Youth Livelihood Strategies and the Role of Youth in Environmental Decision-Making in Six Villages in Eastern Cameroon

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ABSTRACT:

Youth are an important group within forest communities of Central Africa but can often be underrepresented within traditional decision-making structures. Since youth will be affected by the long term impacts of forest management decisions, they have a large stake in the successful management of resources. This is particularly important given the context of a changing climate and international discussions on mechanisms to mitigate climate change, particularly under REDD+ (Reducing Emissions from Deforestation and Forest Degradation in Developing countries and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks) which will affect those who are dependent on forests as a source of livelihood. Given that youth are underrepresented in research studies, this study aimed to understand whether youth (aged 19 – 30) gain a large proportion of their livelihoods from the forest and if they are currently represented in local decision-making institutions that relate to forest governance. The study also aimed to understand, if youth are underrepresented, what barriers may exist for youth gaining access to such institutions.

A mixed methodological approach, which included focus groups, surveys, and semi-structured interviews, was used in six villages in the eastern province of Cameroon. Surveys with young men and women provided a detailed view of youth livelihood strategies and forest dependence. Focus groups with traditional authorities, community forest committees, and youth provided in depth information about the role of youth in decision-making. Despite changes in educational opportunities, youth continue to derive a large proportion of their livelihood from forest resources. However, changes in livelihood activities have been noted specifically in the gender division of work. While youth remain underrepresented in formal village authorities and community forest committees, they play a large role in the development and functioning of other institutions in the village such as work groups, savings and loan groups, and other village associations. Young women are excluded to a greater extent than young men. Barriers to involvement were identified as youth attitudes, adult perceptions of youth, and, most importantly, tradition. It was noted that in villages where the youth had formally organised and elected a president, that it was easier for them to become integrated into the formal institutions. In these villages, youth, particularly young men, had a means to contribute to decision-making about forest resources.

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Chapter 1: Introduction

Interest in the issue of climate change has increased substantially in the last decade. This increasing interest has been evident in civil society groups, industry, and governments at all levels. There has been a developing focus on strategies to adapt to a changing climate but also a search for new strategies in mitigation. This has led to the development of mechanisms such as REDD+ (Reducing Emissions from Deforestation and Forest Degradation in Developing countries and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks) (UN-REDD Programme, 2009). This approach uses forest management as a means to mitigate climate change through carbon sequestration. Forest dwellers, especially the poor, depend on the forests and their resources to maintain their livelihood. Because of this, it is necessary to ensure the sustainable management of these forests to provide a continued source of livelihood into the future. With the Congo Basin Forest containing an estimated 25 to 46 billion metric tons of carbon, it has been a focus for REDD+ (Brown et al., 2011; FCPF, n.d.).

The forests of Cameroon, which are part of the Congo Basin Forest, have been owned and managed, for the most part, by the central state since colonisation. However, in the recent past, some management authority has been passed to the community level through the creation of community forests (Mbatu, 2009). Since community forests are considered to be a key institution for implementation of REDD+ policies and programs in Cameroon, it is important to better understand how such forests are currently being managed to create forest policy that will be effective and sustainable. The devolution of

forest governance from the state through the creation of community forests allows local people to control the resources they depend on through a forest management committee. The implementation of the REDD+ mechanism within the country is likely to have an impact on the ability of communities to manage these forests. In addition, little is known about how youth, who make up a large portion of the population, currently maintain livelihood strategies in forest areas. It is also not known how they contribute to decision-making about the forest.

1.1 Research objectives

This study was centred on a defined research question that informed the hypotheses and objectives that were studied. The research question states; to what extent are youth integrated into local decision-making relating to REDD+ projects? From the research question, three hypotheses were derived. The first, that rural youth derive a large portion of their livelihoods from forest resources. The objectives associated with this hypothesis were to identify the different forest resources youth use as part of their livelihood strategies, and to determine how important each of the forest resources are to the overall youth portfolio of livelihood activities. This portion of the research will create an understanding of how youth relate to the forest environment that surrounds them. It will also allow for an understanding about the extent to which youth depend on the community forest for survival, and the way in which the forest resources contribute to the life of youth.

The second hypothesis states that youth do not have access to, or are underrepresented in local institutions that relate to environmental governance. The objectives were to determine the current role of youth in decision-making within formal

institutions at the local level, to identify how youth make decisions related to the environment on a daily basis, and to determine the involvement of youth in REDD+ projects to date. By addressing these objectives, access to informal and formal environmental decision-making among youth can be compared and contrasted. Studying the role of youth in current discussions about REDD+ will create an understanding of the penetration of REDD+ policy knowledge into the communities that will be impacted by the policy.

The third hypothesis states that the current rules and norms of local institutions work to prevent the entry of youth into local institutions. The objectives associated with this hypothesis were to identify what rules and processes affect the level of involvement of youth, and to understand how youth participation in decision-making can be increased in the future. Identifying the barriers to entry in decision-making creates a practical component to the research. This will provide useful information when implementing policies or implementing programs in the area. The research question, hypotheses and objectives are outlined in table form below for clarity (Table 1.1).

Table 1.1 Research question, hypotheses, and associated objectives underlying the work in this study.

Research Question	To what extent are youth integrated into local decision-making relating to REDD+ projects?		
Hypotheses	1) Rural youth derive a large portion of their livelihoods from forest resources.	2) Youth do not have access or are underrepresented in local institutions that relate to environmental governance.	3) The current rules and norms of local institutions work to prevent the entry of youth into local institutions.
Objectives	a) Identify the different forest resources youth use to maintain or earn a livelihood.	a) Determine the current role of youth in decision-making within formal institutions at the local level	a) Identify what rules and processes affect the level of involvement of youth in local institutions.
	b) Identify how important each resource is to the overall youth portfolio.	b) Identify how youth make decisions relating to the environment on a daily basis.	b) How might youth overcome existing barriers to be included in decision-making in the future?
		c) Identify the involvement of youth in REDD+ projects to date.	

1.2 Outline of thesis

This thesis is organised into six chapters including this introductory chapter. This chapter introduces the research problem, the rationale of the study, and the research questions and objectives. The following chapter provides a broader background from the literature about the main research topics. The third chapter provides further context into the research area, including a national and local historical context, as well as insights into

the history of natural resource management and the creation and implementation of the current forestry legislation. The fourth chapter addresses issues of livelihood strategies, providing an introduction, methods, and discussion relating to the first of the three hypotheses stated above. The fifth chapter addresses the second and third hypotheses stated above, regarding decision-making strategies and youth involvement. The final chapter provides general conclusions and draws the discussions of both chapters together. This chapter also provides ideas for further research and policy suggestions.

Chapter 2: Literature Review

2.1 Environmental Governance and Common Pool Resources

2.1.1 Definition of Environmental Governance

The definition of environmental governance remains quite broad even after several decades of research. Lemos and Agrawal (2006), describe environmental governance as "the interventions aiming at changing environmentally-related incentives, knowledge, institutions, decision-making, and behaviours" (p.298). They further define the term as a set of regulatory processes, mechanisms, and organisations through which political actors influence environmental actions and outcomes (Lemos & Agrawal, 2006). Vatn (2010) uses a similar definition, describing environmental governance as the means by which "we establish goals, how we define the rules for reaching those goals, and how we control outcomes following from the use of these rules" (p.1246). In neither case is governance specifically defined as government. Governance therefore includes the actions of the government but also that of other stakeholders, such as communities, businesses, and NGOs (non-governmental organisations), all of whom may be important in the governance process. Other factors to consider when defining environmental governance are the political-economic institutions involved and how their relationships affect identities, actions, and outcomes (Lemos & Agrawal, 2006). Governance involves the establishment and promotion of relationships between governmental and non-governmental actors in a governing process (Howlett, Rayner & Tollefson, 2009). The environment can be governed in a number of ways, through international accords, national policies and legislation, local decision-making structures, transnational institutions, and NGOs (Lemos & Agrawal, 2006). In general, governance of the

environment can be broken down into three main categories: a) hierarchies or command and control, b) market driven, and c) community management (Vatn, 2010). Although these approaches vary in form, they are all important and often coexist or even depend on each other (Lemos & Agrawal, 2006; Vatn, 2010).

