



The Context of REDD+ and adaptation to climate change in Burkina Faso

Drivers, agents and institutions

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Scenery in the Kongoussi area, Burkina Faso.

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Abbreviations

3Es	Efficiency, Effectiveness and Equity
AfDB	Banque africaine de développement (African Development Bank)
AusAID	Australian Agency for International Development
AGRHYMET	Agro-Hydro-Métrie (Centre)
BDOT	Bases de données d'occupation des terres (Land-use Database)
BioCF	BioCarbon Fund
CAF	Chantier d'Aménagement Forestier
CBD	Convention on Biological Diversity
CCD	Convention to Combat Desertification
CDM	Clean Development Mechanism
CEN-SAD	Community of Sahel-Saharan States
CIF	Climate Investment Fund
CIFOR	Center for International Forestry Research
CILSS	Permanent Interstate Committee for drought control in the Sahel
CNPDR	Cadre National des Partenaires du Développement Rural
CONEDD	Conseil National pour l'Environnement et le Développement Durable (National Council on Environment and Sustainable Development)
COP	Conference of the Parties
CSO	Civil Society Organization
CVD	Conseil Villageois de Développement
CVGT	Commissions Villageoises de Gestion des Terroirs
DEP	Direction des Etudes et de la Planification
DFN	Domaine Foncier National
DGM	Dedicated Grant Mechanism
EC	European Commission
ECOWAS	Economic Community of West African States
EESS	Environnementale et Sociale Stratégique
EU	European Union
FAF	Fonds d'Aménagement Forestier
FAO	United Nations Food and Agriculture Organization

FCPF	Forest Carbon Partnership Facility
FFEM	French Global Environment Facility
FIE	Fonds d'Intervention pour l'Environnement
FIP	Forest Investment Program
FPCF	Fonds de partenariat pour le carbone forestier
FPP	Forest Peoples Programme
GAGF	Groupe de recherche Action sur la Gouvernance Forestière
GCS-REDD+	Global Comparative Study on REDD+
GDP	gross domestic product
GEF	Global Environment Facility
GGF	Groupement de Gestion Forestière
GHG	Greenhouse Gas
GIS	Geographic Information System
GRAF	Groupe de Recherche et d'Action sur le Foncier
IBRD	International Bank for Reconstruction and Development
ICRA	International Commission for the Rights of Aboriginal People
IIAG	Ibrahim Index of African Governance
IIED	International Institute of Economic Development
ILO	International Labor Organization
INSD	Institut National de la Statistique et de la Démographie
IPCC	Intergovernmental Panel on Climate Change
ITTO	International Tropical Timber Organization
IUCN	International Union for the Conservation of Nature
JICA	Japan International Cooperation Agency
LAME	Laboratoire d'Analyses Mathématiques et des Équations
LDC	Least Developed Countries
LEG	Least Developed Country Expert Group
LULUCF	Land Use, Land-Use Change And Forestry
MARP	Méthode Active de Recherche et de Planification Participative
MDB	Multilateral Development Banks
MDG	Millennium Development Goals
MDP	Mécanisme pour un Développement Propre
MECV	Ministère de l'Environnement et du Cadre de la Vie
MEDD	Ministère de l'Environnement et du Développement Durable
MPIDO	Mainyoto Pastoralist Integrated Development Organization
MRV	Measurement, Reporting and Verification
NAMA	Nationally Appropriate Mitigation Action
NAP	National Action Plan on Climate Change Adaptation

NAP-CD	National Action Program to Combat Desertification
NAPA	National Adaptation Program of Action to Climate Variability and Change
NEAP	National Environmental Action Plan
NEPAD	New Partnership for Africa's Development
NGO	Non-Governmental Organization
NORAD	Norwegian Agency for Development
NTFP	Non-Timber Forest Product
OECD	Organisation for Economic Co-operation and Development
PADAB	Programme d'Appui au Développement de l'Agriculture au Burkina
PANE	Plan d'Action National pour l'Environnement
PAPISE	Plan d'Actions et Programme d'Investissement du Sous-secteur de l'Élevage
PAS	Programme d'Ajustement Structurel
PDD	Project Design Document
PGDDF	Projet de Gestion Décentralisée Durable des Forêts et des espaces boisés
PGPFD	Projet de Gestion Participative des Forêts Domaniales
PIN	Project Idea Note
PNDEL	Politique Nationale de Développement Durable de l'Élevage
PNGT	Programme National de Gestion des Terroirs
PNH DU	Politique Nationale de l'Habitat et du Développement Urbain
PNLCD	Plan National de Lutte contre la Désertification
PNSFMR	Politique Nationale de Sécurisation Foncière en Milieu Rural
PNSR	Programme National du Secteur Rural
POP	Persistent Organic Pollutant
PRSP	Poverty Reduction Strategy Paper (Cadre Stratégique de Lutte contre la Pauvreté)
PVP	Procès-Verbal de Palabre
RACOPY	Réseau Actions Concertées Pygmées
RAF	Réorganisation agraire et foncière
RDS	Rural Development Strategy
REDD	Reduction of Emissions from Deforestation and Forest Degradation
REDD+	Reduction of Emissions from Deforestation and Forest Degradation and enhancing forest carbon stocks in developing countries
REEB	Rapport sur l'État de l'Environnement au Burkina
R-PP	Readiness Preparation Proposal
RNA	Régénération Naturelle Assistée
SAP	Structural Adjustment Program
SCADD	Stratégie de Croissance Accélérée et de Développement Durable
SDAU	Schémas Directeurs d'Aménagement et d'Urbanisme
SNEE	Stratégie Nationale d'Éducation Environnementale

TFP	Technical and Financial partners
TLU	Tropical Livestock Unit
TOD	Textes d’Orientation à la Décentralisation
UAA	Utilized Agricultural Areas
UEMOA	Union Économique et Monétaire Ouest Africaine
UGGF	Union des Groupements de Gestion Forestière
UNDP	United Nations Development Program
UNFCCC	United Nations Framework Convention on Climate Change
UNITAR	United Nations Institute for Training and Research
USAID	US Agency for International Development
WASCAL	West African Science Service Centre on Climate Change and Adapted Land Use
WB	World Bank
ZOVIC	Zone Villageoise d’Intérêt Cynégétique (village hunting areas)

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Executive summary

Burkina Faso is one of eight pilot countries participating in the Forest Investment Program (FIP), a program established under the Climate Investment Funds (CIF) to support government-led programs to reduce greenhouse gas emissions. Burkina Faso was selected to participate in the FIP because of what is considered a significant potential for carbon sequestration from its dryland forests, and its more than two decades worth of experience in participatory natural resource management. As part of the FIP process, Burkina Faso completed a Readiness Preparation Proposal (R-PP), which was adopted in June 2012 by the Technical Panel and FIP Sub-Committee.

The country profile presented here documents a dynamic contextual analysis of opportunities and potential constraints to the implementation of reducing emissions from deforestation and forest degradation (REDD+) in Burkina Faso. The report outlines the findings from secondary data analysis, supported by semi-structured interviews with key informants. Five areas relevant to REDD+ are examined (drivers of deforestation, institutional environment and revenue distribution mechanisms, the political economy of deforestation and forest degradation, the political environment of REDD+ and adaptation). The report concludes with a discussion of the implications of the country's current REDD+ design for effectiveness, efficiency and equity.

The study in Burkina Faso is part of a larger comparative effort taking place in 14 countries (Bolivia, Brazil, Burkina Faso, Cameroon, Democratic Republic of Congo, Ethiopia, Indonesia, Lao People's Democratic Republic, Mozambique, Nepal, Papua New Guinea, Peru, Tanzania and Vietnam). The overall aim of this country profile series is to inform decision makers, practitioners and donors about opportunities and challenges in implementing a REDD+ mechanism, in order to support evidence-based REDD+ decision-making processes.

Key findings of this review indicate that data on the dynamics of soil cover, and rates of deforestation and forest degradation in Burkina Faso are inconsistent. Estimates of Burkina Faso's total forested area also differ depending on the data source, and the definition of forests applied. The main causes of deforestation, where indicated in literature, are: agricultural expansion, primarily using extensive techniques for cash crops and agribusiness; burning forests for fuelwood and charcoal; overgrazing; and more recently, mining. Indeed, according to FAO (2010b) and the Ministry of Environment (MECV 2002), clearing for agricultural purposes led to the loss of nearly 60,000 ha of forests between 1980 and 1983, 113,000 ha between 1983 and 1992, and 360,000 ha between 1992 and 2000. Furthermore, 4,601,668.75 km² of forest were burned during the 2003–2004 farming season, while industrial and semi-industrial mining sites cover another 100,000 ha. In addition to these direct drivers of deforestation and forest degradation, there are a number of indirect drivers, including increases in population, immigration, infrastructure development, overexploitation of non-timber forest products, poor governance and a lack of financial resources to respond to these drivers.

Nevertheless, there is potential to reduce emissions by up to 19,020,600 tCO₂e per year if these drivers are mitigated. However, the potential for carbon sequestration can only be realized within a context of effective forest and land governance. As for other cross-sectoral policy processes, stakeholders at all levels must collaborate in order to improve the management and protection of forest resources. It is therefore important to have an enabling institutional, regulatory and organizational framework that can facilitate this process. To this end, Burkina Faso has policy and regulatory instruments such as the Strategy for Accelerated Growth and Sustainable Development, as well as environment and forestry codes. Additionally, 20 years of decentralization in Burkina Faso have created favorable conditions for REDD+.

Despite these extensive preparatory measures, our analysis indicates that a number of national policies have had unintended and sometimes competing outcomes. We focus, in particular, on the impacts of agricultural and pastoral policies, energy policies, and Burkina Faso's mining and urbanization strategies. Although many of these policies were broadly developed to contribute to poverty reduction and sustainable development, there have been a number of unforeseen impacts. For example, policies to promote cotton production, mining and agribusiness have caused huge forest area losses through direct land conversion and also through encroachment beyond assigned areas.

Burkina Faso began the REDD+ process with its R-PP, which was prepared between February and November 2011 with financial and technical support from the African Development Bank and the World Bank. A coordination and supervision mechanism was developed following several consultations with various actors (i.e. government, civil society, private sector, and technical and financial partners). Key elements of the REDD+ strategy, such as measurement, reporting and verification (MRV), carbon ownership, and benefit and co-benefit sharing, have yet to be defined. However, the implementation of two FIP projects provides a framework for discussion and will aid in the development of the REDD+ strategy.

The REDD+ process is facilitated by a number of existing policies and strategies, including national land and forest policies, as well as strategies for adaptation to climate change, such as the National Adaptation Program of Action to

Climate Variability and Change and the National Adaptation Plan to Climate Change. The current REDD+ policy process aims to realize synergies between the various sectors and programs in terms of existing institutions and organizations when developing effective national sectoral policies and policy instruments. In this context, it is also envisioned that it will address both adaptation and mitigation within a REDD+ context.

Finally, when we critically evaluate whether Burkina Faso's REDD+ process and envisioned outcomes can be considered efficient, effective and equitable (3Es), our findings indicate a number of aspects that require particular attention. Some national policies have sought to maximize economic and social benefits at the expense of the environment, and have led to widespread deforestation and forest degradation. These include policies to promote cotton production, agribusiness and the mining sector. While Burkina Faso being unique as a dry forest country among the REDD+ countries with limited carbon potential, the overall challenges are shared with many other countries for a successful development and implementation of Burkina Faso's REDD+ strategy: the improvement of the institutional and governance context; the coordination of actions across sectors and actors; the participation and commitment of the key stakeholders across all levels; the improvement of the MRV system; and the careful design of an equitable benefit-sharing mechanism. Finally, realizing synergies with adaptation will be crucial for the success of REDD+ in Burkina Faso, as forests and trees play a fundamental role in adaptation to climate change and climate variability.

Introduction

Land-use change, particularly the loss of forests within the context of climate change, is of growing concern. In response to this, in 2005, a group of tropical forest countries recommended to the United Nations Framework Convention on Climate Change (UNFCCC) that a post-Kyoto global agreement should include a mechanism to reduce emissions from deforestation and forest degradation (REDD). The original proposal was designed at the Conference of the Parties meetings (COPs) in Bali (Indonesia, 2007), Poznan (Poland, 2008), Copenhagen (Denmark, 2009) and Cancun (Mexico, 2010). Discussions on this mechanism expanded to include the conservation of forest carbon stocks, sustainable management of forests and ways to build forest carbon stock. REDD combined with these three additional activities came to be known as REDD+. The basic principle of REDD+ is that financial compensation be paid by developed countries to tropical forest countries that manage to reduce sources of emissions in their respective territories (Angelsen et al. 2009).

Despite its weak forest sector (FAO 2011), in 2010, Burkina Faso was selected to become a pilot participant in the Forest Investment Program (FIP). It is the only Sahelian country to be nominated as a beneficiary country. Prior to its participation in the FIP, Burkina Faso had already demonstrated its commitment to climate change initiatives through the development and adoption of its National Adaptation Program of Action (NAPA) (MECV 2006a; Kalame et al. 2009). In 2011, the Ministry of Environment (at that time the Ministry of Environment and Sustainable Development (MEDD)), in partnership with the Joint NAPA/FIP/REDD Committee, conducted several consultations with stakeholders and actors relevant to the implementation of REDD+. In June 2011, the FIP approved Burkina Faso's Investment Plan and authorized the commencement of the REDD+ readiness process. This led to the development of the Readiness Preparation Proposal (R-PP), which was adopted in June 2012.

This study presents a REDD+ inventory for Burkina Faso, following an approach previously developed by the Global Comparative Study on REDD+ (GCS-REDD+) team, which served as a guide in developing the country profile (Brockhaus and Di Gregorio 2012; Brockhaus et al. 2012). Unlike the other countries sampled for the GCS, this profile also investigates the state of synergies between climate change mitigation (REDD+) and the NAPA strategies in Burkina, due to the importance of adaptation in the context of dry forests. The research was based on qualitative and quantitative data obtained from both secondary literature and primary sources. Various sources were used, including policy documents, legal instruments and public strategy documents, project reports, scientific articles, books and gray literature. We analyzed: (i) the institutional context of climate change in Burkina Faso; (ii) sectoral policies on the management of forest resources; (iii) the rationale guiding development activities; and (iv) REDD+ implementation opportunities. This study also incorporates opinions and perceptions gathered during semi-structured interviews with experts and other environmental sector practitioners. The country profile was also informed by comments received during a GCS-REDD+ knowledge-sharing workshop, which took place in Burkina Faso on 23–26 April 2014, and was attended by a number of key actors in the field of sustainable forest management. The information collected was analyzed with expert judgment based on participants' observations and triangulation.

This report comprises five sections: (i) drivers of deforestation and forest degradation; (ii) the institutional environment and income distribution mechanism; (iii) the political economy of deforestation and forest degradation; (iv) the political environment of REDD+ and adaptation; and (v) assessing the country's REDD+ profile according to the principles of effectiveness, efficiency and equity (3Es) (Angelsen et al. 2012).

1 Drivers of deforestation and forest degradation in Burkina Faso

1.1 Current forest cover and dynamics of change

Burkina Faso is landlocked between 9° and 15° N, and 6° W and 3° E. It has a total landmass of 274,000 km² (FAO 2011) and covers three major climatic zones (Figure 1): Sahelian, Sudanian and Sudanian–Sahelian (Ouédraogo 2010; Ouédraogo et al. 2010).

With a population growth rate of 3.5% and a population of 15,234,000, Burkina Faso is one of West Africa's most populated countries (INSD 2006; FAO 2011). Eighty-five percent of the population

is rural and dependent on agriculture and livestock. The country does not have a substantial forest resource base (Blin et al. 2007) compared to other humid forest countries engaged in the REDD+ process. However, the dry forests provide ecosystem services to the other sectors, e.g. fodder or non-timber forest products (NTFPs) and to local livelihoods, as the following sections will show in more detail. Rapid population growth combined with immigration further limits the availability of environmental resources. Burkina Faso's forests are being degraded at an accelerated pace and there is notable variance in the spatial distribution of forest formations (Figure 2).



Figure 1. Climatic zones and administrative province capitals of Burkina Faso.

Source: MEDD/R-PP (2012)

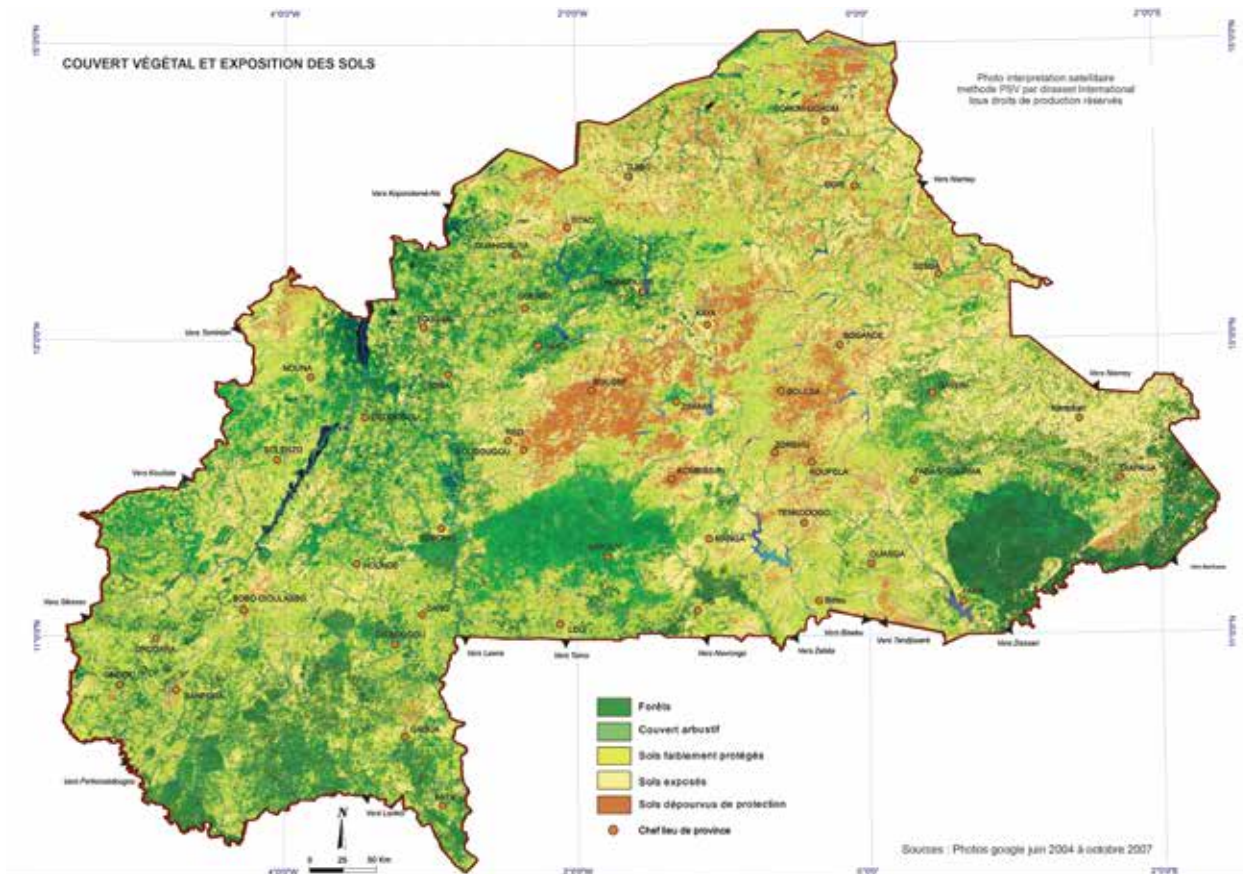


Figure 2. Land cover and soil exposure in Burkina Faso.

Source: MEDD/R-PP (2012)

The center and north of the country have low vegetation cover. Both regions have similar levels of rainfall, soil and vegetation types. Land cover comprises steppe, shrubby vegetation with very scattered shrubs, dense thickets and parklands. The most wooded areas are in the west and center-west of the country (MECV 2002; DIFOR 2007). The ongoing Second National Forest Inventory (NFI2 Project) is expected to provide more up-to-date insights into the condition of the country's forest cover.

1.1.1 Major forest types and land-use conditions

Burkina Faso is divided into two main phytogeographic zones: the Sahelian zone and the Sudanian zone (MECV 2007a). Sahelian and sub-Saharan vegetation comprises mostly steppe, while Sudan-type vegetation includes savannas, forests, dry or open forests and gallery forests along a north-south gradient (Nikiema et al. 1998; MECV 2007a; MEDD2011a).

Estimates of Burkina Faso's total forest cover vary between sources, many of which use different methods of assessment. According to the Ministry of the Environment (at that time the Ministry of Environment and Livelihoods (MECV 2009)), forest formations (i.e. open forest, gallery forest, shrubland, wooded savanna, steppe) covered 13,305,238 ha in 2002, or 48.52% of the national territory. However, recent FAO statistics (FAO 2010a, 2011) reported 5,649,000 ha of forest cover in Burkina Faso, accounting for 21% of the total land area, and 'other wooded lands' accounting for 18%. This mainly consists of acacia bush in the north (Sahelian regions), and savannas, shea (*Vitellaria paradoxa*), néré (*Parkia biglobosa*), tamarind (*Tamarindus indica*), baobab (*Adansonia digitata*), dry forests and gallery forests in the central belt and the south (Sudanian-type region).

Shrublands represent the most common type of land use, followed by fallow and agroforestry areas, and wooded savannas (FAO 2010a;

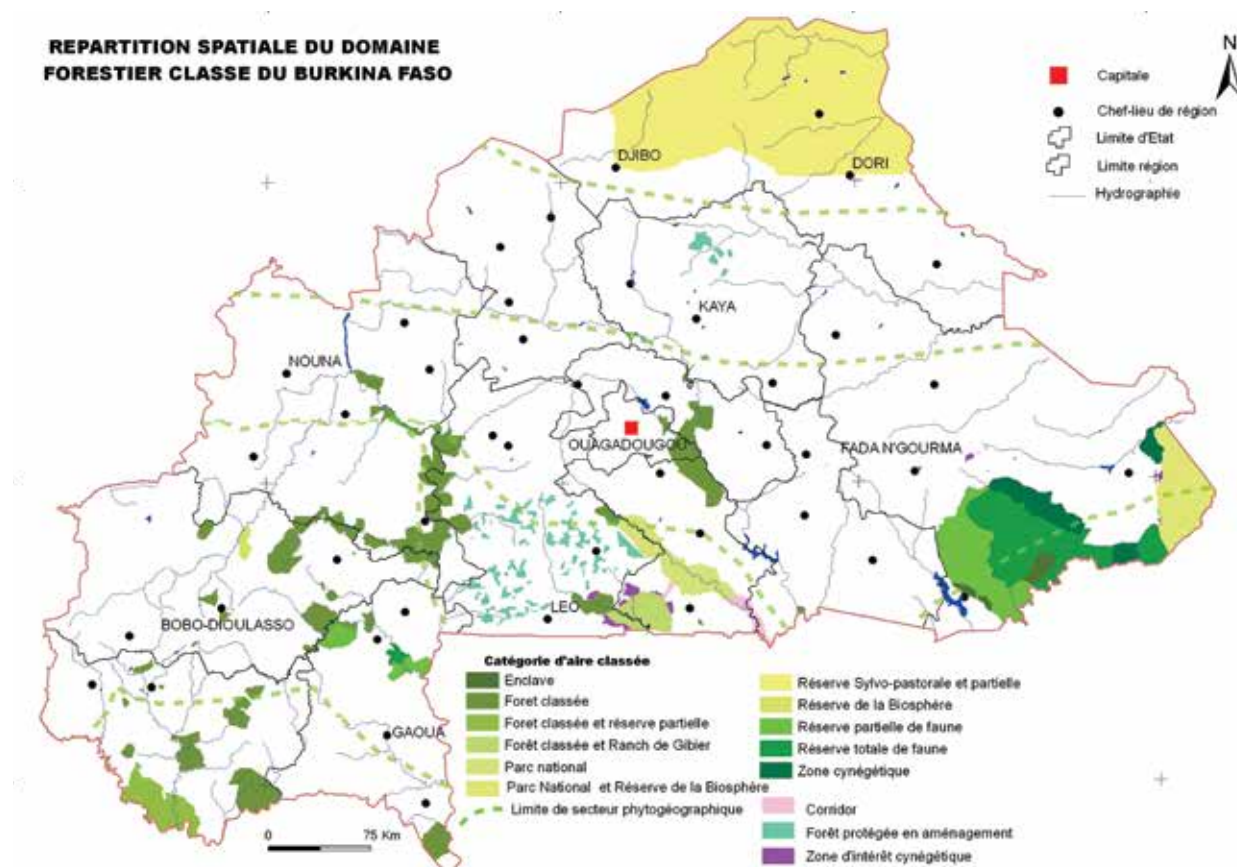


Figure 3. Spatial distribution of Burkina Faso forest reserve estate.

Source: MECV (2007a)

MEDD 2011a). In terms of legal status, forest types are divided into reserve estates (25%) and protected areas (75%). Forest reserve estates (Figure 3) cover approximately 3,900,000 ha, or 14% of the country, including national parks (390,000 ha), nature reserves (2,545,500 ha) and forest reserves (880,000 ha) (DIFOR 2007; MEDD/R-PP 2012).

In forest reserves, local communities' right of usufruct is recognized by law (No. 003-2011/AN on Burkina Faso Forest Code), which allows the harvesting of fruits, dead wood and medicinal plants. In protected areas, this law also recognizes local communities' right of usufruct, but authorizes agriculture, grazing and collection of forest products in accordance with the enforcement legislation of the Forest Code. The right of usufruct is limited to meeting subsistence needs and excludes harvesting for trade. These rights are granted for free and permits are not required (MECV 2004b). Although the right of usufruct is recognized, and free from

any taxation or set quotas, there are formal regulations that apply to reserve areas that specify three possible forms of management: (i) management governed by forestry services in consultation with the community; (ii) concession to the benefit of community operators (associations or groups); and (iii) concession to private operators (MECV 2004a).

1.1.2 Trends in land-use and forest cover dynamics

In Burkina Faso, land is used for urban development, agriculture, grazing, mining, forest management and exploitation. Pastoralism is predominant in the north, but occurs throughout. Cereals are grown throughout the country, covering an area of 4,190,344 ha in 2008, according to the 2008 General Agricultural Census (MAHRH 2012). Cash crops (cotton, sesame, peanuts and soybeans) account for 19% of the planted area (Figure 4). Agricultural products are mainly grown for subsistence (Yamego 2009).

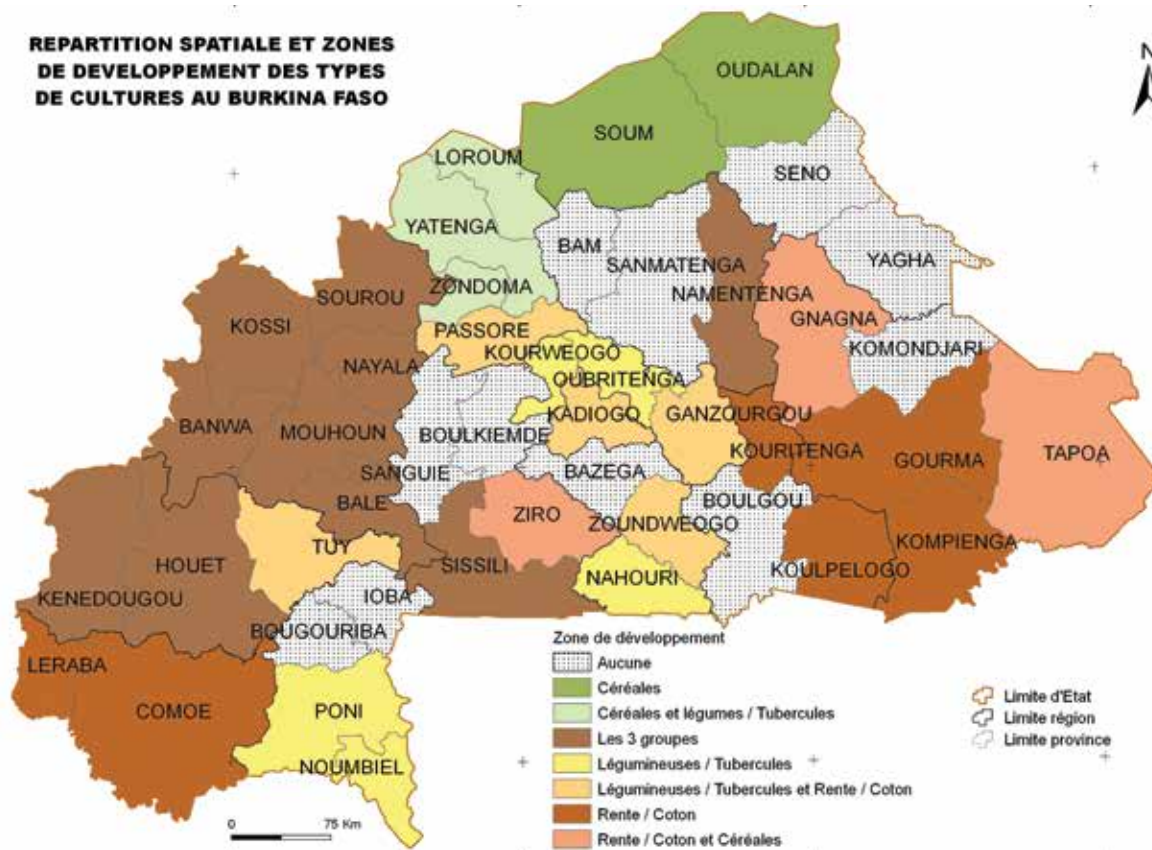


Figure 4. Spatial distribution and development areas of crop types in Burkina Faso.

