south of Lomako Yokokala Faunal Reserve (see Dupain et al. 2009) is now a logging concession.

[45] CARPE (2011, 2019).

FIGURE 5 - TRIDOM LANDSCAPE PLAN



Landscape plan in Southern Cameroon, Northern Gabon and the Republic of Congo showing areas dedicated as protected areas (green), extractive industry zones (orange/pink) and as community based natural resource management areas (stripes). Source: WWF, 2014

FIGURE 6 - LESSONS FROM PREVIOUS LAND USE PLANNING PROCESSES IN THE CONGO BASIN

Previous attempts at land use planning in the Congo Basin offer a number of important lessons for what to avoid in future efforts, including that they:

- Were not accompanied by efforts to provide greater tenure security necessary for communities to plan for the future;
- Were overly top-down, failing to reconcile national or meso-level planning with community realities, needs and institutions;
- Failed to effectively engage with and support local government agencies in performing their planning functions;
- Relied almost exclusively on remote sensing data at the expense of information on forest occupation and rights;
- Failed to address the key issue of sequencing different levels of land use planning;
- Were driven in the interests of the logging industry and/or strict nature conservation, and did not secure the buy-in of other stakeholders.

3. LESSONS FROM ELSEWHERE: CONDITIONS FOR SUCCESS

The dominant forest tenure regimes where the state retains absolute control over forest resources have not been very successful at achieving sustainable forest management, poverty reduction or improved livelihoods. Many countries now recognize that a shift towards more diverse tenure arrangements that offer security to local communities, indigenous peoples and other forest users is one of the pre-requisites to achieve sustainable forest management and improved livelihoods. **- Food and Agriculture Organization of the United Nations**

It is fair to say that the social, economic and environmental problems present in many parts of the Congo Basin region stem from flawed top-down approaches to land use planning. Looking forward, the next section draws on six case studies from elsewhere in the world in order to determine best practice and identify conditions necessary for better integration local needs and rights.

The case studies were chosen because they are well documented, present land use planning in a range of national contexts, include indigenous peoples, and are participatory in their inclusion of local-scale, community-level stakeholders or rights holders. The first three cases are from the Pikangikum, Cat Lake-Slate Falls and Paunigassi First Nations in the Canadian Province of Ontario. Instead of describing all three in detail, we focus on the representative case of Cat Lake-Slate Falls since the planning process and outcomes are similar to the other First Nations cases included in this analysis.

3.1 FIRST NATIONS COMMUNITY-BASED LAND USE PLANNING IN CANADA

The Cat Lake-Slate Falls land use plan was published in 2011 and took three years to produce. It was jointly developed by two indigenous communities in Ontario, the Cat Lakes and Slate Falls First Nations, with the support of the Ontario Ministry of Natural Resources. The final plan was approved by law under the Far North Act of 2010.

The plan covers 1.5 million hectares, and was developed in order to balance cultural, social, environmental, and economic demands on the land[46]. The goals of the plan were to guide land and resource management, to improve social and economic benefits from land and resources, to ensure sustainable communities, and finally, to promote conservation of ecosystems. Specific economic priorities for the planning process included commercial forestry, tourism, renewable energy, electricity transmission, telecommunications, and ecological protection. The planning process drew on pre-existing policy and technical resource management documents in order to inform decision making and to prevent activities that contradicted other plans and policies already in place. These resources included the 2009 Caribou Conservation Plan, Ontario's 2007 Endangered Species Act, Ontario's climate change adaptation plan, various Ministry of Natural Resources policies and procedures such as its community-based planning policy of 2002 and the 2011 Growth Plan for Northern Ontario.

Data included in the planning process came from three places: community data collectors, the Ontario Ministry of Natural Resources and the Ministry of Northern Development of Mines and Forests (currently Ministry of Energy, Northern Development and Forests). First Nation community members were trained to collect information on land use and occupancy including cultural lands, fisheries, wildlife, historical sites of importance, burial grounds, traditional use areas, relevant infrastructure as well as household data. This process also allowed for the preservation of traditional knowledge.

[46] Cat Lake-State Falls (2011).

The Ministry of Natural Resources provided bio-physical data on the Cat Lake-Slate Falls territory. This included data on water resources such as the watershed and its divides, groundwater recharge areas; forest resource inventories; key mammal, bird, waterfowl, reptiles, and fish species; geology and minerals; land uses which included traditional or cultural land use, commercial fishing, artisanal trapping and tourism; infrastructure such as roads, electricity systems, hydroelectric potential; and mining possibilities. While the overall approach in all three First Nation planning exercises was on conducting an ecological baseline study by bringing together data on major biophysical features of the land, the method did not look the same in every case. For example, the Pikangikum First Nation developed its own forest resource inventory strategy that collected baseline ecological data for forests and wetlands and employed an ecosystem-based approach to making decisions[47].

The Ministry of Northern Development of Mines and Forests provided data on mining operations including bedrock, geology, and mineral potential. Additional datasets consulted included the 1984 Forest Resource Inventory, fire disturbance maps, a tourism assessment, and waterpower potential mapping.

The core responsibilities in the planning process were placed on the Planning Team, which included a member from both Cat Lake and Slate Falls First Nations, a community-selected project manager, a community-selected technical support officer and two professional planners from the Ontario Ministry of Natural Resources specialised in this region. The Planning Team was supported by two smaller groups, the Community Advisory Group which included selected community members from both First Nations, as well as a Technical Support Group including community members and technical experts from the Ministry. An additional support group consisting primarily of government representatives from the Ministry supported the three groups described above. All teams fell under the local authority of the Chief and Council of the First Nations.

Stakeholder participation took several forms. First Nation community members were engaged through participatory mapping of cultural land, fisheries, wildlife, traditional use areas, and relevant infrastructure. Second, monthly community meetings allowed for data compilation and analysis as well as helping community members understand land use planning. Radio shows, door to door outreach activities, distributed written materials and school presentations announced information regarding important events in the planning process, ensuring that the local community was fully informed and kept up to date. Adjacent First Nations were consulted with to confirm boundaries and to ensure their needs were considered in the plan. The public, including all interested people and organisations (e.g. environmental NGOs, resource sector companies, municipalities, academics, and tribal councils) were asked for comments and were given notice of meetings in newspapers as well as contact information for Planning Team members.

The Ministry of Natural Resources offered training and capacity building for the Cat Lake and Slate Falls communities that included how to do forest management growth and yield studies, perform caribou habitat inventories, mineral prospecting and collection of traditional knowledge through participatory mapping. Data from the Ministry and community mapping were superimposed in order to generate maps of customary indigenous activities, cultural, recreational, tourism and ecological values, key scientific sites, timber and non-timber forest products, and hydro-electric and mineral potential.

The plan presents three categories of land use: dedicated protected areas, enhanced management areas and general use areas. First, dedicated protected areas require the strictest levels of protection for natural and cultural sites and the only permitted activities include recreation, tourism, research, and traditional uses. Industrial or extractive uses are prohibited. Second, enhanced management areas allow for all land use with added restrictions in place to preserve key interests, features or spaces. Lastly, general use areas can be used for any activity, providing that the law and environmental policy is followed[48]. The final plan was validated at the province and community levels to ensure objectives were met at both scales. In the Pikangikum First Nation exercise, a fourth

[47] Pikangikum (2006).

land use classification was used that included Cultural Landscape Waterways that combined the management strategies of dedicated protected areas and enhanced management areas[49].

The plan also contained *strategic direction* for all potential land uses including traditional use, forest management, fish and wildlife management, mineral exploitation, tourism, infrastructure development and so on. Essentially these are prerequisites or a set of rules that must be applied before a given type of land use change may occur. If we consider mining, for example, its strategic direction included the following rules:

- It must be done in accordance with best management practices;
- It must engage in early community consultation;
- It cannot occur on culturally sensitive sites as identified by local leaders;
- It must minimize disturbance near water bodies and streams;
- It must protect fish and wildlife habitat;
- Mining areas must be rehabilitated quickly, and;
- Monitoring and water quality assessments must occur at regular intervals.

Strategic direction for any planned infrastructure included the following rules:

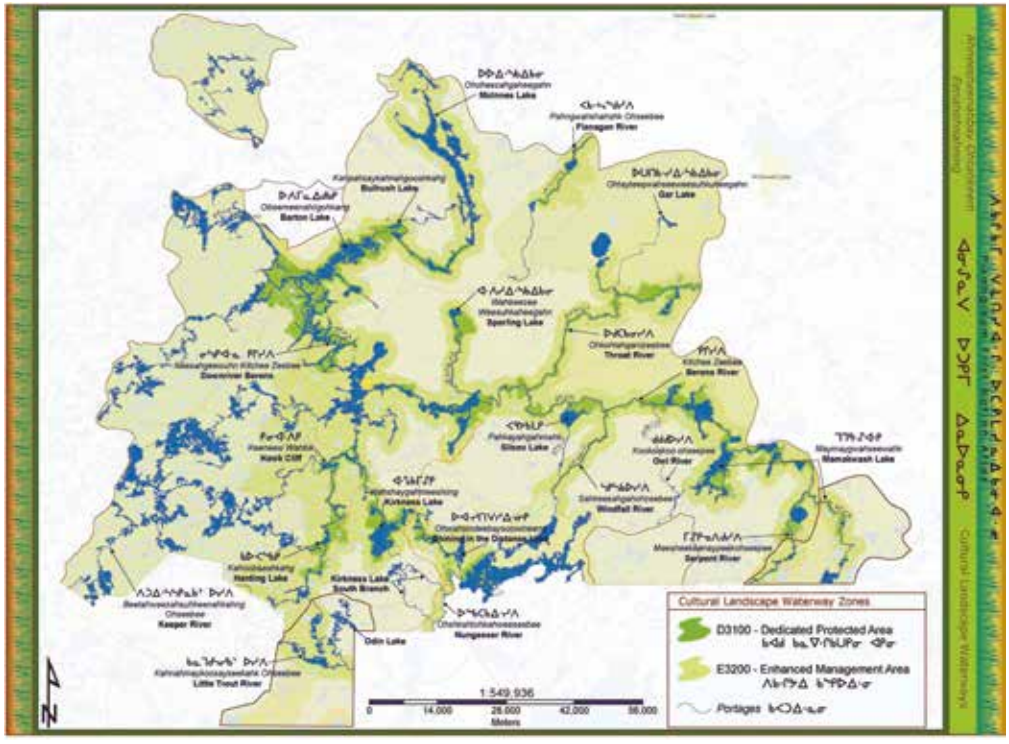
- It must support high long-term value;
- Maintain the remoteness of the community;
- Create the most effective transportation network with as few roads as possible;
- Aim for synergy;
- Support wildlife conservation objectives, and;
- Fall under pre-existing policy.