2.1.2 Trends in Environmental Governance

The approaches to environmental governance have varied through time with changes in the socio-political context. Although humans have made decisions about how to manage their environment for all of human history, changes in management approaches in the recent past have been well documented. Initially, governments played the key role in management of important natural resources with significant governance beginning in the 1800s. In the last 50 years, environmental policy to address broader goals was established in response to dwindling resources and other environmental problems, primarily pollution control. Governments were prompted to react, creating direct, command and control environmental regulations (Dryzek, 2005). While there have been some important successes, sometimes the solutions were unsuccessful and resulted in unintended and undesirable consequences (Holling & Meffe, 1996).

Market-based instruments (MBIs) seek to use the rationale of economics and the market to accomplish environmental goals. MBIs come in many shapes and forms but can be divided into broad categories including taxes, subsidies, tradable emission permits, and deposit-refund schemes (Jordan, Wurzel & Zito, 2003). Other MBIs include ecolabeling, voluntary agreements, certification, and informational systems (Lemos & Agrawal, 2006). The design and reach of MBIs for environmental governance is continually changing and expanding. Although some of these MBIs have been around

since the 1960s, they only began to be widely applied in the 1980s with the emerging political consensus around de-regulation and a smaller state, coupled with economic pressures associated with economic recessions and globalization (Lemos & Agrawal, 2006; Jordan et al., 2003). This type of regulation gained support in the 1990s and has continued to increase in popularity especially at the national and international level (Lemos & Agrawal, 2006).

A recent trend has led to governments across the developing world decentralising power to local institutions and communities for natural resource management, particularly in the case of forests (Ribot, 2003; Agrawal, Chhatre & Hardin, 2008). These reforms aim to increase popular participation to promote more equitable and efficient forms of local management and development. This is reshaping the local institutions that manage natural resources with promises to increase participation in ways that will affect who manages, uses, and benefits from these resources (Ribot, 2003). It is also said to reduce administrative transaction costs, increase popular participation, create stronger local governments and communities, and create a greater sense of responsibility among local actors (Oyono et al., 2007). The research on common pool resources is the foundation for understanding the movement away from direct government intervention and MBIs and the trend towards collaboration, private-public partnerships, and community capacity-building (Mazmanian & Kraft, 2009).

The definition for a common pool resource that is often cited in work related to the governance of common pool resources originates from Elinor Ostrom. She defines a common pool resource as: "a resource that generates finite resource units in which one person's use subtracts from the quantity of that resource available to others. Most are

sufficiently large that multiple actors can use the resource system simultaneously and efforts to exclude potential beneficiaries are costly" (Ostrom, 2000, p. 29). Two clear characteristics emerge from this definition. The first is excludability, or control of access, and the second is subtractability. Feeny et al. (1990) therefore define common pool resources as "a class of resources for which exclusion is difficult and joint use involves subtractability" (p. 4). Unlike Ostrom, Bromley (1992) argues that no resource is a *de facto* common pool resource but there are only resources that can be managed in varying ways, managed as common property, as state property, or as private property (Bromley, 1992).

The issue of common pool resource over-exploitation was popularised in 1968 with the publication of Hardin's essay "The tragedy of the commons" in the journal Science (Hardin, 1968, Feeny et al. 1990). Although the central message concerned overpopulation, the essay became a well-known and central part of the argument for intervention in common pool resource management (Feeny et al., 1990). However, Ostrom (2000) argues that most common pool resources are more complex than what is suggested in the Tragedy of the Commons essay. She believes it is not possible to assume that "users are homogeneous" (in assets, skills, discount rates, and cultural views) and that "they are short-term profit-maximising actors who act independently and possess complete information" (p. 30). Hardin also assumes that users are trapped in a common dilemma and are unable to create solutions (Dietz, Ostrom, & Stern, 2003). However, many groups have been successful in managing resource use through the creation of local institutions (Dietz et al., 2003). These studies illustrate that people are not helpless but

are able to organise to monitor resources, allocate rights, and maintain the use of those resources (Feeny et al., 1990).

However, this does not suggest that the theoretical consensus concludes that most users utilising common pool resources will participate in self-governance. There are many factors that affect the behaviour of actors and their perceived costs and benefits (Ostrom, 1999). There have been many instances of the success of common pool resource management (ie. long term irrigation systems) but there have also been many failures (ie. fisheries) (Ostrom, 1999; Dietz et al., 2003). Hardin's suggestions of government ownership and private property have not always succeeded either (Dietz et al., 2003). There are noted qualities and design principles that aid in the success of local self-governance regimes (Ostrom, 2000). A major factor, noted by Ostrom (1999) is that common pool resources can be sustainably managed when those dependent on those resources are involved in the governance process through collective-choice agreements. Given this, some believe that it makes administrative and economic sense to include resource users in resource management. Feeny et al. (1990) state that "in order to understand the outcome, one needs to know the nature of the resource, the whole array of decision-making arrangements, including the property-rights regime, and the nature of interactions among users and regulators" (p. 12). In reality, common resource management functions similarly to private property and state property regimes in that some work well while others do not (Bromley, 1992).

2.1.3 Decentralisation and CBNRM

Oyono (2008) defines decentralisation broadly as "any process of transfer of powers, responsibilities, and resources from the central state to lower territorial units

and/or locally elected bodies and authorities" (p. 317). Similarly, Ribot (2004) says that decentralisation is "any act by which a central government formally cedes powers to actors and institutions at lower levels in a political-administrative and territorial hierarchy" (p. 9). Scholars distinguish the difference between decentralisation in a general sense and democratic decentralisation, also called political decentralisation or devolution (Ribot, 2004). Oyono (2008) says that democratic decentralisation represents a situation where the authorities or decentralised entities representing the local population are elected by the people and are accountable to them. He suggests that for there to be successful outcomes in policy, decentralisation must be democratic (Oyono et al., 2007). Ribot (2004) agrees in his definition of democratic decentralisation, suggesting that the difference lies in the institutions to whom power is being devolved. He believes that democratic decentralisation refers to the transfer of power to elected local authorities, while administrative decentralisation refers to the transfer of power to appointed local offices of central government agencies. Some have suggested that democratic decentralisation can improve not only natural resource management, but also enable local democracy (Ribot, 2003; 2004). Some also believe that democratic local governance and a bottom up approach to natural resource management can address issues of poverty by mobilising all sections of the community and its resources to achieve these goals. However, poor local governance can perpetuate the impoverishment of rural populations (Mvondo, 2006; Mbatu, 2009).