Source: MECV (2007b)

Forest-based livelihood activities are concentrated in the Sudanian-type ecozones. These include the production of fuelwood and charcoal, the collection and trade of NTFPs such as shea (*Vitellaria paradoxa*), néré (*Parkia biglobosa*), baobab (*Adansonia digitata*) and gum arabic (*Acacia laeta*, *Acacia senegal*). The extent of fuelwood collection and charcoal production in a given area depends on tree density and population. Higher population densities and higher tree densities both seem to favor increased fuelwood production. Hence, this could be, from an often over-simplistic Malthusian viewpoint, more important in the south of Burkina Faso, which has more forest and higher population densities, than in the north. However, there is insufficient data on the use and trade of NTFPs, including fuelwood, to accurately identify the characteristics of their use and any interpretation would require a much more robust data set (MEF 2009a in MEDD 2011a).

Analysis of the dynamics of land use between 1992 and 2002 indicate that agriculture and agroforestry have increased, to the detriment of wooded areas

such as shrublands, wooded savanna and dry forests (Table 1).

The most significant land-use changes during this period occurred in the Sudanian-type phytogeographical area (MEDD 2011a). The Third Report on the Status of the Environment in Burkina Faso (MEDD 2011a) confirms this in its analysis of rates of occupation and the increase in utilized agricultural areas (UAA).

The degradation of ecosystems in Burkina Faso has been consistent, often explained by climatic deterioration and increasing demographic pressure on natural resources, for example, the Convention on Biological Diversity (CBD) country report (2010). FAO's assessment of the reduction in land cover over the last 20 years (1990–2010) is shown in Table 2. The average rate of deforestation is estimated to be approximately 1% per year (CBD 2014). Using Burkina Faso's land-use database, Bombiri (2013) also identifies a decrease in natural and degraded forest areas between 1992 and 2002, to 1,082,719 ha.

Table 1. Change in forest and agricultural areas from 1992 to 2002 in Burkina Faso.

Land occupation unit	Area 1992 (ha)	Area 2002 (ha)	% of the national territory in 2002	Area 2002 – Area 1992 (ha)	Development of areas/y	
					(ha)	(%)
Farming territories with the presence of important natural spaces	3,268,654	3,437,511	12.59	168,857	16,886	0.52
Agroforestry territory	2,038,779	2,305,603	8.45	266,824	26,682	1.31
Rainfed crops	7,403,296	8,016,867	29.37	613,571	61,357	0.83
Open forest	53,359	50,249	0.18	-3110	-311	-0.58
Gallery forest	851,830	834,265	3.06	-17,565	-1757	-0.21
Savanna grassland	222,903	220,032	0.81	-2,871	-287	-0.13
Shrubland	6,902,437	6,189,685	22.68	-712,752	-71,275	-1.03
Wooded savanna	2,553,094	2,327,677	8.53	-225,417	-22,542	-0.88
Steppe grassland	1,296,444	1,270,518	4.65	-25,926	-2593	-0.20
Shrub-steppe	2,319,319	2,213,572	8.11	-105,747	-10,575	-0.46
Wooded steppe	210,902	199,240	0.73	-11,662	-1166	-0.55

Source: MEF (2009b) in MEDD (2011a)

Table 2. Trends in forest cover (deforestation) between 1990 and 2010.

Year	1990	2000	2005	2010
Naturally regenerated forest (ha)	6,840,000	6,190,000	5,871,000	5,540,000
Planted forest (ha)	6,600	57,800	78,300	109,000
Total	6,847,000	6,248,000	5,949,000	5,649,000

Source: FAO (2010b)

1.2 Drivers of change in forest cover

We discuss the impacts of change processes on environmental and forest resources through the lenses of 'deforestation and degradation'. This differentiation is adopted in official UNFCCC, CBD, and Convention to Combat Desertification (CCD) documents at the global level, as well as in the national strategy for implementing the Rio Conventions, the National Forestry Policy, the FIP, etc. at national level. Globally, it is estimated that land and forest degradation contributes to 60% of total greenhouse gas (GHG) emissions (Saboia and Davies 2010). According to FAO (2010b), sources of deforestation or forest degradation are predominantly anthropogenic, such as agricultural and livestock production, exploitation of resources for energy and mining. In Burkina Faso, forest loss primarily occurs as a result of uncontrolled

bush fires, fuelwood harvest, encroachment into forest areas for agricultural production (i.e. for crops and livestock) and mining expansion (Kaboré 2005). Forest clearing and exploitation are the most significant sources of CO₂ emissions in Burkina Faso, followed by the energy sector (CNI 2001; MECV/DCN 2010). Agriculture is the main source of methane emissions, mainly due to livestock. These stressors are exacerbated by population growth, poverty, and urban development and climate variations (MECV 2004b). Despite this, Burkina Faso's Initial National Communication to UNFCCC identifies its area of land use, land-use change and forestry (LULUCF) as a net sink (CNI 2001; Westholm 2010).

Given the decrease in forest area due to land-use change (i.e. for agriculture, pastoralism, mining), an analysis of the direct and indirect drivers causing

these changes is required for Burkina Faso. We further seek to understand the ways in which these factors interact, as well as the relevant actors behind them. Burkina Faso's R-PP includes a number of direct and indirect factors, which are also apparent in the literature on deforestation and forest degradation.

1.2.1 Direct factors

Agricultural expansion

Ninety percent of Burkina Faso's population is employed in the agricultural or pastoral sectors. As such, demand for land is increasing in rural areas, causing "the loss of natural habitats that are already vulnerable to climate conditions" (SP/ CONEDD 2012). Extensive clearing related to agricultural production contributes to forest loss and soil degradation, which reduces carbon sequestration potential and releases GHGs into the atmosphere. According to the MEDD/REEBIII (2011), clearing for crops resulted in an annual loss of nearly 60,000 ha of forests between 1980 and 1983, 113,000 ha between 1983 and 1992, and 360,000 ha between 1992 and 2000. Although there were 15,420,000 ha of natural forests in 1980, this dropped to 15,180,000 ha in 1983; 14,160,000 ha in 1992, and 11,287,000 ha in 2000. Table 3 provides an overview of Burkina Faso's crop types and acreage between 2001 and 2007 (MEDD/R-PP 2012).

The data in Table 3 shows that during the 2007/2008 farming season, the total area for

growing staple crops amounted to nearly 3.5 million ha, and cash crops were estimated to cover 850,000 ha. The total land sown for agriculture was estimated to be approximately 4.3 million ha (MEDD/R-PP 2012). It should be noted though that FAO in their 2011 report estimated this number to be only 2.6 million ha, or 10% of the country's total area. While there is a slight time lag in data collection between the two sources, this alone does not explain the rather drastic discrepancy. This further emphasizes the difficulties in identifying reliable and consistent information on the land sector with contradicting sources across the board. However, according to other ministerial sources, staple crops occupy 88% of this area while cash crops, dominated by cotton, account for 12%. In terms of yield, the amount of cotton harvested rose from 50,000 tons in 1985/1986 to 130,000 tons in 1995/1996 and then 606,992 tons in 2012/2013 (MECV/IPE 2010; MASA-SP/CPSA 2013). This continued growth in production is closely related to an increase in agricultural land, which in many cases requires the clearing of forested areas. Indeed, between 2001 and 2008, 2,671,315 ha of land were devoted to growing cotton alone, a number that provides some insight into the scale of conversion of forests into agricultural land.

Agribusiness

Agribusiness, in contrast to conventional food crop farming, is a new form of land use that has emerged in recent decades, and is increasingly seen as an important driver of forest cover decline.

Table 3. Development of cultivated areas in hectares between 2001 and 2007.

Nature of the crop	2001/2002	2002/2003	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008
Staple crops							
Cereals	3,212,574	3,308,691	3,561,651	2,818,321	3,237,581	3,057,130	3,320,950
Other crops	94,946	94,703	74,081	95,955	112,061	115,004	135,170
Total staple crops	3,307,520	3,403,394	3,635,732	2,914,276	3,349,642	3,172,134	3,456,120
Cash crops							
Cotton	345,578	412,138	443,739	521,466	621,748	569,858	378,536
Peanut	330,904	342,637	404,110	352,528	274,603	310,597	415,171
Sesame	60,921	26,076	30,945	24,913	46,294	47,337	55,058
Soy bean	2922	2278	4941	2142	5913	5141	7355
Total cash crops	740,325	783,129	883,735	901,049	948,558	932,933	856,120
Total area	4,047,845	4,186,523	4,519,467	3,815,325	4,298,200	4,105,067	4,312,240

Source: MEDD/R-PP (2012)

While Burkina Faso has no official definition of agribusiness, according to the Consolidated Preparatory Report (MEDD/R-PP 2012) of the Forum of New Actors, the following are classified as agribusiness people: “all farmers from the public administration, employees, young farmers and business people whose business is to generate a significant surplus of marketable agricultural production.” In other words, agribusiness people are those who invest or seek investment opportunities in the agricultural sector that exceed food self-sufficiency (MARA 1999; Fontan 2012). Agribusiness includes staple crops (in particular cereals) and cash crops, such as citrus. It is facilitated by the modernization of national agricultural policy, which incentivizes a shift from subsistence farming to more intensive and specialized farming. Agribusiness places pressure on forests in two ways: (i) it encourages local people to clear more land, therefore leading to an increase in the forest area converted to agricultural use; and (ii) primeval forest formations are systematically cleared (MEDD/R-PP 2012).

Indeed, agribusiness encourages new players (e.g. civil servants, business people, politicians) (Zongo 2010) with financial capital and machinery (e.g. tractors, chainsaws) to clear large areas for crops and livestock husbandry. The results of studies on agribusiness in Burkina Faso are unanimous regarding the harmful effects of this practice on the environment, specifically on deforestation and land degradation. These actors’ production practices are often detrimental to the environment because they frequently lead to the occupation of gazetted forests and widespread bulldozing with little respect for forestry and conservation codes, or the protection of endangered or threatened species (GRAF 2010; Zongo 2010).

The province of Ziro was significantly affected by agribusiness between 2002 and 2009 (see Table 4).

Overgrazing

Demands on land related to livestock are affected by the scale of production and the types of husbandry systems employed. According to a 2012 study endorsed by the Ministry of the Environment and Sustainable Development (MEDD), 35% of the plant biomass consumed by livestock annually comes from forest sources. Total consumption is estimated to be 4,853,868 tons of fodder (MEDD/R-PP 2012), which exerts considerable pressure on

Table 4. Breakdown of agribusiness people according to farm size in 2002 and 2009.

Area	2002	2009
Less than 10 ha	27%	15%
From 10 to 19 ha	28%	28%
From 20 to 49 ha	22%	34%
From 50 to 99 ha	9%	11%
From 100 to 200 ha	5%	8%
Unspecified	8%	4%

Source: Zongo (2010)

grazing areas (Table 5). According to the MEDD/REEBIII (2011), the average annual growth rate of Burkina Faso’s livestock population is approximately 2.7% (Table 6). The most common animal-rearing method is the pastoral system based on the natural pasture where animals (mostly cattle) are allowed to graze freely (MEDD/REEBIII 2011). This system places great pressure on forest resources and reduces forest cover.

Overgrazing is caused by a combination of factors including: high population growth rates of livestock herds, the type of breeding system employed and the decrease in pastoral areas. This has a significant impact on resources (e.g. timber and grass fodder), and has the potential to lead to the loss of species and degradation of vegetation.

Bushfires

Bushfires are common in sub-Saharan Africa, particularly in Burkina Faso. This practice is a well-established cultural tradition and has been performed for many generations (Sawadogo 2009). However, bushfires have become an environmental concern in rural areas, in terms of their scale and their negative effects on vegetation cover and biodiversity. They are a significant cause of deforestation and forest degradation (Sawadogo 2007; Zida 2007; Sawadogo 2009; Dayamba 2010).

Two types of forest burning occur in Burkina Faso (MEDD/REEBIII 2011):

1. Early fires used as a forest or pasture management tool. These fires are lit as a precautionary measure and are brought under control at the onset of the dry season to prevent widespread bushfires.

Table 5. Level of consumption of plant biomass and load capacity.

Climatic zones	Number of TLUs	Potential consumable plant biomass/year (10 ⁶ t/year)	Difference between potential plant biomass and consumed plant biomass/year (10 ⁶ t/year)
Sahelian	780,289	1.77	-0.87
Sub-Saharan	1,145,588	2.61	-1.42
North-Sudanian	2,486,494	5.67	-0.76
Sub-Saharan	1,089,840	2.48	+0.41
Total	5,502,211	12.53	-2.64

Note: TLU: Tropical Livestock Unit = 250 kg of live weight of the cattle; 1 TLU consumed 2281 tons/year of dry matter

Source: MECV/PANE (1994) in SP/CONEDD (2009)

Table 6. Livestock populations from 2006 to 2009.

Years	2006	2007	2008	2009	Total
Cattle	7,759,005	7,914,160	8,072,420	8,233,845	31,979,430
Sheep	7,324,091	7,543,792	7,770,083	8,003,164	30,641,130
Goats	10,966,197	11,295,160	11,633,992	11,982,987	45,878,336
Camels	15,705	16,016	16,331	16,653	64,705
Horses	37,106	37,456	37,810	38,168	150,540
Donkeys	970,452	989,840	1,009,615	1,029,788	3,999,695

Source: Adapted from MEDD/REEBIII (2011)

- Uncontrolled fires or bushfires are wildfires that are detrimental to forests. These fires occur often when the herbaceous vegetation is completely dried out.

The following section focuses on uncontrolled bushfires, which have the potential to cause significant damage. Bushfires affect 30–40% of the country's combustible surface, with an average of 5,313,441 ha burnt per year (MEDD/R-PP 2012).

Table 7 illustrates that the area burnt by fires is decreasing, and that the 2001–2002 campaign was the most widespread. The spatial distribution of bush fires varies from one region to another, but the highest incidence was recorded in the Sudanian region, with the most affected provinces being Bougouriba, Poni, Nounbiel and Kompienga (MEDD/REEBIII 2011).

The main causes of these bush fires are related to cultural, livestock, hunting and agricultural needs.

Table 7. Areas burnt by early and late fires.

Campaigns	2001–2002		2002–2003		2004	
Type of fires	(ha)	(%)	(ha)	(%)	(ha)	(%)
Late fires	154,302.50	10.75	305,531.25	2.13	426,325.00	2.97
Early fires	2,983,150.00	20.78	5,048,175.00	35.17	3,778,500.0	26.32
Early and late fires at once	1,292,456.25	9.00	166,331.25	1.15	396,843.75	2.76
Total	5,818,618.75	40.54	5,520,037.50	38.46	4,601,668.75	32.06

Source: MEDD/RPP (2012)

More specifically they are: (i) the need to stimulate regrowth of young and tender grass for the cattle by destroying dry and woody grass; (ii) the need to enable the regrowth of the green leaves of some fodder shrubs for livestock; (iii) the need to restrict the development of the shrub layer that competes with pasture for light; (iv) the need to see game clearly; (v) the need to destroy some crop pests that are vectors of human and livestock diseases; and (vi) cultural reasons, including cultural ceremonies and traditional rituals (Mäkelä and Hermunen 2007).

Other triggers include accidental fires, which can cause extensive damage to plant cover. Some examples of these types of fires include farmers losing control during field preparation, or fires related to the activities of millet collectors, potassium (potash) producers and charcoal producers. (Mäkelä and Hermunen 2007).

The demand for fuelwood and charcoal

In Burkina Faso, the most commonly consumed forms of energy are biomass fuels, including fuelwood, charcoal and crop residues (Table 8). Biomass contributes up to 85% to the country's energy consumption (MEDD/REEBIII 2011). This high level of biomass fuel consumption is driven by the 87% of households that use wood as their primary energy

Table 8. Primary energy consumption.

Type of energy	Consumption in percentage
Biomass	85%
Petroleum products	14%
Hydropower	1%

Source: SP/CONEDD (2009)

source for cooking. Charcoal was the second most used fuel, and combined with fuelwood, accounted for 97% of the country's energy consumption in 2002 (MEDD/REEBIII 2011; Ouédraogo K 2011). This heavy demand for fuelwood and charcoal further increases pressure on timber resources, and is a significant driver of deforestation and environmental degradation. According to a 2004 study by the Permanent Interstate Committee for drought control in the Sahel (CILSS), 12,978,000 ha of forest was potentially exploitable for fuelwood in 2004, a figure that had reduced to 11,410,000 ha in 2014. Demand for biomass fuels differs from region to region (Table 9). Rising levels of charcoal and traditional fuel consumption in Burkina Faso's largest cities (Figure 5) already indicates that fuel

Table 9. Demand for fuelwood and charcoal (in m³) by region.

	1992				2002			
	Needs	Available	Balance	%	Needs	Available	Balance	%
Sahel	229,315	60,100	-169,215	26	300,333	59,351	-240,982	20
North	365,567	47,724	-317,843	13	447,583	47,072	-400,511	11
North-central	342,503	71,141	-271,362	21	423,322	71,146	-352,176	17
Central Plateau	273,526	43,585	-229,941	16	345,726	43,177	-302,549	12
Center	416,077	18,385	-397,692	4	581,395	18,290	-563,105	3
East	454,599	513,256	58,657	113	599,045	501,939	-97,106	84
Mouhoun Loop (Loop)	641,286	503,309	-137,977	78	803,288	501,186	-302,102	62
Center-east	489,410	255,615	-233,795	52	601,484	251,728	-349,756	42
South-central	283,633	244,277	-39,356	86	340,238	237,911	-102,327	70
Center-west	512,479	417,738	-94,741	82	605,755	415,587	-190,168	69
Haut-Bassins	688,025	754,665	66,640	110	914,870	749,995	-164,875	82
Cascades	243,895	628,261	384,366	258	311,297	622,414	311,117	200
Southwest	390,120	555,425	165,305	142	424,950	551,848	126,898	130
Total Burkina	5,330,435	4,113,481	-1,216,954	77	6,699,286	4,071,644	-2,627,642	61

Source: SP/CONEDD (2010)

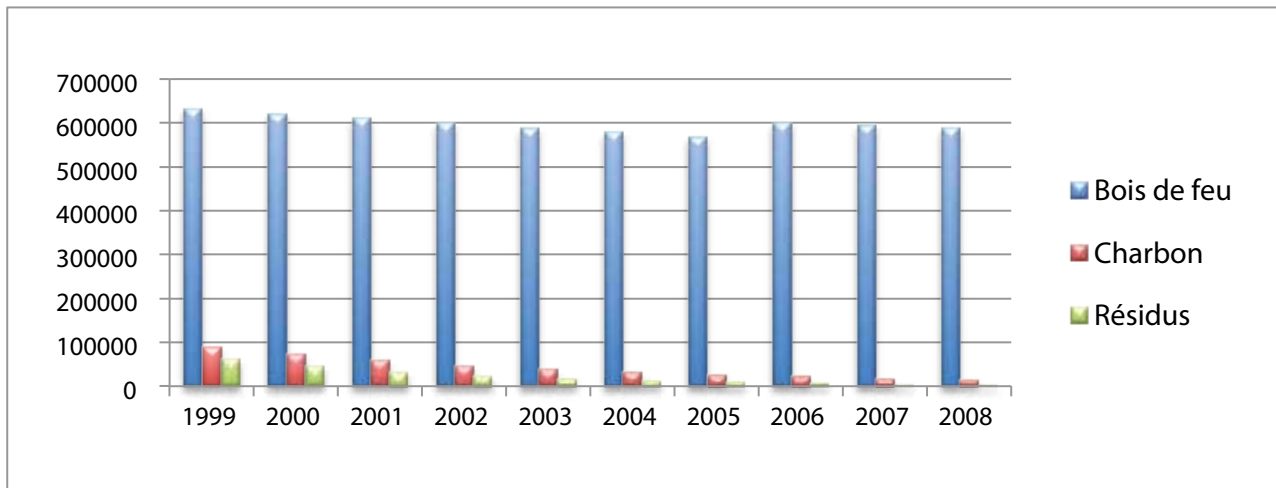


Figure 5. Change in traditional fuel consumption in tons (blue = fuelwood; red = charcoal; green = residues).

Source: Adapted from MEDD/REEBIII (2011)

harvesting poses a significant threat to forests, if sustainable management measures are not taken (Table 10). Timber resources are a key source of domestic energy for Burkina Faso's growing urban and rural populations. However, in 2002 it was estimated that there were approximately 4.07 million m³ of unharvested biomass fuel remaining, an amount that covers the needs of only 61% of the population (SP/CONEDD 2010). This could easily lead to overexploitation of forest resources and emphasizes the need for enhanced conservation efforts.

Mining

The mining sector in Burkina Faso is now a vital part of its economy (Figure 6).

Gold sales make up 4% of the gross domestic product (GDP) and represent 43% of the country's exports (MECV/IPE 2010). There are three types of operations: (i) industrial mining; (ii) semi-mechanized artisanal mining; and (iii) small-scale artisanal mining (or gold digging), which is widespread in several provinces. There has been a particularly rapid increase in artisanal mining sites (Figure 7). Each year, 5–10 new sites are created, with the majority extending over an area of at least 1.26 km². In total, this affects approximately 300 km² of vegetation cover (MEDD/R-PP 2012).

Despite its economic importance and the socioeconomic benefits it provides for local

communities, mining, whether industrial or artisanal, causes serious environmental problems. It has a negative impact on both soil and vegetation within and around mining sites. These impacts include:

- soil degradation caused by the equipment and products used in mines
- deforestation, due to the large numbers of trees cut down for processing huts and sheds, gallery supports and fuelwood for cooking
- GHG emissions as a result of energy used for excavation, ore and water transportation (Gueye 2001; Ouédraogo AH 2006; Dembélé 2008; Maradan et al.2011).

Artisanal mining is characterized by a lack of safeguards and environmental protection measures. Mining operations often take place in natural forest formations, forest reserves or on agricultural land, without government oversight. These illicit activities contribute to land degradation through deforestation, deterioration of the landscape (e.g. as a result of digging pits or creating slag heaps) and soil sealing, caused by the rise of clays to the surface (MEDD/R-PP 2012).

Economic valuation of the environmental impacts associated with gold operations indicates that the cost of environmental damage related to gold extraction represents 8.2% of the added value of the sector, approximately 65% of the total impact of the mining industry on the environment. These calculations are based on mining methods commonly used in Burkina Faso.

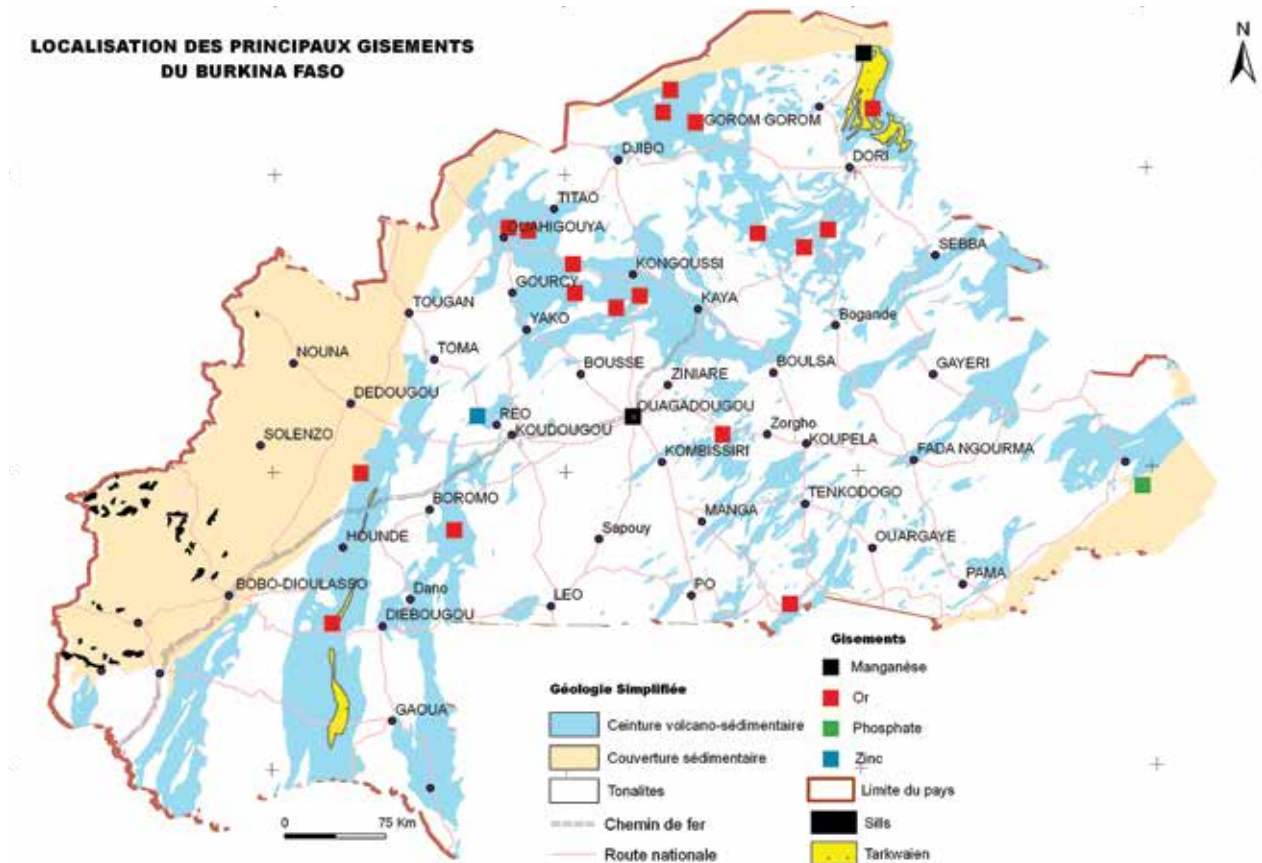


Figure 6. Location of the primary deposits in Burkina Faso.

Source: (MECV/IPE 2010).



Figure 7. Pit wall blocking with forestays. Washing on long toms.

Source: Photograph by Toé (2013)

Industrial and semi-industrial mining sites cover more than 1000 km² (Table 10). These types of mining developments are frequently located in

heavily forested areas. In principle, industrial mining companies have environmental policies but, in practice, they are rarely monitored.

Table 10. Geographic distribution and area of industrial gold mining.

Mine	Locality	Area (km ²)
Bouroum	Namentaga	11.70
Essakane	Oudalan	100.20
Guïro Diouga	Séno	65.00
Inata	Soum	26.02
Kalsaka	Yatenga	25.00
Kiééré	Tuy	8.40
Mana	Mouhoun	93.50
Perkoa	Sanguié	6.24
Taparko	Namentenga	666.50
Youga	Boulgou	29.00
Total	-	1031.56

Source: MECV/IPE (2010)

Indirect impacts on the environment are linked to site development and the infrastructure required to provide access to protected sites. Although it is difficult to assess the scale of these indirect impacts, substantial infrastructure is required to support the mines operating in Burkina Faso's forests, which could represent a significant driver of deforestation.

Maradan et al. (2011) estimate that mining in Burkina Faso has an opportunity cost of 571,000 ha of arable lands and grazing areas. Increasingly, mining companies are encroaching on forested areas, which is likely to have negative impacts on forest resources.

Artificialization of the environment

Artificialization of the environment relates to changes associated with urban areas, which are often made to meet the needs of growing populations in urban development centers. The urbanization rate rose from 3.7% in 1960 to 18.4% in 1996 (MEF 2000). Data from Burkina Faso's most recent census suggests that the rate of urbanization is 22.7%, while the average annual population growth rate is 3.1% (INSD 2006). This represents rapid growth of Burkina Faso's primary and secondary cities.

Indeed, in the suburbs of Ouagadougou and Bobo-Dioulasso, there has been a proliferation of informal settlements called unplanned areas

that were previously undeveloped or farmland. Both cities are characterized by rapid urban sprawl. Between 1950 and 2000, Ouagadougou increased in size from 1500 ha to 20,000 ha and Bobo-Dioulasso increased from 1000 ha to 13,700 ha (MEDD/REEBIII 2011). According to recent estimates, Ouagadougou's urban space covers 34,000 ha including incorporated urban villages, and 53,000 ha including outlying villages. Projections for Ouagadougou's development master plan predict a total area of 330,360 ha (MEDD/REEBIII 2011). There are a number of secondary urban development centers in the south and southwest of Burkina Faso, an area that roughly corresponds to the northern and southern Sudanian zones, where most forests and fertile lands are located (Ouédraogo 2010). Urbanization often has negative socioeconomic and environmental consequences, including increased CO₂ emissions, degradation of soils and dependent livelihoods (Véron 2006; Damon 2008). Forests in the northern and southern Sudanian zones are at particular risk because there are growing urban centers nearby.