Strategic direction was also developed for climate change, including that:

- Investigating renewable energy opportunities is mandatory;
- Identifying areas important for carbon storage is mandatory, and;
- There must be attempts to understand the ways that the community is vulnerable to climate change.

For fish and wildlife management strategic direction, communities identified critical species (in this case caribou, wolverine, and lake sturgeon) and determined how local knowledge of important habitat and ecology could be combined with regular scientific surveys to manage wildlife.

FIRST NATIONS COMMUNITY LAND USE PLAN



Cultural landscape waterway zones, Pikangikum (2006).

[48] Cat Lake-Slate Falls (2011).

[49] Pikangikum (2006).

Implementation of the plan began once approved by the community. The legal framework behind the plan, the Far North Act of 2010, states that once it has been approved, any decisions regarding the allocation and use of the land must correspond[50]. Ten "implementation items" were then developed for the immediate 10-15 years. Examples of these include:

- Identifying economic priorities based on the land use plan and developing strategies and partnerships to implement these;
- Obtaining a sustainable forest licence;
- Designing a management plan for the dedicated protected area;
- Developing a process for monitoring implementation of the plan;
- Establishing a working group to make decisions on watershed management;
- Determining how a climate change vulnerability assessment will be done and adaptation strategies explored[51].

FIGURE 7 - SUMMARY OF THE KEY STRENGTHS AND LESSONS FROM THE CANADIAN FIRST NATIONS LAND USE PLANNING CASE

For government actors and donors:

- Tenure rights of communities were recognised by law, under the Far North Act of 2010;
- Government actors at the central and regional scales were enthusiastic partners of communities, providing technical and financial support, as well as interdisciplinary data;
- The suite of natural resource management policies that could interact with communities in their planning efforts were aggregated by government actors and presented to communities in order to streamline the process and make it agree with pre-existing law and policy.

For civil society actors:

- The process was characterised by meaningful participation and consultation of rights holders and other stakeholders;
- Strategic direction rules for different land use types can be used as examples when assisting communities in land use planning.

[50] Cat Lake-Slate Falls (2011).

[51] Ibid.

3.2 PARTICIPATORY LAND USE PLANNING IN LAOS

The case of participatory land use planning in Laos began with two ministries, the Ministry of Agriculture and Forestry (MAF) and the National Land Management Authority (NLMA), publishing a participatory land use planning manual. Once this was produced, three government agencies including the National Agriculture and Forestry Research Institute (NAFRI) and district-level offices of the two ministries that had published the manual piloted the methodology in the field. The EU-funded initiative supported by the Centre for International Forestry Research (CIFOR) and the Institute of Research for Development (IRD) tested the manual in 25 villages in total[52].

The planning exercise began with a village meeting, where regional officials such as the district governor and personnel from the MAF and the NLMA met with villagers to explain the process. The community then chose a Village Land and Forest Management Committee (VLMC) consisting of twelve villagers of differing socio-economic backgrounds with attention paid to gender and ethnic balances. The VLMC committee was trained in socio-economic and spatial data collection. This data included variables such as wealth ranking, ethnicity, household composition, number of households in labour force, land owned (number of plots and area), livestock owned, non-timber forest product collection, off-farm activities, assets owned (water turbines, television, motorcycles) and whether or not a rice shortage was faced.

This data was then used to:

1) Check the ethnic and wealth categories of the village;

2) Classify households into economic types (shifting cultivation, livestock, plantations, or off-farm activities);

3) Establish parameters for zoning;

4) Determine why agricultural shortages occurred.

Through different focus groups, facilitators then helped the community produce a village history and an inventory of problems. The goal of this exercise was to determine the main drivers of change and their impact on livelihoods and the landscape. This enabled them to identify specific periods of village history to estimate and track changes in infrastructure (schools, roads, meeting rooms, irrigation systems), population (migration, disease), agricultural systems (technical innovations, types of crops cultivated) and livestock systems (types of animals, herd size, disease)[53]. The most important component here is identifying changes through time, and making estimations on household numbers, crop yields, rotation periods, and herd sizes.

The next step in the methodology called for a characterisation of the land use through an exhaustive list of each type. The table below is a sample list of all potential land uses:

TYPES OF LAND USE IN THE LAOS PLANNING CASE

Cropping system	Livestock system	Forest	Other
Paddy field	Grassland (livestock area)	Conservation forest	Shrub
Permanent crop	Improved grassland pasture	Protection Forest	Reserve Land
Rotational crop		Production Forest	Village Area
Plantation		Sacred Forest (cemetery)	Water bodies

Source: CIFOR (2012)

[52] CIFOR (2012).

[53] CIFOR (2012).

These possible land uses were then assigned quantitative estimates in order to calculate the return-to-land value per one-hectare unit from agriculture, non-timber forest products and livestock rearing over the course of a year.

For agriculture, the value of each crop across different land use types was calculated using the following formula:

$$\sum_{\text{Crops}} \square \text{ (gross income-input costs)} \times \text{(\% of land use type under each crop)}$$

Income from different non-timber forest products was calculated as:

$$\sum_{\text{NTFPs}} \square \text{ (income)} \times \text{(\% of income from each NTFP type in the land use type)}$$

Livestock was estimated by assigning the carrying capacity of a unit of each land type (i.e. how many large ruminants it can support):

$$\sum_{\text{Animal Type}} \square \text{ Net profit per hectare}$$

Next, the labour force requirement was calculated for all land uses. One labour unit corresponds to the labour of one adult person. For example, for agriculture:

$$\sum_{\text{Crops}} \square \text{ Number of labour unit} \times \text{(\% of land use under each crop)}$$

Finally, environmental parameters such as carbon and biodiversity values were estimated by the VLMC members and focus groups and assigned a rating of 1 to 4.

STANDARD VALUES OF BIODIVERSITY AND CARBON INDEX FOR EACH LAND USE

Topics	Biodiversity Index	Carbon Index
Conservation forest	4	4
Protection forest	4	4
Production forest	3	3
Shrub	2	2
Village area	2	1
Plantation	1	2
Improved grassland	1	1
Permanent crop	1	1
Rotational crop	1	1
Livestock Area	1	1
Paddy Area	1	1

Source: CIFOR (2012)

Once these parameters had been agreed, scenario analysis was performed through using a hypothetical grid with 100 squares, each representing one hectare. Each of the twelve VLMC members was given the role of a planner and completed their own grid using coloured chalk and tracing paper.

LAOS COMMUNITY LAND USE PLANNING SCENARIOS

Source: CIFOR (2012).

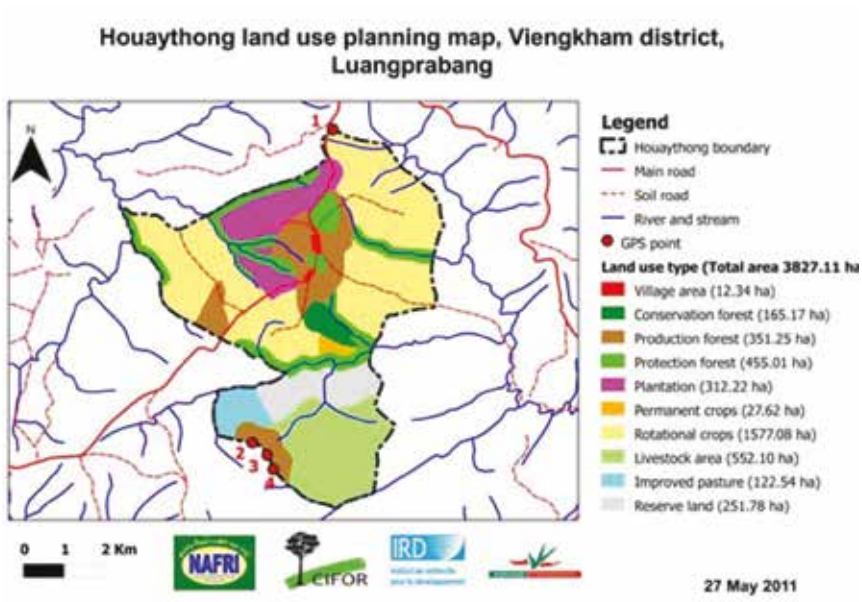
The different scenarios were then presented and compared in order assess the optimal land uses. Outputs used to determine this included:

- Number of labour force units needed;
- Total village income (generated by agriculture, non-timber forest products, livestock, and off-farm activities);
- Average income per labour force unit in the village;
- Per household average income;
- Maximum number of livestock;
- Biodiversity and carbon indexes of the plan calculated using the following simple formula:

$$\sum_{\text{Land uses}} \square \quad \text{Index Value} \quad X \quad \text{(number of ha in land use plan)}$$

Once the simulation role play exercise had been completed, the next step was to build a three-dimensional model of the village land using cardboard, plaster, paint and natural materials. This model was colour coded according to the different land uses. A high-resolution satellite image was projected onto the model to check its accuracy, and a photo of the model with the land use zones then loaded onto GIS software. Local officials and neighbouring villages were invited to verify the village boundaries and to sign a village boundary agreement.