Community-Based Natural Resource Management (CBNRM) is a relatively new term although the idea that communities manage their own natural resources has a long history globally. It may be viewed as an attempt to revive established and traditional local

and indigenous cultural knowledge for managing and conserving the natural environment (Blaikie, 2006; Kellert et al., 2000). It initially gained attention in the early 1970s in North America and has evolved over the last two decades as an alternative approach to the limitations of a resource management paradigm that emphasised technical experts, Western science, and bureaucratic centralisation (Armitage, 2005; Kellert et al., 2000). Although there is no single definition of CBNRM, there has been a convergence of various strands of meanings in the international development literature (Armitage, 2005; Blaikie, 2006). The approach seeks to improve resource management outcomes through the participation of communities and resource users. Decision-making activities incorporate local institutions, customary practices, and knowledge systems in management, regulatory, and enforcement properties (Armitage, 2005). CBNRM focuses on the collective management of ecosystems to improve human well-being and aims to devolve authority to the local level, empowering communities to manage their own resources (Fabricius & Collins, 2007). This requires the development of institutional and organisational arrangements designed to help improve local decision-making. It should also be noted that CBNRM is generally seen as a mechanism to address both environmental and socio-economic goals and to balance the exploitation and conservation of valued ecosystems (Armitage, 2005). It has also been seen as an established policy goal, particularly in Africa (Blaikie, 2006). The focus on community-managed natural resources has become very popular among NGOs and governments alike. Community-based management has, however, shown mixed results (Brown & Lassoie, 2010b).

Ribot (2003) suggests that entrusting local institutions with environmental decision-making power improves local democracy, but without discretionary powers,

local governments cannot gain the legitimacy they need to effectively represent local populations. He argues this will lead to the reproduction of top-down management (Ribot, 2003). Agrawal and Gibson (1999) suggest the downfall of community-based management begins with the differing definitions of "community" amongst supporters. They propose a shift from viewing communities as a small, territorially fixed group with homogeneous views and norms, to focus on the interactions of divergent interests of multiple actors, how they interact, and the institutions that affect natural resource management outcomes (Agrawal & Gibson, 1999; Gibson & Peck, 2006; Leach, Mearns & Scoones 1999; Armitage, 2005). CBNRM must overcome differences in world view among local, regional, and national interest groups involved, diverse knowledge systems, historical, cultural, economic and political relationships and other troubled relationships within communities (Armitage, 2005). By focusing on institutional analysis, some scholars have been able to propose various reasons why success has not been universally achieved in decentralisation models. These include the distance between policy makers and those affected by policy (Oyono, Kouna, & Mala, 2005), lack of locally accountable representation and discretionary powers (Ribot, 2003; Beauchamp & Ingram 2011), and domination of governance by elites (Brown & Lassoie, 2010a) among others. Furthermore, while CBNRM draws strength where natural and social capital are well represented, initiatives are often situated in impoverished, remote, rural areas where human, financial, and physical capital, are in short supply (Fabricious & Collins, 2007). A lack of downward accountability and sufficient powers, as well as irregular implementation, results in poorly structured decentralisation which then threatens environmental management (Ribot, 2003). Furthermore, some feel that decentralisation

has rarely been implemented in practice as substantive decision-making power has always remained centralised while local actors, especially the poor, are disadvantaged (Beauchamp & Ingram, 2011).

Andersson (2006) sums it up by stating that positive outcomes in decentralised environmental governance are unlikely in the absence of popular participation in decision-making and a downwardly accountable local government, and without the technical capacity of the local unit and a secure source of funding. He suggests an approach that focuses on local governance in place of government so as to recognise the role of political actors, resource use groups, NGOs, and private firms (Andersson, 2006).

2.2 Climate Change

2.2.1 Climate Issues

According to the Intergovernmental Panel on Climate Change (IPCC), over the last century, atmospheric concentrations of carbon dioxide increased from a pre-industrial value of 278 parts per million to 400 parts per million in 2014 (Tans & Keeling, 2014), while the global average temperature rose by 0.74°C. This is the fastest warming trend that scientists have been able to discern in the history of the Earth. Furthermore, an increasing rate of warming has been evident over the last 25 years, with eleven of the twelve warmest years on record having occurred in the past twelve years (UNFCCC, 2007). There is now unequivocal evidence of increasing air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level that can be attributed to an observed increase in anthropogenic greenhouse gas concentrations (IPCC, 2013).

Forests cover approximately 42 million square kilometres and represent approximately 30% of the land surface globally. They provide a number of ecological, economic, social and aesthetic services to both natural systems and to humankind. These services include biodiversity, food, medicinal products, spiritual needs, and aesthetic values (Bonan, 2008; Canadell & Raupach, 2008). Furthermore, forests are an integral part of the global carbon cycle. Photosynthetic organisms within terrestrial ecosystems remove nearly three billion tons of anthropogenic carbon every year through net growth, absorbing about 30% of all carbon dioxide emissions from fossil fuel emissions and net deforestation. Forests are major contributors to this carbon sink (Canadell & Raupach, 2008). In fact, forests store approximately 45% of the terrestrial carbon and can sequester large amounts of carbon annually (Bonan, 2008). This large reservoir of carbon contains more than double the amount of carbon in the atmosphere (Canadell & Raupach, 2008). Forests provide a potential cost-effective contribution to climate protection, although forestry carries the risk that carbon stores may return to the atmosphere by disturbances such as fire and insect outbreaks, among other issues (Canadell & Raupach, 2008). It is now understood that forests and human uses of forests provide impacts on climate and that forests can be managed to mitigate climate change (Bonan, 2008). Although the forests benefit the climate by sequestering carbon, forests also affect the bio-physical properties of the land surface through albedo and evaporation (Canadell & Raupach, 2008). Forests have a low surface albedo, contributing to planetary warming through increased solar heating of land. Further, forests sustain the hydrological cycle through evapotranspiration cooling the climate through feedbacks with clouds and precipitation (Bonan, 2008).

Forests, and specifically tropical forests, have been subject to high levels of deforestation. This has led to widespread concern about the ability of these forests to continue providing ecological services, such as sequestering carbon, and the effects this will have on local communities and the global climate (Ndibi & Kay, 1999). The United Nations Conference on the Environment and Development (UNCED) identified tropical deforestation and, in particular, 'slash and burn' agriculture as global environmental concerns (Kotto-Same et al., 1997). Each year approximately 13 million ha of tropical forest are destroyed leading to species extinction and contributing 17% of anthropogenic greenhouse gas emissions (Bellassen & Gitz, 2008). During the 1990s, the Congo Basin rainforest in the Democratic Republic of Congo underwent deforestation at estimated rates of 0.4% per year (Boko et al., 2007). In Cameroon and Ghana, forest area declined 0.6 to 1.3% annually from 1970 to 1990 due to deforestation and degradation (Dixon et al., 2003). A high dependency of rural populations on firewood and charcoal, estimated to provide 80 to 90% of the residential energy needs of low-income households in sub-Saharan Africa (SSA), adds to the threat to forests. Forest fires also pose a large threat to the security of tropical rainforests particularly in Africa (Boko et al., 2007). Population growth, agricultural expansion, cattle rearing, and economic logging also contribute to deforestation in SSA (Epule et al., 2011). In Cameroon and Ghana, forest loss is projected to dramatically increase plant and animal species loss (Dixon et al., 2003).

2.2.2 Climate Change and Developing Countries

Although developing countries have only contributed one quarter of the total anthropogenic emissions, they will likely be forced to cope with the effects of climate change, such as increases in disease, alterations in precipitation patterns, and effects on

agriculture among others (UNFPA & WEDO, 2009; McConnell & Abel, 2008, p. 69). While there is uncertainty in the projections with regard to the exact magnitude, rate, and regional patterns of climate change, its consequences will change the fate of many generations, and particularly impact the poor if no measures are taken to mitigate or adapt to the changes in the climate (Bele et al., 2011). Developing countries are the most vulnerable to climate change impacts because they have fewer resources to adapt. Lack of capital due to poverty, illiteracy and lack of skills, weak institutions, limited infrastructure, lack of technology and information, low levels of primary education and health care, poor access to resources, low management capabilities, inequitable land distribution, environmental degradation, and armed conflicts will only exacerbate the dangers associated with climate change (UNFCCC, 2007; Dixon et al., 2003). Climate change will have effects on the sustainable development of these countries and may hinder their ability to attain the United Nations Millennium Development Goals (UNFCCC, 2007). For example, one third of Africans already live in drought prone areas, and 220 million are exposed to drought each year. Agricultural production relies mainly on rainfall for irrigation and will be severely compromised particularly for subsistence farmers in SSA (UNFCCC, 2007). Many of these effects are already being felt and exerting stress on important sectors for national development, such as agriculture and exploitation of natural resources (Bele et al., 2011).