1.2.2 Indirect drivers

The direct drivers of deforestation and forest degradation are influenced by several other parameters that determine the extent of adverse effects. These indirect drivers interact and facilitate the emergence of one or more direct drivers. In Burkina Faso, indirect drivers include the following demographic, economic, technological, political and cultural factors.

Increase of the rural population and migratory flows

Burkina Faso's growing rural population increasingly depends on natural resources, particularly in the face of rising levels of poverty. Of the rural population, 50.7% live below the poverty line, compared to 19.9% in urban areas (MEF 2011). This dependence on natural resources for subsistence can lead to their overexploitation if no management plans are in place (Brockhaus and Kambiré 2009). Levels of poverty, and therefore often higher dependence on forest resources, vary from region to region. The poverty level is much higher in the north (68.1%), east (62.2%) and Mouhoun (56%) regions of Burkina Faso (INSD 2010; MEDD/R-PP 2012; CBD 2014).

Burkina Faso's most heavily forested areas are the destination for much agricultural migration (CBD 2014). Livestock has been taken to west, southwest and eastern regions since the severe droughts of the 1970s and 1980s. Since then, successive pioneer farming fronts have emerged in the Mouhoun Loop, Haut-Bassins and eastern regions. In the late 1990s and early 2000s, the new pioneer fronts of the southwest, central-east and east became primary destinations for migrants, often driven by conflict from neighboring countries, as well as from more densely populated areas within the country (MEDD/R-PP 2012). Rapidly growing populations in these areas have led to increasing pressure on resources. Unsustainable and unrestricted exploitation accelerate deforestation and forest degradation in these regions.

Overexploitation of non-timber forest products (NTFPs)

The exploitation of NTFPs contributes to deforestation and forest degradation, but is rarely considered a key driver, due to its limited scope. While there are no formal figures, a number of harvesting practices have been shown to cause damage to Burkina Faso's forests.

For example, NTFPs are harvested by collecting and picking, or through stone-shooting (Boa 2006; Zougouri 2010). These practices can have negative impacts on the natural regenerative capacity of some species (Tchatat 1999). Ecological impacts include a gradual reduction in the strength of harvested seeds (i.e. vital regeneration elements), disruption to populations of local wildlife species and loss of nutrients (Peters 2000; Zougouri 2005). These factors put a number of species at serious risk of extinction. Georges Ouédraogo, Director General of the Agency for the Promotion of Non-Timber Forest Products of Burkina Faso, identifies the following harvesting methods as putting NTFPs at risk of damage and overexploitation: (i) harvesting raw shea (*Vitellaria paradoxa*), néré (*Parkia biglobosa*) and sabon (*Saba senegalensis*) fruits; and (ii) cutting whole branches to harvest edible leaves or flowers of baobab (*Adansonia digitata*), desert date palm (*Balanites aegyptiaca*) and red kapok (*Bombax costatum*) trees.

Other indirect drivers

Other indirect drivers of deforestation and forest degradation are listed in documents such as the R-PP. For example, forest exploitation often takes place due to slow implementation of relevant public policies on land and forest safety, such as land-use planning tools. In particular, land tenure insecurity discourages investment, resulting in unsustainable natural resource use and extensive agricultural and pastoral practices (FAO 2005a; Ouédraogo I 2010).

Additional shortcomings related to good governance include (MEDD/R-PP 2012):

- poor capacity of institutional actors, farmers' organizations and private companies (e.g. coal and timber sectors), particularly in terms of legal knowledge
- a lack of human and financial resources needed to facilitate the adoption of forestry regulations, enable national institutions to monitor, protect and manage forest reserves, and management challenges related to unclear forest boundaries
- low levels of capitalization for good forest practices at project and program levels
- gaps, inconsistencies and limitations in the institutional frameworks of the forestry sector and contradictory effects and inconsistencies in sectoral interventions
- insufficient policy harmonization between countries in the sub-region in the management of shared forests
- different interpretations of the law according to the category of actor (e.g. migrant or local) or region, especially regarding the new rural land tenure plan.

Burkina Faso has implemented a number of measures to help restore forest cover and minimize deforestation and forest degradation risks. Since the 1970s, Burkina Faso has implemented an intensive reforestation policy. Estimates suggest that more than 52,650 ha were reforested between 1973 and 1999 (FAO 2000 in CBD 2010). Most of the seedlings planted as part of these initiatives were exotic species such as *Eucalyptus* spp., *Cassia siamea*, *Gmelina arborea* and *Azadirachta indica*. The 1994 "8000 Villages, 8000 Forests" project encouraged each village to plant and maintain new forest formations. Additionally, several other projects have supported land-cover restoration efforts including creating reserves, controlled clearing, assisted natural regeneration and recovery of degraded lands.

Various studies suggest that Burkina Faso's gross carbon sequestration potential increased significantly between 1999 and 2007 due to sustained reforestation initiatives (MEDD/PIF 2011). However, the very few studies of this potential fall short in providing quantitative data. In that sense, the AGHYMET center was among the first groups to conduct a wider-scale study on Burkina Faso's sequestration potential. Their study focused on Senegal, Mali, Burkina Faso and Chad, and included an initial assessment of maximum carbon sequestration potential. The study indicated that in the Sahelian zone, where the average annual rainfall is below 450 mm, 15-year-old plantations with a density of 400 trees/ha can sequester approximately 35 t/ha of carbon (MEDD/PIF 2011). Efforts to reduce CO₂ emissions in Burkina Faso's various sectors are assessed in the R-PP and summarized in Table 11. Despite the potential for carbon sequestration, the ratio between sequestration and CO₂ emissions remains in deficit (Table 12). As such, this would

indicate that future initiatives could aim to mitigate carbon emissions caused by deforestation and forest degradation to not only maintain but also increase the current carbon stocks in Burkina Faso's forests and forested lands.

However, up-to-date assessments of Burkina Faso's sequestration potential are urgently needed, as much of the existing data are insufficient and outdated, and data from the NFI2 are not yet available. New initiatives to mitigate CO₂ emissions must set realistic goals. As part of preparations for the national REDD+ strategy, four key strategic areas have been identified: (i) land-use planning; (ii) land tenure security; (iii) management of agriculture, forestry and pastoral systems; (iv) capacity building and adaptation of good governance policies (MEDD/R-PP 2012). All of these would require investments in further data availability and data accuracy to overcome the many contradictions and biases in the currently available data, as outlined above.

Table 11. Potential for CO₂ emission reduction in Burkina Faso.

Expected result	Reduction of emission (tC/an)	Total contribution (%)
Control of bushfires	5,167,500	27.17%
Expansion of (current) State forests	3,180,000	16.72%
Expansion of community forests	3,180,000	16.72%
Restriction of agricultural expansion	2,782,500	14.63%
Restriction of overgrazing	1,844,400	9.70%
Reduction in use of fuelwood and charcoal	1,000,000	5.26%
Agroforestry measures (agroforestry plantations)	700,000	3.68%
Planning of forests in regions	530,000	2.79%
Planning of (new) State forest	265,000	1.39%
Planning of forests in communes	265,000	1.39%
Forest restoration	53,200	0.28%
Control of artisanal gold mining	53,000	0.28%
Total	19,020,600	100%

Source: MEDD/R-PP (2012)

Table 12. Link between CO₂ sequestration and emissions in Burkina Faso.

Source of greenhouse gas and category of sinks	CO ₂ emission	CO ₂ sequestration	CH ₄	N ₂ O	NO _x	CO
I. Energy	990.27	0.00	0.23	0.01	5.90	38.52
A. Combustion (sectoral approach)	990.27	-	0.23	0.01	5.90	38.52
1. Energy industries	340.86	-	0.01	0.00	0.95	0.07
2. Manufacturing and construction industries	81.75	-	0.00	0.00	0.22	0.01
3. Transport	525.34	-	0.10	0.01	4.63	36.60
4. Other sectors	42.32	-	0.11	0.00	0.10	1.84
B. Fugitive emissions of fuels	0.00	-	0.00	-	0.00	0.00
II. Industrial processes	286.39	0.00	0.00	0.00	0.05	3.28
A. Mineral products	246.80	-	-	-	0.00	0.00
B. Chemical industries	0.71	-	0.00	0.00	0.00	0.00
C. Metal production	38.88	-	0.00	0.00	0.05	3.28
III. Use of solvents and other products	0.00	-	-	0.00	-	-
IV. Agriculture	-	-	424.23	27.65	6.15	125.95
A. Enteric fermentation	-	-	396.65	-	-	-
B. Manure management	-	-	19.54	2.13	-	-
C. Rice growth	-	-	2.11	-	-	-
D. Agricultural soils	-	-	-	25.34	-	-
E. Prescribed burning of savannas	-	-	0.23	0.00	0.10	5.92
F. On-farm burning of agricultural residues	-	-	5.72	0.17	6.05	120.03
V. Land-use change and forestry	235.41	0.00	0.72	0.00	0.18	6.31
A. Change in forests and other stocks of woody biomass	0.00	-1324.36	-	-	-	-
B. Conversion of forests and grasslands	1559.77	0.00	0.72	0.00	0.18	6.31
VI. Wastes	-	-	31.20	0.13	0.00	0.00
A. Field processing of solid wastes	-	-	23.86	-	0.00	-
B. Waste water processing	-	-	7.34	0.13	0.00	0.00
VII. Others	0.00	0.00	0.00	0.00	0.00	0.00
Total national sequestrations and emissions	1512.07	-	456.38	27.79	12.28	174.07

Source: Adapted from INSD (2009) in MEDD/PIF (2011)

2

Forest governance in Burkina Faso: Institutional and environmental factors and redistribution of benefits

Effective forest resource management cannot be sustained if it is not supported by good governance. Forest governance can be affected by favorable or adverse global environmental conditions. Interpretations of 'governance' often influence analyses of forest management, which must form part of a broader conceptual framework. Consequently, institutions tend to focus on their own specific interests based on their visions and goals. Each organization interprets governance to fit its own concerns and funding, evaluation and control requirements. Although precise interpretations differ, governance incorporates issues such as: power, resource management, relationships and interrelations between rulers and citizens, and transparency through accountability (Dabiré 2003). In line with this, the United Nations has identified good governance principles as: (i) participation (i.e. pursuit of consensus); (ii) transparency and accountability to public and institutional stakeholders; (iii) the effectiveness, efficiency and

responsiveness of institutions and processes in relation to stakeholders; (iv) equity and the rule of law; and (v) the strategic vision, including human development and historical, cultural and social complexities (Dabiré 2003). However, there is no universal shared understanding of the concept (Fabre et al. 2007).

The challenges to good governance of forest resources are substantial and complex, in Burkina Faso and elsewhere. In Burkina Faso, this complexity is underlined by the important role of forest resources and forest ecosystem services in the lives of many Burkinabes, their contribution to the national GDP, and their role in maintaining sociopolitical stability. However, the pressures on these resources are a cause for concern and there is an urgent need to ensure their sustainable management. One of the main challenges is to reduce the gap between legality, legitimacy and practice in decision making over forest resources and in their use (Dabiré 2003), while ensuring proper ownership of these principles by all stakeholders.

Box 1. Definition of governance (Fabre et al. 2007: 25, 27, 29)

Governance represents "the traditions and institutions by which authority is exercised for the global good; including the process by which governments are selected, monitored and replaced; the capacity of the government to effectively manage its resources and implement sound policies; and the respect of citizens and the State for the institutions that govern economic and social interactions among them" (World Bank).

Governance refers to "the rules, processes and behaviors by which interests are articulated, resources are managed and power is exercised in society" (EC).

Governance is "the system of values, of policies and institutions by which a society manages its economic, political and social affairs through interactions within the state, the civil society and the private sector and between these different entities. It is the mode of organization adopted by a society to make decisions and execute them through reciprocal understanding, mutual concord and measures granted by agreement. Governance encompasses all the mechanisms and processes for citizens and groups to articulate their interests, mediate their disputes and exercise their rights and obligations recognized by law. Governance, in its social, political and economic dimensions, operates at every level of the human organization, whether a household, a village, a municipality, a nation, a region or the whole world" (UNDP).

The commitment and participation of stakeholders at all levels is necessary to support this process. The state has the greatest role to play, not only in making firm commitments at regional, national and international levels, but also in creating a legislative framework and policy strategies which facilitate the sustainable management of forest resources.

2.1 Overview of forest governance in Burkina Faso

2.1.1 International commitments

Burkina Faso has demonstrated significant commitment to various international treaties and conventions. Indeed, the country has ratified several international and regional agreements that reaffirm: (i) their awareness of the important cultural, regulating, and provisioning as well as supporting functions that the forest ecosystem plays in the lives of many people; and (ii) that these resources are under significant pressure (Table 13).

Burkina Faso has shown equal resolve in the implementation of these agreements. Burkina Faso's involvement in environmental and natural resource protection began approximately 40 years ago.

Severe droughts in the 1970s led to the creation of the CILSS.

In 1998, Burkina Faso joined the Community of Sahel-Saharan States (CEN-SAD), which is now composed of 28 member states from North, West, Central and East Africa. The CEN-SAD aims to achieve a global economic union through the implementation of a community development plan. A fundamental strategic area of the community is the fight against desertification. This was the inspiration for the Great Green Wall for the Sahara and the Sahel initiative, which is managed by Burkina Faso and 10 other African nations. Burkina Faso is also a stakeholder in the New Partnership for Africa's Development (NEPAD), which is technical body of the African Union. One of NEPAD's key commitments is to include the environment as a pillar of the socioeconomic development of the Member States. Burkina Faso is also a participant in the Sub-regional Action Program to Fight against Desertification in West Africa and Chad, as part of the Economic Community of West African States (ECOWAS), as well as a stakeholder in the Forest Convergence Plan, which seeks the sustainable management and use of forest ecosystems in partnership with other ECOWAS members.

Box 2. Extracts from cabinet meetings

Cabinet Meeting of 26 January 2006

The Minister of Environment and Living Conditions made a speech to the Cabinet on Burkina Faso's participation in the 6th Session of the United Nations Forum on Forests to be held in New York from 13 to 24 February 2006.

Based on the conclusions of the 5th Session, and proposals from the Berlin meeting, the 6th session of the United Nations Forum on Forests sets as its main objective, the definition of a future legal framework applicable to all types of forests and its means of implementation.

The United Nations Forum on Forests is an ideal framework for knowledge exchange, to consolidate the actions underway in our country, and to foster international cooperation in the field of sustainable forest management.

Cabinet Meeting of 3 October 2012

The first report relates to a bill on the authorization for Burkina Faso to join the Statute of the Hague Conference on Private International Law. This Conference aims to harmonize the rules of private international law among States Parties for greater legal security. The second report is on a bill authorizing the ratification of the Cooperation Agreement passed on 10 February 2012 in Lomé, Togo, for the creation of the West African Science Service Center on Climate Change and Adapted Land Use (WASCAL) and the Statute of this Center.

On a local level, Burkina Faso has actively implemented these international treaties in ways that are appropriate to the national context. The nation's commitment to forest governance is demonstrated through national action plans and strategies, as well as press releases from cabinet meetings (see Box 2). Burkina Faso also demonstrates its commitment to its international agreements through the regular submission of reports, in accordance with the provisions of its ratified conventions. Burkina Faso's 5th National Report on Biodiversity was submitted to the CBD on 7 August 2014.

In 2011, Burkina Faso hosted a national forum on biodiversity to mark the double celebration of the UN International Years of Biodiversity (2010) and Forests (2011), and to reaffirm the

country's commitment to these issues. In May 2014, it also hosted the Third National Congress of Nature on Climate Change, Green Economy and Sustainable Development.

2.1.2 National governance provisions

At forest level

A successful participatory management system integrates participation, communication, transparency and predictability to facilitate the provisioning, supporting, regulating and cultural functions of forest resources. In Burkina Faso, the role of ensuring this falls to the central government, which is tasked with developing a form of management that ensures

Table 13. Burkina Faso's commitments on forests, biodiversity and climate.

Type of agreement	Year of adoption	Year of ratification	Mode of ownership
Nagoya–Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety	2010	2013	-
Cartagena Protocol on Biosafety	2000	2003	-
The United Nations Framework Convention on Climate Change	1992	1993	National implementation strategy for the Convention on climate change
Kyoto Protocol to the United Nations Framework Convention on Climate Change	1997	2005	-
United Nations Convention on Biological Diversity	1992	1993	National Biodiversity Strategies and Action Plans
United Nations Convention to Combat Desertification	1994	1995	National Action Program to Combat Desertification
Vienna Convention for the Protection of the Ozone Layer	1988	1989	-
Montreal Protocol on Substances that Deplete the Ozone Layer	1989	1989	-
Stockholm Convention on Persistent Organic Pollutants	2001	2004	-
Law of the Sea Convention	1982	2005	-
African Convention on the Conservation of Nature and Natural Resources	1968	2003	-
Convention on International Trade in Endangered Species of Wild Fauna and Flora	1975	1989	-
Permanent Interstate Committee for drought control in the Sahel (CILSS)	-	1973	-
Berne Convention on the Conservation of European Wildlife and Natural Habitats	1979	1989	-

Source: Adapted from MECV (2004a) and MEDD/R-PP (2012)

equality and fairness. In order to achieve this, the central government must establish a regulatory and legislative framework to promote good forest governance. In Burkina Faso, this regulatory framework is based on a wide range of legislation and policies developed by the government to ensure more sustainable management of forest resources (MECV 2004b). This legislative and regulatory framework provides the guiding principles for all decisions and actions related to forest resource management (Table 14).

At land tenure level

The regulations and laws governing the management of forest resources are closely related, if not complementary, to those on land tenure. Laws on rights of access, use and ownership have been debated since Burkina Faso's independence, and have undergone numerous changes. In the mid-twentieth century, the government exerted considerable control over land usage, demonstrated by the following laws:

- Law No. 77/60/AN of 12 July 1960 on the regulation of land, which declares the state the potential owner of all unregistered lands
- Law No. 29/63/AN of 24 July 1963, authorizing the government to claim sparsely populated areas and land to be assigned to special developments.

These laws were revised significantly in the 1980s, offering Burkinabes greater access to land. Following Burkina Faso's revolution in 1983, land tenure was reformed significantly by the National Council of the Revolution. Under their jurisdiction, the Agrarian and Land Reorganization (RAF) law was passed in 1984. This law redefined all national territory as part of the national land domain (DFN) (Thiéba 2009), and transferred its ownership to the state while enabling the devolution of authority over land matters to the local level. Local management bodies, (formerly called Village Land Management Commissions (CVGTs), and now known as Village Development Councils (CVDs)) were established to manage the local territories. The terms of access were redefined as follows:

- DFN rural lands are allocated by the government, through the local land management bodies, to those who require it.
- Village Land Management Consultation Frameworks are entitled to allocate land, assess

Table 14. Some legislative and regulatory provisions on the management of forest resources in Burkina Faso.

Legal and regulatory provisions	Brief summary
Law establishing the Constitution of Burkina Faso adopted in 1991	The constitution of Burkina Faso of 2 June 1991 states in the preamble that the protection of the environment is an absolute necessity. Furthermore, it specifies that natural resources belong to the people (Article 14).
Law establishing the Agrarian and Land Reorganization (RAF) adopted in 1984, revised in 1991 and 1996	Identifies the key principles of land-use and land-asset management structures and establishes adoption procedures for forest development plans.
Law establishing the Environmental Code adopted in 1997 and revised in 2011	Establishes environmental management and protection principles to promote natural resources and improve livelihoods, while respecting the equilibrium of the environment.
Law establishing the Forest Code adopted in 1997 and revised in 2011	Identifies principles of natural forest resources management and aims to create a balance between environmental protection and meeting the nation's energy, cultural and social needs.
Law establishing the General Code of Territorial Authorities adopted in 2004	Makes provisions for the transfer of power from the government to local authorities, and stipulates the role of these authorities in the management of forest resources.
Law establishing pastoralism in Burkina Faso adopted in 2002	Establishes principles, terms and conditions for the sustainable, peaceful and integrated management of pastoral, agropastoral and sylvipastoral activities.

Source: Adapted from MEDD/R-PP (2012)

its effective development and settle disputes and conflicts related to the assignment or enjoyment of rights.

The RAF was reviewed in 1991 under a new political regime and a movement known as “the rectification of the revolution”. The most significant change brought about by this review was the introduction of private property (Pouya and Legoupil 1993), which allowed Burkinabes to purchase plots of land from the national land estate. In 1996, a second review of the RAF, and consequently the adoption of the Rural Land Tenure Law in 2009 granted further rights to individuals and the private sector, with the introduction of a legal recognition of rights through customary practices and principles (e.g. through accepting a verbal process) (Thiéba 2009).

However, these processes, allowing further for a formalization of individual and collective tenure rights under customary principles and practices, will need to take into account that the current ‘customary’ system is also challenged by a changing land market, for example through cash-based land transfers and new pressures and demands for land, including forested land, as outlined above.

A critical analysis of national forest governance provisions

The following section will examine the effectiveness of Burkina Faso’s framework for forest and land management at a legislative and regulatory level, in accordance with the requirements of good forest governance. Although Burkina Faso has implemented formal mechanisms and legislation that address forest and land management, these are overlooked by many actors (Garane and Zakané 2008). In some cases, forestry regulations conflict with actors’ interests or the sociocultural context (FAO and ITTO 2010). This can lead to conflicts regarding overlapping rights of use or the exploitation of resources. For example, mining licenses are granted for locations in forest reserves or conservation sites without consultation between all relevant ministries. In the management of its forests, Burkina Faso struggles with a number of obstacles that have been documented globally. According to FAO, five primary obstacles to the viability of the Forest Act include:

1. Inconsistency in forest policy and legislative framework
 2. Institutional weakness, lack of transparency and obligations for accountability during the implementation of policies and the legislative framework
 3. Insufficient control of forest resources and the supply chain (institutions responsible for forest law enforcement struggle to detect illegal activity as a result)
 4. Corruption in the private sector, in government institutions and among local decision makers
 5. Distortion of the timber product market (FAO and ITTO 2010).
- To varying degrees, many of these obstacles are relevant to Burkina Faso. Similar challenges to good forest governance were identified during Burkina Faso’s State of the Environment assessment in 2011 (MEDD/REEBIII 2011). The primary challenges identified in this review were:
1. A lack of knowledge of available forest resources and little utilization of institutional expertise: The most recent national forest inventory was conducted 1982 and over 30 years later, the results of this inventory do not reflect the current condition of forest resources
 2. Poor human and technical capacity of forest management services
 3. Shortcomings in the application of forest management models that result more from the weakness of advisory support, monitoring and control of the forestry service, than from the inability of producers to assimilate it correctly
 4. Poor interaction between forestry research and activities in the forestry sector
 5. Difficulties in enforcing the law because of a lack of implemented regulations, or their incompatibility with local and customary practices
 6. Inadequate consultation among stakeholders
 7. Low devolution of technical services, leading to the centralization of decisions, which discourages initiative and local action
 8. Jurisdictional weaknesses in the forestry sector: a lack of technical expertise that prevents the legal system from effectively making decisions on forest and land issues.
- A number of analysts in particular from research and development affirm these criticisms and offer additional insights into the challenges to effective forest management in Burkina Faso. Weak political will and the incentivization of cash crops are often cited as key contributors to deforestation

and forest degradation. These issues can have further negative impacts, such as expropriation for ‘development’ and cash-based land sales of forested areas, with incidences of land sales due to an anticipated expropriation for ‘specific’ development interests, as stated above in the current legal framework (GRAF 2011). These impacts are seen as unintended consequences and deviations from the common interpretation of Act No. 034-2009/AN on rural land tenure (GRAF 2011). In 2011, Burkina Faso’s Groupe de Recherche et d’Action sur le Foncier (Land tenure action and research group (GRAF) conducted a study on agribusiness, which identified a number of important forest governance problems such as corruption, especially those arising from a changing socioeconomic and political context, with strong power asymmetries, in which particular customary practices are embedded and, for example, are linked to land transactions. One such problem relates to land tenure security and the transfer of land, which in Burkina Faso is performed through the signing of a document known as the “minutes of the palaver” (PVP). The PVP must be signed by “the village chief, the president of the CVD, the seller, the buyer and their witnesses in the presence of an agent of the Estate Department who would have previously completed a topographic survey of the land transferred.” The report investigates

how conflicts arise in this procedure, for example some of those involved are reluctant to sign the document because of ‘promises’ broken (or made) by the buyer, or agribusiness person who is considered to be a politically and financially powerful person. Although it is extremely difficult to identify where corruption is taking place, this case study demonstrates that corruption is likely common in land transactions. News sources in Burkina Faso frequently report on cases of corruption in land disputes (see Table 15). However, due to the sensitive nature of this issue, very little methodologically sound and rigorous literature is available on the topic.

Some civil society organizations have spoken out to denounce land grabbing and dispossession undertaken by these financially and politically powerful so-called agribusiness people. A few studies conducted in the west, southwest and south of Burkina Faso document such cases of corruption (Zongo and Mathieu 2001; GRAF 2011), providing at least some insight into the state of governance in specific regions, but fail to provide data for the entire country.

Improved forest governance relies on the sustained commitment of all actors. According to the Organisation for Economic Co-operation and

Table 15. Press articles on cases of poor management of land litigation.

Title	Date of issue	Name of newspaper
Affaire champ de Karité de Kokologo: L’administration communale prononce sa confiscation	Monday 17 June 2013	Newspaper <i>L’Évènement</i> (http://www.evenement-bf.net/)
Lotissement: La fin prochaine des «non lotis»?	Saturday 2 June 2012	Newspaper <i>L’Évènement</i> (http://www.evenement-bf.net/)
Enquête: Saré Peuhl/ Un autre visage du conflit éleveurs-agriculteurs	Wednesday 15 August 2012	Newspaper <i>L’Évènement</i> (http://www.evenement-bf.net/)
Projet de cimenterie à NOUMOUNDARA: l’argent de Diamond Ciment divise	Saturday 3 March 2012	Newspaper <i>L’Évènement</i> (http://www.evenement-bf.net/)
Province de la Sissili: Menaces sur la zone pastorale de Yalé	Wednesday 17 April 2013	Newspaper <i>L’Évènement</i> (http://www.evenement-bf.net/)
Affaire «deal de plus de 23 kg d’or» au ministère des Mines	Website of the newspaper consulted on 22 July 2013	Newspaper <i>Le Reporter</i> (http://www.reporterbf.net/)
Trame d’accueil de Ouaga 2000: Quand des privés s’approprient les réserves et espaces verts	Website of the newspaper consulted 22 July 2013	Newspaper <i>Le Reporter</i> (http://www.reporterbf.net/)
Accaparements de terres rurales: les «terres mal acquises» débattues à Léo	Saturday 3 March 2012	Newspaper <i>L’Évènement</i> (http://www.evenement-bf.net/)

Development (OECD 2012), further effort is required in areas where the country's performance remains poor, including the following areas:

1. **Corruption:** 76th out of 168 countries in terms of corruption according to Transparency International (2015).
2. **Political stability:** Concerns over the political stability of the country based on the analysis of the sociopolitical crises that the country recently faced (International Crisis Group 2013).
3. **Quality of governance:** 23rd out of 52 countries in the Mo Ibrahim Index of African Governance (IIAG 2013).
4. **Limited local authority capacity:** Low capacity of local authorities to manage the transferred resources and responsibilities.
5. **Budget limitations:** Low portion of the budget transferred by the government to local authorities (3.9% of the national budget in 2011).

These areas of weakness are likely to impact the effectiveness of the government's regulatory framework on the management of forest resources. Effective forest governance relies upon the compatibility of the regulatory framework and the needs of stakeholders at all levels (FAO and ITTO 2010).

2.1.3 Forest governance at the local level

Although, in recent decades, Burkina Faso has passed a significant amount of forestry legislation (Garane and Zakané 2008), in practice, forest management has evolved over many generations. Community and participatory forest management traditions started many decades ago. Initially, farmers were excluded from the forest management process with the state having the sole authority to make decisions over forest resources. Farmers were eventually incorporated into the management process as a means of drawing on their now considered valuable local knowledge (Zeba 1996). This marked the development of 'village forestry', which took place from 1979 to 1989 using a very technical approach, in which decisions could be made only with technical oversight of technical agents from the Ministry of Environment. In the 1990s, this 'technical formula' was replaced with a more participatory model, with more management authority at the village level as explained above (MECV 2001). Various projects and programs have since facilitated the creation of village forests (Nikiema et al. 2001).