FINAL LAOS COMMUNITY LAND USE PLAN



Source: CIFOR (2012)

CIFOR noted that two potential pitfalls happened during the zoning phase, whereby district officials would impose their own views on villagers, or villagers would exaggerate land available for agriculture outside of reasonable areas to undertake this activity.

Based on research that showed an inability to implement plans once they were made, CIFOR refined its methodology to include the creation of a village action plan. Facilitators assisted villagers in identifying the projects that they could do themselves given technical and financial constraints, while simultaneously creating a list of services that external actors such as NGOs could come in and supply[54].

The final plan document consisted of the GIS generated land use zoning decisions made by the VLMC as well as published rules for each land use type. These rules stipulated the activities allowed and prohibited in each zone as well as sanctions if rules were broken. This plan was presented to the whole village in a meeting and approved.

FIGURE 8 - SUMMARY OF KEY STRENGTHS AND LESSONS FROM THE LAOS LAND USE PLANNING CASE

For government actor and donors:

- Government actors at different scales were active participants in the process, with central government writing the land use planning manual and district officials playing a greater role in the field tests.

For civil society actors:

- In supporting communities to develop land use scenarios, civil society developed simple, low cost estimations for calculating economic and environmental values;
- Modelling of different land use scenarios was simple when it needed to be, with enough detail to make sense to participants;
- When civil society noticed that communities were having issues implementing their plans, the methodology was changed to include a village implementation plan, which matched "supply" from development partners with villagers' "demand" for agricultural support;
- Zones with rules and sanctions were clearly published and agreed to by all.

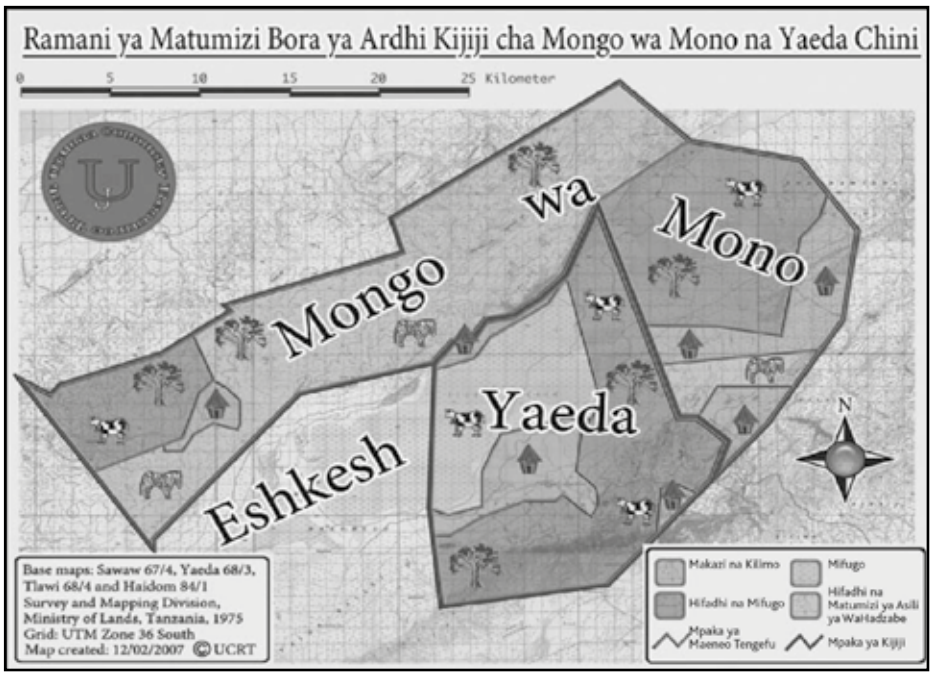
3.3 PARTICIPATORY LAND USE PLANNING IN NORTHERN TANZANIA

The case of participatory land use planning in Northern Tanzania details the work of the Ujamaa Community Resource Team (UCRT), which developed a participatory methodology to map 35 villages across seven districts in the region[55].

[54] CIFOR (2012).

[55] Loure and Kheir (2016).

COMMUNITY BASED LAND USE PLAN IN TANZANIA



Translation for land use zones key: 'Makazi na Kilimo'= residence and agriculture (dwelling icon); 'Mifugo'= livestock (cow icon); 'Hifadhi na Mifugo'= conservation and livestock (cow and tree icons); 'Hifadhi na Matumizi ya Asili ya WaHadzabe'= traditional conservation zone (zebra and tree icons). Source: IIED (2010).

The legal basis for participatory land use planning consists of three components: The Local Government Act, the Village Land Act, and the National land use planning Commission. The Local Government Act of 1982 provides village governments with a large degree of autonomy through their own village by-laws. These by-laws, passed by the village assembly and the village council, provide the legal authority required to enforce land use plans. Once approved by the district council, these carry the same weight as any other Tanzanian law. The Village Land Act instructs villages on how to carry out land use planning including by setting aside areas for individual and community use now and in the future.

The planning methodology developed by the UCRT is closer to the Laotian case above in that it did not involve field-based data collection. Here, the community first drew a sketch map which was then transferred into GIS software using satellite imagery. The digital map was produced in consultation with villagers, officials and neighbouring village leaders in order to ensure agreement on the placement of official village boundaries. The entire village was then involved in the zoning process by placing all the land use types onto the map. Rules were established for each type and recorded in a plan. This was then presented to stakeholders and agreed upon, and institutions created for monitoring of it at the village level.

Two key obstacles arose in this case that required an adaptive approach. The first was a lack of accountability in certain village governance institutions. Finding that this was a deciding factor over whether a plan was implemented, the team began offering capacity building and training in accountability, administration, and democratic governance[56]. The second was national interests intervening in local planning processes such as by creating hunting reserves on village lands that were often not consistent with the land use plans. Since it is central government that owns wildlife, the district office could not intervene on behalf of the local villages in this situation. To mitigate this problem, UCRT did two things: expand global partnerships with environmental NGOs to engage in advocacy at the national level and built the capacity building in communities to do this.

[56] IIED (2010).

FIGURE 9 - SUMMARY OF KEY LESSONS AND STRENGTHS OF THE TANZANIA CASE

For government actors and donors:

- Local scale actors had decision-making authority. The laws provided communities with tenure rights and a large degree of autonomy through village by-laws, enabling them to enforce land use plans.

For civil society actors:

- Civil society included the zones and the associated land use rules and sanctions on the final versions of the plans;
- Where capacity issues were detected in villages, civil society offered training in democratic governance, accountability, administration and financials skills;
- In instances where central government did not respect local tenure and decision-making authority, civil society trained communities on how to engage decision-makers.

3.4 PARTICIPATORY LAND USE PLANNING IN NAMIBIA

The Ministry of Land and Resettlement (MLR) has the statutory mandate to conduct land use planning in Namibia, and to do this, initiated the Integrated Regional land use planning (IRLUP) process. The IRLUP was a collaboration between national, regional, and local level governments that deal with land and resource management with the goal of creating a plan that took into consideration competing economic sectors, national development as well as existing policies and regulations. This planning effort, supported by the German and Spanish development agencies, sought to involve stakeholders in the Karas region at the local scale through participatory land use planning[57].

Land use planning in the case of Namibia's IRLUP was implemented by an "Interdisciplinary Taskforce Team" consisting of a GIS technician, a land use planning expert and regional planners from MLR and a participatory facilitator. The first step in the process was a stakeholder analysis, where actors at all scales (local, regional, and national) were identified and an assessment of their interests, power, vulnerabilities and potential roles undertaken. The Interdisciplinary Taskforce Team then toured the region in order to meet in person with the identified stakeholders. During this tour, facilitated meetings were held in order to identify key land management issues and to review the problems that land use planning could resolve. Stakeholders were also asked for their views on underutilized land, where optimization could occur through activities such as intensification or land use change, conflicts over land use, environmental problems such as pollution and other barriers to optimal land use such as tenure issues or transportation problems. These consultations also allowed the team to gather pre-existing research or documents on the local community and for the generated list of stakeholders to be refined and better tailored to the local scale.

The next step of the MLR process called for a regional scale meeting where all stakeholders were invited to discuss and prioritise the identified problems in an open forum. After the regional meeting, local participatory workshops were held to discuss options for dealing with problems identified in the earlier steps. During these workshops, socio-economic data was collected, community land use maps sketched by participants, and where necessary, key geographical features recorded in the field. A GIS map was then made that allowed the community to agree on land uses.

The main objective of the planning workshop was not the creation of an accurate map, but instead an action plan that addressed the identified problems. The action plans listed all planned activities, how they would be carried out and by whom. Emphasis was placed on the idea that communities can and must implement some activities through their own means, while others could be aided by government and civil society.

[57] GTZ (2010).

FIGURE 10 - SUMMARY OF THE KEY LESSONS AND STRENGTHS OF THE NAMIBIA CASE

For government actors and donors:

- From the beginning, land use planning was conceived as a cross-scale process, involving national, regional, and local government as well as other actors;
- Central government was involved in the implementation of the land use plan once the action plan had been made.