Specifically in Cameroon, vulnerability to climate change is high for a number of reasons. First, poverty is exacerbated by natural disasters that are climate, weather, and water related, which accounts for most of the recent disasters. Second, livelihoods are highly dependent on climate sensitive resources, such as agriculture, which accounts for

more than 70% of employment, is the third largest source of foreign exchange for the state, and accounts for 40% of the Gross Domestic Product of the country. However, 90% of agriculture is rain fed and therefore dependent on a stable climate (Bele et al., 2011). When rainfall does not meet the crop requirements, the country's limited capacity for irrigation and high population growth rates increase the probability of food shortages. An empirical analysis found that a 2.5 degree increase in temperature would cause net revenue from farming to fall by half a billion dollars in Cameroon. A 7% decrease in precipitation would cause net revenues to fall by 1.96 billion dollars (Molua & Lambi, 2006). Finally, the population has a low adaptive capacity as the poorest populations are in areas sensitive to climate change. Statistics have shown that Cameroon has experienced a decrease in rainfall of 2% per decade since 1960, and cases of malaria have reportedly been increasing, possibly due to rising temperatures and the range expansion of mosquito vectors (Bele et al., 2011). It has also been found that institutional response to climate change among governments, NGOs, and the private sector has been slow, even though awareness of climate change is high (Brown et al., 2010).

In response to the potential for major ecological, social and political unrest, the United Nations created the United Nations Framework Convention on Climate Change (UNFCCC), an international treaty created to consider the possibilities available to reduce global warming and to create adaptation measures. This treaty was signed by most countries (UNFCCC, 2008). From the UNFCCC emerged the Kyoto Protocol, adopted the 11 of December 1999 and enacted on the February 16, 2005. The Protocol sets binding emission reduction targets for 37 industrialized nations and the European community. This emission reduction strategy sets emission reduction to an average of

five percent below 1990 levels over the period from 2008 to 2012. The Protocol recognises the need for industrialised nations to contribute a greater amount of emissions reduction based on their responsibility for the current high level of greenhouse gas (GHG) emissions in the atmosphere, resulting from more than 150 years of industrial activity (United Nations, 1998). While the Convention encourages nations to stabilise their emissions, the Protocol commits them to doing so.

One factor contributing to the changes in natural resource and environmental management is scale. With increased globalisation we are immediately aware of how our actions are affecting not only our neighbour, but those on the other side of the globe. Dietz et al (2003) state: "The most important contemporary environmental challenges involve systems that are intrinsically global or are tightly linked to global pressures and that require governance at levels from the global all the way down to the local." (p. 1908). The most difficult problems will involve resources that are difficult to manage at the scale of a village, a region, or even a single country. Management of global resources requires cooperation among international, national, regional, and local institutions (Ostrom, 1999). These types of issues are no longer easily controlled by a single central government, as in the past, because they cross borders and affect a large number of people.

2.2.3 REDD and REDD+

The need to include the issue of deforestation into global climate change negotiations was first adopted in the Bali Roadmap at the thirteenth Conference of the Parties (COP13) of the United Nations Framework Convention on Climate Change (UNFCCC). The REDD+ policy approaches were agreed upon at COP16 in Cancun (UN-

REDD Programme, 2009). Following this agreement, numerous demonstration activities supported by NGOs, the private sector, bilateral donors, and multilateral agencies began (Wertz-Kanounnikoff & Kongphan-Apirak, 2009). Since this time, the principle of providing financial incentives to developing countries for reducing greenhouse gas emissions has gained widespread acceptance (Clements, 2010).

The United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (UN-REDD) was developed in 2008 as a performance-based mechanism for climate change mitigation. It seeks to incentivize the protection and improved management of forest resources by developing countries through compensation (including through market mechanisms) (Phelps et al., 2012). Initially developed as REDD, REDD+ now includes the role of conservation, sustainable management of forests, and enhancement of forest carbon stocks in developing countries (UN-REDD Programme, 2009). It (REDD+) does this by adding financial value to the carbon stored in the forests, which provides incentives and builds capacity for developing countries to reduce emissions from forested lands, and invest in low-carbon paths to sustainable development (Brown et al., 2011; Corbera & Schroeder, 2011). Payments require demonstrated emission reductions (Phelps et al., 2012). Even though the goal of REDD+ is to maintain forest stocks, many resources will be affected by these policies including the trees themselves (used as timber, food, and firewood), non-timber forest products, and animals. Therefore this process will require the governance of many different types of land cover and livelihoods (Thompson et al., 2007).

REDD+ policies are also meant to include broader development goals such as improved livelihoods, poverty reduction, food and energy security, improved land tenure, good governance, sustainable forest management, biodiversity conservation, and mitigation and adaptation to climate change (UN-REDD Programme, 2009). It is thought that forest conservation under REDD+ could contribute to the maintenance of biodiversity and ecosystem services, reduce the vulnerability of local forest-dependent countries to climate change, and may represent a strategy for economic development and poverty reduction (Brown et al., 2010). REDD+ is becoming one of the key pillars of a post-2012 international climate regime, particularly with regard to developing country mitigation (Corbera & Schroeder, 2011) and is part of a move towards a more comprehensive agreement under the UNFCCC (Burgess et al., 2010).

Through the early stages of this process, the UN-REDD has taken the lead on the design of effective monitoring, reporting, and verification (MRV) strategies while the Forest Carbon Partnership Facility of the World Bank has been closely involved with the development of successful economic incentives and tools for these programs (Thompson et al., 2007). Funding for the program is also available through multinational donors, such as Norway, Germany, and the United Kingdom, who have all established funding programs to finance REDD+ readiness activities, the measures, and mechanisms that are necessary to establish an enabling framework for REDD+ by creating forest cover and deforestation and forest degradation reference levels (Wertz-Kanounnikoff & Kongphan-Apirak, 2009; Corbera & Schroeder, 2011). Other activities to prepare for REDD+ may involve building institutional commitment and capacity, design and planning of REDD+

programs, and pilot activities to test the effectiveness of REDD+ measures (Burgess et al., 2010).