Effective forest management relies upon good governance (Mayers and Vermeulen 2002), which is, according to these authors, achieved through a combination of local participation, and transparency and accountability within the management scheme. Local environmental knowledge can empower individuals and grassroots communities by making them valuable participants in the management process (Korbéogo 2013). According to Wily (2002), local-level management can be particularly effective: effective forest management rests increasingly on local participation, and the consideration of local actors, not only as 'usufructuaries', but also as autonomous managers responsible for the resources within their territories.

In 1986, the government launched a participatory forest management project, the "Development and Exploitation of Natural Forests for Firewood Supply to the City of Ouagadougou Project" (MECV 2004a). As part of this initiative, riparian communities organized themselves into forest management groups (GGF) and then into a union of these groups. The management system employed an economic incentive mechanism, which incentivized actions to restore and develop the exploited forest, specifically in the village of Cassou (Thiéba 2003). A GGF is created in each village, and is part of a union (UGGF) that is assisted by a technical team, typically comprising technical agents from the Environmental Ministry. There are seven such forest development sites in west Burkina Faso comprising 230 GGFs distributed between nine UGGFs (UICN 2012).

In addition to this initiative, Burkina Faso has also experienced private activities and projects, with individuals and communities controlling the management, restoration and protection of their forest. For example, a private producer in the north of Burkina Faso (Ouahigouya) has developed a 20-ha site though assisted natural regeneration for over 30 years (Reseau MARP-Burkina 2013).

The management of forest resources at the community level in its different forms has become widespread. There are many other examples of interventions, projects, programs, international organizations and institutions that have adopted similar community or participatory approaches to forestry. Burkina Faso has a great deal of experience in this area, especially in relation to rural forestry, participatory development of natural forests (Ouédraogo S2011) and agroforestry.

Through another local forestry management scheme, the government offers hunting concessions to private operators or village communities. In Burkina Faso, there are 24 hunting concessions (CBD 2010) containing a total of 75 Village Tourist Hunting Areas (ZOVIC).

2.1.4 The implications for REDD+

In Burkina Faso, the implementation of REDD+ means that its policies must be based on principles of good forest governance. To this effect, Burkina Faso is making efforts to align its national forestry strategy with various policy documents and strategic planning instruments (e.g. Strategy for Accelerated Growth and Sustainable Development), which might otherwise clash in terms of objectives with conservation schemes, even if payments for the secured environmental services are included (Angelsen et al. 2008). This demonstration of political will, combined with an increasingly robust legal framework, could suggest that Burkina Faso has the proactive institutional environment necessary for the successful implementation of REDD+, with a commitment to the participation of grassroots stakeholders (local communities) and civil society organizations, which provides a strong foundation for successful forest governance. However, evidence for a translation of these public commitments into policy action still remains limited at the end of 2015. Another feature perceived crucial by governmental and civil society actors for the implementation of a REDD+ program in Burkina Faso is that stakeholders at all levels must strive to keep the channels of communication open. This requires dialog and consultation between actors at all levels, and a strong mechanism in place to gather the views and concerns of participants working directly with forests (MEDD/R-PP 2012). While this call is repeated recurrently, it still remains unclear how this will be translated into practice.

Finally, the REDD+ process will rely on a strong organizational and governance framework for its implementation. The following actions are recommended to improve forest governance in countries preparing for REDD+ (MEDD/R-PP 2012):

1. Support state structures responsible for training new elected leaders. Build the intervention and management capacities of the ministries in charge of sustainable development at local and regional levels.

2. Build the administration's control capacities in the primary sector via terms of reference for investors and actual environmental monitoring of agricultural practices.
3. Encourage the creation of 'environment' units in the various technical ministries (in accordance with Decree No. 2008-125/PRES/PM/MECV of 7 March 2008).
4. Train local authorities to take into account, in a sustainable manner, the environment in community development plans.
5. Promote gender integration for sustainable natural resources management at the local level.
6. Strengthen environmental education at all levels to promote a culture of sustainability.
7. Build the capacity of civil society for effective participation in terms of forest governance, including in the monitoring, evaluation and control of the environment.

Many of these measures are considered implemented in Burkina Faso, although progress has not been closely monitored. It seems that many of the activities have been carried out on a case-by-case basis as parts of larger projects or programs, and have therefore not taken longevity or overall coherence into account. This means that stakeholders of all levels and types would now need to take ownership of these actions and integrate them into a long-term vision. In preparation for REDD+, institutional and administrative structures are being planned to ensure that the responsibilities, roles and mandates of the diverse actors are clearly defined so as to avoid confusion and overlapping competencies. The administrative body responsible for forest management in Burkina Faso has now been split into a central directorate and specific technical services to provide clarity, but the success of this measure is not yet visible.

2.2 Decentralization and benefit sharing

2.2.1 Decentralization

In 1995, Burkina Faso's government initiated a national decentralization process by passing the Decentralization and Guideline Legislation (TOD). This paved the way for Law No. 055/2004/AN, passed on 21 December 2004, establishing a General Code for Territorial Authorities, as well as Burkina Faso's first municipal elections, which were

held in May 2006. At a local level, the General Code establishes CVDs and creates two levels of decentralized authority, known as regional and municipal authorities, with municipalities being either rural or urban, depending, for example, on numbers of inhabitants and size of budget (WB 2010).

Following the 2006 elections, Burkina Faso underwent a process known as ‘integral communalization’, which established rural communes throughout the country, each with its own deliberative organs. Under this system, all villages are represented by a councilor who sits on the municipal council. This change represented a redistribution of decision-making powers in Burkina Faso (RDB 2008). As forest formations are usually located in rural areas, it is important that local people, who are the direct beneficiaries and users of these forests, are involved in their management. The decentralization process allows local communities to play a significant role in the management of their natural resources. The General Code for Territorial Authorities authorizes the transfer of powers to local authorities in the following areas:

1. **Land-use planning, land management and urban planning:** Provinces collaborate with the state to develop a provincial development plan. The state provides feedback on the regional development plan and issues authorizations for land occupation. The municipality (which includes representatives from the rural communes/villages) provides feedback on the urban development scheme, sets up and implements land development plans and participates in the management of the national land estate under its jurisdiction.
2. **The environment and natural resources management:** The province and the commune play a key role in the management of natural resources. They are granted the power to create woods and forests, zoning of farming and grazing areas, and develop, implement and monitor provincial action schemes related to the environment. They are also authorized to undertake any necessary environmental protection actions (e.g. manage bush fires, free-grazing and browsing livestock, logging and pollution).
3. **Economic development and planning:** Local authorities are responsible for developing and implementing their development policies and plans in line with major government orientations.

The prominent role of local authorities must be supported by community participation through the involvement of community leaders, such as traditional leaders, and heads of village structures, such as CVDs, to ensure the buy-in of local communities.

There are some prerequisites to ensuring that a municipal council with a system of active community participation runs effectively. These include easy access to information, budget transparency and the participation of citizens in the budget preparation process (Loada and Guitenga 2011). With these provisions in place, decentralized forest management becomes a transparent and participatory process that meets the needs of local communities. However, to achieve this, government commitments and legal provisions must support community participation (Wily 2002). In this respect, one can argue that Burkina Faso has made efforts to ensure that grassroots communities, through local authorities, now play a role in planning the development, management and preservation of their own environment (Law No. 055/2004/AN).

Burkina Faso has developed a political and legal framework that supports the decentralized management of municipal affairs. The Institutional and Legal Reforms Plan for Decentralization in the Forest Sector specifically outlines how decentralization affects the forest sector. However, even with these frameworks in place, local communities may face challenges to engage within these, for example related to time availability, availability of specific skills, lack of clarity with regard to the allocation of roles and responsibilities in interplay with technical agents, etc. (Ouédraogo et al. 2009). There is a risk that those cases may then be used as arguments for ‘recentralization’, namely that the central government should control the management of these areas.

2.2.2 Revenue sharing system

In Burkina Faso, there is an established system of benefit sharing between the central government and local authorities. Indeed, the General Local Authority Code states in Article 72, that: “The transfer of authority and resources from the state to local authorities is done according to the progressivity rule.” The code further specifies in Article 110 that “The resources required for

the performance of local authorities' tasks are assigned to them either by taxation transfer, or by grants, or both at once." This applies to decentralization, as adequate and dynamic local taxes are allocated to local authorities, determined by the tasks they are assigned, to enable them to fund their expenditure budget lines (Ky 2010). These fiscal transfers are a common form of benefit sharing under government control.

In principle, local authorities have the right to decide the most effective method of managing their environmental resources based on local development plans. However, in practice, this transfer of authority, and the necessary financial resources (as pledged in the national legislation), has not yet taken place in Burkina Faso. Instead, the allocation of resources often operates through mechanisms such as tax collection from the exploitation of environmental resources, budget allocation from the state, or through joint and participatory management actions. Indeed, the law allows local authorities to create taxes that increase their income, as the financial resources of local authorities consist of their own revenues, budget allocations from the state and any other contributions (Law No. 055-2004/AN). Rural municipalities, however, are neither associated with setting the tax nor involved in the tax recovery process. Before the decentralization process of the 1990s, mechanisms related to revenue sharing were in place, including the Forest Development Fund (FAF). The FAF, which seeks to achieve sustainable forest management, was created in 1987 and further operationalized by joint ministerial Decree No. 01-048/MEF/MATD/MEE of 8 November 2001. The fund supports revenue and income generation for local farmers. Two forest development projects in Ouagadougou and Bobo-Dioulasso, which were implemented between 1999 and 2000 (Table 16), have generated significant revenue and income for local populations, amounting to 197,223,980 CFA francs (about USD 350,000) and 29,150,400 CFA francs (about USD 50,000), respectively (MECV 2004a).

Besides the FAF, the Burkinabe government has made provisions for the creation of an Environment Intervention Fund (FIE) in passing Law No. 002-94/ADP, which was then consolidated in 1997 and 2013. This fund was

Table 16. Revenue distribution of two forest development projects in Ouagadougou and Bobo-Dioulasso between 1999 and 2000.

Titles	Distribution	
	Ouagadougou	Bobo-Dioulasso
Income of local forest loggers	41.5%	53.2%
Forest development funds (FAF)	30.0%	21.2%
Village investment funds (VIF)	11.4%	10.1%
Forest taxes	17.1%	15.5%
Total	100.0%	100.0%

Source: MECV (2004b)

established as a public administrative institution with financial and administrative autonomy. The Statutes of the Fund have been designed but have yet to be adopted. The FIE is currently in its pilot phase under the supervision of the MEDD. The Fund receives resources from the government as well as from technical and financial partners to finance activities related to climate change, meaning that REDD+ projects are likely to qualify.

The fuelwood sector contributed 29 billion CFA francs to rural incomes in 2008. Public authorities and decentralized authorities received approximately 3.7 billion CFA francs in forest taxes and 119 million CFA francs in municipal taxes in 2008 (MEDD/R-PP 2012). Another form of income redistribution was developed as part of Burkina Faso's forest development projects (CAF). For each cubic meter sold for 2200 CFA francs, the breakdown of income is as follows: 14% toward government taxes, 50% for the operator, 9% for working capital and 27% for development funds (UNDP 2002).

In the mining sector, artisanal gold mining generates approximately 106,466,301 CFA francs annually for the government and local authorities (MECV/IPE 2011). Although a formal benefit-sharing system is not defined, co-benefits exist in the form of socioeconomic infrastructure projects provided by the mining companies. Examples of these projects are listed in Table 17.

Table 17. Infrastructure provided by mining companies for local communities in their mining areas.

Infrastructures	Number
Dispensary	3
Dispensary with maternity ward	1
Medical facility	1
Latrines	397
Lodging for local communities in their mining areas	2000
Six-classroom schools	3
Three-classroom schools	6
Lodging for teachers	15
Literacy Center	2
Childcare facility	1

Source: MECV/IPE (2010)

2.2.3 Implications for REDD+

REDD+ is in its infancy, and there are a number of conditions in the existing decentralization framework that provide an enabling and supportive environment for its implementation. Lessons can also be learned from current benefit-sharing arrangements. However, the current implementation of these processes also indicates a number of risks that need to be managed for an effective, efficient and equitable REDD+.

The REDD+ mechanism could engage local communities and continue to support the roles assigned to them in the General Code for Territorial Authorities (Table 18). This would allow municipalities and regions to take ownership of REDD+ actions at the local level, with the General Code acting as an anchor for REDD+ initiatives. Consultation frameworks must be integrated into the REDD+ strategy in order to facilitate coordination and decision making.

Discussions are also underway to develop an effective benefit-sharing mechanism for REDD+, which goes beyond the sharing systems already in place. The practicalities of a REDD+ benefit sharing have yet to be determined, and will require all stakeholders to reach a consensus. As indicated in the R-PP

(2012), performance-based payments to individuals, communities or state organizations for measurable emission reductions pose some technical challenges. Providing payment for an environmental service on the basis of results would require each project, whether private, governmental, decentralized or the initiative of a non-governmental organization (NGO), to have measured, monitored, reported and verified (MRV) the performance in terms of carbon and non-carbon benefits. This would require significant financial and human resources, however, results-based finance remains the central idea of a REDD+ mechanism and characterizes the so-called Phase 3 of REDD+ (Meridian 2011).

Considering this complexity, the actors involved in REDD+ are currently considering redistribution of national benefits through project financing as a simpler and more feasible option. This system would then aim for payment based on expected results related to the reduction of GHG emissions and other co-benefits. Beneficiaries would receive advances for their involvement in environmental projects through the government. However, such upfront payments are moving away from the original cash-for-delivery idea. It is argued that this approach would solve the lack of clarity with regard to carbon ownership, as the government would pay participants in advance to act as designated beneficiaries of any payment made to the country by the international community. Also, a mixture of upfront and performance payments can strengthen the equity outcomes of REDD+. However, this approach also comes with caveats, as there are trade-offs with effectiveness and efficiency in terms of carbon and non-carbon outcomes (Loft et al. 2014; Wong 2014; Tjajadi et al. 2015).

The risk here is that this design might contribute to an 'aidification' of REDD+, with a highly reduced performance element. This could lead to challenges related to the permanence of Burkina Faso's REDD+ action as well as with regard to leakage. Deforestation and forest degradation might be reduced in one project locality, but increase elsewhere. For example, energy consumption behavior changes have not been incentivized and large-scale land conversion has not been regulated

Table 18. Specific technical responsibilities transferred to local authorities.

Area of responsibility	Commune	Region
Land planning, land tenure and urban planning	<ul style="list-style-type: none"> – Advise on the urban planning scheme – Establishment and implementation of subdivision plans – Allocation of plots and issuing of permits for occupation and building on the national or public domain – Participation in the management of the national land domain – Participation in the development of the production and conservation spatial development scheme 	<ul style="list-style-type: none"> – Develop the Regional Urban Development Plans in partnership with the government – Advise on the Regional Urban Development Plans and the Development and Urban Master Plans developed by the communes – Authorization of occupation of national land
Environment and management of natural resources	<ul style="list-style-type: none"> – Development of community action plans for the environment – Participation in the protection of water resources and fisheries – Creation, rehabilitation and maintenance of green spaces and community parks – Prior issuance of logging authorization within the municipal territory – Participation in the conservation and management of natural resources under the leadership of the regional or national government – Prevention of and fight against bush fires and excessive logging – Participation in the protection and management of wildlife in forests reserves – Management of production areas developed by the commune – Creation of conservation areas 	<ul style="list-style-type: none"> – Creation of woods and forests – Management and preservation of forest reserves, protected forests, ponds, streams and rivers – Prevention of and fight against bush fires and excessive logging in woods and forests of regional interest – Identification farming areas, development of livestock herding tracks – Protection wildlife and fisheries – Development and implementation of regional action plans and environmental schemes
Economic development and planning	Creation of a municipal development plan consistent with the national plan	Creation of a regional development plan consistent with the national plan

Source: Adapted from UNCDF (2006)

thoroughly as part of a larger strategy of reform beyond the traditional forestry sector.

The experience of CAF projects, and the distribution key applied within can surely inform this debate and if critically analyzed can provide some indications on effectiveness, efficiency and equity outcomes of the benefit-sharing mechanism. Developing projects based on expected results for the reduction of emissions can also be challenging, especially where beneficiaries do not receive substantial payment. A method for evaluating these associated benefits should be developed that reflects all the actors' expectations of payments for environmental services related to REDD+.

2.3 Rights of indigenous peoples and right to carbon, land and trees

2.3.1 Concept of indigenous peoples

The population of Burkina Faso is now over 14 million (INSD and RGPH 2006), composed of more than 60 ethnic groups with overlapping cultural identities (MEF 2000). The largest groups are the Mossi (48%), the Fulani (10.4%), the Lobi (7%), the Bobo (6.8%), the Mande (6.7%), the Senufo (5.3%), the Gurunsi (5.1%), the Gurmantes (4.8%) and the Tuareg (3.3%). Other ethnic groups account for 2.6% of the population. It is believed that the first communities to settle in Burkina Faso were the

Bobos, the Bwa, the Kurumbas, the Gurunsi, the Pugulis, the Senufos, the Turkas and Gouin (MDHPC 2012). Historical settlements in Burkina Faso have been characterized by significant mobility and unrestricted by regional boundaries (Kuba et al. 2003).

Burkinabes have built a common identity that also embraces diversity, including a range of traditions, customs, religions and languages. Although many of Burkina Faso's cultural groups have shared resources for centuries (i.e. land, forests, water), there have been relatively few examples of conflict between cultural groups.

There are REDD+ projects in a number of countries with indigenous populations, but it can be difficult to determine who 'indigenous' applies to. The International Labor Organization (ILO Convention No. 169; Article 1.1, 2009) defines indigenous people as:

- a. tribal people in independent countries who are distinguished from other sectors of the national community through their social, cultural and economic conditions which are wholly or partially regulated by their own customs or traditions or by special legislation; and
- b. peoples in independent countries who are regarded as indigenous on account of their descent from the populations who inhabited the country, or a geographical region to which the country belongs, at the time of conquest or colonization or the establishment of the country's current boundaries and which, irrespective of their legal status, keep their own social, economic, cultural and political institutions or some of them.

Within a REDD+ context, it can be challenging to determine which cultural groups would benefit from special provisions. Following the ILO definition, many African countries could classify the vast majority of their populations as indigenous (UICN 2010). In such cases, additional terms are required to differentiate between various types of communities (e.g. local communities, hunters/gatherers, herders/pastoralists, minorities, tribal groups). The ILO's definition of indigenous people is perhaps more applicable to countries such as Cameroon, which is home to indigenous Pygmy peoples who make up an estimated 0.4% of the population, as well as smaller ethnic groups including the Baka, the Bakolas the Bagyeli and the Bedzangs (CED, RACOPY and FPP 2010). In its

answer to a questionnaire from the United Nations Permanent Forum on Indigenous Issues, Burkina Faso's government responded that: "No official discrimination or marginalization is done to any ethnic group. There are no historically marginalized ethnic groups" (MAE 2012). Therefore, in Burkina Faso, the concept of indigenous people is equated to "local communities whose livelihoods depend on natural resources."

However, Burkina Faso does acknowledge the presence of cultural groups that are classified as indigenous in countries such as Morocco and Algeria. These can be split into four main groups:

- the Tamacheck group including the Bellah and Tuareg
- the Fulani group including the Gaobes Fulani and Rimaibes Fulani
- the Songhai group including the Songhai and the Mallebes
- a group made up of the Hausa, Moors and Mossi who are immigrants who came to settle in the region.

2.3.2 Rights of indigenous peoples and local communities

Currently, the government makes no special provisions for indigenous peoples living in Burkina Faso in terms of access to, use and management of natural resources. This is consistent with the country's political position that there are no marginalized or discriminated indigenous peoples or ethnic groups. The government maintains that legislation, laws and policy documents related to environmental resources management apply to all citizens of Burkina Faso, without exception. The government justifies their position by suggesting that decentralization promotes grassroots development and confers resource management rights to local communities, regardless of their cultural group.

The FIP Dedicated Grant Mechanism for Indigenous Peoples and Local People (DGM) states that it intends to consult with and offer grants to support the participation of indigenous and local communities involved in REDD+. In many countries this is vital, as indigenous minorities are often marginalized or overlooked. However, although Burkina Faso has regional economic inequalities, these are generally not attributable to ethnic discrimination. Still, Burkina Faso also requires country-specific strategies, action plans

and policies for REDD+, which address the needs of its diverse population and ensure that no one group is excluded from the process.

A number of indigenous rights groups have emerged in Burkina Faso in recent years. The TINHINA association was founded in 1997 and works for the rights of nomad women in Mali, Burkina Faso and Niger. This association has taken part in a number of international forums on indigenous peoples' rights. Another organization, the International Commission for the Rights of Aboriginal People (ICRA-International) works with indigenous peoples to campaign for greater access to resources, and seeks solutions to recurring conflicts between nomads and landowners. In addition, in April 2012, two representatives from Burkina Faso traveled to Tanzania to participate in the Pan Africa Indigenous Peoples Dialogue with the Forest Carbon Partnership Facility (FCPF 2012).

2.3.3 Land tenure and natural resources

There are significant inconsistencies between many of the regulatory and legislative provisions on land tenure described in sub-section 2.1.3. For example, forest resources issues are not included in Burkina Faso's land laws. Due to widespread dissatisfaction and inconsistencies in the implementation of land laws (in particular the RAF), the government decided to adopt a rural land tenure policy known as the National Land Security Policy in Rural Areas (PNSFMR). This policy document seeks to establish a legal base for making decisions over land resources, as well as tools and guidance on land legislation under a reference framework to address land issues sustainably.

The PNSFMR was adopted in 2007 and aimed to grant all rural stakeholders equitable access to land; guarantee their investments; effectively manage land disputes; and promote productive and sustainable agriculture. This policy was reinforced by Act No. 034-2009/AN on rural land tenure. The scope of enforcement of this law was defined in Article 2, which states that: "This Act applies to rural lands, understood as those located within the administrative boundaries of rural municipalities and intended for production and conservation activities."

Beyond the legal and political guidelines on land tenure, there are additional customs and rules on

land access that are observed in practice. Forms of access may differ depending on status and the area. For example, a case study in an area near Lake Bam identified three forms of land access: gift, contract and purchase (Ouédraogo I 2006). Furthermore, the changing socioeconomic environment can lead to the adoption of new land practices. This leads to the development of new land transactions, which are not formerly performed, or to the abandonment of traditional practices. Some of the major changes include: (i) the reduction and, in places, the disappearance of customary loans or 'gifts' by which an indigenous 'landlord' authorized a migrant to settle and gave him land to cultivate for an undefined and virtually limitless period; (ii) the emergence and rapid growth of land withdrawals by owners who have 'transferred' or lent them based on customary practices; (iii) the increase in land 'market' rental practices; and (iv) the emergence and rapid growth of land sales in exchange for cash payment, with a possibility for the buyer to mark the land boundary (Zongo and Mathieu 2000).

Alongside customary forms of land management, there are also forms of private appropriation authorized by the 1991 law, which stipulates that the land of the National Land Estate can be transferred as private property (Faure 1995). Thus, there are two forms of land transactions that coexist: customary and monetary. Changes and social transformations taking place in Burkinabe society have led people to observe new forms of land transactions such as temporary rental in exchange for money, loans without set time limits, and final sales (Mathieu et al. 2003). Taking advantage of these changes in land transactions, 'agribusiness people' came and reconfigured the landscape, thereby creating a number of previously unknown problems. Indeed, these new players, by acquiring large plots of land, diminish land reserves and create problems for future generations (Graf 2011).

Another significant land tenure issue is that of women's access to, and ownership of land. Although regulatory and legal provisions recognize women's rights, these are often ignored or overlooked in decision-making practice. Rather than transferring full land ownership to women, the informal transfer of customary rights is commonplace, which eliminates many of their legal protections (Djiré 2006). Such inequity is also experienced by other vulnerable or marginalized groups, such as migrants in the Ziro region (Zongo and Mathieu 2001).

2.3.4 The roles of indigenous peoples and local communities in REDD+

The implementation of REDD+ in Burkina Faso, although in its preparatory phase, has already raised questions about the role of indigenous peoples and local communities. This topic is the subject of much reflection and debate among civil society organizations (CSOs), government agencies, NGOs, and technical and financial partners.

Many new programs are developing ways to engage with indigenous and local communities at national and international levels. For example, during the FIP's third joint mission in Burkina Faso, participants reviewed the DGM, and set out to clarify how the term 'indigenous peoples' applies in a Burkinabe context. This was followed by a meeting in Istanbul to develop global guidelines for the DGM. These guidelines define a common framework and provide guidance for

the implementation of the mechanism for all stakeholders (MEDD/PIF 2011).

In moving forward with REDD+, Burkina Faso must now seek to clarify provisions for indigenous people and encourage the participation of CSOs. To achieve this, Burkina Faso has already established a board and national steering committee of CSOs working on environmental issues. This committee will develop the operationalization framework, programs and actions of the DGM. A general meeting was held on Wednesday 3 September 2014 in Ouagadougou to work specifically on the special donation mechanism (Bicaba 2014). Burkina Faso will also put together a national implementation agency dedicated to local communities involved in the FIP. A regulatory body must now be put in place to ensure accountability, encourage the full participation of all actors and prevent the domination of elites within these CSOs.

3 The political economy of deforestation and forest degradation

Burkina Faso was ranked 183 out of 187 countries on the UNDP's Human Development Index in 2013 (UNDP 2013). Since its independence, the country has consistently been ranked among the poorest in the world. However, for the last 5–10 years, both Burkina Faso's GDP per capita (FMI 2013) and gross national product have grown steadily (UNDP 2013). This progress was prompted by new economic policies that affected all sectors of Burkina Faso's economy. This adoption of new economic policies can be divided into three key stages as summarized in Table 19, with the Structural Adjustment Program (SAP) earmarked as a benchmark event in this process (Kaboré 2011).

Burkina Faso's Poverty Reduction Strategy Paper (PRSP) and SCADD support the view that growth is largely based on strong agriculture, livestock

and mining sectors. SCADD's elaboration was based on the need to correct shortcomings in the implementation of the PRSP (2000–2010). Using the results of the National Prospective Study Burkina 2025 (ENP) strategic orientation document, SCADD identified the development of the productive capacities of the economy as a key target in Burkina Faso's approach to poverty reduction. However, intensified production is known to have adverse effects on the environment.

This review of Burkina Faso's major economic policies demonstrates that there has been a significant shift in the nation's approach to promoting economic growth. Burkina Faso's improved economic performance may be attributed to its growing agricultural and mining production sectors, which represent the pillars of its economy. The agricultural sector grew by 15.6% in 2010,

Table 19. Dynamics of some economic policies in Burkina Faso.

Periods Considered	Types of policy/policy instrument adopted	Some specific elements of the policies/policy instruments
Pre-PAS (Programme d'ajustement Structurel) period from 1960 to 1990	Macroeconomic policies: fiscal and monetary Planning and regulation of the economy Agricultural policies Social policies (health and education)	<ul style="list-style-type: none"> – Diversify agricultural production – 10 to 20% of the investments allocated to the agricultural sector – Creation of several support structures: supervision, extension and distribution: (ORD, CRPA, SOFITEX, OFNACER) – Self-reliant development policy with the slogan: "eat what we produce, produce what we eat".
The PAS period from 1991 to 2000	(The implementation phase)	<ul style="list-style-type: none"> – Increased agricultural production: a source of growth and export – Emergence of the concept of land tenure security
The post-PAS period from 2000 to present days	Poverty Reduction Strategy Paper (PRSP) Strategy for Accelerated Growth and Sustainable Development (SCADD)	<ul style="list-style-type: none"> – Strong performance in agriculture, livestock and mining sectors – Synergy between economic efficiency, environmental sustainability and social equity, to bring about qualitative, sustainable transformation of the productive system

Source: Adapted from Kaboré (2011)

and 5.6% in 2011, driven by increased cotton production. The mining sector increased by 29.6% in 2010 (MEF 2011a), which is likely due to the establishment of two new gold mines in 2009. The relative weight of these two sectors, in terms of contribution to Burkina Faso's economy, has changed over time. For example, in 2009, the mining sector's income from export outpaced the agricultural sector (MEDD/REEB III 2011). In addition to these sectors, Burkina Faso's economy also relies heavily upon the exploitation of forest and tree resources. The government's sectoral policies tend to support the growth of these industries, as the agricultural, pastoral, energy and mining sectors play a vital role in the macroeconomic balance of the country in terms of income generated from exports.

However, the growth of these sectors is mainly based on the exploitation of natural resources, and therefore has a detrimental effect on the environment, particularly on forest resources. In addition, as Zagré (1994) claimed, Burkina Faso's past political reforms disrupted existing social structures and encouraged new attitudes and mindsets, which further contribute to environmental degradation. A 2009 survey conducted on living conditions by Institut national de la statistique et de la démographie (INSD), found that: (i) fuelwood consumption per capita is 80% higher in towns than in rural areas, and the projections for 2015 are that the demand for fuelwood will increase by 70%; (ii) the sustenance needs of the population, their economic activities, changes in demography and urbanization place considerable pressure on natural resources, jeopardizing their sustainability; and (iii) consumption and production patterns have a clear impact on natural resources and quality of life.