For civil society actors:

- The process was participatory across all scales. Different community and government stakeholders were encouraged by the facilitators to share their interests and vulnerabilities in the process;
- Action plans resulting from the plans were based on the problems and their solutions that were identified in the facilitated meetings. These action plans clarified who was responsible for doing what.

3.5 SYNTHESIS OF PARTICIPATORY LAND USE PLANNING CASE STUDIES

The case studies in sections 2 and 3 enable us to offer a more specialised analytical framework for participatory land use planning. As depicted in Table 5 below, three variables are critical for sustainable and equitable outcomes to emerge from local planning exercises: governance, law and policy; planning institutions; and implementation strategies.

TABLE 5 - ENABLING CONDITIONS FOR PARTICIPATORY LAND USE PLANNING

Governance, law and policy	• Law and policy support local land use planning • Land use planning is accompanied by devolvement of property and management rights to communities • There is physical space available for participatory planning
Planning institutions	• Planning ministries at central and local levels have a strong mandate and the capacities to coordinate land use planning processes • Civil society is strong enough to fill the gaps left by government • Local planning institutions are robust, participatory and ideally based on existing customary governance structures
Implementation	• Interdisciplinary data collection leads to informed land use decisions and rules • Land use plans result in realistic, actionable and consensual action plans • Implementation starts from the bottom up

The **governance** variable included in our model has three component parts. Firstly, existing laws and policies must support local land use planning. In practical terms, government at the regional or national scale should not come in and override decisions the community has made during its planning process. Second, and relatedly, land use planning must be accompanied by approaches that genuinely devolve property and management rights to local communities so that they can plan into the future and create rules and sanctions relating to their land. Finally, in instances where community lands are totally or partially overlapped by existing land claims, there is need to create "space for change" such as by developing genuine co-management approaches.

Looking at **planning institutions**, three enabling factors are key. First, planning ministries at both the central and decentralised levels should have a strong mandate and capacities to coordinate land use planning processes. Second, where government capacities are limited, civil society must be strong enough to step in and support communities. The case studies showed a range of government capacity, from high capacity to support communities in Canada, to relatively lower capacity to support communities without civil society in Laos and Northern Tanzania, for example. Finally, local planning institutions must be robust, formed using participatory processes, and ideally based on existing community governance structures to ensure legitimacy and buy-in.

The **implementation** variable likewise is based on three enabling factors. Firstly, interdisciplinary data collection that leads to land use rules in accordance with technical and scientific knowledge on best practices. Second, land use planning must come with clear, realistic and time-bound action plans, adopted through consensus, that specify the responsible person or institution for each action. Finally, a bottom-up approach to land use planning ensures buy-in and coherence across scales, whilst protecting customary land rights and knowledge.

4. TOWARD INCLUSIVE LAND USE PLANNING MODELS IN DRC AND CAMEROON

The model developed in section 3 offers useful pointers for those supporting community-level land use planning processes. Using this as a guide, the next section assesses current prospects in Cameroon and DRC, identifying opportunities, challenges and needs in the two countries.

4.1 GOVERNANCE, LAW AND POLICY

Law and policy support local land use planning. In line with the model developed in section 3, laws and policies in Cameroon and DRC in place or under development do provide an opening for communities and local institutions in land-use planning. The possible legal entry point in Cameroon is through the development of Local Land-use and Sustainable Development Plans (PLADDT) that are adopted at the local municipality (council) level. Though at an earlier stage, reforms underway in DRC go even further in specifying a role for community-level land use planning through local development plans (PDL) and natural resource management plans (PSG-RN) as well as at the sector level (ETD), roughly equivalent to councils in Cameroon.

Yet as it stands, the plans do not currently provide communities with a sufficiently secure or long-term planning basis. In both countries, these are not legally binding[58] and must align with those developed at the regional and national level. Thus, whatever land configuration is developed locally is at risk of being extinguished if contrary to higher scale plans or indeed anything else deemed in the public interest (i.e. an agribusiness concession).

Resolving the issue of the sequencing of land use planning and how local plans intersect with (or are embedded in) those at the provincial/regional and national level is key. While it is the right of a sovereign state to take a national-level approach to land use planning, it is imperative that higher-level zoning schema do not become de facto land allocations. As such, there is a need to ensure that macro and meso-level planning takes place with at least basic data on actual occupation and land use.

Space for change. A further impediment to participatory land use planning can be the limited geographical scope to develop such plans in many areas, particularly in Cameroon where most of the forest estate has already been allocated as extractive concessions or protected areas, largely because of the 1995 zoning plan (see Figure 4). This contrasts with DRC where much of the forest estate ('protected forests') remains officially 'unallocated' (see Figure 3), largely due to the moratorium on the allocation of new logging concessions[59]. With in excess of 70 million hectares of intact forest alone without a formal designation, there is great potential here to proactively develop and scale up bottom-up planning approaches.

In instances where community lands are totally or partially overlapped by existing land allocations, there is a need to create space for change. This may involve better enforcement of existing laws and policies on co-management (of different categories of protected areas, for example) or to pilot and legislate for better ones[60]. A further option, where land concessions are not legally compliant or meeting their management objectives, is to review and where necessary declassify these land parcels, as has recently happened with the retrocession of logging concessions to the state in CAR (and should happen in DRC[61]).

Community forests. Whereas managers of industrial concessions and protected areas have clear and enforceable rights, communities not already residing in these areas mostly lack legal personality or property rights needed to confidently engage in long-term planning of their traditional lands. With the slow pace of broader tenure reforms, community forests currently offer the most viable pathway to this. The 1994 Cameroon community forest model offers some limited rights, but the simple management plan required to establish the concession is actually quite technical, requiring high start-up costs that have left many communities indebted to logging companies and local elites[62].

[58] In Cameroon, for example, the schemas are restricted to only five-year life cycles.

[59] In the view of the authors' the existence of oil or mining permits over a forest area does not exclude community land use plans or community forests.

[60] See Karsenty (2016) for example.

[61] Greenpeace Africa (2019).

[62] Rainforest Foundation UK (2014).

The DRC community forest model offers a much stronger basis for forest peoples to secure and manage their lands. The legal framework, completed in 2016, makes it easier for them to obtain concessions of up to 50,000 hectares (ten times the size permitted in Cameroon), which can be managed in perpetuity in line with customary practices and according to different uses[63]. Land use planning can be piloted both inside concessions, via simple management plans that can be developed after the concession has been obtained[64], and by integrating community forests in wider land use planning at the sector level – the lowest administrative level at which land use planning powers are expected to be devolved. Indeed, experiences from elsewhere strongly suggest that community forests are themselves more likely to succeed when embedded in a broader land use plan[65]. In DRC, different actors should support implementation of the national community forest strategy[66], ensuring that the target of having 2,350,000 hectares designated as community forests by 2023 is met in the context of land use planning and that any future, potentially much larger allocations are as well.

Broader tenure reforms. Ultimately what is required for effective and broad community engagement in land use planning processes in the long term are deeper reforms of national tenure systems which harmonize statutory and customary law and allow communities to develop and enforce their own rules and sanctions regarding use and access of forests. In practical terms, this could be done by 1) removing the assumption of state ownership of all lands while maintaining state sovereignty (as is the case with DRC), 2) recognising collective possession and ownership rights on customarily-held land, and 3) simplifying the land titling process[67].

4.2 INSTITUTIONS FOR PLANNING

Compared to the international case studies presented in section 3, government in Cameroon and DRC has played significantly less of a role in terms of initiating and supporting land use planning. In both countries, land use decisions have been highly centralised and lacked sectoral coordination. Officials have often lacked necessary skills, shown little interest in community tenure rights or have viewed land transactions more in terms of personal enrichment than as a public good.

Sectoral coordination and mandate of planning ministries. In recent years, there have been renewed efforts to strengthen the mandate and capacities of the Ministry of Economy, Planning and Regional Development (MINEPAT) in Cameroon and the newly created Ministry of Land Use Planning (MINAT) in DRC[68]. Yet these investments pale in comparison to those in the traditionally dominant environment, forest, agriculture and mining ministries[69]. Forest allocations continue to be driven by sectoral (and often corrupted) interests, typically with minimal or token input from the land administration. While land uses are decided by these actors *de facto*, the situation is complicated further because formal planning faculties are spread among different ministries. In DRC, it is the Planning Ministry and not MINAT that leads on local development plans at sector level. Similar issues exist in Cameroon. There can also be a tendency for land reforms to run parallel to national sector-based reform programmes such as for palm oil development, protected area expansion and to some extent REDD+.

There is therefore a strong need to clarify ministerial powers and responsibilities regarding land use planning, a redoubling of efforts to invest greater powers in MINEPAT and MINAT and to create independent, multidisciplinary land use planning cells within such institutions.

The pace of decentralisation. In both countries, national constitutions and laws place a strong focus on devolving different powers and functions to local administrations. In theory, local municipalities (councils) in Cameroon and sectors in DRC are more answerable to their constituents and can provide a good interface

[63] Rainforest Foundation UK (2017).

[64] The Operational Guide for Community Forest Simple Management Plans provides detailed guidance for land use planning inside community forests.

[65] Rainforest Foundation UK (2014).

[66] Rainforest Foundation UK (2018b).

[67] Rainforest Foundation UK (2014).

[68] Cameroon, the Ministry of Economy, Planning and Regional Development (MINEPAT) has been given a relatively wide-ranging mandate. In DRC, the Ministry of Spatial Planning (MINAT) is undergoing institutional strengthening through a Central African Forest Initiative (CAFI) sponsored United National Development Programme (UNDP).