REDD+ provides promise but there are issues that may prevent the success of these programs, several of which will be highlighted here. To date there is no agreed definition of 'demonstration activities' and current activities range from site specific projects to larger-scale activities that cover large portions of a province or country (Wertz-Kanounnikoff & Kongphan-Apirak, 2009). Corber and Schroeder (2011) suggest that "REDD+ is rapidly morphing into a slew of unorchestrated, multi-level, multi-purpose and multi-actor projects and initiatives" (p. 3). These projects involve multiple levels of decision-making and create the environment for multiple implementation actions running ahead of policy processes (Corbera & Schroeder, 2011). Furthermore, the rapidly mobilising action around REDD+ could cause problems as it will be implemented as a national program, and therefore its success will be based on how forest management rules and incentives at local levels shape local actions with regard to forests. In the context of limited budgets, growing external resource use pressures, and unsupportive, and potentially corrupt, national forest agencies, local residents can struggle to maintain their management systems and the autonomy they have already been granted (Hayes & Persha, 2010). Because the REDD+ regime is embedded in larger governance architectures it is also a concern that traditional government institutions, organisations, and mechanisms are often ill-equipped to meet the challenges posed by large-scale, global transformations (Corbera & Schroeder, 2011). Furthermore, the perspective of institutions in developing countries, who will eventually be involved with REDD+ projects and policies most directly, will likely differ from those of international

institutions that are involved in negotiating such policies (Brown et al., 2011). Without the promise of sustained financial incentives, interest in the projects may wane especially given the more immediate financial benefits available from alternative land uses (Clements, 2010). With billions of dollars at stake, governments could justify recentralisation by portraying themselves as more capable and reliable than local communities at protecting national interest (Phelps et al., 2012). However, this issue is not as simple as efforts to control natural resources in a top-down manner by international and national agencies. One must also consider more complicated factors such as the effect of climate change on livelihood changes that contribute to deforestation, global economic shifts and structures that make deforestation economically logical, and the history of colonialism and post-colonial economic structures that make natural resource based economies so common in many REDD+ countries (Thompson et al., 2007).

The Congo Basin forest has been identified for its ability to mitigate the effects of climate change and is estimated to hold between 25 and 46 billion metric tons of carbon. This has increased its profile for inclusion in REDD+ programs (Brown et al., 2011). This forest contains the second largest area of contiguous rainforests (after the Amazon Basin) and makes up 15% of total remaining rainforests on the globe and 90% of those remaining in Africa (Bellassen & Gitz, 2008). Early at its launch in 2002, Cameroon signed the UNFCC convention and ratified it in 2004 showing its willingness to contribute to greenhouse gas reductions. The main reform at the time was the creation of a Ministry of Environment and Forests, the drafting of a zoning plan and the elaboration of a new forestry law (Bele et al., 2011).

2.3 Youth and Youth Issues

2.3.1 Definition of "Youth"

While the term "youth" makes reference to a period of transition from childhood to adulthood (Bennell, 2000) that exists in most cultures, a universal definition based on age is hard to reach and not very clear because youth is a socially constructed category (Vasconcelos, 2010; Lavender, 2008). In pre-colonial African societies, this transition to adulthood occurred very rapidly and youth as a major social category hardly existed (Bennell, 2000). Currently, Africa is the world's youngest continent, with the proportion of youth among the region's total population being higher than in any other continent (United Nations, 2010; Chigunta 2002, Diouf 2003). In 2010, 70% of the region's population was under the age of 30 and slightly more than 20% were between the ages of 15 and 24, making them a noticeable segment of the population in most African countries (United Nations, 2010; Chigunta 2002). Furthermore, the young population of Africa has been growing. The prolongation of youth has occurred as a result of expanded education and training and the failure of African economies to absorb the majority of young people into the formal economy (Bennell, 2000). The integration of this growing demographic into society has enormous economic, cultural, political and social consequences (Diouf, 2003). Concurrently, the situation of young people in Africa, as well as their future, is heavily influenced by the interaction between local and global pressures. Youth are often balancing local values, norms, and lifestyles with increasing influence from global perspectives available through media, music, and global policies (Diouf, 2003).

It is therefore not surprising that the concept of youth is understood differently by various governments, NGOs, and the public in many parts of the world, including Africa (Vasconcelos, 2010). The operational definition and nuances of the term "youth" often

vary from country to country depending on specific socio-cultural, institutional, economic and political factors (United Nations, n.d.). Furthermore, youth is not a homogeneous category (Vasconcelos, 2010; Lavender, 2008) as other identity categories and stratification principles intersect it, rendering it more complex in terms of rights, obligations, aspirations and expectations attached (Vasconcelos, 2010). Accordingly, understandings of what constitutes "youth" varies between African societies (Lavender, 2008).

Although youth is essentially a cultural and social construct, youth is increasingly defined according to an age-based criterion (Bennell, 2000). For statistical purposes, the United Nations defines youth as "those persons between the ages of 15 and 24 years, without prejudice to other definitions by Member States." (United Nations, n.d.). It is worth noting, however, that the UN Convention of the Rights of the Child defines children as those individuals up to the age of 18. This was done intentionally to be inclusive and because there is no such convention protecting youth under the UN. Within the category of youth, the UN also distinguishes between teenagers (13-19) and young adults (19-24) due to the sociological, psychological, and health differences between these two groups (United Nations, n.d.). Similarly, The Commonwealth defines youth as those aged 15 to 29 years. Most African countries have adopted the UN or Commonwealth definitions of youth (Chigunta, 2001; Curtain, 2001), however the group aged 15 to 30 years is generally taken as the definition of youth in Africa (Chigunta, 2002) although some vary from as low as 12 to as high as 35 (Curtain, 2001).

Many countries draw the line on youth at the age at which a person is given equal treatment under the law, the age of majority. Once a person passes this age, they are

considered to be an adult (United Nations, n.d.). In Africa laws define adulthood as commencing at the age of 21 in most countries and 18 in others (Curtain, 2001; Chigunta, 2002). At this point many of the activities and responsibilities of adulthood are assumed legally (Chigunta, 2002). However, the legal status of a young person for different purposes can vary widely by gender and by the purpose of the age limit (Curtain, 2001). Furthermore, in SSA, those who are not married, or are unable to do so for economic or other reasons, will continue to be regarded as "children" regardless of their chronological age (Chigunta, 2002). Therefore, sustained employment is often necessary, though not sufficient, for young people to make the transition to adulthood (Curtain, 2001). It is not uncommon to find a 12 year old girl, who is married, to be considered an adult while an unmarried 40 year old man, who is dependent on his father, would be considered a youth or child (Chigunta, 2002).

2.3.2 Youth as a Marginalised Group

The economic crisis in the 1970s and the 1980s, followed by the implementation of structural adjustment programs, forced cuts in government spending on public services like health, education, and employment creation schemes (Lavender, 2008). This restructuring had particularly detrimental effects on youth (Diouf, 2003). There was increasing concern that a large proportion of young people had become marginalised or excluded from education, healthcare, salaried jobs, and even access to the status of adulthood (Chigunta, 2002). With political leaders unable to respond to the demands and needs of young people, the sense of youth as having a role to play in national projects began to disappear (Lavender, 2008). The youth crisis, in turn, was reflected in other parts of African society including the limited availability, quality and relevance of

education, scarce employment opportunities for qualified and unqualified youth, and changing patterns and the disintegration of community structures and social networks (Vasconcelos, 2010). These issues have resulted in large scale migration from rural to urban areas, with many leaving their home countries or the continent in search of better educational opportunities (United Nations, 2010).

This problem is aggravated by the fact that young people lack opportunities for participation in the decision-making process. This is due to limited skills, tools and resources, among both the youth and the governments (United Nations, n.d.) and where control of resources is likely to remain in the hands of older people (Waldie, 2004). However, African youth are actively challenging their situation and youth participation now occurs through various systems such as youth organisations, national youth councils, and youth parliaments set up at national and regional levels. Youth are also getting involved in regional youth-based advocacy groups and are consulted in national processes (United Nations, n.d.).

2.3.3 Youth and Livelihoods

Youth have even more difficulty than adults in engaging in effective livelihood strategies. In rural Africa, youth livelihood opportunities are often particularly limited (Porter, Blaufuss & Owusu Acheampong, 2007). The lack of job opportunities mentioned above makes it difficult for countries to capitalise on the early stages of demographic shift (UNFPA, 2011). Disadvantaged youth comprise a large segment of the population. Public and other resources are limited meaning economic opportunities are generally not available for youth, particularly in rural areas (Bennell, 2003). Some scholars even suggest that the bleak prospect for youth caused by the economic crisis has led to a “lost

generation" of youth in Africa who are unable to find work and start families (Langevang & Gough, 2009). Often, children and youth must contribute to household income or support themselves entirely while still in full-time education. The need to pursue off farm work to satisfy livelihood needs, is often further complicated by mobility and transport issues. This has caused greater difficulty for youth to ensure adequate livelihood outcomes (Porter et al., 2007). However, since rural development professionals tend to focus on the long-term management of natural resources by adults as key to establishing sustainable rural livelihoods, there has been a tendency to dismiss the contrasting livelihood activities of young people as unsustainable (Waldie, 2004).