There is a lack of quantitative data on the impacts of deforestation and forest degradation on Burkina Faso's economy. However, in 2008 the annual cost of environmental degradation was estimated to represent about 21% of the GDP, or 780 billion CFA francs (MECV/IPE 2010). When taking a political economy approach, we see the adverse effects of economic growth policies without consideration of environmental losses, aggravated by a lack of coordination among these sectoral policies, and which could lead to significant deforestation and forest degradation, as shown elsewhere (Angelsen 2008; Angelsen et al. 2009; Brockhaus and Angelsen 2012).

3.1 Impact of agricultural and pastoral policies on deforestation and forest degradation in Burkina Faso

Agricultural and pastoral activities dominate Burkina Faso's economy, accounting for more than half of the country's export revenue and 86% of the population's income (MECV/IPE 2010; MEDD/REEBIII 2011). These activities, which represent 35% of the GNP (20% from agriculture and 15% from forestry, fishing and hunting), are essential to the country's economic growth (MECV 2007d in MEDD 2011e). Indeed, agriculture is the primary sector's most lucrative industry, with an estimated contribution of 17.90% to the GDP in 2008, or approximately 660.43 billion CFA francs (MECV/IPE 2010). Consequently, the government has adopted policies and reforms that promote these drivers of the economy, and keep production levels high (Table 20), particularly of products for export (Agreco Consortium 2006).

However, this increase in agricultural yield was linked to negative impacts on the environment (Ouédraogo 2003). While the PRSP's four strategic areas focus primarily on economic development, SCADD places greater emphasis on encouraging sustainability through its cross-sectoral vision. This marks a notable shift from the policies of the early 2000s, which did little to promote ecological sustainability, particularly in the agricultural sector.

The impacts of agriculture on deforestation and land degradation vary according to the types of crops grown, and farming methods employed. In order to strengthen the role of agriculture and boost economic growth, the government of Burkina has implemented agricultural policies that prioritize cotton production and promote agribusiness.

3.1.1 Cotton, deforestation and degradation of resources

Cotton is Burkina Faso's main cash crop. It accounts for approximately 70% of the country's exports, and between 1999 and 2005 represented more than 4% of the GDP (MECV/IPE 2010). In 2011, producers started demanding higher purchase prices for their cotton, in line with global prices. Cotton rapidly dropped from 70% of total national exports to approximately 30% (Lankoandé and Maradan 2013).

Table 20. Use rate and increase in UAA per crop between 2006 and 2009.

CROPS	Cereals					Cash crops				Other staple crops			
	Millet	Sorghum	Maize	Rice	Fonio	Cotton	Peanuts	Sesame	Soybean	Cowpea	Bambara groundnuts	Yam	Sweet potato
UAA per crop (%)	28.61	35.43	11.51	1.41	0.48	10.42	7.33	1.55	0.18	2.01	0.37	0.11	0.15
Total UAA (%)	77.43					19.48				2.64			
Change UAA/crop (%)	2.57	24.26	31.30	109.63	150.68	-28.71	46.12	97.27	109.22	81.99	-85.2	231.54	-0.91
Total increase (%)	18.39					1.36				17.8			

Source: MEDD (2011b), based on a calculation from the statistical data of the DGPER/MAHRH.

Despite this, cotton production increased by approximately 10% in 2012 (OECD 2012). Specifically, cotton represented approximately 29% of export revenue in 2010, a share which has considerably increased by 33% just between 2008 and 2009 (INSD 2010). After gold, cotton is Burkina Faso's second most exported product. (MEDD 2012a). This is reflected in the acreage dedicated to cotton compared to other crops. The amount of land dedicated to cotton increased from an average of 9044 ha per year between 1986 and 1996 to 47,633 ha for the following 10 years. Other major staple and cash crops increased from an average of 52,844 ha per year between 1986 and 1996 to 61,485 ha in the following 10 years (INSD 2009). Recent figures show that the area dedicated to growing cotton increased from 472,943 ha in 2008/2009 to 500,000 ha in 2012/13 (MICA 2012; MASA-SP/CPSA 2013).

More than 42.8% of the Burkinabe population is exclusively cotton dependent (Hanff et al. 2011; Lankoandé et al. 2011). Therefore, a decline in export values would have a negative impact on government revenues, job creation and farmers' income. As such, the significant foreign revenue generated by cotton is a powerful incentive for the expansion of agriculture in ecologically fragile areas, and the further exploitation of forests (Ouédraogo 2004).

Cotton production has also been stimulated by international policies, including those that prompted the devaluation of the CFA franc, and national policies, such as the state interventions which ensued. Cotton production experienced a period of continuous growth until 1988, which was followed by a period of stagnation that lasted until the mid-1990s (Ton 2006). The devaluation of the CFA franc and the reforms undertaken by the government, such as the 1995–2000 cotton production stimulus plan, have revitalized cotton production by enhancing the competitiveness of the sector. With competitive prices and growing external demand, the impacts of the devaluation were overwhelmingly positive for farmers, especially cotton producers (Deybe 1998). Thus, the post-devaluation period was marked by a dramatic increase in cotton production, which has more than tripled in 10 years, growing from 202,630 t in 1996 to 759,858 t in 2006 (INSD 2009).

As part of SAPs, the Government of Burkina Faso has identified the increase in agricultural production as a primary source of growth and exports. This, they argue, is necessary to ensure and maintain macroeconomic stability. The cotton growth stimulus plan developed by the government in the mid-1990s focused on increasing cotton production through agricultural input supply systems for farmers, clearance credit and price-based incentive mechanisms supported by rebates (MED 2004; Ouédraogo et al. 2010).

Despite the progress in terms of production, cotton growing has been based on an expansion of cultivated areas rather than higher yields (Bonnassieux 2002; Sawadogo 2006; MEF 2011a; UNDP 2010; Kaminski et al. 2011). The expansion of commercial agriculture, including cotton, has been one of the leading factors in the decrease in forest areas (Ouédraogo et al. 2011). The growth of Burkina Faso's cotton sector between 1990 and 2000 is an example of how government macroeconomic policy can have unintended, negative impacts on forests.

However, the impacts of this agricultural policy have not been uniform across all regions of Burkina Faso. As such, the consequences of deforestation and degradation should be relativized according to region (Guilmoto et al. 2007; Paré et al. 2008; MEF 2009b, c; Bassolé and Sédogo 2010; Gomgnimbou et al. 2010). Cotton-growing regions tend to attract large numbers of migrants. Therefore, the phenomenon of migration should be taken into account when considering the link between cotton expansion and deforestation. Indeed, the arrival of migrants increases demand for arable land. Compared to the eastern and western regions of Burkina Faso, the southern region is a popular destination for domestic migration and, as a result, appears to be more degraded.

To manage further agricultural expansion and associated negative impacts on forest areas, political measures must seek to increase the yields of existing crops. An alternative approach is to grow organic cotton, which is more labor intensive, but produces high yields on small plots of land (HELVETAS 2008). Studies have also shown that this could be a financially attractive option, as the cost of chemicals used in conventional cotton production amounts to 4.2 billion CFA francs per year. This corresponds to 6.5% of the sector's added value, of which 1.4% is attributable to soil degradation and impacts on biodiversity (Lankoandé and Maradan 2013).

3.1.2 Agribusiness, deforestation and resource degradation

Agribusiness is a major cause of deforestation and forest degradation in Burkina Faso, largely due to destructive clearing methods. In the late 1990s, the Government of Burkina Faso gave its political support to 'agribusiness', in light of the poor performance of traditional family farming.

The Minister of Agriculture at the time declared that the agricultural sector was suffering from a lack of professionalism. Consequently, the government sought to stimulate agricultural activity and boost production through the involvement of new actors.

"We have poor peasants who were bound (and still are) to subsistence farming... Peasantry is fine, but it needs another dimension, that of agricultural entrepreneurship because it has never been seen, in any country, agriculture that emerges without professionals, people come from other activities to acquire or disseminate knowledge and make a living [...] who will have larger areas, even employ farm workers."

(*Le Pays*, 18 July 2002, as cited in Zongo 2010)

Many agribusiness people emerged in response to this new national policy. Their actions have been supported by successive governments since the late 1990s (Zongo 2010). The government upheld commitments to promote agribusiness as a means of attaining food self-sufficiency and confronting rural poverty. Moreover, agribusiness was heralded as a way for the agricultural sector to contribute toward accelerated growth and development. Indeed, the SCADD (2010) identifies agribusiness as a pillar of the development of the agricultural sector in Burkina Faso. Many of Burkina Faso's new agribusiness people were individuals with status, social capital and financial resources, who saw an opportunity to invest in agriculture, which in many cases, was not their primary endeavor (Ouédraogo 2004; Ouédraogo 2006; Thiéba 2009; Zongo 2010).

In 2009, Burkina Faso adopted a joint decree on agricultural clearing, to regulate the interventions of new agribusiness participants. However, many of the rules outlined in Burkina Faso's Forest Code were overlooked or ignored. For example, in the southwest and the south, hundreds of acres of forests were cleared without being replaced with crops, which created large exposed areas (Sawadogo 2006).

Environmental problems caused by agribusiness are difficult to solve, because many of the senior officials and politicians involved in the development of regulations are agribusiness people themselves. These individuals often have prior knowledge of lucrative land acquisition opportunities. In many cases, agribusiness people clear their land without obtaining authorization. In general, most studies on agribusiness people tend to relativize

the expectations placed on them; instead studies highlight many under-performances and serious effects on the environment (Thiéba 2009).

In summary, Burkina Faso's agricultural policies increasingly support greater output, particularly of exportable goods such as cotton, and continued agricultural expansion. Consequently, this is one of the country's primary drivers of deforestation and land degradation.

3.1.3 Pastoralism

Livestock products represent 12% of Burkina Faso's GDP and 12% of the nation's revenue from exports (Bourdet and Thiombiano 2009). After gold and cotton, livestock products represent Burkina Faso's third most lucrative export. Milk and dairy products have an estimated domestic market of nearly 10 billion CFA francs per year, while meat, hides and skins are sold regionally and internationally (MEF 2011a).

The devaluation of the CFA franc in 1994 led to a two-fold increase in livestock exports to other countries in the sub-region between 1997 and 2007 (Bambio, personal communication; WTO 2010). Exports in 2008 reportedly included 1.36 million head of cattle and 2.7 million tons of hides and skins (MECV/IPE 2010). Moreover, the sector underwent government reforms such as the Plan d'Actions et Programme d'Investissement du Sous-secteur de l'Élevage (Action Plan and Investment Program of the Livestock Sub-Sector) (PAPISE) and the Politique Nationale de Développement Durable de l'Élevage (National Policy for Sustainable Development of Livestock; PNDEL). These were adopted as reference and promotion frameworks for productive and competitive livestock breeding, to support poverty alleviation and provide food and nutrition security.

Livestock breeding is dominated by an extensive production system that is dependent on forest resources for wood and grass fodder, and therefore significantly impacts the environment if unmanaged (MRA/PNDEL 2010). In the late 1990s and early 2000s, ruminant populations increased by 3.7% annually over a period of 15 years (MEF 2009d), which implies an increase in demand for grazing land and greater pressure on forest resources. The livestock sector in Burkina Faso has low levels of productivity, due to a

demand for fodder that cannot be met by the capacity of the ecological zones in most parts of the country. Official government documents keep stating that pastoral activity, and especially grazing, often occurs at the expense of forest ecosystems or agricultural land (MECV 2006b). These sources also point out that, as a result, overgrazing is considered to be a significant cause of land degradation in the Sahel. Furthermore, herding from the Sahel to other regions (southwest and east) also puts these areas at risk of overgrazing and degradation (MEF 2009d; MEF 2009f). However, the evidence base for these claims remains meager, and other authors claim that pastoralism in the Sahel is one of the best adapted systems of natural resource management under extreme climatic conditions (Djoudi et al. 2013).

In addition, the impacts of extensive farming on forests are controversial. Some argue that land used for grazing frequently encroaches on forested areas. Many studies conducted in Burkina Faso have found that pastoralism is responsible for substantial deforestation and forest degradation (Ouédraogo 2003; Dulbecco and Yelkouni 2007; Paré et al. 2008; Nacro et al. 2009; Ouédraogo et al. 2010). Others suggest that livestock are usually reared on marginal or unproductive land. In some cases, they argue, the presence of livestock can promote the regeneration of ligneous species (De Foresta et al. 1984; Devineau 1999; Charles-Dominique 2003).

Although forest legislation, including Burkina Faso's Forest Code, does not authorize grazing in forest reserves, herders often graze cattle illegally in protected areas. This can result in conflict between state agents and herders (Sawadogo 2006; MECV 2007d).

The SCADD identifies a number of areas for growth in the pastoral sector, including the enhancement of livestock productivity, and the development of the dairy industry. The government anticipates an annual average growth of 4% for the livestock sector between 2011 and 2015, as well as greater integration of environmental issues in livestock policies (MEF 2011). In order to make informed decisions, further data is required on the impact of livestock on the sustainable management of the environment and natural resources. This can be used to inform an environmental management plan for livestock breeding (MECV 2006b).

3.2 Roles of energy, mining and urbanization policies in deforestation and forest degradation in Burkina Faso

3.2.1 Energy policies

The energy sector in Burkina Faso is characterized by its dependence on traditional energy sources, including fuelwood (Ouédraogo K 2011). Modern forms of energy such as gas are not widely used (Sakho and Gautier 2012). The predominance of fuelwood is reflected in the composition of the country's total energy consumption. Indeed, in 2006 and 2008 fuelwood and charcoal represented 83–85% of fuel consumption, followed by petroleum products (14–16%), and hydropower and solar energy in negligible amounts (Gautier et al. 2009; Ouédraogo GG et al. 2009; Ouédraogo and Gautier 2009; Sakho-Jimbira and Gautier 2012). Household energy consumption was 90% fuelwood based, which represents approximately 3 million t of fuelwood annually, or 98% of the primary energy demand and 89% of total demand (Konate 2005).

Fuelwood contributes significantly to government revenues, in the form of taxes and fees, but also to household incomes, in terms of income-generating activities and employment. The government and decentralized authorities earn revenue from forest and community taxes associated with the sale of fuelwood. In 2008, this figure was estimated at 3.8 billion CFA francs (MECV/IPE 2010). In 2009 alone, forests earmarked for fuelwood production generated revenues of approximately 700 million CFA francs (Duradeve Consulting Group 2011). For rural populations, fuelwood production for personal use contributes approximately 87 billion CFA francs to local livelihoods (MECV/IPE 2010).

The Government of Burkina Faso offers support to the fuelwood sector in order to meet the population's energy demands. In order to promote sustainable management, various policies, reforms and strategies have been developed and implemented. For example, the National Strategy for the Fuelwood Sector, which has been in place for over 10 years, is based on the principles of: forest development, consumption control and capacity building (MMCE 2005; MECV-MMCE-2007).

To mitigate consumption, alternative forms of equipment and energy have been promoted as part of the national energy strategy (MMCE 2003). Examples of this include the use of updated stoves and butane gas, which is tax exempt and subsidized by the government. Butane gas was initially subsidized to mitigate the overexploitation of forests for fuelwood. This subsidy can represent up to 68% of the price of a cylinder weighing less than 12 kg. However, such provisions are most likely to benefit urban consumers with sufficient income to afford alternative forms of energy and updated equipment (CILSS/PREDAS 2005).

Burkina Faso's policies on forest resources management mainly mandate: (i) reforestation with large-scale plantations; (ii) community forestry based on participatory village plantations called 'village woods'; and (iii) the development of natural forests. Reforestation campaigns based on the creation of industrial plantations aim to ensure adequate fuelwood supply and combat desertification. Community forestry programs encourage participatory management of community plantations. Finally, natural forest development programs, which also take a participatory approach, engage local communities in the sustainable management of natural forest resources. Participatory forest development is also a way for local communities to create employment opportunities, and generate income through the sustainable use of fuelwood (Sakho-Jimbira and Gautier 2012).

However, Burkina Faso's rapidly growing population calls into question the capacity of its forest development policies to provide a sustainable fuelwood supply. National demand for fuelwood currently outpaces supply, leading to the overexploitation of timber resources (Sakho-Jimbira and Gautier 2012).

In the face of rising petroleum prices and a need to diversify energy sources, the Government of Burkina Faso has decided to promote biofuels as an alternative. Interviews conducted in preparation for this report indicated that the government may choose to plant *jatropha* on marginal or degraded lands for biodiesel production. Hanff et al. (2011) suggest that up to 500,000 ha, i.e. 5% of total arable land, should be set aside for this purpose. Although the government has begun to address these issues

in its SDR, SCADD and Rural Sector National Program (PNSR), future policies must consider: the need to reduce overexploitation of forests; means of securing sufficient resources through the sustainable, participatory and decentralized management of forests; and the benefits and risks of promoting renewable and alternative energies such as biofuels.

3.2.2 Mining policies

Long regarded as a mainly agricultural country, an increasingly large portion of Burkina Faso's export revenue comes from mining, particularly for gold. The number of mining licenses and gold mining authorizations rose from 537 in 2008 to 599 in 2009, which represents a 10.35% increase (MEDD /IPE 2010). The mining sector has become a significant contributor to economic and social development as well as to the domestic economy. Gold represents over 4% of the GDP, when informal operations are taken into account (2–2.5%), and is the country's primary export product (43% of exports in terms of value) (MEDD/IPE 2010). The mining industry contributed 46.6 billion CFA francs to the nation's income in 2010, a 296 % increase from 2009. In 2011, this contribution reached

125 billion CFA francs (Lankoandé and Maradan 2013). After Ghana and Mali, Burkina Faso is now the third largest producer of gold in West Africa (CAPES 2013).

Despite the importance of gold to the domestic economy and the socioeconomic benefits it offers local communities, mining, whether industrial or artisanal, causes serious environmental problems (Figure 8). For example, the cost of environmental damage related to gold extraction is estimated at 10.8 billion CFA francs (MECV/ IPE 2010).

The balance between the economic importance of the mining sector and its negative impacts on forest resources led the government to review and adopt a new Mining Code on 2 October 2013. While seeking to maintain a legislative and regulatory framework favorable to mining operations, the Mining Code: (i) adopts a common mining policy in accordance with guidelines issued by regional integration organizations; (ii) strengthens protection measures for the mining environment; and (iii) increases the contributions of mining operations to the country's revenue and to the development of local communities.



Figure 8. Degradation of land cover related to artisanal gold mining in southwest Burkina Faso.

Source: Photograph by Nadia Djènontin, Djibril Dayamba

In addition to this, according to Article 25 of Act No. 006-2013/AN of 2 April 2013 on Burkina Faso's Environmental Code, an environmental impact survey or impact statement must be completed for any activity likely to have significant, direct or indirect environmental impacts. In the same year, the Extractive Industries Transparency Initiative (ITIE Burkina Faso 2013) classified Burkina Faso as a 'compliant country'. This title is awarded to countries that demonstrate transparency in their mining sector. However, a lack of adequate monitoring and enforcement of Mining and the Environmental Codes, in addition to an increase in mining operations, could put forest resources at risk (MEDD/R-PP 2012).

3.2.3 Urbanization policies

Burkina Faso is one of the least urbanized countries in the world. In 2013, INSD estimated its population to be approximately 17,322,796 (INSD 2006). However, according to the Director General of Urban Planning and Basic Land Conditioning, Leon Paul Toe, Burkina Faso is marked by rapidly growing urbanization, which requires urgent planning and preparation (*Le Pays* No. 5523 of Friday 17 to Sunday 19 January 2014).

In fact, the country has taken a number of measures that support this changing demographic. Politically, the country has experienced a series of administrative divisions over time. The country was divided into administrative 'circles' during its colonization, which were replaced by government departments in the 1970s. Today, with the event of decentralization, the territory is divided into villages, municipalities, provinces and regions, each with their own administrative powers. Economic and social development policies and

programs have aimed to develop the nation's hydro-agricultural infrastructure. There are a growing number of private property development companies, in part due to the liberalization of the national land market triggered by legislation such as the RAF. In recent decades, the RAF's reforms have consolidated the achievements of the rule of law and helped the country adapt to a market economy. This process has been strengthened by Burkina Faso's decentralized approach to governance, which boosts development and democracy by establishing "the right of local communities to freely rule themselves and manage their own affairs to promote grassroots development and foster local governance" (Loi No. 055-2004/AN). Territorial authorities are the new overseers of urban land management, planning and development. The decentralization process resulted in a number of dispersed allotments for housing construction without further planning guidance, causing excessive urban expansion that is likely to have a significant impact on natural resources.

In recent decades, public authorities have adopted a number of initiatives to manage urban growth. The government has demonstrated considerable political will in tackling the problems associated with rapid urbanization, including possible impacts on natural resources. In particular, they have adopted a policy of decentralization to encourage grassroots development. Furthermore, a national housing and urban development policy (PNH DU) has been implemented to facilitate sustainable and inclusive urban development, which encourages the participation of all stakeholders. Furthermore, the Ministry of Housing and Urban Planning has developed a series of Planning and Urbanization Master Plans (SDAU), to plan and control the growth of cities in Burkina Faso's 13 regions.

4 The political context of REDD+ and adaptation to climate change: actors, events, processes and synergies

Capacity building and intervention options for tackling climate change are the subject of much global debate (Yifu Lin 2010). The UNFCCC identifies two, main approaches to climate change: mitigation of climate change through the reduction of GHG emissions and enhancement of carbon sinks, and adaptation to the impacts of climate change. With the Paris Declaration, the role of forests has been highlighted in both, adaptation and mitigation. In a country such as Burkina Faso, one could argue that there cannot be any forest-based mitigation effort without acknowledging the role of forests (and trees) in adaptation. Both mitigation and adaptation are essential to reduce the risks associated with climate change.

4.1 Overview of the political environment in terms of climate change in Burkina Faso

There has been a net increase in temperatures and a decline in rainfall in Burkina Faso since the 1970s (MECV 2007b). Average temperatures are set to increase by 0.8°C by 2025 and 1.7°C by 2050, and rainfall is expected to decrease by 3.4% in 2025 and 7.3% in 2050 (GIEC 2007). To address these concerns, Burkina Faso ratified the UNFCCC on 20 September 1993 and the Kyoto Protocol on 31 March 2005, as well as all Rio Conventions.

4.1.1 Major mitigation and adaptation activities: mechanisms to combat climate change

National Adaptation Program of Action (NAPA)

Burkina Faso is considered to be one of the world's least developed countries (LDCs), making it one of the most vulnerable to the impacts of climate change and variability. It is not listed in Annex I of the UNFCCC, and thus has no obligation to reduce GHGs. As for other LDCs, adapting to the effects

of climate change is likely to be a major challenge for Burkina Faso. The nation has initiated adaptation preparations by implementing a number of NAPA projects and formulating a NAP.

Forest Investment Program (FIP/REDD+)

The REDD+ process in Burkina is linked to the FIP. It has taken shape outside of an intergovernmental framework. Membership was initially limited to 16 forest countries and then gradually opened to other nations. Burkina Faso was not initially selected as a REDD+ partner country, but was later chosen to participate in the CIF FIP. The country was chosen because of its extensive experience in the conservation and participatory and sustainable management of dry forests and gallery forests in the Sahel. As part of the FIP, Burkina Faso prepared a Readiness Preparation Proposal (R-PP); (MEDD 2011c), which was adopted in June 2012 after submission of an official letter (MEDD 2011d) by the Technical Panel and the FIP Sub-Committee. The R-PP provides a framework for the development of Burkina Faso's national REDD+ strategy.

Nationally Appropriate Mitigation Actions (NAMAs)

Burkina Faso is engaged in voluntary GHG reduction measures, which have been formalized as specific projects/programs. This has led to the establishment of two main policy measures to reduce emissions of GHGs:

- A national White Paper on access to energy services for rural and peri-urban populations in achieving the Millennium Development Goals
- The Rural Sector National Program (PNSR) 2015.

Burkina Faso's NAMA frameworks are a set of activities, political measures, and partnerships, which facilitate the reduction of greenhouse gas emissions. (MEDD 2012d). However, an MRV mechanism should be developed to ensure accountability and efficiency.

Clean Development Mechanism (CDM)

The government has undertaken several actions since 2000 to promote CDM projects in Burkina Faso. (MECV 2007c) These include:

- the development of an inventory of technology needs for the transition to clean technologies
- the adoption of procedural guidelines for the transition to clean technologies in Burkina Faso
- the adoption of a joint decree from six ministries on the establishment, powers and operation of Burkina Faso's Designated National Authority for Clean Development Mechanism (DNA/CDM). This authority is responsible for the representation, approval and promotion of CDM projects at the national level.

This led to the establishment of the DNA/CDM in Burkina Faso on 11 October 2006.

Other institutions have also supported the CDM initiative through:

- campaigns to raise awareness of CDM among private operators
- training for actors involved in the CDM
- consultation and information exchange with national private operators and external partners working in the clean development sector, in order to give impetus to the CDM process in Burkina Faso
- the adoption of a manual for CDM promoters in Burkina.

There is potential for CDM project implementation in a number of sectors in Burkina Faso. This is illustrated in Figure 9.

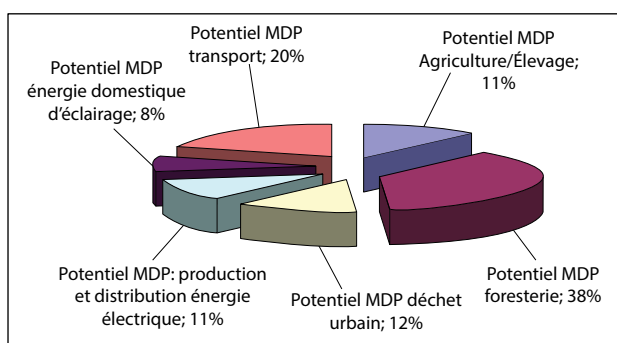


Figure 9. CDM Potential per sector in Burkina Faso.

Source: MECV (2008)

In the forestry sector

Projects related to afforestation and reforestation could play an important role in the CDM (38% of potential) (MECV 2008). Plantations of the following trees have been proposed to promote carbon absorption:

- *Acacia senegalensis* which also produces gum arabic
- *Jatropha curcas*, also called physic nut, which produces physic nut oil that can be used for biodiesel.

In the transport sector

In terms of GHGs, transport is the most polluting sector in Burkina Faso (MECV/DCN 2010).

Potential CDM projects in this sector include:

- fuel substitution
- the development of energy efficient public transportation.

In the energy sector

CDM projects in the energy sector could include:

- the promotion of energy efficiency in government, residential, and industrial buildings
- the use of hydropower: Burkina Faso has hydropower sites with potential capacities ranging from 1.4 to 16 MW. The low profitability of most of the sites makes them potentially attractive for CDM projects.

In the waste sector

New initiatives may include:

- methane harvesting projects at the household level. Many biodigesters are already operational in Burkina Faso through the Ministry of Animal Resources and Fishery's National Biodigester Program
- the harvest of methane from wastewater in large cities
- the harvest of methane from municipal waste stored in regulated dumping areas, such as Ouagadougou's landfills. Low daily collection levels (400 t/d) (CNI 2001; MECV/DCN 2010) and a practice of sorting, may mean that this proposal is currently unfeasible.

This inventory indicates that many of Burkina Faso's sectors have relatively low CDM potential, which is not attractive for investors

and developers. In the early 2000s, Burkina Faso received USD 350,000 of funding from the Government of Japan and UNDP for CDM capacity-building projects (MEDD 2011d). With this support, Burkina Faso initiated 13 CDM projects in a range of mitigation sectors, which are currently in various phases of development (Table 21).

Despite the institutional mechanisms that have been put in place, and financial support from partners, none of the initiatives mentioned above have been implemented in Burkina Faso. This is, in part, due to low CDM potential, but also due to a lack of promotion of CDM projects and enthusiasm from participants. To address this, Burkina Faso is increasingly engaged in the voluntary market.

Table 21. CDM project initiatives.