[69] For example, CAFI has earmarked US$ 66.4 million for the agriculture sector, more than three times the US$ 21.6 million set aside for land use planning, only a portion of which is dedicated to institutional strengthening.

between local communities and wider planning processes. Yet in practice, while there has been some strengthening of land ministries in central government, and to some extent at the sub national levels, devolution of land use planning functions to local government in the two countries has been negligible. In most instances, planning agencies are barely functional or not even present on the ground[70], let alone able to administer complex processes such as land use planning. As such, there is a strong need to increase the level of investment in local and sub-national MINAT and MINEPAT offices.

NGOs filling the gaps. In the absence of robust local state institutions to support land use planning there are already signs that civil society in DRC and Cameroon can step up to fill the gaps. Some of the early pilots have shown that civil society has strong capacity to facilitate genuinely participatory planning processes that have exhibited high community knowledge retention and buy-in, even in low-literacy communities (see Figure 14).

Civil society also has a role to play in securing the buy-in of the local authorities from the outset and throughout the development and implementation of the plan as well as lending their expertise in the form of capacity building and training. As with the Tanzania case, it can also strengthen the capacities of communities to exercise their rights and interests' vis a vis local authorities, the private sector and large conservation agencies.

[70] For example, in DRC, MINAT has only recently started setting up provincial level offices (16 out of 26 in December 2019), with extremely limited human and material resources. This presence has not reached the sector level.

Robust community planning institutions. For those looking to support community level planning, the model states that land use planning institutions must be formed using participatory processes and that there must be consensus on the plan within the community as well as with neighbouring communities.

In DRC, the go-to structure used by many development agencies for interfacing with communities on natural resource governance issues has been local development committees (CLDs). Yet the limited time and rather opaque process through which many of these quasi-legal structures have been created has led to criticisms about their representativeness[71]. Local reports of some of the initial land use planning processes in PIREDD Mai Ndombe, for example, have shown that CLDs can be locally perceived as more representing the interests of local elites and/or indeed the REDD+ project itself. As such, the plans developed through this structure can be viewed to be more an exercise in restricting forest access than about self-determination and economic development[72].

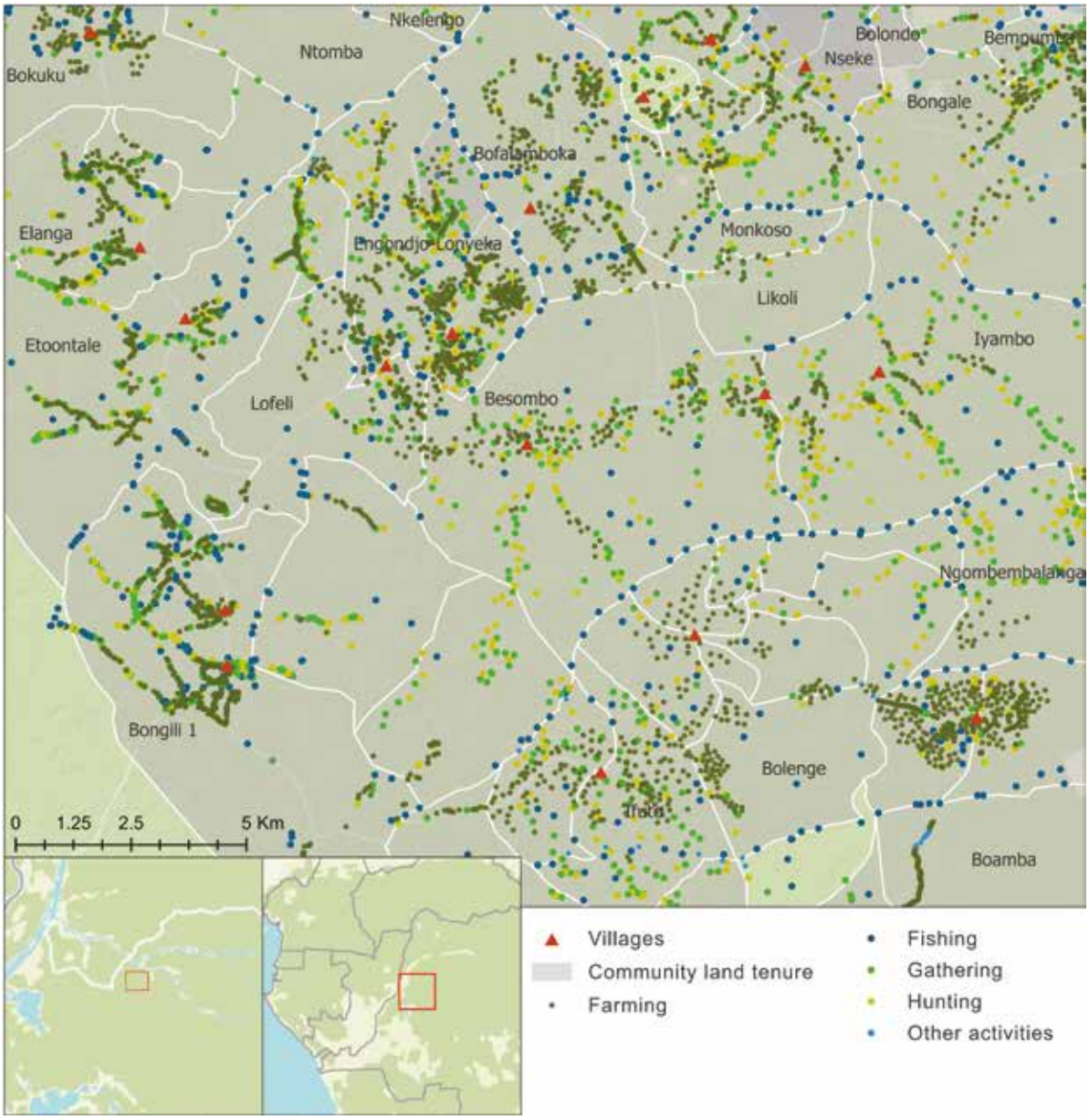
Rather than imposing one-size-fits-all structures on communities, it is essential that land use planning processes are rooted in existing customary systems which in the Congo Basin region are typically organised along clan-lines (although there is a varying role for customary land chiefs as well)[73]. As shown in Figure 12, traditional forest tenure and management parcels are often very well defined and accepted locally, even if they have little legal recognition. At the same time, there is a need to make provision for non-rights holders with special consideration given to women's and indigenous peoples' participation – conditions necessary for sustainability and social justice. In our practical experience, the DRC community forest model provides a more robust and accountable governance structures than CLDs - a further reason for promoting it in the context of land use planning.

[71] Rights and Resources Initiative (2018)

[72] Rainforest Foundation UK (2018c).

[73] See, for example, Moise (2019).

FIGURE 11 - MAP SHOWING CLAN-BASED LAND UNITS IN DRC



Participatory mapping has provided new insights into nature the extent of clan-based customary land tenure systems in the region that are often remarkably stable, well defined and accepted locally even if they are mostly absent from official government data. Source: MappingForRights.

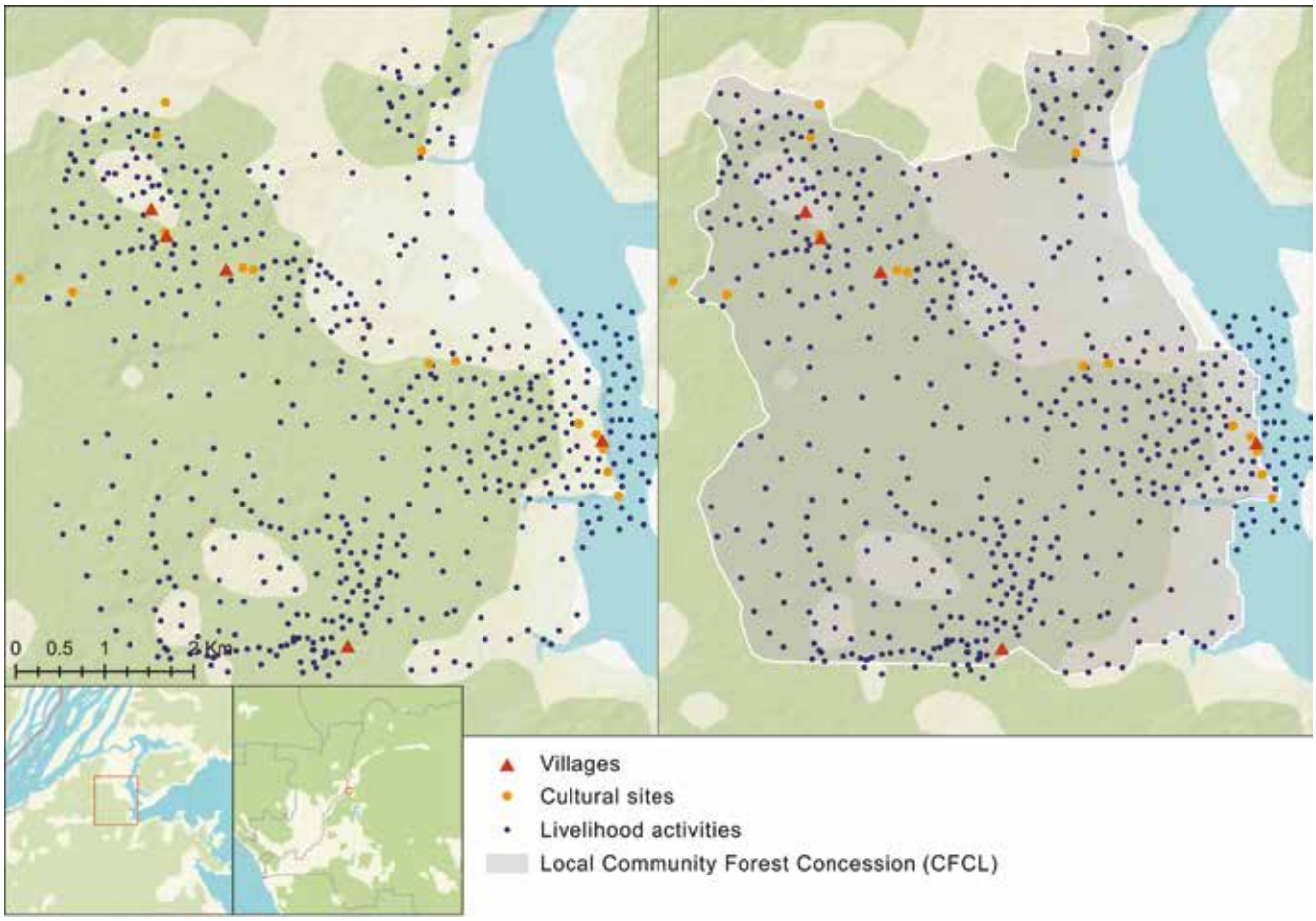
4.3 IMPLEMENTATION

The international case studies in section 3 offer several important lessons when it comes to implementing land use plans in the Congo Basin.