2.3.4 Youth in Research and Policy

It has been noted that the subject of African youth has emerged quite recently, within the last 20 years, as a subject in historiography. Prior to this point, youth had not been approached as an analytical group of its own right (Vanconcelos, 2010). This is, at least, in part due to the organisation of Sub-Saharan Africa (SSA) societies that privilege seniority because age was equated with power and knowledge. In this situation, adults, particularly senior men, were and in many cases still are the main informants of research, even when studying issues regarding youth (Vanconcelos, 2010; Bennell, 2000). Furthermore, in many countries little is done to collect information on youth, particularly in rural areas. Rural development professionals therefore often do not have a clear understanding of how young people in rural areas use local resources in their livelihood strategies. Knowledge on the topic of youth remains fragmented (Waldie, 2004).

However, youth is emerging as an important research topic and an integral group for the development industry. The development of the World Youth Report by the UN

and the African Youth Charter by the African Union increased visibility of youth within African studies. This is explained in part by their increasing demographic weights, the longstanding economic deterioration in several African countries that has had a major impact on youth mobility, and their participation in violent practices and adoption of marginalised lifestyles (Vansconcelos, 2010). The dramatic eruption of young people into the public and domestic spheres due to the population increase, seems to have resulted in the construction of African youth as a threat (Diouf, 2003). As the socio-economic situation has worsened in the recent past, large scale rural urban migration has been linked to increasing criminalisation and the proliferation of youth gangs in urban centres. In this case, urban youth are now largely cut off from their rural roots and are lacking traditional safety nets (Bennell, 2000). These issues, of economic crises, joblessness, violence, and migration, along with sexual health, have been the main youth focused research to date. While some issues explored about youth in general literature (which often pertains to male youth) includes politics, livelihoods strategies, cultural production and consumption practices. The research on female youth in these subjects is rare (Vasconcelos, 2010).

Because of the focus in research on these issues, the vision of youth has been represented by notions of youth as dangerous, criminal, and given to a sexuality that is unrestrained and threatening for the whole of society (Diouf, 2003). Recent images emerging from Africa have been dominated by negative images of militants involved in civil conflict, and of threatening young men in overcrowded urban areas (Lavender, 2008). Either youth are seen as a marginal and dependent category, or they are considered a danger to themselves and a problem for society (Waldie, 2004). These perceptions of

youth are based on long entrenched misconceptions about Africa from outside the continent (Lavender, 2008).

Although youth have been largely ignored in policy, youth policies do exist. This means that youth policies are often designed with youth as the subjects as opposed to the objects of policy (Chigunta, 2002). Where youth policies do exist, they generally lack a firm strategy in developing youth as a valuable resource and a source of solutions, but view them instead as a problem (Chigunta, 2002; Waldie, 2004). Policies are often highly politicised and based on stereotypical notions of disaffected youth and seem to originate in adults perceptions of youth concerns and needs (Chigunta, 2002).

The UN World Youth Reports and the African Youth Charter state the importance of the participation of young people in decision-making as a way to build stability and local solutions to poverty in Africa (Lavender, 2008). Bennell (2003) argues that youth have their own particular problems and needs, and therefore development and poverty reduction strategies must be youth centered, if these needs are to be adequately addressed and sustainable development achieved. Providing youth with opportunities to actively participate in public discourses provides opportunities to challenge the ways youth are represented (Bessant, 2003). Youth are also increasingly tuned into emerging global discourses about positive futures. These include human rights and human development discourses. In this way youth are a meeting point for local traditional knowledge and new forms of doing and thinking (Lavender, 2008). It has also been argued that education and child-labour policy, where youth have a large stake, will improve if young people are provided an opportunity to voice their perspectives (Chant & Jones, 2005). Finally, social psychologists have also pointed to the importance of social and political engagement for

youth well-being. Studies have shown that one of the reasons young people become involved in conflict is as a means to be politically active, where other options for political engagement are not available (Lavender, 2008).

However, youth are often subsumed into the adult population in Africa because there is an assumption that young people do not face special economic and social needs, which would give them priority over and above other economically vulnerable or excluded groups (Chigunta, 2002). Furthermore, governments lack an understanding of the benefits of youth involvement in consultation processes, and advocacy based groups have limited capacity for continued actions (United Nations, 2010). As mentioned above, every society has its own definition of youth. It is difficult for those who create and implement policy to share ideas and create an understanding when dealing with a heterogenous and varied group (Waldie, 2004). Bessant (2003) also argues that the current fascination with increasing youth participation overlooks the problem of young people's negligible political status.

Chapter 3: Research Area and Context

3.1 Context

3.1.1 Socio-economic context

The Republic of Cameroon (referred to here as Cameroon), is a country in Central Africa bordered by Nigeria, Chad, the Central African Republic, the Republic of Congo, Gabon, Equatorial Guinea, and the Gulf of Guinea. Cameroon has a diverse population of over 20,500,000, containing 24 major African language groups (Central Intelligence Agency, 2014) and over 250 ethnic groups (Dicklitch, 2011). The country has remained relatively stable despite several former colonial administrators, two official languages, a vocal secessionist group, and oil reserves (Dicklitch, 2011). Although it adopted a multiparty democratic system in 1992, it is not considered a democratic state. Since independence, the country has been dominated by a strong presidency and weak National Assembly. There have been only two presidents, Amadou Ahidjo (1960-1982) and Paul Biya (1982-present), both of the Cameroon Peoples' Democratic Movement. The latter has personalised and centralised power (Dicklitch, 2011). Furthermore, Cameroon ranked 144 out of 176 countries with a score of 26/100 on the corruption perception index (Transparency International, 2013). Economic collapse and rural poverty is estimated to have increased significantly in the past decade. Although this is predominantly a rural phenomenon, there is no area of the country untouched by poverty. The poor generally have limited access to good land and good roads, are less educated, and are unemployed or are highly dependent on farming (Tchombe, 2012). The population living below the poverty line is thought to be 48% (Central Intelligence Agency, 2014).

Cameroon's climate is characterised by high year round temperatures with two distinct climatic regions. These are the humid forest region in the South and the semi-arid region in the North extending to the Sahel (Molua & Lambi, 2006). However, because the country encompasses all five main eco-regions of the continent, Cameroon is often referred to as Africa in miniature. The southern region contains the Congo Basin forests, the second largest contiguous rainforest in the world (Bele et al., 2011), which makes up 15% of the total remaining rainforest in the world and 90% of that remaining in Africa (Bellasen & Gitz, 2008) (Figure 3.1). Cameroon possesses 10% percent of the remaining Congo Basin rainforests which equates to about 23 million ha with 17 million ha of productive forest (Bele et al., 2011; Bellassen & Gitz, 2008). This region of the country is characterised by a longer wet season with most of the rains falling between April and October (Molua & Lambi, 2006). There are however two rainy seasons, March to June and September to November, alternating with two dry seasons. The annual rainfall ranges from 1600 to 2000 mm, with an average temperature of 24 to 25 degrees Celsius (Njomgang et al., 2010). The high temperatures and heavy rainfall distributed through the year creates an abundant amount of soil moisture which favours the cultivation of tree crops and tubers (Molua & Lambi, 2006).