Project/title	Project leader	Observations
Eco Profitable Lighting Burkina Faso	DGE-ENERCAP	Approval of the PINs (Project Idea Notes)
Zina solar photovoltaic power plant project	CEMAFO	At the stage of PDD (Project Design Document)
Projet de récupération de méthane dans les eaux usées de Ouagadougou Methane recovery project in wastewater, Ouagadougou	ONEA	At the PDD drafting stage
Promotion de lampe de basse consommation Promotion of energy-efficient light bulbs	SONABEL	At the PIN stage, previously adjourned
Projet d'afforestation reforestation Afforestation and Reforestation Project	New tree	At the PDD Stage but adjourned
Projet de foyer amélioré Improved cookstove project	New tree	Very advanced Stage
Projet afforestation reforestation Afforestation and Reforestation Project	Association des Municipalités du Burkina	At the PIN Stage/seeking investors
Projet de valorisation des déchets du Centre d'enfouissement technique de Ouagadougou Project to support sanitation and waste management in Ouagadougou	Projet porté par la Mairie de Ouagadougou	At the PDD stage
Projet de foyers améliorés Improved cookstove project	Entrepreneurs du monde	At the PIN Stage /PDD to develop
Reforestation of denuded grassland in the Sahel region of Burkina Faso	Projet azawak/ Ministère des Ressources Animales	At the PDD stage
Projet de gestion durable décentralisée des forêts (PGDDF) Decentralized sustainable forest management	MEDD	At a very advanced stage
Projet de gestion participative des forêts domaniales Participatory Management of State Forests	MEDD	At a very advanced stage
Projet d'appui au secteur forestier Support programme for the Forestry Sector	MEDD	Project implemented

Source: MEDD (2011f)

4.1.2 National climate change policies in Burkina Faso

For many decades, the Burkinabe government has been engaged in protecting its environment and the sustainable management of its natural resources. Burkina Faso's 1991 Constitution (Assemblée Nationale 1991) states that environmental protection is mandated by law. The constitution affirms "the absolute need to protect the environment", and clearly states that Burkina Faso recognizes "the right to a healthy environment" and that "the protection, defense and promotion of the environment are a duty for all." Burkina Faso's main policies, strategies, plans and programs relating to the protection of the environment are the following:

Policies and codes

1. National Environmental Policy
2. National Forestry Policy
3. National Sustainable Development Policy
4. Forest and Environmental Codes
5. Policy Act on Sustainable Development.

Strategies

1. Strategy for Accelerated Growth and Sustainable Development (SCADD)
2. National Environmental Education Strategy (SNEE)
3. Burkina Faso National Strategy and Action Plan on Biological Diversity
4. National Implementation Strategy of the UNFCCC
5. Coordinated Implementation Strategy of the Rio Conventions.

Plans and programs

1. National Environmental Action Plan (NEAP)
2. Environment Plan for Sustainable Development (ESDP)
3. Forest Investment Program (FIP) Investment Plan
4. National Adaptation Plan (NAP).

The following sectoral programs and projects are responsible for the implementation of policies and strategies:

1. National Forestry Development Program (NFAP)
2. National Action Program to Combat Desertification (NAP-CD)
3. Rural Sector National Program (PNSR)

4. National Adaptation Program of Action to Variability and Climate Change (NAPA)
5. Forest Investment Program (FIP).

Several of these projects focus on adaptation and mitigation. In addition to FIP/REDD+ and NAPA projects, a number of planned and existing projects are managed by various public departments, or within regional, parastatal and private structures. Forestry and environmental projects under the supervision of the Ministry of Environment are listed in Annex 1.

4.1.3 Project financing mechanisms related to climate change in Burkina Faso

In Burkina Faso, the financing sources and mechanisms of climate change-related activities are part of a varied institutional framework, where numerous technical and financial partners (TFPs) assist the government in implementing development initiatives, particularly those related to the management of forests and woodlands.

At the national level, TFPs coordinate their activities through various consultation frameworks, such as the National Framework of Rural Development Partners (CNPDR).

Burkina Faso has received support from the LDC Fund for the preparation of its NAPA, and from GEF Funds for the implementation of adaptation and mitigation projects (see Annex 1). The FIP is a Strategic Climate Fund program established under the CIF by multilateral development banks (MDBs). The Government of Burkina Faso submitted a request for FIP preparation funding, which was approved by the FIP's MDB Committee on 21 December 2010 (MEDD/PIF 2011). The funding amounts to USD 250,000 and finances: (i) the preparation of the investment strategy; (ii) a study on the economic impacts of the strategy; (iii) defining the baseline; (iv) the implementation of the strategic environmental assessment of the Investment Strategy (IS); (v) the operations of the FIP/REDD+ committee and technical team; and (vi) consultation workshops and meetings with all stakeholders. Under the auspices of the Strategic Climate Fund, the World Bank (WB) has also pledged USD 4.5 million for the implementation of the DGM.

4.2 REDD+ and adaptation processes in Burkina Faso

A timeline illustrating the implementation of climate change-related policies in Burkina Faso is presented in Figure 10.

4.2.1 Actors, events and REDD+ political processes in Burkina Faso

REDD+ political processes

The issue of REDD+ has been a political concern for Burkina Faso since the commencement of the FIP process in 2010. Article 3 of Decree 2011-032/PRES/PM/MEDD of 28 February 2011 amending Decree No. 2010-159/PRES/PM/MECV of 2 November 2010 established a Steering Committee for NAPA and REDD+/FIP implementation projects in Burkina Faso. This was followed by the establishment of coordination, implementation and consultation bodies, as outlined in the R-PP.

Figure 10 outlines a number of additional policies and actions carried out as part of the FIP/REDD+ process. These include: the initiation of the FIP process in May 2010; the creation, by Decree 2010-158/MECV, of an FIP Technical Secretariat; the establishment of a joint NAPA and FIP-REDD+ steering committee in February 2011; the commencement of the R-PP planning process; the validation of the FIP through a national workshop; and joint missions between Burkinabe authorities and TFPs organized by the MEDD.

Political speeches and debates

No official political debates on REDD+ have taken place at a parliamentary level. However, a training workshop on REDD+ for officials from the MEDD and CSOs was organized by IUCN from 9–11 August 2010 in Ouagadougou. This workshop was an opportunity for various development actors, particularly those from rural backgrounds, to learn about REDD+. These discussions took place in accordance with the R-PP process and REDD+ strategy.

Another national consultation workshop was held from 14–16 February 2011 on the priorities and implementation of the FIP. This workshop aimed to support the Government of Burkina Faso in developing its FIP investment strategy,

through extensive consultation and dialog with all key stakeholders. The workshop brought together actors from national institutions, private sector organizations, CSOs, national development programs and projects, as well as bilateral and multilateral partners. This workshop followed a consultative framework addressing the following issues:

- existing institutional and legislative frameworks
- the management, development and exploitation of forest resources, and forest sector governance
- projects/programs relating to the forest sector
- actors in the forest sector.

In addition to this workshop, consultation meetings with key stakeholders (Table 22) were held on 17–18 February 2011. These meetings set out to verify the relevance of the priorities identified during the workshop, and define the roles of various actors in implementing the FIP, as well as gauge their commitment to the investment strategy. Consultations were held with: (i) representatives from national institutions; (ii) civil society representatives; (iii) private sector representatives; (iv) TFPs; and (v) development program or project coordinators.

Protest actions

Burkina Faso's REDD+ planning activities, including sectoral consultations and validation workshops, have largely been considered participatory in nature, aiming to foster an understanding of the process and ownership of the program among its participants. This participatory model within the FIP has been heralded as a way for communities to maintain ownership of REDD+ projects. However, critical voices, for example during a workshop in Ouagadougou in October 2015, also flag some concern related to a lack of understanding and a reinforcing of existing power structures with the risk of elite capture, as the planned REDD+ projects are built on existing conservation and forest management initiatives with a number of institutional legacies.

REDD+ actors

The various actors involved in the REDD+ process in Burkina Faso can be categorized into members (i.e. government, civil society and the private sector) and observers (Article 3 of Decree 2011-032/PRES/PM/MEDD of 28 February 2011) (Table 23).

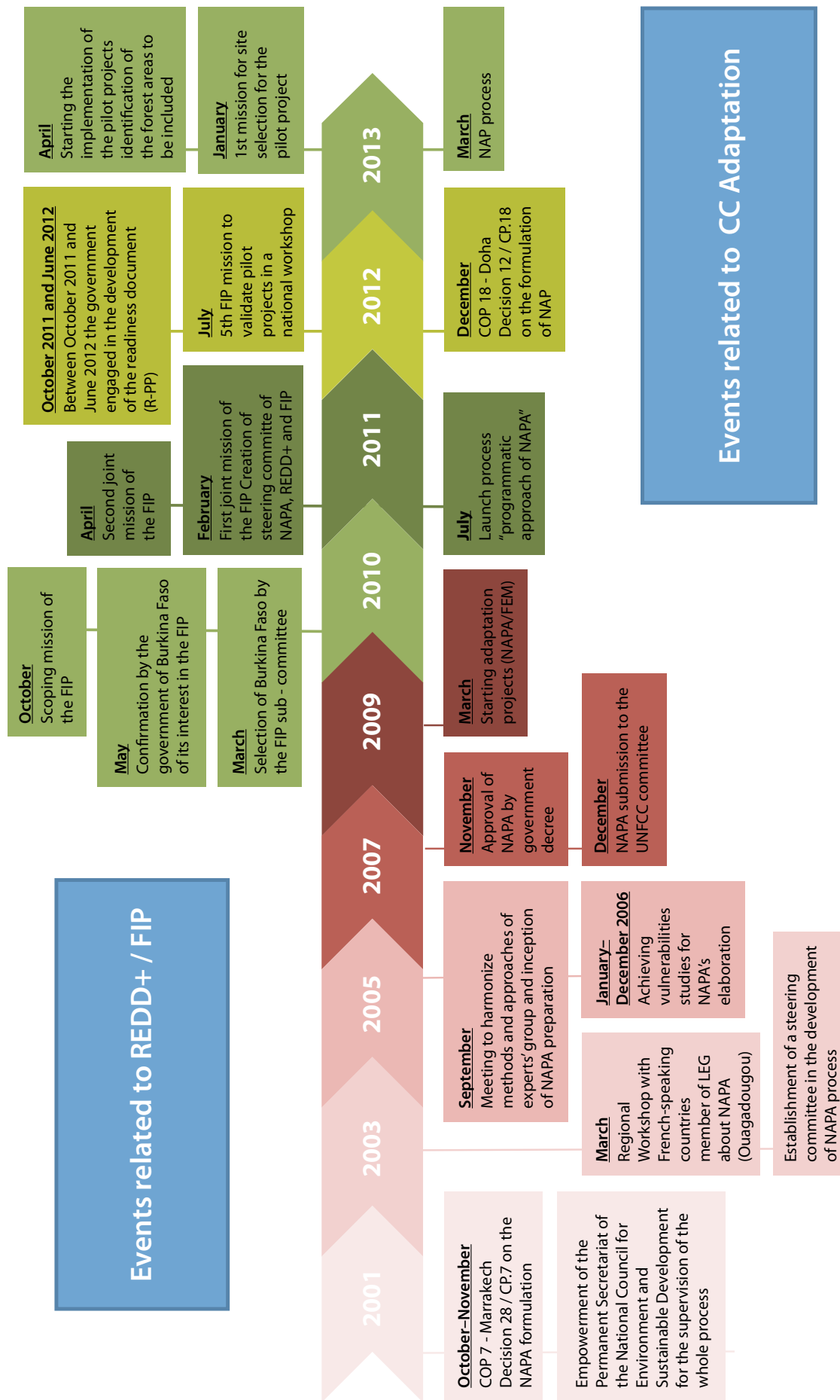


Figure 10. Key actions and events related to adaptation and FIP/REDD+ in Burkina Faso.

Table 22. Summary of speeches from actors in the REDD+ framework.

Actors	Speeches
National institutions	<ul style="list-style-type: none"> – Institutions report the existence of several coordination mechanisms with duplications in places. – National institutions suggest that barriers include: limited financial resources; difficulty in accessing information, insufficient dissemination mechanisms. – Many national institutions propose an assessment of existing coordination mechanisms based on the criteria of synergy, importance and compatibility with the decentralization process. – Regarding the FIP, participants stress the need to set up an inclusive coordination framework involving all stakeholders and to have the necessary human and financial resources to ensure its sustainability. – Regarding the role of institutions in the implementation of the FIP investment strategy, debates have failed to reach an agreement because each participant wants his/her institution to play a major role. <p>Participants have identified a number of potential risks that could hinder the implementation of the FIP: lack of coordination, conflicts of interest, lack of appropriate support measures for implementing the strategy, lack of coordination among TFPs, and natural disasters.</p>
Civil society	<ul style="list-style-type: none"> – Civil society actors agree that the existing laws and regulations are generally adequate and relevant, but that they are not implemented on the ground. They want investment projects to shift to: the development and dissemination of alternative energy projects (in order to reduce pressure on forests); the development of integrated agroforestry systems (combine livestock with farming); and organic farming. – Civil society must play a leading role in promoting sustainable forest management techniques, building the capacity of local people, good governance and the fight against corruption. – Civil society representatives identify the following challenges to the successful implementation of the FIP: sub-regional conflicts (e.g. the recent case of Côte d'Ivoire); a lack of transparency; and corruption at the national level.
Private sector	<ul style="list-style-type: none"> – Representatives from the private sector report weaknesses in forest management, non-implementation and poor legal knowledge. – Representatives report increasing levels of illegal logging. They are concerned by the exploitation of resources, and attempt to secure their supplies from private plantations and by supporting communities in the creation of village plantations. – The private sector wishes to participate in the planning of projects and allocation of available funding. They recommend the establishment of a National Council of Users of Forest Products.
Technical and financial partners, including development program or project coordinators (TFP)	<ul style="list-style-type: none"> – TFPs emphasize that the FIP's investment strategy will contribute to the results of the PNSR as a single programming framework, and could support the forestry-related activities. – The implementation of FIP investment projects will be part of the national program budget. – TFPs confirm that the priorities identified during the workshops are in harmony with the PNSR, and are aligned with the projects they plan to develop with the forestry sector. – The FIP therefore constitutes a good opportunity to promote the implementation of a programmatic approach that includes all stakeholders. – The risks include the pioneering nature of the approach, which requires clear understanding among all actors, effective consultation between partners and strong government leadership. <p>Other risks are related to external factors such as ecological factors, financial crises or political instability in the sub-region.</p>

Source: MEDD/R-PP (2012)

Table 23. Actors of REDD+ in Burkina Faso.

Groups of actors	Membership
Public administration	<ul style="list-style-type: none"> – Ministry of the Environment – Ministry of Scientific Research – Ministry of Territorial Administration and Decentralization – Ministry of Economy and Finance – Ministry of Agriculture – Ministry of Animal Resources
Civil society	<ul style="list-style-type: none"> – Association of Municipalities of Burkina Faso – Association of Regions of Burkina Faso – Traditional and customary leaders – The Sahelian Network on Desertification – The Association of Hunters – The coalition of CSOs on climate change
The private sector	<ul style="list-style-type: none"> – The Chamber of Commerce – The National Coordination Office of Regional Chambers of Agriculture – Sawmills – Gum arabic producers – The 'Royaume du trophée' – Shea sector – Timber wholesalers, carriers – Association of Traditional Healers
The observers	<ul style="list-style-type: none"> – REDD+ TFPs – IUCN/Burkina – The coordinator of NAPA projects – The Executive Secretary of AND/CDM – The focal points of Rio Conventions, the Vienna Convention and the Ramsar Convention – The Network of Members of Parliament on Climate Change – The network of journalists and communicators of the Society of Information in Climate Change

Source: Decree 2011-032/PRES/PM/MEDD of 28 February 2011

The principles governing their actions under the FIP/REDD+ are as follows:

1. The government, as the guarantor of the FIP/REDD+ process in Burkina Faso, has a leadership role in this initiative, in accordance with strategic policy guidance. The PNSR, jointly run by the Ministries of the Environment, Agriculture and Livestock, will be utilized to implement FIP/REDD+ activities. The Ministry of Research should contribute to a better understanding of specific topics related to REDD+ and share adequate, up-to-date information. The Ministry of Finance must ensure that partners' funds comply with legislation in force at the national level, and should advise on possible financial contributions from the government.

Other groups of actors tasked with supporting REDD+ are as follows:

2. Civil society, including various actors involved in decentralized governance, such as traditional leaders and associations active in the field of resource management. Local authorities must coordinate both consultations and the implementation of actions as part of the REDD+ process. As a lobby group, civil society has the right to protest if the REDD+ process in Burkina Faso is conducted at the expense of local beneficiary populations. Hence, local authorities must address challenges related to the transfer of natural resources within a decentralized context, specifically in relation to FIP and REDD+ projects. Although a rural land security code has been adopted by the government, given

the complexity of this issue, traditional leaders have a very significant role to play in REDD+ implementation.

REDD+ affects a number of direct users of forests, who trade either NTFPs or timber. As traders of forest products, their involvement in a new forest conservation approach, which seeks to generate environmental benefits for all stakeholders, is fundamental. Furthermore, greater awareness of the impacts of deforestation and forest degradation is required among these users.

Observers of this process are diverse. They include: international institutions; TFPs of the FIP/REDD+; the Network of Members of Parliaments on Climate Change; climate change communicators; NAPA and CDM participants, and various REDD+actors. These observers support the FIP/REDD+ process. They do not hold positions on steering committees, nor do they have any formal decision-making power. Rather, they observe the program's progress and offer feedback as necessary. Each group of observers may have different motives for participating. For example, TFPs want to ensure the involvement of all stakeholders in the mobilization of financial resources, whereas the stakeholders in REDD+ conventions support the process because of its international implications.

Article 4 of Decree 2011-032/PRES/PM/MEDD stipulates that the choice of steering committee members must be made in accordance with the guidelines prescribed by NAPA and REDD+/FIP. However, it remains unclear who is chosen to join the REDD+/FIP steering committee, and whether all stakeholders are adequately represented.

Consultation process and multistakeholder forums

Following the approval of Burkina Faso's FIP Investment Plan, the nation was invited by the FIP Sub-Committee to initiate the REDD+ Readiness preparation process. In June 2012, the R-PP was presented at the Fonds de partenariat pour le carbone forestier (FPCF) Participants' Meeting in Santa Marta, where it was appraised positively by the Technical Panel and the Committee of Participants.

Burkina Faso's finalized R-PP was informed by preparations for its FIP Investment Plan,

which was the result of a consultative process. Consultations involved a wide variety of stakeholders operating in the forestry sector, including ministries, national offices and directorates, private sector representatives, civil society associations, users of forest resources (including timber, non-timber and wildlife resources), representatives of local authorities and representatives of Burkina Faso's primary TFPs, including UNDP, Luxembourg, the EU, African Development Bank (AfDB), the WB and Sweden. The proceedings of the workshop held in Ouagadougou on 14–15 February 2011 and the technical consultations that followed (on 16–17 February 2011) reflect not only the number, but also the variety of institutional players who participated in the Investment Plan preparation process.

Additional multistakeholder consultations took place in successive waves, each consultation associated with a topic determined by the National Consultation Platform (Table 24). The structure of these dialogs was initially based on forums organized in each village with the help of existing consultation bodies. Following these forums, review meetings were organized by municipal committees. The outcomes of these meetings were then assimilated by regional committees and the results conveyed to national representatives to be included in the national vision. This mechanism obtained feedback on a number of different themes throughout the various phases of the REDD+ process. A complete cycle, from the village level up to the national level, was referred to as a dialog 'wave'.

The consultation process established under REDD+ involves stakeholders from the local level, regional level and national level. The REDD+ planning process also supposedly benefited from consultations conducted as part of preparations for the FIP Investment Plan. However, questions remain regarding: the representativeness of the actors who participated in these consultations; their level of involvement in the overall REDD+ process, as well as their power of influence. For example, there was a requirement to discuss highly complex issues, such as defining MRV tools, at the village level. There is some doubt whether these discussions could, or were even expected to, generate meaningful feedback to influence the REDD+ process. The process could have been

enhanced by the support of a DGM component. Furthermore, there are indications that the policy makers' preconceived, strategic plans may have overshadowed the concerns of actors at a local level. These fundamental concerns were raised by

the joint mission, which took place from 14 to 25 February 2011. Participants raised concerns about the weak involvement of certain players, and suggested that the process was not participatory and inclusive.

Table 24. Consultation process in the REDD+ framework.

Activity	Tasks	Responsibility
Development of the information and consultation material	<ul style="list-style-type: none"> - Drafting of training modules - Drafting of a methodological guide on the holding of consultations 	National REDD+ coordination in collaboration with SP-CONEDD
Recruitment of support organizations (liaison)	<ul style="list-style-type: none"> - Development of the TOR - Procurement 	National REDD+ coordination in collaboration with DMP
Training of liaison persons and institutions	<ul style="list-style-type: none"> - Training of provincial directors of the environment 	National REDD+ coordination in collaboration with SP-CONEDD
	<ul style="list-style-type: none"> - Training of departmental workers working on issues related to the environment, agriculture and livestock on conducting consultations 	National REDD+ coordination in collaboration with SP-CONEDD and provincial directors of the environment
1st wave: Awareness campaigns	<ul style="list-style-type: none"> - Constitution of village committees within the CC-REDD+ - Holding of village forums - Synthesis by CC-REDD+ - Synthesis by CR-REDD+ - Improvement by PNC-REDD+ 	National REDD+ coordination in collaboration with SP-CONEDD and regional and departmental liaisons
2nd wave: <ul style="list-style-type: none"> - DD Factors - Lessons learned - Forest and land planning policies/governance - Policies/governance other sectors 	<ul style="list-style-type: none"> - Drafting of simplified contents for consultations - Holding of village forums - Synthesis by CC-REDD+ - Synthesis by CR-REDD+ - Improvement by PNC-REDD+ 	National REDD+ coordination in collaboration with SP-CONEDD and regional and departmental liaisons
3rd wave: Solutions/options	<ul style="list-style-type: none"> - Drafting of simplified contents for consultations - Holding of village forums - Synthesis by CC-REDD+ - Synthesis by CR-REDD+ - Improvement by PNC-REDD+ 	National REDD+ coordination in collaboration with SP-CONEDD and regional and departmental liaisons
4th wave: Implementation options <ul style="list-style-type: none"> - Legal framework and redistribution - Standards of REDD projects and Accreditation - REDD National Fund 	<ul style="list-style-type: none"> - Drafting of simplified contents for consultations - Holding of village forums - Synthesis by CC-REDD+ - Synthesis by CR-REDD+ - Improvement by PNC-REDD+ 	National REDD+ coordination in collaboration with SP-CONEDD and regional and departmental liaisons
5th wave: <ul style="list-style-type: none"> - MRV - Baseline scenario 	<ul style="list-style-type: none"> - Drafting of simplified contents for consultations - Holding of village forums - Synthesis by CC-REDD+ - Synthesis by CR-REDD+ - Improvement by PNC-REDD+ 	National REDD+ coordination in collaboration with SP-CONEDD and regional and departmental liaisons

continued on next page

Table 24. Continued

Activity	Tasks	Responsibility
6th wave: – Interim version of the EESS (Evaluation Environnementale et Sociale Stratégique) strategy	– Drafting of simplified contents for consultations – Holding of village forums – Synthesis by CC-REDD+ – Synthesis by CR-REDD+ – Improvement by PNC-REDD+	National REDD+ coordination in collaboration with SP-CONEDD and regional and departmental liaisons Involvement of the consultancy firm in charge of the EESS
7th wave: Validation of the strategy	– Drafting of simplified contents for consultations – Holding of village forums – Synthesis by CC-REDD+ – Synthesis by CR-REDD+ – Improvement by PNC-REDD+	National REDD+ coordination in collaboration with SP-CONEDD and regional and departmental liaisons
One-off workshops at the national platform level	– These one-off workshops are held when required for studies or the development of documents	National coordination jointly with SP-CONEDD
Thematic group meetings	– These thematic group meetings are held when required for studies or the development of documents.	National coordination jointly with SP-CONEDD

Source: R-PP (2012)

Future REDD+ policy options

Type of REDD+

According to the MEDD R-PP (2012), REDD+ seeks to achieve GHG emissions reduction, additional carbon sequestration and improved living conditions through poverty alleviation. The national REDD+ strategy will focus on four main areas to address the drivers of deforestation/ degradation:

1. Land planning
2. Land tenure security
3. Management of agriculture, forestry, pastoral systems
4. National capacity building, harmonization of policies and promotion of the good governance of natural resources, particularly related to forests.

Three of these strategies combat indirect drivers of deforestation and forest degradation. Only the management of agriculture, forestry, pastoral systems addresses the direct drivers of deforestation and forest degradation. There are likely to be a number of obstacles in the implementation of these strategies, including:

- low levels of responsibility transfer from the central government to territorial authorities

(despite the provisions of the 2004 General Code of Territorial Authorities)

- a lack of land planning schemes and little consistency between municipal, provincial, regional and national levels
- inadequate, or a lack of, institutional synergies (between decentralized institutions and decentralized services, for example)
- poor access to, and lack of knowledge of legal and judicial legislation among the population
- increased and confrontational competition between local players for land control and use
- the development of a land concentration process in the hands of rural entrepreneurs called 'agribusiness people' or 'new actors'
- marginalization of women in relation to the decision-making process on forest management, despite the importance of their forest-based economic activities.

Financing of REDD+

Burkina Faso has requested a grant of USD 30 million from the FIP for priority investments, particularly in the forestry sector. The main donors to FIP projects are the WB and the AfDB (Table 25).

Table 25. Forest Investment Projects.

Project 1: Decentralized management of forest resources and wooded areas (PGDDF)	Component 1 (RPP implementation): Development of the REDD+ strategy and local consultations (FIP Budget: USD 5 million) Component 2: Support for integrated landscape development (FIP Budget: USD 9 million) – <i>Sub-component 1:</i> Supporting municipal land management capacities – <i>Sub-component 2:</i> Community-led microprojects to curb deforestation drivers and improve forest-covered lands. Component 3: Forest products, value chain (FIP budget: USD 2 million). Component 4: Information sharing, coordination of programs, lessons learned and research (FIP Budget: USD 2 million including project management) – <i>Sub-component 1:</i> Information sharing – <i>Sub-component 2:</i> lessons learned and information sharing – <i>Sub-component 3:</i> Program and project coordination
Budget: USD 18 million Project leader: IBRD	
Project 2: Participatory state forest management forests (PGPFD)	Component 1: REDD+ reference level and MRV development (integrated with RPP implementation) (USD 2 million) Component 2: Forest and Land Governance (USD 4 million) – <i>Sub-component 1:</i> Strengthening the legal and institutional framework – <i>Sub-component 2:</i> Capacity building for central and decentralized administrations Component 3: Management of state forests (USD 6 million)
Budget: USD 12 million Project leader: AfDB	

Source: MEDD/R-PP (2012)

In future, REDD+ may benefit from the support of several financial partners:

- The EU has expressed its willingness to provide additional funding (approximately USD 9 million as joint co-financing) for the FIP/PGDDF (Sustainable Decentralized Management of Forests and Woodlands) project, aimed at supporting climate governance, information and knowledge-sharing strategies and management.
- AfDB also plans to provide additional funds for their project (a joint co-financing of USD 6 million).
- Luxembourg and Sweden have defined a common approach for the implementation of projects in the forestry sector, to improve synergies between FIP projects, the EU's initiatives and the FSSP (EUR 22 million).
- Partnership opportunities have also been identified with many International Bank for Reconstruction and Development (IBRD) and GEF projects, including the Programme National de Gestion des Terroirs (National Land Management Program; PNGT3) (USD 78 million, including a GEF budget of USD 6 million). These projects will be subject to parallel financing.
- The BioCarbon Fund (BioCF) has also expressed interest in a partnership with the FIP;

indeed, it is currently developing methodologies to assess the carbon savings that result from projects based on a 'landscape approach'.

The total amount of funding available for implementing the FIP is estimated at USD 182.2 million (MEDD/R-PP 2012). However, this amount is liable to change throughout the process.

Burkina Faso intends to create a National Fund as an implementing instrument of the national REDD+ strategy. To this end, the FAF, provided for in the Forest Code, could be earmarked for this purpose; failing this, a new fund could be created. In addition to this, Burkina Faso has been an observer country of the FCPF since 2010. This fund aims to assist developing countries through the REDD+ process.

Measurement, Reporting and Verification (MRV)

As part of its REDD+ strategy, Burkina Faso plans to develop an MRV-based land-use mapping system, which can identify areas of thin forest stratification. An overview of the baseline scenario will help in developing projections of changes in land occupation under various conditions. 'Projected' land occupation databases (BDOTs), which provide data on 'projected' carbon stock, can be compared

to actual forest carbon stock measured periodically as part of the MRV system (MEDD/R-PP 2012).

However, a number of factors could determine the effectiveness of this approach. For example, there is currently a significant lack of data on forest resources and the forestry sector. Furthermore, there are only limited suitable allometric equations for estimating carbon stocks and their relevance to local contexts. Reliable data on the environmental sector, particularly related to natural resources and woodlands, are scarce, which poses challenges to resource governance.

Potential policies and institutions for REDD+

Burkina Faso already has a political, institutional and legislative framework conducive to the management of forest resources. Indeed, the forest sector has a legal framework complemented by a sectoral planning mechanism and strategies, including the National Forestry Policy (1995), the National Land Development Policy (2007), the National Forest Reserves Planning Policy, the NAP-CD, the NAPA, the Biodiversity Action Plan, the National Natural

Formations Planning Program, the NEAP, the Forest Sector Support Program and the PNSR (2011).

However, there are a number of constraints limiting private and public investment in woodlands, that could not only affect all stakeholders in Burkina Faso's forest sector, but also present significant challenges for the REDD+ Readiness Preparation Process. Consequently, considerable improvements and reforms are needed, including:

- the establishment of effective regulatory and institutional mechanisms for the management of land rights and conflicts in rural areas
- the establishment of mechanisms for sharing environmental benefits
- transfer of powers from central to local authorities (despite the provisions of the 2004 General Code of Local Authorities)
- greater understanding of legal and judicial legislation among local communities.