Multidisciplinary data and support. A key part of ensuring that land use plans reflect traditional systems is the need to accurately capture land tenure and resource use on the ground. In recent years, there have been significant advances in participatory mapping and research techniques that are bringing down cost and logistical barriers to recording this data[74]. This data can serve both to define the community planning boundaries and provide an important baseline on existing forest occupation and use (see Figures 11 and 12).

[74] https://www.mappingforrights.org/

FIGURE 12 – THE BOUNDARIES OF A COMMUNITY FOREST IN DRC BASED ON PARTICIPATORY MAPPING



Source: MappingForRights

The land use planning cases presented in section 3 were all facilitated by a team with expertise in participatory GIS and to varying degrees a range of disciplines in biophysical sciences and natural resource management in order to give communities as much information as possible for decision-making. The First Nations exercise began by supporting community planners to collect data on households, cultural lands, fisheries, wildlife, historical sites of importance, burial grounds, traditional use areas, and relevant infrastructure. But, to supplement this data, central government in the form of the Ministry of Natural Resources stepped in to provide interdisciplinary, technical data on watersheds, forest resource inventories, key plant and animal species, and on geology and mineral potential.

Congo Basin governments' can also support planning processes in the field by providing open access to natural resource datasets as well as clear guidelines on existing environmental regulations. Where this is information is lacking, it is possible to draw on examples from cases with fewer government resources. In northern Tanzania, all zones within the land use plan had rules for access created by the community and supplemented with the knowledge of experts such as hydrologists, geologists, ecologists, and agronomists.

Given the poor availability of data as well as significant funding, time and capacity constraints in many Congo Basin countries, those implementing land use planning can also draw on simplified, low cost, rapid, proxy measures for different agricultural land uses, biodiversity and carbon levels, as with the Laos case. In our experience, communities already possess a wealth of information on their lands that can be systematised and exploited with the right facilitation.

FIGURE 13 – PARTICIPATORY LAND USE PLANNING IN NGUTI COUNCIL, SOUTH WEST CAMEROON - LAND PLANNER

One effort to improve data provision, transparency and multi-stakeholder processes in land use planning in Central Africa is a project piloted in Nguti municipality in south-west Cameroon. Under the stewardship of MINEPAT, the initiative brings together a range of actors including other ministries, civil society organisations and mapping specialists[75] with the intention of developing a Local Land Use and Sustainable Development Plan (PLADDT) as set out in the 2011 law.

As part of the project, a **Common Mapping Platform** has been developed to enable these stakeholders to both contribute and analyse data including land cover; soil types; the quality of forests, including carbon stocks and biodiversity; transport infrastructure and access to markets; as well as on customary ownership and use of forests generated through participatory mapping. If accompanied by approaches that enable genuine community participation, such emerging technologies can serve as a useful analytical tool for informed decision-making.

Incentives and benefits. As discussed, it is critical that the plans are linked to increased tenure security so that communities are able to confidently plan into the future and to establish and enforce their own rules and sanctions over land use. In such cases, plans may also be linked to a specific economic opportunity such as the development of cash crops, participation in an out-grower scheme or the provision of ecosystem services. Indeed, greater clarity of tenure is itself much more likely to attract responsible private sector investment in rural areas[76].

At the same time, it is important that the plans are realistic and linked to genuine opportunities. For example, it is notable that many of the land use plans being developed in the context of the Mai Ndombe emissions reduction programme are only likely to come into effect *after* the planned sale of USD 55 million sale of carbon credits to the World Bank's Carbon Fund. The means that the private sector companies with existing land holdings, rather than local communities, are likely to be the major beneficiaries.

Realistic and achievable. Because of the paternalistic nature of most Congo Basin states, and the clientelism that diminishes efficient delivery of government services, implementation is a core challenge in the region. Paternalism can lead some communities to believe that government will ultimately deliver on their land use plans, and clientelism ensures this may not happen. Land use plans must therefore be in line with the capacities and resources that are available to implement them. This means communities having realistic expectations on what government (and civil society) can do for them, and how to make up for this gap through their own organisation, planning, and collective action.

In such cases, it may be sensible to make land use plans more realistic and consistent with common, local day-to-day livelihood strategies in the Congo Basin, most likely small-scale agricultural development. Those supporting land use planning in the region can draw on the Laos example, where every unique type of agricultural land use was assigned an estimated per hectare value, in addition to a carbon and a biodiversity score assigned to land use, all determined via facilitated focus groups, and easily compared via indexing. These indexes were used to compare scenarios, decide on an ideal scenario, and then complete rules for land uses.

[75] The initiative is funded by the European Forest Initiative (EFI) and managed by LTS International. Participating organisations include Rainbow Environment Consult, World Resources Institute (WRI), Ajemalibu Self Help (AJESH), Rainforest Foundation UK (RFUK), International Institute for Tropical Agriculture (IITA) and International Institute for Applied System Analysis (IIASA).

[76] FAO (2015).

As a guide, communities can develop simple action plans by:

- Identifying the main actions to be taken and prioritising them in a participatory way;
- Whether each action will happen in the short term (1-2 years), medium term (i.e. 3-5 years) or the long term (i.e. 10-15 years);
- Developing a list of specific needs for implementing the action;
- Identifying resource persons from both within and external to the community who can provide assistance for the action to be implemented;
- Listing names of people within the community responsible for monitoring the implementing the action plan.

Starting from the bottom-up. With the lack of central government involvement and the slow pace of land reforms in the region, there is a strong case for communities to get on with developing and implementing their own land use plans. This bottom-up approach can start from the village level building upwards to the sector and council levels and beyond, ensuring the cohesiveness among the different village plans in terms of overall development priorities, environmental sustainability objectives and infrastructure needs. Such an approach could gradually secure buy-in across scales, possibly reassure wary central government actors that much of the technical and financial support that is lacking in ministries is not an excuse to table planning efforts indefinitely and provide the forward momentum needed to kick-start institutional and private sector investment.

This bottom-up approach also means that no planning can be done unless minimal information is obtained about a certain area. In procedural terms, it means protecting customary land rights and integrating free, prior and informed consent into land use planning practice.

Some of the early pilots suggest that such plans can be developed at relatively low-cost, particularly when developed at scale. In the Maniema pilot, for example (Figure 14), it is calculated that basic community land use plans can be developed for as little as US$ 2,000 per unit depending on the level of technical support required. This figure should come down further still as local planning institutions are built.

To mitigate the ever-present risk of central government imposing land use decisions, participatory land use planning should be an integral part of due diligence requirements. Governments, donors and civil society organisations should also pilot these processes in ‘hotspots’ - areas where there is significant demand, overlap or land use potential - in order to learn lessons, generate best practice and protect local communities’ rights.

FIGURE 14 - CIVIL SOCIETY-LED LAND USE PLANNING PILOT IN MANIEMA PROVINCE, DRC

The "Participatory Mapping and Land Use Planning in Maniema" project is implemented by the Congolese NGO GeoFirst with technical support from RFUK and the German International Cooperation (GIZ). Project field teams composed of GIS technicians, community facilitators and rural development specialists have so far supported 31 communities to develop land use plans based on maps of their traditional tenure. These have been incorporated into larger plans for three groupements (the administrative level between the village and sector) with the aim of creating a masterplan for the whole sector of Balanga.