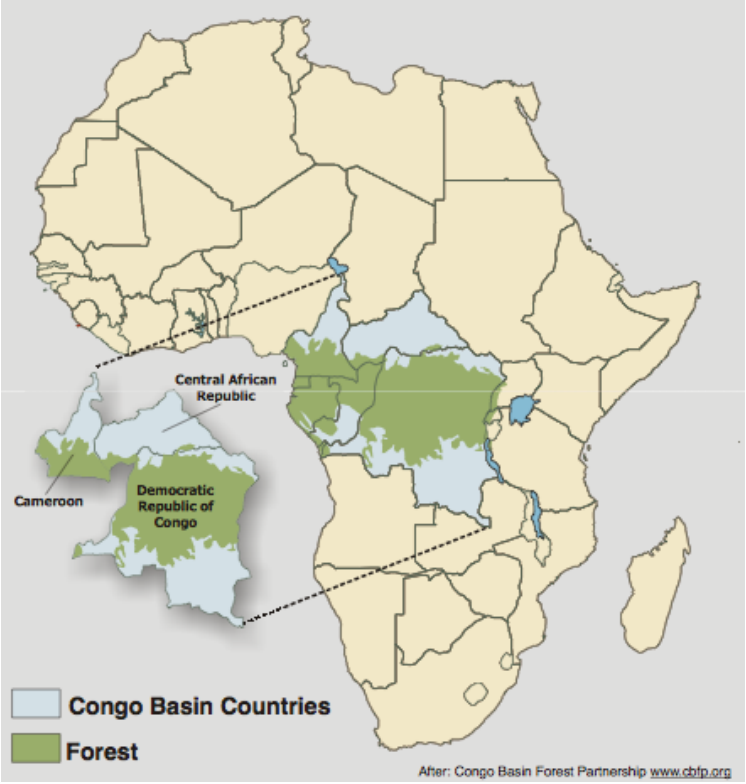

Figure 3.1 Map showing the Congo Basin Forest (green) and the countries containing the Forest (lue). Cameroon is the top, left) country in the image.

The Congo Basin forest is primarily defined as a species-rich evergreen forest (Congo Basin Forestry Partnership, 2005). In the eastern region of Cameroon, the forest is considered dense moist forest (Central African Forests Commission, 2010) which contains both evergreen and deciduous trees. The forest is a high and closed forest with the largest trees reaching 45 m in height (Brown, 2005). The forest is fragmented along roads and villages and in these areas the forest is considered "rural complex and young secondary forest." These regions are a mosaic which include forest, fallows, personal gardens, and subsistence crops (Central African Forests Commission, 2010).

Cameroon forests contribute to global environmental sustainability by performing multiple roles, including preventing soil degradation and erosion, protecting watersheds,

and stabilising mountainous regions. Furthermore, by absorbing carbon dioxide, the forest limits the greenhouse gas effect on global climate change (Bele et al., 2011). It has also been recognised as a biodiversity repository (Brown & Schreckenberg, 2001). Cameroon occupies the fifth position in Africa in terms of biodiversity, containing 8260 plant species (156 endemic) and around 2000 animal species. The forests, specifically, are home to a large number of species, serving as a habitat for many indigenous and non-indigenous species alike (Bele et al., 2011). The southern part of Cameroon, in the Congo Basin, has historically been sparsely populated, allowing the use of shifting cultivation without excessive pressure on the forest (Bellassen & Gitz, 2008). However, population growth and shifting cultivation tend to be viewed now as the main cause of deforestation in Cameroon. Other factors include logging, the construction of transportation infrastructure, and the establishment of agricultural plantations (Sunderlin et al., 2000). Unfortunately, loss of forest habitat due to land use changes is projected to dramatically increase plant and animal species loss (Dixon et al., 2003)

Timber production, particularly timber production for export, is vital to the Cameroonian economy. The Policy Framework Paper (1994) states that "The forests of Cameroon represent one of the country's greatest riches" (quoted in Bele et al., 2011). Overall, the national stock of commercial timber was estimated at 310 million cubic meters, representing a standing value of US$70 billion in 2010. The forestry sector is the third largest source of export revenue for the country and it ranks among the world's top five tropical log exporters (Bele et al., 2011). However, timber is only one important income earner of many within forests. Non-timber forest products (NTFPs) and agroforestry are important sources of income for forest dwellers (Sonwa et al., 2001).

Cacao agroforests cover between 300,000 and 400,000 hectares and around 400,000 households are dependent on these ecosystems for income and food. Since 1920, cacao production has been practiced almost entirely by small farmers on small plots (Sonwa et al., 2001).

In Cameroon, over 80% of the local population relies on forest ecosystem goods and services to maintain a secure livelihood portfolio, making them highly crucial for poverty reduction and national development (Bele et al., 2011). In addition to income production, NTFPs are a source of food and nutrition, contributing substantially to the diet of households in Southern Cameroon (Sonwa et al., 2001). The forest is also used as a source of bushmeat which is an important source of food in rural areas and of income for hunters. It is estimated that 78,000 metric tons of bushmeat is harvested annually in Cameroon's forests (Bele et al., 2011). Farming is a vital sector of the economy, with 80% of the poor being dependent on agriculture for their livelihood, as well as contributing significantly to the GDP of the country (Molua & Lambi, 2006). In Southern Cameroon, shifting cultivation is the method used to produce perennial crops and annual food crops (Njomgang et al., 2010). Furthermore, forests are used for medicinal plants, fuelwood, grazing, and other needs (Brown et al., 2010). What is clear is that the forest is a significant source of food, income and poverty alleviation (Sonwa et al., 2001).

3.1.2 History of Natural Resource Management

Natural resource management has existed in Cameroon in one form or another since the area was inhabited. Prior to the arrival of the first colonial administrators in 1900, natural resources were managed according to "people's law" (Mengang, 1998).

This varied throughout the country but in the southern forest regions the head of the clan had overall say in many aspects of village life. The operational level for land and natural resources was based on lineage, and management and extraction was done collectively by members of the clan controlled by lineage heads (Mbatu, 2009). This was done under the strict directives of the clan head, meaning he and the lineage heads were the main administrators of resource management (Mbatu, 2009; Mengang, 1998).

Cameroon has experienced three historical colonial administrations, first the Germans from 1884 to 1914, and then the French and British from 1919 to 1960 (Oyono, 2005). With the arrival of the Germans, the natural resources that had belonged to the people became the property of the administration as they developed a formal management structure (Mengang, 1998). Through the Crown Land Acts of 15 July 1896, the Germans declared all land in the territory *herrenlos*, vacant and ownerless. This act therefore replaced the traditional lineage system. The system of collective use was eliminated and a system of individual property based on the law of contract was instituted (Mbatu, 2009), including the creation of the first protected areas (Mengang, 1998). Large expanses of land were deforested to create fields for the development of plantations and to export logs to Europe. This top-down land and forest management by Germans lasted until 1918, when the Germans were defeated in World War I (Mbatu, 2009).