The FIP will be incorporated into Burkina Faso's REDD+ program, as shown in the organizational structure depicted in Figure 11.

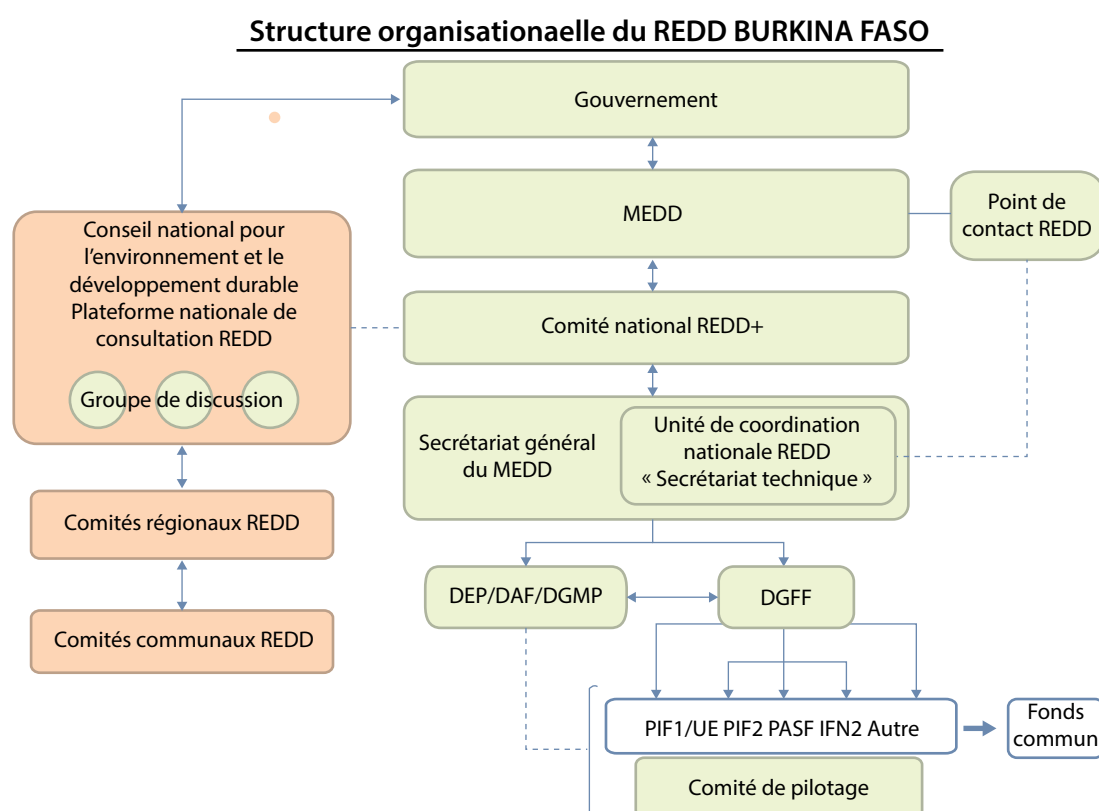


Figure 11. Organizational structure of REDD in Burkina Faso.

Source: MEDD/R-PP (2012)

The Government of Burkina Faso will be responsible for project management. Specifically, the Minister of Environment and Sustainable Development will take primary responsibility, and will be supported by management, implementation and consultation bodies set up for this purpose. Coordination and implementation will be ensured by the National REDD+ Committee and the National REDD+ Coordination Unit. Overall management will be supervised by the National REDD+ Committee, which coordinates the process, both during preparation and implementation. The Committee will ensure multisectoral coordination and will include representatives from all ministries involved in REDD+, civil society and the private sector, as well as independent observers. The role of the National REDD+ Committee will be to manage, support and guide FIP and REDD+ strategy projects, and to facilitate their implementation and monitoring through the PNSR. The committee will guide the FIP strategy and approve the FIP's annual action plans, budgets and performance reports. Operations will be supported by a Technical Secretariat and the National REDD+ Coordination Unit, which oversees all REDD+ related projects (e.g. FIP, EU, Luxembourg projects). The consultation structure will begin at the village level and end with a National Consultation Platform, which will bring together representatives from the private sector, civil society and the administration. This national platform will be established within the National Council for the Environment and Sustainable Development (CONEDD), which is under the authority of the Prime Minister. Consultations on REDD+ at municipal and regional levels will use the existing municipal and regional consultation frameworks, which will extend their membership to non-statutory members according to the specific needs of REDD+.

The current management and organization of the REDD+ process has proven to be effective. Indeed, at this stage of the process, stakeholder consultations, which represent the majority of current REDD+ activities, have won the support of various stakeholders. These are carried out by the staff of MEDD. Activities related to investment are not yet operational, which means that potential constraints cannot be fully evaluated. However, challenges may include:

- difficulties in the coordination of activities, due to the wide-ranging responsibilities of REDD+ coordinating bodies. These include FIP projects, as well as those funded by Sweden, Luxembourg and the EU. Excessive responsibilities and obligations

could limit the coordinating bodies' ability to manage all of these projects effectively

- the capacity of SP/CONEDD to coordinate the extensive national REDD+ consultation platform.

In light of these potential difficulties, especially during REDD's operational phase, efforts must be made to strengthen the program's organizational structure in Burkina Faso. This involves improved coordination, management and monitoring of the implementation of REDD+ activities. However, significant technical supervision and oversight is still required from the MEDD.

Lessons for policies

As part of Burkina Faso's REDD+ organizational structure, an as yet undefined mechanism for monitoring and evaluation will coordinate the FIP and REDD+ strategy. The National REDD+ Committee and National REDD+ Coordination Unit will implement this pilot program from the local level up to the national level. Although Burkina Faso has not yet implemented these projects, the consultation process undertaken as part of FIP/REDD+ preparations identified the following lessons:

1. The PNSR is currently the only framework for programming and implementing interventions in rural Burkina Faso, and therefore represents the most likely enabling institutional framework for the interventions and projects proposed under the FIP and REDD+.
2. Decentralization requires collaboration between the central government and its decentralized departments, local elected officials and CSOs. The consultation bodies set up at municipal and regional levels (i.e. municipal committees and regional committees) during decentralization could support the various consultations planned as part of adaptation and REDD+ projects.
3. Decentralization represents an opportunity for REDD+, even if the resource transfer process is slow. Local experience of decentralized management of natural resources, in addition to advice and technical assistance from NGOs (e.g. TreeAid, IUCN and the Action Research Group on Forest Governance [GAGF]) can inform REDD+ programs.

Furthermore, there is a need to strengthen: public transparency in the management of natural resources, stakeholder participation, transparency of taxation and budgetary procedures, enforcement of forestry law and private investments.

4.2.2 Actors, events and political adaptation processes in Burkina Faso

The political adaptation processes

The political adaptation process in Burkina Faso was prompted by preparations for national communications in 2001, NAPAs in 2005 and the NAP in 2013. This led to the establishment of coordinating bodies and the preparation of NAPA and NAP documents in line with guidelines from the LDCs Expert Group (LEG) (see Decision 28/CP.7, UNFCCC 2002; Decision 2/CP.18, UNFCCC 2013).

Political events

Burkina Faso has participated in all COPs and meetings related to the Kyoto Protocol. Some of the major actions undertaken to address adaptation to climate change include:

- the establishment of the inter-ministerial committee for the implementation of the UNFCCC
- the Cabinet's adoption of Burkina Faso's strategy on climate change
- participation in the 2000 meeting of the UNFCCC Subsidiary Body for Implementation in Lyon, France, which prompted LDC Fund negotiations
- participation in the 2001 COP in Marrakech, Morocco, which resulted in the development of NAPAs
- participation in three international meetings on the development of NAPA guidelines, which was finalized by the LEG
- the commissioning of the Permanent Secretariat of the National Council for Environment and Sustainable Development as overseer of the adaptation process
- hosting the francophone LEG regional workshop on the NAPA (in collaboration with United Nations Institute for Training and Research (UNITAR) between 5 and 7 March 2003 in Ouagadougou
- hosting a workshop on promoting shared understanding of the methodology within the expert group on 23 September 2005 in Ouagadougou
- the government's adoption of the NAPA, by Decree No. 2007-740/PRES/PM/MECV/MEF of 19 November 2007
- the submission of the NAPA to the UNFCCC Committee in December 2007

- the implementation of NAPA projects between 2009 and 2013
- the launch of the Programmatic NAPA approach on 11 July 2011 (with funding from Japan)
- participation in the 2012 COP in Doha, Qatar, which led to the formulation of NAPs
- the launch of the NAP development process in March 2013.

Opposition

There has been very little opposition to the climate change adaptation process in Burkina Faso. There have been no reported objections to the adoption of the NAPA, the selection of adaptation priority areas, the selection of adaptation project or its implementation. Although, this may, in part, be attributed to a lack of understanding of these issues among the general population, the programs have largely been met with widespread approval. Most view the projects as being in line with Burkina Faso's economic and social development priorities. The participatory nature of the programs has encouraged a sense of ownership among actors. For example, the head of CONEDD declared in an interview that: "Although, at that time, peasants did not clearly understand climate change issues, the coordination committee of the NAPA preparation process ensured that there were two farmers' representatives in the development team..." (personal communication from Head of CONEDD). Furthermore, media coverage on the 2003 meeting on NAPA development held in Burkina Faso helped to raise awareness of climate change issues.

Actors involved in adaptation

The actors involved in adaptation in Burkina Faso were identified in Decree No 2010-159/RES/PM/MECV of 2 November 2010 on the establishment, powers, membership and functioning of the Steering Committee of NAPA implementation projects. Actors were redefined in Decree 2011-032/PRES/PM/MEDD of 28 February 2011. These documents identify two groups of actors involved in the climate change adaptation process. These include members (i.e. the administration, civil society, the private sector) and observers, who are headed by a steering committee and are entrusted with specific roles and responsibilities (Table 26).

An analysis of the roles and responsibilities of the actors helps to identify their respective interests, possible interactions between them and their

Table 26. Adaptation actors and their roles/responsibilities.

Actors	Roles and responsibilities
The Administration: Pooling the energies of the other actors	<ul style="list-style-type: none"> – Coordinating all sectors working directly or indirectly for the successful implementation of NAPA REDD+/FIP – Ensuring consistency in field interventions – Guiding NAPA REDD+/FIP actors in carrying out the strategy on climate change – Checking the quality of field interventions – Assessing the real impact of field interventions in relation to the objectives defined by NAPA REDD +/FIP – Supporting and encouraging innovative initiatives in the field.
Civil society: Very active in the environmental sector in Burkina Faso, includes environmental protection NGOs and associations as well as opinion leaders and customary, traditional and religious leaders whose influence is very strong in the management of environmental issues	<ul style="list-style-type: none"> – Informing, raising awareness and mobilizing stakeholders in the implementation of NAPA REDD+/FIP – Taking on responsibilities in the management of projects to support the implementation of NAPA REDD+/FIP – Participating in activities – Creating synergy among members for improved interventions and effectiveness on the ground – Supporting government efforts in the implementation of NAPA REDD +/FIP.
Private sector: Recently engaged in the exploitation of environmental goods and services	<ul style="list-style-type: none"> – Raising awareness, informing and training the actors (the Chamber of Commerce will play a central role in raising awareness) – Structuring the sector (structuring efforts to gradually move from the informal to the formal sector) – Identifying promising sectors, and supporting new markets (i.e. sawmills, craft jobs, timber and charcoal wholesalers and carriers, concession holders of hunting areas, users and managers of NTFPs, including shea and gum arabic, which are receiving greater international interest).
Observers: TFPs, focal points of the Conventions that have a direct or indirect link to the implementation on NAPA REDD+/FIP activities; includes international NGOs, such as IUCN, farmers' associations such as the Confederation Paysanne du Faso, members of parliament and the media	<ul style="list-style-type: none"> – Participating in and contributing to debates and discussions during meetings – Providing perspectives that may provide insights – Supporting the Steering Committee.

Source: Decree 2011-032/PRES/PM/MEDD of 28 February 2011

respective influence on the policy. Initial evaluation reveals a notable lack of representation among the private sector compared to civil society. This is perhaps because the private sector is relatively new to this field and there has been slow uptake among actors. In addition, the private sector has no formal, organized approach to climate change and, instead, actors take independent action. Uptake of environmental and climate change issues in the private sector is often slow, as support is stimulated by potential opportunities that arise (GCCA 2012). Furthermore, the structuring and membership of the steering committee and the various powers conferred on each player, raise questions regarding the capacity of actors to influence decisions.

Development process of the adaptation plan and consultations/multistakeholder forums

The establishment of the NAPA preparation steering committee

Burkina Faso's MECV, currently known as the MEDD, has set up a multidisciplinary team responsible for developing the NAPA, which is to be led by a specialized coordination unit (Table 27).

The membership of the expert team complies with IPCC recommendations to promote disciplinary and gender diversity, particularly among consultants identifying vulnerability and adaptive capacities (UNFCCC 2002).

Table 27. Membership of the multidisciplinary NAPA development team.

Coordination team:	Expert group for formulating the NAPA:
Dr. Léopold Somé, Coordinator	– Dr. Moussa Sanon, agricultural water systems and climatology
Mr. Mamadou Honadia, Climate Change Focal Point	– Mr. Frédéric Ouattara, agrometeorology
	– Mr. Kétessaoba Ouédraogo, water resources
	– Dr. Hamadé Kagoné, animal resources
	– Dr. Daniel Kaboré, agricultural economics
	– Mr. Daouda Savadogo, economics and Ziel Orientierte Project Planung
	– Dr. Léopold Somé, agroclimatology
	– Mrs. Aki Kogachi, resource person, UNDP
	Expert group for defining vulnerability and adaptive capacities
	– Dr. Daniel Kaboré, group coordinator, agricultural economics
	– Dr. Moussa Sanon, agricultural water systems and climatology
	– Dr. Harouna Karambiri, water resources specialist
	– Mr. Frédéric Ouattara, agrometeorology
	– Mr. Kétessaoba Ouédraogo, water resources specialist
	– Dr. Jean-Marie Ouadba, ecology
	– Dr. Mamounata Bélem, botany
	– Mr. Louis Blanc Traoré, geographic information system (GIS) specialist
	– Mr. Adama Diallo, Forester GIS specialist
	– Mrs. Antoinette Ouédraogo, NGO Buayaba
	– Mrs. Henriette Ouédraogo, NGO Ragoussi
	– Dr. Léopold Somé, agroclimatology
	– Mrs. Laetitia Koudougou, Méthode Active de Recherche et de Planification Participative (MARP) specialist, resource person
	– Mrs. Joséphine Yaméogo, botanist, resource person
	– Mrs. Salimata Karambiri, MARP specialist, resource person
	– Dr. Dapola Evariste Da, physical geography, resource person

Source MECV (2006a)

Vulnerability studies

Several vulnerability studies have been conducted in preparation for the NAPA. The first studies were conducted by region in November 2005 (SP/CONEDD 2006), and identified vulnerable sectors and target groups. The choice of regions was made on the basis of discriminatory biophysical and socioeconomic criteria set by the group of experts (SP/CONEDD 2006). The chosen regions were:

- the central-north
- the east
- the southwest
- the Sahel region
- the Mouhoun region.

Studies were conducted by region or sector, using the Accelerated Method for Participatory Research (MARP), the livelihoods framework and climate modeling tools (MECV 2006b). The chosen topics were:

- vegetation, ecology and forestry
- water resources
- socioeconomics
- climate scenarios and projections.

Selection of adaptation options

According to the MECV (2007d), the selection of adaptation options (Table 28) was made on the basis of multicriteria analyses in three stages.

First, four criteria were used to select 18 priority actions from those derived from the vulnerability studies. Then, four additional criteria reduced this to 12 priority actions. Finally, options were ranked in order of urgency (NAPA 2007, Annexes 1, 3 and 4).

Other actions carried out during the development process are summarized in Annex 2.

Table 28. Adaptation projects based on Burkina Faso's NAPA.

Rank	Priority adaptation options	Cost (USD)
1	Reduction of the vulnerability to climate change by enhancing food crisis prevention and management mechanisms	400,000
2	Securing cereal production through the promotion of supplemental irrigation. Intervention areas: north (Oudalan province) and central-north (Namentenga province) regions	408,660
3	Development and management of the Oursi pond	275,000
4	Fodder production and implementation of security stocks for livestock in the Burkinabe Sahel	330,000
5	Development, rational management of natural formations, promotion of NTFPs in the east region of Burkina	700,000
6	Fight against siltation/sedimentation of streams and rivers in the national basins of the Mouhoun, Nakanbé and Comoé	352,000
7	Establishment of irrigated crops in the provinces of Gourma, Namentenga, Tapoa and Sanmatenga	443,300
8	Securing areas dedicated to pastoralism in the Sahel and east regions	320,000
9	Securing agricultural production by use of appropriate technological packages in the southwest and east regions	297,924
10	Promotion of the management of livestock and its habitat by grassroots communities in the Mouhoun region	810,000
11	Establishment of protected areas and improved mechanisms to fight against the pollution of groundwater and surface water catchment facilities (lakes, wells, boreholes) in cotton production basins in Burkina Faso (Mouhoun, southwest, Comoé and eastern part of the Nakambé)	330,000
12	Promotion of energy saving equipment (e.g. improved stoves, Faitout M'Bora stoves) and renewable energy technologies (e.g. pressure cooker, water heater, and solar dryers, etc.)	1,230,000

Source: MECV (2007d)

A participatory approach

The development of the NAPA was conducted based on a participatory and iterative approach involving policy makers, central and decentralized technical departments, development partners, grassroots communities, NGOs and socioprofessional groups. This was demonstrated through:

- Awareness and information sharing sessions on climate change, NAPA philosophy and the development process. These sessions involved regional and local administrative authorities, officials of decentralized technical departments, regional and local NGOs and associations, and local communities. These meetings were also used to select surveyors to support the team of experts.
- Consultation and discussion sessions with local communities to obtain information on their views, their past and current adaptation practices, and the actions that they consider to be urgent. Discussion subgroups included women, older people, youth, and farmers and livestock breeders.

Multistakeholder consultations and forums for the validation of the NAPA

Various multistakeholder consultations led to the validation and adoption of the NAPA.

NAPA preparations were coordinated by the MECV through the Permanent Secretariat of CONEDD, which established a group of experts, including representatives from technical ministries and civil society. Representatives were also selected to voice the concerns of Burkinabe women, who are potentially more vulnerable to the effects of climate change.

NAPA makes significant contributions to Burkina Faso's sustainable development objectives. The expert group has conducted participatory assessments on vulnerability and adaptive capacity to climate change. These have led to the identification of priority actions, in the form of project profiles. These actions are in line with the government's vision and strategies for poverty reduction and

were supposed to help to achieve the Millennium Development Goals (MDGs). However, no further information could be identified by the authors on how this contribution took place and to what extent the NAPAs actually contributed to the MDGs.

The main consultations that preceded the implementation of the NAPA included: (i) a review of the NAPA by the Steering Committee responsible for its development; (ii) its validation by national stakeholders; (iii) its endorsement by the MECV; and (iv) its official adoption by the Government of Burkina Faso in November 2007.

The main multistakeholder forums leading up to the validation of the NAPA included:

- the steering committee's approval of reports on vulnerability and adaptation
- the steering committee's approval of the NAPA document
- five regional workshops for the restitution and validation of the results of the interim report on the NAPA
- a national workshop to validate the NAPA
- the government's adoption of the NAPA in 2007
- regional workshops to raise awareness and provide information on the NAPA (Table 29).

These consultations demonstrate an effort to promote, or at least a concern for, transparency and broad participation in the development of Burkina

Faso's adaptation plan. However, there have been claims that the level of consultation with certain groups of actors, such as CSOs, has been inadequate. The NAPA attempts to address this by including vulnerability study reports with CSOs, the private sector and women's associations.

Current and future political options for adaptation

Types of adaptation projects

To date, not all of the priority adaptation options that emerged during NAPA consultations have been implemented. Burkina Faso's NAPA-BKF-UNDP-GEF project (2009–2012) entitled "Capacity building for adaptation and reduction of vulnerability to climate change" focuses on 9 of the 12 options (MEDD 2012b). This project was conducted between 2009 and 2013, with the aim of building national capacity to manage the effects of climate change, focusing on the following areas: prevention and early warning mechanisms; improved agro-pastoral production to ensure food security; and improved access to water resources.

In addition, two other major projects, funded by Japan and Denmark, were launched to address issues included in the NAPA, but not identified as priority areas:

Table 29. Community awareness and information program on NAPA.

No	Tasks	Dates	Remarks
1	Regional climate change (CC) awareness and training workshop of the south-central, central plateau and central regions, in Ouagadougou	25, 26 and 27 June 2008	The 1st day of the workshop was dedicated to a general introduction on CC.
2	Regional CC awareness and training workshop of the Upper-Basins, Cascades and southwest regions, in Bobo-Dioulasso	1, 2 and 3 July 2008	The 2nd and 3rd days were dedicated to the participation of the targeted officers to ensure future awareness campaigns on CC and CDMs.
3	Regional CC awareness and training workshop of the east and central-east regions in Fada N'Gourma	8, 9 and 10 July 2008	
4	Regional CC awareness and training workshop of the central-north and Sahel regions, in Kaya	8, 9 and 10 July 2008	
5	Regional CC awareness and training workshop of the central-west and Mouhoun regions, in Koudougou	15, 16 and 17 July 2008	
6	Regional CC awareness and training workshop of the northern region, in Ouahigouya	21, 22 and 23 July 2008	

Source: MECV (2006a)

1. NAPA-BKF-UNDP-DANIDA (2009–2013) focuses on adaptation to climate change to improve human security in Burkina Faso. The objective is to raise awareness of environmental challenges and the adverse effects of climate change, and to build the operational and management capacities of various structures and individuals (including devolved or decentralized structures, services, decision makers and elected officials). The civil society component of the project has enabled capacity building among NGOs and associations working in the field of climate change. This has been achieved through awareness raising activities, as well as training in vulnerability analysis and the identification of adaptation strategies. Other initiatives have included the development of adaptation projects, support for participation in COPs, grants for micro-projects, the establishment of a national civil society coalition on climate change, dissemination of best adaptation practices, and mobilization of additional funding for NGOs and communities in the central-east and central-west regions.
2. NAPA-BKF-UNDP-Japan (2009–2012) focuses on promoting greater consideration of climate change in the preparation and implementation of development plans, programs and projects. The goal is to help Burkina Faso modify its development processes, to take into account climate change-related risks and opportunities.

Burkina Faso has also initiated the development of a NAP. The NAP is a national adaptation vision with a view to optimizing the outcomes of the three NAPA projects. The premise for NAPs was outlined in decision 5/CP.17 (Durban 2011) on national adaptation plans to climate change, and endorsed by decision 2/CP.18 (Doha 2012). NAP strategic options may form part of long-term visions for 2025 and 2050.

On 11 July 2011, Burkina Faso launched the ‘programmatic approach’ process with financing from Japan. Some argue that the existing NAPA had shortcomings, such as the poor resolution of climate data, in the order of 300 km, which lacked sufficient detail “to be used directly in climate change impact and adoption studies” (*Observateur PAALGA* No. 7921 of 12 July 2011).

This Development of the Programmatic NAPA in Burkina Faso was a series of vulnerability

studies carried out by the Millennium Institute in partnership with the Laboratory for Mathematical and Equation Analysis (LAME) in preparation for the development of the NAP. In addition to the four ordinary NAPA sectors, the NAP takes into account a number of other sectors that are important for the country’s economy, and takes a long-term approach. The priority areas identified by the NAP are agriculture, the environment and management of natural resources, livestock production, water resources, energy, natural disasters, infrastructure and housing, and health. Moreover, climate data was processed with smaller resolutions in the order of 25–30km (MEDD 2012c).

The NAP includes action plans for 2025 and 2050. This long-term approach to adaptation addresses the dynamic and continuous nature of the fight against climate change, and demonstrates clear political will. Burkina Faso is currently finalizing the NAP, a process that was led by a team of ten experts and headed by a senior expert. The implementation of the NAP mechanisms will be overseen by steering and coordination bodies (Table 30).

Funding for adaptation activities

In addition to international financing from the Global Environment Facility (GEF) and financing from Japan, Denmark and Sweden, adaptation projects in Burkina Faso have also received multilateral, bilateral and regional financing from the AfDB, EU, Union Économique et Monétaire Ouest Africaine (UEMOA), ECOWAS, FAO, UNDP, Luxembourg, Japan International Cooperation Agency (JICA), international research centers and international NGOs. These donors are listed in the table of adaptation projects hosted by MEDD in Annex 1.

In the coming years, Burkina Faso expects to receive a funding envelope for adaptation projects from the Green Climate Fund. However, this fund is not expected to come into force until 2020. The Adaptation Fund is another possible source of funding for Burkina Faso, in addition to other bilateral and multilateral sources.

Monitoring and evaluation aspects of adaptation activities

The Adaptation Projects Steering Committee is the body in charge of monitoring and evaluating NAPA projects. Since its creation, this committee has been

Table 30. Expert team and NAP management/coordination structures.

Expert team for the development	National Council for the Environment and Sustainable Development (CONEDD) Permanent Secretariat of the National Council for the Environment and Sustainable Development (SP/CONEDD) SCADD as an institutional monitoring and evaluation mechanism
Management/coordination bodies	One national expert on environmental natural resources management issues One national expert on agricultural policies One national expert, animal production specialist One national expert in charge of infrastructures and habitat One national public health expert One national expert in climate monitoring One national expert on energy issues Country Focal Point in charge of climate change Two members of CSOs including one representative of women's associations, and one representative of the organizations active in the field of climate change and management of the environment One national senior expert, mission coordinator

Source: MEDD (2012c)

responsible for evaluating the implementation of the three major adaptation projects. The following events and monitoring processes were significant in the implementation of NAPA projects in 2012 (MEDD 2012c):

- meetings to:
 - report on the implementation of various partnership agreements
 - evaluate the fulfillment of each partner structure's assignments
 - find solutions to potential constraints or bottlenecks encountered by some partnership agreements
- the NAPA-GEF supervision mission in April 2012 by the Pretoria UNDP/GEF regional office
- the joint Direction des Etudes et de la Planification (DEP)/CFO mission in May 2012
- computers made available to the DEPs of various ministries and meteorological stations, and a high-performance server made available to for a climate data collection and sharing system
- the NAPA-GEF midterm assessment with interim results made available
- the Joint Information and Awareness Mission on the Achievements of Adaptation to Climate Change for TFPs organized by the NAPA Coordination Team;
- Tokyo International Conference on African Development in November 2012 attended by the NAPA Coordination Team
- NAPA Coordination Team expanded.

This monitoring process is the means by which the NAPA project steering committee ensures the successful implementation of adaptation projects. The contributions of other stakeholders (e.g. NGOs, private sector, researchers) to adaptation projects is not taken into account in the monitoring and evaluation of adaptation efforts. There are currently no monitoring and evaluation mechanisms in place to assess improvements in communities' adaptive capacities.

Benefit sharing in the context of adaptation

The benefits of adaptation projects are shared among a wide variety of actors. The 2010 SP/CONEDD 2010 report provides information on how benefits were shared in the three major NAPA projects:

1. The NAPA-BKF-UNDP-DANIDA project targeted human security through awareness and the operational and managerial capacity of structures (e.g. devolved, decentralized) and actors (e.g. grassroots communities) involved in the sustainable management of natural resources and ecosystems. The benefits of this project were shared among officials from the Ministry of Housing and Urban Development, agents from the MEDD at the regional and provincial level, and local authority leaders (e.g. governors and presidents of regional councils).
2. The NAPA-BKF-UNDP-Japan project aimed to improve development processes in Burkina

Faso, through consideration of risks and opportunities associated with climate change. Benefits included training, research support, and assistance with technical climatological equipment and meteorological stations.

3. The NAPA-BKF-UNDP-GEF project aimed to strengthen the resilience and adaptive capacity of Burkina Faso toward the effects of climate change in the agricultural, forestry and pastoral sectors. Benefits were shared among communities at pilot sites, technical extension staff, administrative officials carrying out the review and adjustment of sectoral and legislative policies, and food distribution structures.

In many respects, the implementation of such projects is beneficial for much of the socioecological system. However, further research on the socioecological impacts of these projects is required.

Lessons from adaptation policies

Prior to NAPA implementation, Burkina Faso already had policies and institutional and legislative frameworks in place in the forestry sector related to adaptation to climate change. The NAPA was implemented in synergy with, and complementary to, the country's existing policies, strategies and plans. Some of the pre-existing frameworks, programs and policies include the Strategic Framework for Poverty Alleviation (PRSP), the Rural Development Strategy (RDS), the National Plan to Combat Desertification (PNLCD), the National Action Plan on the Environment (PANE), the National Forest Policy, the National Water Policy of Burkina Faso, the National Partnership Program for the Sustainable Management of Lands, the National Land Management Program (PNGT 2), the PNSR and the SCADD. Ouédraogo HMG (2011) argues that the development of the NAPA took into account the objectives already defined through the national strategies, plans and programs developed between 1995 and 2004.