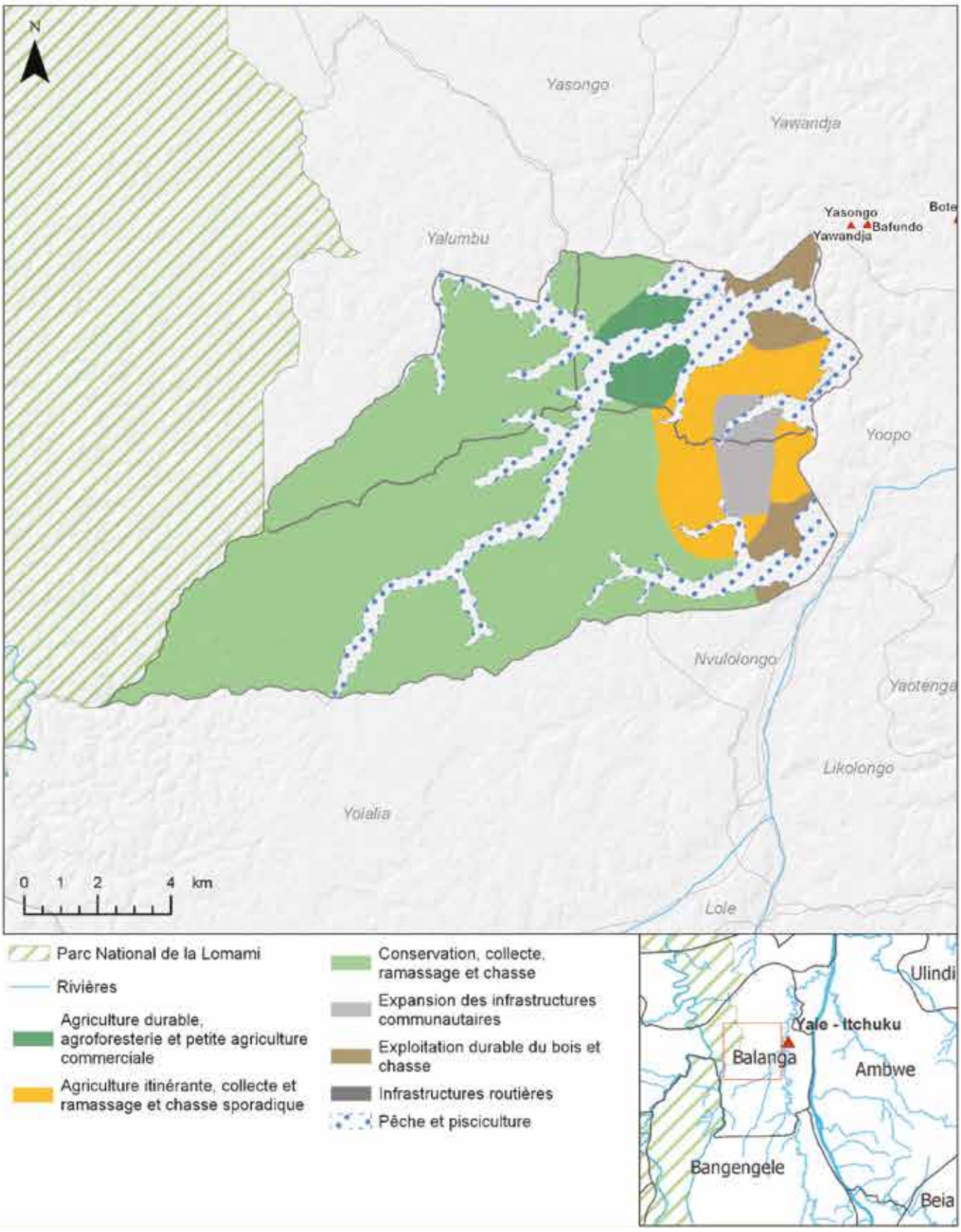
The participatory methodology, based on a robust and iterative free, prior and informed consent (FPIC) approach, comprises a series of community-led steps:

- Participatory selection of **local planners**, which received training on data collection and mapping;
- Identification of **planning boundaries**, based on customary tenure mapping;
- Identification of **current land uses** by the community and other actors;
- **Land and resource assessment** combining local knowledge, satellite imagery and other information such as on topography, vegetation and soil types;
- Identification of **development priorities**;
- Assessment of **future needs for agricultural land**, based on current use and demography;
- Development of **land suitability maps**, identifying suitable areas for the prioritised activities;
- **Zoning process:** planning of current and future land use changes;
- Drafting of **action and monitoring plans**, with specific rules and responsible actors for each identified land use;
- **Validation of the land use plan** by the whole community, and eventually at higher administrative levels.

The project placed a particular emphasis on **inclusion** (organisation of separate focus groups with women, community-led mapping and data collection), **innovation** (use of satellite imagery and dedicated apps for data collection) and **sustainability** (ensuring the plans are based on thorough, actionable needs assessments).

This pilot has provided real insights into the lives and aspirations of over 35,000 people. It has demonstrated the importance communities place on sustainable practices and resource conservation, as can be seen by the area dedicated for non-destructive activities in the plan as well as restrictions placed on hunting and fishing to allow for stock replenishment. It has also allowed for a collective process of identify pressing development needs such as a lack of access to markets and basic health and education services, and to develop plans for addressing these. By amalgamating the village plans and involving local officials, this has allowed for greater recognition of local tenure rights, sharing infrastructure of needs and interfacing with wider planning processes.

FIGURE 15 - EXAMPLE OF COMMUNITY LAND USE PLAN IN MANIEMA, DRC



The community land use plans, which combine traditional knowledge with remote sensing and soil data, dedicate significant areas for forest conservation and non-intensive resource use. Source: GeoFirst.

FIGURE 16 - EXAMPLE OF A COMMUNITY ACTION AND MONITORING PLAN IN MANIEMA, DRC

LAND USE ACTION PLAN

	Zone	Activity	Duration	Specific Needs	Resposible Entity
	Shifting agriculture, collecting and gathering, and sporadic hunting	Agriculture	3 years	Agricultural inputs, improved seeds, training	Planning committee (LUP)* + chief of the locality
	Fishing and pisciculture	Fishing and scooping	Frequently	Nets, hooks, canoe, machete, spark plug wire	LUP Committee
	Fishing and pisciculture	Pisciculture	5 years	Fry, fishing inputs, training	LUP Committee
	Sustainable logging and hunting	Sawing wood	5 years	Chainsaws, saws, machetes, file, and training	LUP Committee + village chief
	Sustainable agriculture, agroforestry, and small commercial agriculture	Planting palm and coffee trees	5 years	Seedlings, other inputs and training	LUP Committee
	Conservation, collecting, gathering and hunting	Hunting and gathering	Frequently	Machetes, files,	Chief of the locality + customary chief
	Conservation, collecting, gathering and hunting	Conservation	5 years (9 months of hunting per year)	Training and applicable regulations	Chief of the locality + customary chief
	Development of community infrastructure	Constructing the village	5 years	Sheets, brick press, cement, chainsaw, nails, machetes, hoes, etc.	Chief of the locality + LUP Committee
	Road infrastructure	Building the route	5 years	Machetes, spades, hoes, chainsaw, and training	LUP Committee

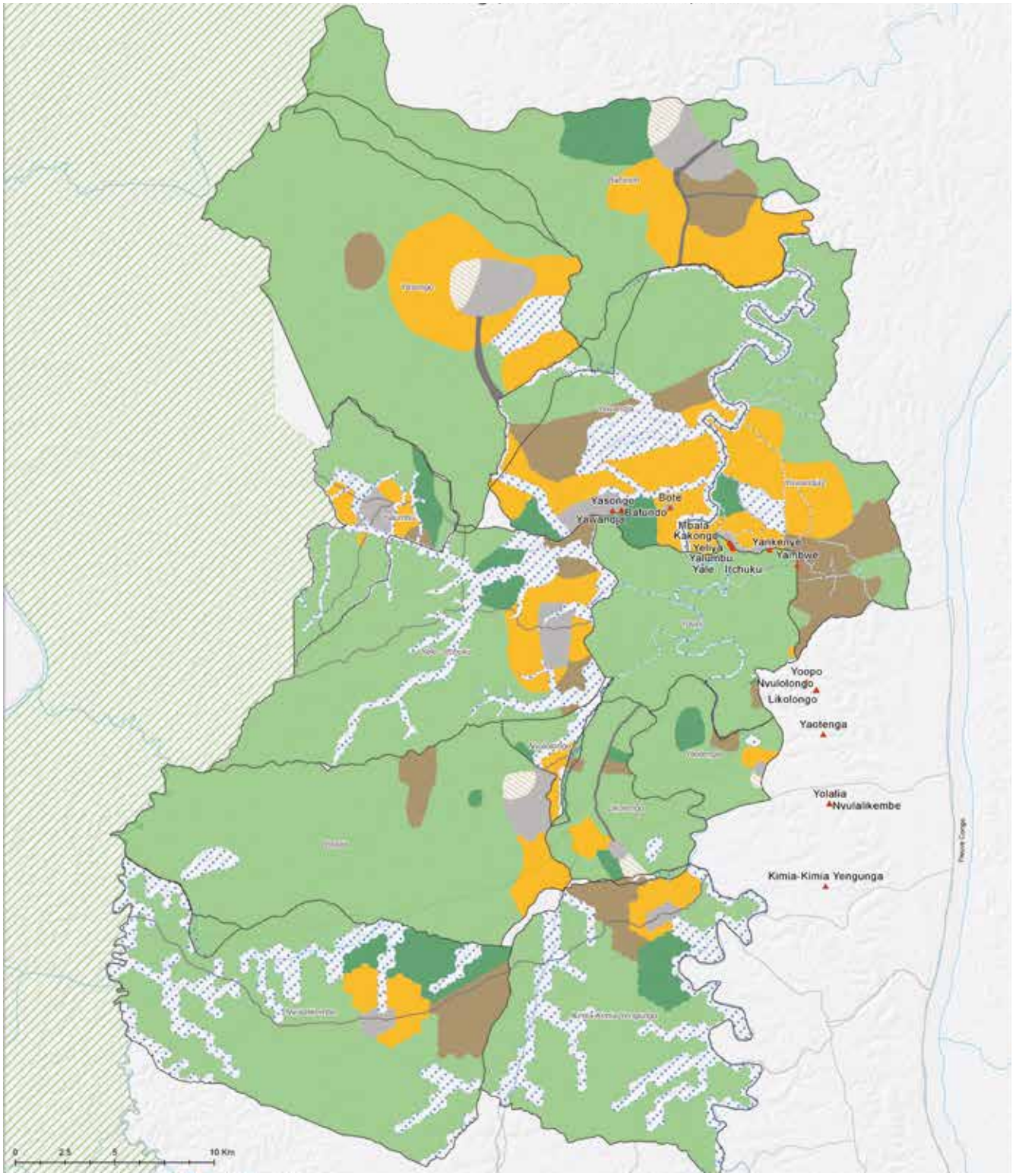
**Land Use Planning Committee - members are chosen by the community*

LAND USE ACTION PLAN

	Zone	Activity	Established Rules	Entity responsible for monitoring	Customary Penalty
	Shifting agriculture, collecting and gathering, and sporadic hunting	Agriculture	Do not sell, Do not fish or farm in a disorderly way, Do not make a final transfer of the fields to a foreigner	Traditional chief, LUP committee	Pay 5 goats
	Fishing and pisciculture	Fishing and scooping	Do not put toxic products in the water, Do not sell this space	Traditional chief, LUP committee	Pay 5 goats
	Fishing and pisciculture	Pisciculture	Do not use toxic products Do not go with foreigners without the permission of the rights-holders	Traditional chief, LUP committee	Pay 5 goats
	Sustainable logging and hunting	Sawing wood	Do not cut wood in a disorderly way or farm, Do not sell the forest	Traditional chief	Pay 5 goats
	Sustainable agriculture, agroforestry, and small commercial agriculture	Planting palm and coffee trees	Do not cut the seedlings Do not cultivate plantations	Traditional chief, LUP committee	Pay 5 goats
	Conservation, collecting, gathering and hunting	Hunting and gathering	Do not cut or saw trees, Do not allow a visitor to enter without permission, Do not bury people in the zone	Traditional chief, LUP committee	Pay 5 goats
	Conservation, collecting, gathering and hunting	Conservation	Do not allow foreigners to enter without an order from the rights-holders, Do not cultivate or saw trees in this area, Do not hunt during the closing period (3 mons per year)	Traditional chief, LUP committee	Pay 10 goats
	Development of community infrastructure	Constructing the village	Do not make fish ponds, Do not sell, Follow the orders of the village chief before the construction	Traditional chief	Pay 8 goats
	Road infrastructure	Building the route	Do not make fish ponds Do not dig holes on the road Do not bury people	Traditional chief, LUP committee	Pay 3 goats

This figure shows a community action plan (showing permitted activities in each zone, specific needs for these and who is responsible for implementation) and a monitoring plan (outlining rules and sanctions for each land use and who is responsible for monitoring). Source: GeoFirst

FIGURE 17 - EXAMPLE OF 'GROUPEMENT' LAND USE PLAN IN MANIEMA, DRC



Combining different community land use plans to cover entire administrative units (in this case an official 'grouping' of villages) can ensure cohesiveness of overall development priorities, sustainability objectives and infrastructure needs. It can also help secure buy-in of local authorities and support harmonization with higher level planning processes. Source: GeoFirst

5. RECOMMENDATIONS

Land use planning that does not properly consider local realities nearly always results in poor social, economic and environmental outcomes. However, with enabling political, institutional and technical conditions, it can provide an ideal political and technical interface between communities and local authorities to harmonize broader development and conservation objectives. Participatory land use planning offers local communities an opportunity to put their lands on the map and the political space to express their development needs and embed these into the political and legal realms. It also offers state bodies the opportunity to better grasp local spatial planning requirements, ensuring that customary systems and local knowledge are captured in higher level planning processes.

In order to achieve socially just and environmentally sustainable land use planning in the Congo Basin, a constellation of enabling factors need to come together structured below as Governance, law and policy, Planning institutions and Implementation. The following table sets out specific recommendations for governments, policy makers and civil society organisations in DRC and Cameroon[77].

[77] Eisen et al. (2019)

TABLE 6 – RECOMMENDATIONS

Governance, Law and Policy		
Condition	**Recommendation**	**Comments**
Land use planning policies	• In DRC and Cameroon, publish national policies and associated strategies to guide orientation and strengthen local autonomy in land use planning, in line with international best practice such as the FAO Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests.	There is a strong need to clarify concepts, roles and rights in relation to land use planning.
DRC logging moratorium	• Ensure that 'geographical programming' required to lift the national logging moratorium includes participatory and multi-sectoral zoning of forests, and is specifically linked to the satisfactory completion of national land use planning reforms.	Any process which does not sufficiently consider communities and other forest users would inevitably result in negative outcomes[78].
Creating space for change	• Option 1: Review and where necessary declassify existing land attributions based on how they are performing (i.e. if they are meeting management objectives) or complying with the law. • Option 2: Explore potential of co-management approaches in existing large-scale land allocations[79].	Given that most of the region's forest has been allocated for industrial or strict nature conservation purposes, there is a need to free up space for participatory land use planning to take place. Where community lands are totally or partially overlapped by existing land allocations, there is a need for better implementation of existing laws and policies on co-management (for different categories of protected areas, for example) or to pilot and legislate for better ones. All of these concepts would need rigorous testing and evaluation.
Community forests	• In DRC: Support implementation of the national community forest strategy, ensuring that the target of having 2,350,000 hectares designated as community forests by 2023 is met in the context of land use planning and that any future, potentially much larger allocations are as well. • In Cameroon: Revise the 1994 community forest law to be more accessible and appropriate to forest peoples, building on recent innovations elsewhere in the region[80]. Test community forests in the context of pilot land use planning at the council level.	Developments on community forests would need to be consistent with any possible future advances that arise through land tenure reforms to avoid any legal contradictions. A harmonisation of community forest laws and land tenure laws would also need to be accompanied by measures to fill legal gaps related to activities that are not forest related such as commercial agriculture and mining.
Tenure reform	• Modify legal regimes in the Congo Basin to allow for community possession and ownership of land via: i. Removal of the assumption of State ownership over all lands (though the state would retain overall sovereignty, as with DRC) and the creation of a third domain for lands not publicly or privately owned (and where possession applies); ii. Recognition of collective possession/ ownership rights on occupied customary lands; iii. Simplification of process to register land titles.	Ultimately, property rights will enable communities to develop and enforce their own rules concerning use and access of their forests and negotiate with external actors on their own terms.

[78] Rainforest Foundation UK (2018).

[79] See Karsenty (2016), for example.

[80] Rainforest Foundation UK (2014).

Planning institutions		
Condition	**Recommendation**	**Comments**
Role and mandate of planning ministries	• Clarify and invest greater executive powers in planning ministries such as MINEPAT and MINAT in order to avoid capture by powerful ministries and vested interests, as well as to guard against unilateral land allocations.	There is a need to clarify relations and functions of different government agencies. Currently land related policies, laws and cadastres in the region are often sector and actor specific, and do not add up to a coherent inter-sector vision.
Intersectoral collaboration and multidisciplinary approaches	• Establish independent, multi-disciplinary land use planning cells within MINEPAT and MINAT.	Previous zoning efforts in DRC and Cameroon have been led by forest/environment ministries, leading to a strong bias towards the logging industry and strict conservation.
Decentralisation	• Deepen investment in decentralisation processes, such as by creating MINAT and MINEPAT posts in councils and sectors, and by implanting multi-disciplinary land use planning cells in them.	In general, there is a need to build formal mechanisms for participation at all levels in the planning process.
Community institutions	• Work with existing community institutions, where possible, with special provisions to ensure the participation of women, indigenous peoples and other often marginalised groups.	Local civil society and anthropological expertise can be of great value here.
Participation as a standalone principle	• Build representative structures, giving space to communities and civil society. • Improve transparency and dissemination of land use planning information so that stakeholders can input and react.	

Implementation		
Condition	**Recommendation**	**Comments**
Planning tools and data provision	• Improve the provision of data to inform land use planning processes, including through open sourcing and offline tools. • Create a new 'community lands' layer on the official government forest atlases and develop easy-to-use geo-spatial platforms that can aid land use planning processes at the local level. • Develop national land use planning quality standards so that macro and meso level planning takes place with a minimal level of information on land occupation and use.	There currently exist few tools that allow for community lands and resources to be integrated into land use planning processes. Community mapping platforms such as MappingForRights could be further utilized towards this end, although sensitivities over public disclosure of data must be addressed. Other new tools such as Land Planner, developed for the Nguti council exercise, can greatly improve informed collective decision making, as long as there as measures to ensure participation of local stakeholders who may lack access to information and communication technologies.
Sequencing	• Make it a legal requirement for participatory land use planning to take place prior to further allocations being made. • Embed FPIC principles in land related laws and policies, and strong provisions to prevent displacement.	One contentious issue is the sequencing of land use planning processes and how local land use plans intersect with (or are embedded in) those at the sub national and national levels. The specified measures would help mitigate the risk of macro-zoning processes becoming the definitive land use plan. Given that land use planning and tenure reform processes will take time to unfold, there is also a strong rationale for piloting participatory land use planning at the local council and sector level. As long as expectations of local communities can be managed, this can provide valuable insights that can feed into these broader processes.
Targeted interventions	• Pilot participatory land use planning in a range of different settings, including in 'hotspots' (e.g. areas of current or potential agricultural development, protected areas and their buffer zones, extractive activities, REDD+ and large infrastructure projects).	Documenting land rights in countries the scale of DRC and Cameroon is no small task. Strategic and practical choices will need to be made such as prioritising areas where there are considerable overlaps between land claims.
Implementing and updating land use plans	• Institute a review and revision of land use planning (every 15 years or so).	Although customary land rights in the region have remained generally stable, resource use is more dynamic. Land use plans must therefore reflect this.

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