The achievements of these projects will support the NAP in both its formulation and in its implementation. The NAP process is coordinated by the Permanent Secretariat of the National Council for the Environment and Sustainable Development, which is under the supervision of the MEDD. The NAPA steering committee will also support this process.

4.2.3 Synergies between mitigation and adaptation actions

Throughout the UNFCCC negotiation process, mitigation and adaptation to combat the impacts of climate change have been dealt with as separate issues (Verchot et al. 2007). Several studies have focused on the synergies and trade-offs between these two approaches (Locatelli et al. 2010, 2011). On one hand, Caplow et al. (2010) suggest that mitigation projects positively affect the livelihoods of local people and their adaptive capacity, as these projects increase the provision of ecosystem services to local communities, diversify their income and their economic activities, develop infrastructure and social services, and strengthen local institutions. On the other hand, adaptation projects can directly affect ecosystems and carbon stocks and, in turn, have an impact on mitigation. In Burkina Faso, adaptation and mitigation are generally dealt with separately by the government, although some policies, strategies and actions demonstrate synergy between the two mechanisms. However, there are some barriers to synergy between adaptation and mitigation in Burkina Faso.

Evidence of synergies and trade-offs between mitigation and adaptation

Burkina Faso is not included in UNFCCC's list of Annex I countries, and is therefore only mandated to adopt adaptation measures rather than mitigation measures. However, its involvement in REDD+ encourages discussion on synergy and trade-offs between adaptation and mitigation.

At the policy level and global strategies

Few policies on climate change or forests address the links between adaptation and mitigation in the forestry sector (Locatelli et al. 2011). In Burkina Faso, synergy is only encouraged in the joint strategy paper for the implementation of the Rio Conventions in Burkina Faso (i.e. the CBD, the International CCD and the Framework Convention on Climate Change). These issues are not addressed in any of the other policy and strategy papers listed in section 4.1 of this document. However, the FIP/REDD+ document considers adaptation actions in its implementation.

Synergy actions through the vision and purpose of NAPA and REDD+

In Burkina Faso, adaptation and mitigation actions are guided by NAPA and FIP/REDD+ projects. Both of these initiatives are concerned with forests and poverty reduction.

These two programs are largely complementary, although they differ in their operational activities and fields of application. The primary objectives of NAPA and FIP/REDD+ projects are to strengthen the resilience of communities and ecosystems to weather hazards, and to establish financial resources for local people through the optimal use of forests. The FIP/REDD+ Participatory Management of Forest Reserve Project supported by AfDB shares these objectives.

However, planning documents for these projects do not explicitly state how their implementation will reduce vulnerability and increase adaptive capacity while preserving the biodiversity of ecosystems. This is an important consideration in light of ambitious development goals such as increased productivity and agricultural intensification.

Synergy actions on an institutional level

NAPA and REDD+/FIP have a joint steering committee, which facilitates discussion on synergy between adaptation (through the NAPA) and mitigation (through REDD+). This committee represents a framework for consultation and sharing concerns related to these two issues.

At the institutional level, adaptation and mitigation actions are coordinated by MEDD through its specialized structures: SP/CONEDD; the National REDD+ Committee and the National REDD+ Coordination Unit. A joint NAPA/FIP/REDD+ management structure has the advantage of ensuring synergy between adaptation and mitigation and minimizing duplication and competition. Furthermore, a shared steering committee also increases the visibility of the programs and strengthens support for communities. The NAPA/FIP/REDD+ steering committee was established by Decree 2011-032/PRES/PM/MEDD amending Decree 2010-159-PRES/PM/MECV of 2 November 2010 on the creation, powers, membership and operation of the Steering Committee for the NAPA, implementation projects and the FIP.

Barriers to synergy and consideration of trade-offs

There are a number of barriers to the synergistic management of adaptation and mitigation strategies. The first NAPA projects were initiated in 2009, and some reached their completion in late 2013. These adaptation projects did not specifically address mitigation, because this was not identified as a NAPA objective during climate change negotiations. Synergy between adaptation and mitigation remains theoretical at this stage, and further opportunities must be identified.

On the REDD/FIP project activities and adaptation projects

Among other issues, Burkina Faso's NAPA Projects focus on the protection of particular ecosystems, natural formations, and water resources. Both FIP projects promote decentralized forest management with the collaboration of local communities, and the sustainable management of state forests. Although many of the activities proposed in both initiatives relate to both mitigation and adaptation, synergy is not explicitly addressed in the implementation of their activities. This is also the case for the NAP, which primarily focuses on adaptation options in the country's most vulnerable sectors.

In institutional terms

The Joint NAPA/REDD/FIP Steering Committee has faced legal and functional inconsistencies. For example, the membership of the committee grew from 35 to 51 members, following an amendment to allow new members. However, the two decrees which sanctioned this do not comply with Decree 2007-775/PRES/PM/MEF of 22 November 2007 on the general regulation of development projects and programs in Burkina Faso. Indeed, in Article 13, the decree states that the membership of steering committees cannot exceed 20. Although this might not be a significant obstacle to the functioning of the steering committee, policy makers should aim to comply with national provisions on the matter.

Implications

The implementation of adaptation and mitigation policies in Burkina Faso offers opportunities for synergy of actions related to these two issues.

These opportunities must be seized by stakeholders and communities to ensure that their measures against climate change and poverty reduction are maximally effective. Policy makers and developers should act according to the following principle: “If you add adaptation measures to REDD+ projects, you can then address equity issues, increase stakeholder participation and make the project more acceptable to local communities. The combination of adaptation and mitigation touches on sustainability in a more holistic way.” (B. Locatelli, personal communication, 2013).

All actors should be encouraged to adopt a landscape perspective, so that adaptation projects, and those that require changes in land use, contribute to carbon sequestration and enhancement of carbon stocks. The choice of adaptation strategies should be based on tools that consider both the vulnerability of people and the preservation of biodiversity. Mitigation projects must address the fact that many vulnerable groups (e.g. women, pastoralists) depend on maintaining rights of access to natural resources in times of adversity and strive to uphold these rights.

5 REDD+ efficiency, its effectiveness and equity

This chapter critically evaluates the implications of REDD+ profile elements on its good governance in terms of efficiency, effectiveness and equity (3Es). This 3E analysis of the current phase of the REDD+ process in Burkina Faso, will be based on the performance of national policies on deforestation and degradation of forest resources and an assessment of key REDD+ elements.

5.1 Performance of national policies

Our analysis of Burkina Faso's political economy (Chapter 3) revealed that many of the drivers of deforestation and forest degradation (Chapter 1) are caused by policies that have unintended, negative outcomes due to poor implementation.

Due to the economic potential of the agricultural, mining and energy sectors, the government generally adopts political and economic reforms to facilitate their development. Policies have been developed to maintain these sectors as pillars of the national economy, thereby reducing levels of poverty. This has mainly been achieved through policies which promote increased production, particularly of exportable goods. These include policies on: (i) cotton production recovery; (ii) the promotion of agribusiness; (iii) sustainable livestock development; and (iv) the promotion of the mining sector. The government's priority has been the maximization of economic and social benefits rather than the protection of the environment.

The weakness of the state in monitoring and effectively enforcing its own strategic socioeconomic development guidelines in those sectors has resulted in unintended negative impacts, including deforestation and degradation of forest resources. This has occurred to varying degrees in regions across the country. The country has also recorded huge financial losses, weakening economic growth and a decline in poverty reduction efforts advocated in the SCADD.

However, the government has made efforts to reduce the impacts of these sectors on deforestation. These include reforestation policies and subsidy measures to promote the use of butane gas, as well as provisions mandating environmental impact studies, especially for the agricultural and mining sectors. The government has adopted a PNHDU to curb the artificialization of the environment at the expense of forests, and has recently updated the Planning and Urban Development Master Plans (SDAU) to plan and control the growth of cities. Furthermore, Burkina Faso has just adopted a National Sustainable Development Policy together with a Policy Act which is a national reference framework for the effective management of sustainable development issues, as prescribed in the SCADD. This policy offers a new approach to the exploitation and management of natural resources, the choice of investment sectors, the distribution of the fruits of growth, and the direction of legal, institutional and technological changes. Burkina Faso has also adopted a National Policy on Wetlands in order to regulate the conservation and use of wetlands, which provide a number of ecosystem services to local communities.

However, the government's efforts to reconcile development with environmental protection needs, cannot be effective without institutional capacity building and goodwill from all stakeholders.

5.2 Assessment of the key REDD+ elements in light of the 3E criteria

5.2.1 Institutional and governance context

The success of REDD+ depends on the institutional framework and governance system in which the process takes place. These two parameters can be an asset, but can also be a constraint if the 3Es are not ensured.

In many respects, Burkina Faso offers the strong structures and institutions needed to sustain the REDD+ mechanism effectively. Chapter 4 lists a number of features of the institutional environment that demonstrate that a robust framework for REDD+ has been developed. Furthermore, the country has extensive experience in the field of natural resources management, starting with its management of the drought of 1974. This significant event prompted the government to implement major reforms at political, institutional and organizational levels. This provided a structure that allowed the government to mobilize all segments of its population, from village to ministerial level.

The institutional context of Burkina Faso has been strengthened by the concerted actions of the public administration. The public administration is the *de facto* guarantor of the FIP/REDD+ process, through the involvement of the ministries directly in charge of rural development (i.e. environment, agriculture, livestock). From an institutional and administrative perspective, a clear structure is maintained in order to avoid confusion of roles and mandates throughout the chain. The various technical departments of the MEDD work in collaboration with other ministries to harmonize actions and interventions. The SP/CONEDD, which is the body in charge of climate change issues, is the bridge between the various ministries and decentralized structures that play a key role in development. At an institutional level, Burkina Faso provides an enabling environment for the REDD+ process. In addition to a robust institutional structure, the country has implemented legislation, policies and strategies on environmental, climate change and sustainable development matters.

However, this institutional and administrative structure remains quite fragile and, in many cases, is more theoretical than practical. Weaknesses include significant administrative burdens and a lack of human resources. Despite strong political will and administrative structures, Burkina Faso's institutional framework remains plagued by bad governance and corruption (Zongo 2010). As such, the current institutional structure requires a joint monitoring system to ensure compliance with safeguards, performance norms and standards, which draws upon government, NGO, private sector and independent expertise.

There remain some concerns regarding decentralization or 'integral communalization'. Although the process has demonstrated a number of achievements, and presents significant opportunities for REDD+, there are a number of shortcomings in its operation. For example, many question whether communities are equipped in terms of human, technical and financial resources to lead the development of their territory. Barriers to the successful implementation of a decentralized system include a lack of skilled staff and widespread illiteracy. In such a context, the transfer of responsibilities to communities must be accompanied by strong capacity-building measures, to minimize potential adverse effects. The government has also supported 'virtual transfers' of responsibility to communities, without handing over full ownership of these processes. For example, the government offers communities "participation in the management of the natural resources located on the territory of the municipality" and "participation in the protection, management and protection of forest reserves protected forests" (Law No. 055/2004/AN). Such policies frame communities as passive participants rather than the main drivers of development actions.

5.2.2 Coordination and commitment

In Burkina Faso, actions related to natural resources management and climate change are coordinated by the Ministry of the Environment. A committee was established within this ministry to coordinate the FIP/REDD+ process in Burkina Faso. An organizational template was created to establish a clear management hierarchy and reporting structure. This structure facilitated the implementation of the REDD+ process.

Despite this, the preparation process was dominated by TFPs (e.g. UNDP, Lux Development, EU, etc.) rather than national institutions. Capacity building of national institutions is required so that they might take greater ownership of the REDD+ process. Furthermore, greater input from stakeholders, such as representatives from civil society and the private sector, is needed if REDD+ is to be successful. In contrast, CSOs have taken ownership of the REDD+ process through their coordination of the DGM.

There are also significant weaknesses in the FIP funding mechanism. The FIP and REDD+ forest management strategy relies on the financial

support of partners (e.g. MDBs, AfDB, EU, FCPE, GEF). This total dependence makes the forest management process very fragile, as it is exposed to financial uncertainties. To overcome this fragility, a national REDD+ fund is required in addition to the Environmental Investment Fund. However, this fund's mode of operation and income should be clearly defined, as several funds for the financing the environment established at the national level in Burkina Faso have had mixed results.

5.2.3 Measurement, reporting and verification mechanism

The REDD+ process requires all countries to be able to produce and present tangible results on the reduction of forest emissions from a baseline scenario. This can only be done through an effective MRV system that produces objective and quantifiable data. This efficiency is measured in terms of the ability to reduce emissions permanently, a clear baseline scenario, effective learning and reporting systems, and the ability to prevent data leakage. In the case of Burkina Faso, efforts are underway to establish an MRV system that fits the national context. However, a clearly defined methodology has not been established for several reasons. First, the country does not have an updated baseline for forest carbon stock. The R-PP suggests the assessment of carbon stocks should be based on a BDOT. However, Burkina Faso only has BDOTs for 1992, 2002, and another is expected for 2012. It is necessary to update existing BDOTs by assessing the accuracy of data on real, national carbon stocks and current space occupation. This process has not yet been finalized, and the only existing data are based on diachronic analysis for the years 1992 to 2002, which explains the variations observed in the BDOT. The diachronic analysis for 2002 to 2012 will be performed based on the findings of the NFI2, which is currently underway.

The R-PP proposes that stock measurement methodology should be contextualized at the national level. Burkina Faso intends to develop an MRV system based on the periodic measurement of forest carbon stocks, from a fine mapping of forest strata and data on the carbon sequestered in each stratum. As the results on carbon stocks should be reported periodically (although the time intervals have not yet been clearly defined), space mapping could be performed at the same frequency, at a relatively low cost. There is also the

issue of retroactivity in assessing the carbon stock for previous years, including for 1992 to 2002. In principle (although, in practice, a well-established MRV has yet to be implemented), a controlled theoretical approach is being developed and there is real potential, in terms of human resources, for its materialization. The NFI2 is already advanced, and is currently in its reporting phase.

Furthermore, in 2013, CIFOR initiated a nationwide carbon stock assessment study on different types of land use. Studies have already been conducted in the Mouhoun Loop and center-west, and are currently being carried out in the Cascades, the southwest and the central plateau. This data will enhance Burkina Faso's MRV system.

5.2.4 Stakeholder participation and profit sharing mechanism

Stakeholder participation in the REDD+ Readiness Preparation process in Burkina Faso has been inadequate. Although there was a stakeholder consultation process at all levels (e.g. with national institutions, civil society, the private sector and TFPs), this was used to raise awareness of the process, rather than generate meaningful discussion on its form and substance. Furthermore, communities were not adequately informed of the potential opportunities, or the feasibility and necessity of REDD+ for Burkina Faso. There was little opportunity for dialog between stakeholders to minimize potential disagreements and objections. REDD+ preparation documents indicate that the process mainly consulted with intellectuals and field technicians. As such, there is some doubt as to whether the implications of REDD+ were fully understood by the most affected actors, such as the grassroots communities responsible for implementing REDD+ projects. In addition to this, there are significant challenges to implementing policies on forest resources management, and these can be particularly difficult to enforce.

As part of REDD+ preparations, a consultation/ participation plan (MEDD/R-PP 2012) was designed to collect feedback from participants at the village, commune and regional level, and convey this information to the government. There are also plans to set up institutional structures at the national level, which will be represented throughout the country. It remains rather unclear which organizations and institutions will be part of these structures, however the aim is to build on existing institutional structures, rather than create a number

of new ones. The participatory mechanism will be coordinated by decentralized bodies (i.e. regional, provincial, municipal consultation frameworks) in order to reach actors at the village level. At the administrative level, a steering committee will be responsible for coordinating FIP/REDD+ actions. The organizational setting is thus built around management, implementation and consultation functions. This strong organizational framework may facilitate the effective and efficient operation of the REDD+ mechanism, but must be tailored based on how it operates in practice.

In moving forward, the REDD+ Committee must now develop a clearly defined distribution key for its profit sharing mechanism, and identify beneficiaries without discrimination. The R-PP currently provides development project grants to local communities in return for benefits related to carbon credits. Although practical, this mechanism introduces complexities related to carbon ownership rights, land rights, and access to forest resources and other co-benefits. Therefore, a lack of clarity and conflicts of interest may put REDD+'s success in jeopardy.

6 conclusion

Burkina Faso's implementation of its REDD+ policy is supported by the achievements of several decades of natural resources management. As the government promotes, the commitment of the nation has been demonstrated in acts of strong political will and the contributions of various actors to the development of the FIP and R-PP. What is also suggested by actors related to the FIP process is that the process itself has benefited from the participation of actors from all segments of Burkinabe society, and has been faced with little opposition. Although the REDD+ strategy is still in development, the R-PP identifies a number of priority intervention areas that represent significant political and strategic choices for Burkina Faso. The country offers REDD+ a supportive political and institutional environment, and the management, implementation and consultation bodies required for the successful implementation of REDD+ are compatible with Burkina Faso's decentralized system of governance and PNSR provisions, as many of the official documents suggest.

However, in order to promote the principles of 3Es, the implementation of REDD+ in Burkina Faso needs to move beyond the rhetoric and demonstrate that the claims are actually reality. This will involve measuring the outcomes of the REDD+ process and its overall performance. The MRV mechanism in Burkina Faso is in the very early stages of development due to the lack

of a clear baseline of carbon stock potential. The political and legislative instruments required for MRV are in place, but are often inadequate. A review of Burkina Faso's sectoral policies is required to avoid inconsistencies and conflicts in the objectives with REDD+ requirements and ambitions.

Issues related to gender, equity issues and rights of access to resources require special attention, as in other REDD+ countries. Most important, however, is the acknowledgment of the need to link adaptation needs to mitigation action. Forests and trees in Burkina Faso are crucial for adaptation, and while acknowledging that the overall carbon potential of Burkina Faso's forest resources is very limited, any efforts for tree-based mitigation can also contribute to forest ecosystem-based adaptation, if well planned. This might demonstrate the impact and results on both development and tackling climate change for those who financially support Burkina Faso's efforts under the FIP program. On the other hand, this strong linkage between forest-based adaptation and mitigation in Burkina Faso also indicates a responsibility on the side of the decision makers and project practitioners, as they must strive to realize potential synergies in actions related to adaptation and mitigation. They carry the responsibility of ensuring that FIP/REDD+ projects reduce the vulnerability of marginalized groups.

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Annexes

Annex 1. Ongoing projects and programs under the supervision of the MEDD.

No.	Title	Objectives	Budget	Sources of funding	Period
1.	Sustainable Natural resources management project in the southwest, center-east and east regions (PROGEREF)	Global: Contributing to poverty reduction in its intervention area	CFA franc 11,498,333,000	AfDB	2004–2010
2.	Program to control siltation in the Niger basin, Burkina Faso sub-component (PLCE/BN)	Global: Contributing to the Niger River basin siltation control	CFA franc 4,972,100,900	AfDB and UEMOA	2005–2010
3.	Project for the development of the second disclosure letter on climate change (NATCOM)	Global: Building the technical and institutional capacities of Burkina Faso to integrate concerns relating to climate change in national and sectoral development priorities and plans	CFA franc 228,137,500	GEF/UNDP	2006–2010
4.	Project to improve incomes and food security for vulnerable groups/ NTFPs (ARSA/PFNL)	Global: Contributing to the increase of incomes and food security	CFA franc 400,000,000	UNDP	2007–2010
5.	Support Project to the DEP/MECV for building and managing an environmental database	Global: Improving environmental management through building the capacities of national actors	CFA franc 271,398,750	Wallonie Bruxelles Internationale	2007–2010
6.	TCP/BKF3201 Project to develop a national strategy to promote NTFPs	Developing a national strategy to promote NTFPs with the view of increasing their contribution to the local and national economy and to poverty alleviation, by managing forest resources in a sustainable manner	USD 303,000	FAO	End: October 2010

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Annex 1. Continued

No.	Title	Objectives	Budget	Sources of funding	Period
7.	OSRO/BKF/902/ SWI Project to provide assistance to vulnerable households victims of malnutrition, climatic and economic crises through the promotion of NTFPs in Burkina Faso	Increasing the incomes of households, building their capacities, improving food and nutritional security, and contributing to the fight against the degradation of natural resources	USD 758,294	Swiss cooperation (supervised by FAO)	End: October 2010
8.	Sustainable natural resources management Program (PGDRN)	Enhancing political, strategic and partnership frameworks related to natural resources management Facilitating the coordinated enforcement of environmental laws and regulations in Burkina Faso Building institutional and stakeholders' capacities in environmental management Contributing to the promotion of environmental education	CFA franc 689,785,000	UNDP–Government	End: 2010
9.	Capacity building project in the field of the CDM	Creating an operational framework for the CDM carbon market and contributing to sustainable development through technology transfer	USD 350,000	Government of Japan–UNDP	End: December 2010
10.	Support for the participatory management of natural resources in the Upper-Basins region (BKF/012- PAGREN)	Global: Contributing to poverty reduction in the Haut-Bassins region	CFA franc 4,661,629,490	Luxembourg	2006–2011
11.	Project for the participatory and sustainable management of forests in the Comoé province (PROGEPAF/CO)	Global: Ensuring the participatory and sustainable management of forests	CFA franc 1,770,000,000	Japan	2007–2012

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Annex 1. Continued

No.	Title	Objectives	Budget	Sources of funding	Period
12.	Capacity building for adaptation and reduction of vulnerability to climate change in Burkina Faso	Capacity building for adaptation and reduction of vulnerability to climate change in the agriculture, forestry and pastoral sectors	CFA franc 1,700,000,000	GEF-UNDP	End: 2012
13.	Sub-component of Project on Access to Energy Services (PASE): Participatory management by grassroots communities in forest development	Global: Contributing to the management of fuelwood, the promotion of energy savings and alternative energy sources	CFA franc 3,949,220,000	World Bank	2008–2013
14.	Mechanism for national forest programs project (MPFN)	Global: Enhancing forest governance and support mechanisms for local actors	USD 30,000	FAO	2010–2011
15.	Project on legal capacity building for the management of chemicals	Promoting the safe management of chemicals Addressing the problems related to the production, marketing and use of chemicals	USD 250,000	SAICM	2010–2012
16.	Project for the management of waste using BioCRUDE technology	Building four integrated complexes for the collection, processing and management of waste in Burkina Faso	USD 240,000,000	CDM mechanism	2010–2012
17.	Project to support seedling production in the north and central regions (ongoing)	Global: Promoting well-planned and rational seedling production in the intervention regions.	CFA franc 224,975,000	Japanese technical cooperation	2010–2013
18.	Modal shift demonstration project in Ouagadougou	Enhancing the efficiency of transportation by testing measures to encourage users to shift from individual to public forms of transport	USD 1,000,000	GEF	2010–2013
19.	Project on enhancing the sustainability of the protected area system of the W-Arly-Pendjari (WAP)	Global: Improving prospects for the long-term conservation of biodiversity, based on the significant and measurable progress of sustainability indicators in the protected area	USD 21,840,000	GEF and co-financing	2010–2014

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Annex 1. Continued

No.	Title	Objectives	Budget	Sources of funding	Period
20.	Programme National de Partenariat pour la Gestion Durable des Terresnational coordination Sub-program	Global: Improving, in a sustainable manner, the productivity of rural resources using an integrated and holistic approach, enabling Burkina Faso to meet its Millennium Development Goals on reversing current trends and protecting environmental resources	CFA franc 1,616,000,000	GEF–UNDP– MNUNCCD	2010–2014
21.	Project to improve the management and sustainable exploitation of NTFPs (PAGED/PFNL)	Global: Improving the management and exploitation of NTFPs in order to contribute to food security, nutrition and household incomes while preserving biodiversity	USD 5,356,257	Luxembourg (with FAO as Implementing Agency)	2010–2015
22.	Demonstration of a regional approach to the ecologically sound management of waste containing PCB, PCB transformers and capacitors	Building the collective capacities of countries in planning and implementing their national policies on ecologically sound management, and the equipment containing them under the Stockholm and Basel Conventions	USD 6,000,000	GEF/UNDP	2010–2015
23.	Capacity building and technical assistance for implementing national plans in the least developed African countries in the ECOWAS region	Creating an enabling environment in the ECOWAS region by establishing rules, policies and standards to help institutions to remediate contaminated sites and support the elimination of persistent organic pollutant (POPs) pesticides from agriculture by promoting best agricultural practices	USD 4,000,000	ECOWAS	2010–2015
24.	Establishment of an institutional framework and national capacity-building scheme, as part of an integrated chemicals management program, and the implementation of a strategic approach in Burkina Faso	Enhancing the rational management of household chemicals as part of a strategic approach	USD 25,000	SAICM	2011–2013

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Annex 1. Continued

No.	Title	Objectives	Budget	Sources of funding	Period
25.	Regional sub-program of the Mouhoun Loop	Establishing a coordinated and decentralized approach to the sustainable management of agricultural–forestry–pastoral lands in the Mouhoun Loop region	CFA francs 1,374,972,500	GEF	2011–2015
26.	Sub-program of the center-west region	Establishing a coordinated and decentralized approach to the sustainable management of agricultural–forestry–pastoral lands in the central-west region	CFA francs 986,049,500	GEF	2011–2015
27.	Project to support the 'Entente' parks	Global: Contributing to the conservation of biodiversity and ecosystem services to promote sustainable development in West Africa	CFA francs 12,576,000,000	EU - UEMOA	2011–2015
28.	Project to support the National Forest Resources Management Program in Burkina Faso	Supporting the implementation of the National Forest Resources Management Program in Burkina Faso	EUR 11,000,000	Luxembourg cooperation	
29.	National Program for the Monitoring of Ecosystems and Desertification Dynamics	Making Burkina Faso a country that is fully aware of the fragility of its natural resources and its environment Committing to sustainable management by employing an ecological monitoring system			
30.	Pilot project to improve the collection and processing of computer waste in Burkina Faso	Improving the management of computer waste in Burkina Faso	Not yet defined	UNDP (Basel Convention)	Not yet defined

Annex 2. Summary of actions and tasks implemented under NAPA development in Burkina Faso.

NAPA development steps	Task/action carried out	Leader and participants
STEP 1: Establishing a multidisciplinary team	Establish a NAPA steering committee to oversee the development process in Burkina Faso, which includes representatives from technical departments, international and inter-African organizations (UNDP, CILSS), socioprofessional and CSOs (NGOs, associations) Establish a project team and set up a multidisciplinary expert group	Steering committee & expert team
STEP 2: Synthesizing existing materials	Approve steering committee's methodology Build the capacity of experts in the use of MARP tools Conduct literature review Select sites for studies on vulnerability and adaptation to climate change, based on several data sources related to the degradation of the environment. GIS will be used coupled with socioeconomic criteria, including the population poverty index and some sociocultural considerations during a workshop	Steering committee & expert team Expert team
STEP 3: Conducting a participatory vulnerability assessment	Organization of five regional workshops to identify target sectors and groups that are potentially vulnerable to climate change, identify regions and train surveyors on the MARP tool Conduct vulnerability studies	Expert team Consultants, SP-CONEDD
STEP 4: Consulting partners and the public	Organization of five regional validation and conclusion workshops on the results of the assessments on vulnerability and adaptation to climate change and variability	Expert team
STEP 5: Listing potential NAPA activities	Justification of all options related to adaptation Specification of the commitment level of the various actors	Expert team
STEP 6: Establishing criteria, ranking in order of priority and selecting NAPA activities	Identification of priority criteria and implementation of a multi-criteria analysis	Expert team
STEP 7: Classifying NAPA activities	Exercise to prioritize NAPA options	Expert team
STEP 8: Establishing project profiles	Twelve project profiles selected	Expert team

Source: Authors, based on interviews and the 2007 NAPA document

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This document is part of CIFOR's series of REDD+ country profiles. It analyzes the case of Burkina Faso: the drivers of deforestation, the institutional environment and revenue distribution mechanisms, the political economy of deforestation and forest degradation, the political environment of REDD+, and the implications of the current REDD+ design for effectiveness, efficiency and equity. The analysis is based on reviews of existing literature, national and international data, legal reviews and selected expert interviews. Burkina Faso is a Sahelian country, and was selected as a participant in the Forest Investment Program because of its substantial potential for carbon sequestration from dry forests and its extensive experience in the participatory management of natural resources. Our findings indicate that a crucial trade-off for policies that have sought to maximize economic and social benefits is widespread deforestation and forest degradation (for example, those regulating cotton production, agribusiness and the mining sector). While Burkina Faso is unique as a dry forest country among the REDD+ countries, the overall challenges for successful development and implementation of REDD+ are widely shared with many other REDD+ countries: the improvement of the institutional and governance context; the coordination of actions across sectors and actors; the participation and commitment of the key stakeholders across all levels; the improvement of the monitoring, recording and verification system; and the careful design of an equitable benefit-sharing mechanism. However, realizing synergies with adaptation will be crucial for the success of REDD+ in Burkina Faso, as forests and trees play a fundamental role in adaptation to climate change and climate variability.



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