The defeat of the Germans in Cameroon led to the division of the German Kamerun Protectorate into two colonies, one British and one French. After WWI, Cameroon was mandated to Britain and France by the League of Nations under proclamation number 25 of 1920 (Mbatu, 2009). During this period, the French and British administrations continued the top-down management approach. Similar to the

Germans, the French declared all land and forests as *terres vacantes et sans maitre*, vacant land without masters. The British also executed land and forestry policies similar to those of the Germans and French (Mbatu, 2009). Anyone requiring use of resources were required to apply for a permit and the first game guards were recruited to protect the forests and wildlife (Mengang, 1998). After World War II, under the United Nations trusteeship agreement of 13 December 1946, West Cameroon was divided; Northern Cameroon as part of the Northern province of Nigeria, and Southern Cameroon as part of the Eastern province of Nigeria, which was controlled by Great Britain (Mbatu, 2009). Attempting to regulate forestry activities in the colony became more difficult and in 1946 the French reintroduced forestry legislation through a general decree on forestry and land use in the French part of Cameroon (Mbatu, 2009). The former French-administered UN trusteeship portion of Cameroon became independent from France in 1960. On 1 October 1961, the former British ruled UN territory joined La République du Cameroun to become the Federal Republic of Cameroon (Dicklitch, 2011). This country would be comprised of a francophone part and an anglophone part (Oyono, 2005).

When the country gained independence and became a Federal Republic in 1961, the State Forestry Service adopted similar state-centred, top-down policies to forest management and continued to exclude communities from forest and land property (Mbatu, 2009). By the 1980s, the process of state appropriation of forests had already severely reduced the areas where communities had formal control (Cerutti & Tacconi, 2009). The late 1980s saw a severe economic recession in Cameroon due to an economic boom in the petroleum industry followed by a bust resulting in a lot of internal imbalances (Brown, 2001; Oyono, 2005). The year 1989 saw foreign exchange revenue

fall dramatically because of a decline in world prices of not only oil, but cacao and coffee, consequently reducing the government purchase prices of these resources (Sunderlin et al., 2000). This led the country to seek help, which came, in the form of structural adjustment programs (SAP) from the Breton Woods Institutions (Brown, 2001; Brown & Lapuyade, 2001; Oyono, 2005). A major currency devaluation of the Central African franc (CFA) in 1994 partly restored the Cameroonian economy (Sunderlin et al., 2000). Throughout this period, natural resource management had been under the control of different ministries, including the Department of Tourism, the Ministry of Livestock, and Fisheries and Animal Husbandry (Mengang, 1998). The top-down method of governance remained intact until the creation of the 1994 forestry law (Mvondo, 2006).

3.1.3 Decentralisation and Forestry Legislation

A number of factors, including pressure from the political and economic crises, failure of the central state, and emulation of liberal reforms in other developing countries, have been linked to the change in forestry legislation (Oyono, 2005). Perhaps the largest factor was the push from donors, primarily from the Breton Woods institutions, that imposed requirements for change (Oyono, 2005; Brown & Scheckenberg, 2001). However, there was also a push from the international community, particularly after the Rio Earth Summit, for decentralisation as a means of achieving environmental sustainability (Mbatu, 2009). As a result, in 1994, Cameroon undertook a review of its forestry legislation (Mvondo, 2006). The stated goals of this process were to promote participation in forest management, the sustainable management of forests, and to alleviate poverty (Beauchamp & Ingram, 2011; Mbatu, 2009). It was believed that decentralisation could improve livelihoods by increasing monetary revenues, improving

village infrastructures, increasing empowerment through forest self-management, and increasing rural employment (deBlas et al., 2011). The Act divided forested areas into two categories, permanent forest estate and non-permanent forest estate. Permanent forest estate can only be used for forestry or as wildlife habitat, while non-permanent forest estate can be converted to non-forest uses including private and communal forests (Djeumo, 2001).

A key element to the law is the creation of community forests. Within the Act, community forests are defined as "a forest of the non-permanent forest estate, subject to a management agreement between a village community and the Administration in charge of forests. The management of this forest is entrusted to the village community concerns, with the technical support of the Administration" (quoted in Oyono et al., 2007). Villages are granted usufruct rights as long as they are responsible for the forest management, while outsiders have no right of access (Sonwa et al., 2001). The general assembly provides an opportunity for the community to debate issues and make major decisions. At this meeting the community also elects the officers who occupy the executive body that manages the day-to-day work and represents the community in external meetings (Mvondo, 2006). Even though traditional village institutions already exist, they are not legally recognised and therefore cannot be responsible for the community forest. The management institution or committee is generally made up of less than ten members who are frequently recruited from the elite. A forest may be controlled by one village or two or more villages may share a community forest (de Blas et al., 2009). Once the management agreement has been signed, the village community can begin logging, either through artisanal logging or industrial logging (Oyono et al., 2007). Community forests

are used for timber resources but also for agriculture and non-timber forest products (NTFP) such as medicine, food, construction materials, and cultural and religious items (Brown & Lassoie, 2010b). The law also states that if a community forest is being poorly managed, the Ministry in charge of forests will withdraw the managerial powers from the village community concerned (Oyono et al., 2007).

The 1994 forestry law and particularly the creation of community forests has shown mixed results. Several scholars have outlined issues encountered in the implementation and success of community forests. Bureaucracy remains a large barrier to the process of decentralisation in the forest sector (Mbatu, 2009). The process of becoming a community forest and exploitation is long and slow (Oyono, 2005). There are also no accountability mechanisms built into the law, which results in communities receiving low quality forest (deBlas et al., 2001). Furthermore, "community" has no legal status, and is open to interpretation (Brown & Scheckeberg, 2001) which often leads to the idea of communities being homogeneous (deBlas et al., 2001). Also, the community forest is located in the non-permanent forest domain that does not have to be managed sustainably by law, providing no environmental logic to mandate relatively expensive management plans that may have negative implications for livelihoods (Cerutti & Tacconi, 2009).

Oyono et al. (2007) have also identified a number of issues with the creation of forest management committees. It has been noted that committees are often formed undemocratically resulting in bad governance, embezzlement and corruption, confiscation of decision-making over community forest revenue, and hijacking by elites (Oyono et al., 2007). Often those in charge are self-appointed, wealthy elites which could

be in part because they bribe relevant authorities to stay in business. Therefore, the communities may rely on these elites to stay in business (Mbatu, 2009). Furthermore, the upward accountability of these institutions leads to a lack of local democracy (Oyono et al., 2007). Local governments are constantly under the control and surveillance of the central state and direct appointees of the central government (divisional and sub-divisional officers and district heads) are directly involved in the affairs of the community forests (Mbatu, 2009). There has been a disparity found between revenue generated from community forests and the quality and quantity of benefits derived by villages (Oyono et al., 2007). Furthermore, the creation of these committees has led to increased conflict by setting the opposing groups against each other and negatively impacting the local management dynamics and livelihoods improvements (Oyono et al., 2007). In some cases the general assembly has also been found to be dysfunctional where the leaders prevent the effective running of the assemblies to avoid passing control to the communities (Mvondo, 2006).

3.2 Research Area

Figure 3.2 Map created using Google Earth showing the country of Cameroon and

Yaounde, the capital city. The town of Yokadouma, located in the East Province is identified.

This research was conducted in the humid forest region near Yokadouma in the East Province of Cameroon in the context of a larger research project of the Center for International Forestry Research (CIFOR) on Climate Change and Forests in the Congo Basin: Synergies between adaptation and mitigation (COBAM). The Réseau des Organisations Non-Gouvernementales locales du Sud-Est (ROSE, English: The network of local NGOs in the South-East) is a local organisation that is helping to implement the COBAM project. After a tour of the area and with the help of ROSE, four villages from two community forests were chosen for the research project. The villages were chosen based on the presence of a community forest, population size, and distance from

Yokadouma (Figure 3.1). Following the initial phase of research in the four villages, two more villages from a third community forest were chosen based on the same criteria. A description of the community forests and villages studied along with a map showing the approximate location of each village is provided below (Figure 3.2).

Figure 3.3 Map created using Google Earth showing the town of Yokadouma and the study villages for this research. Villages are A=Mang, B=Bompello, C=Mopouo, D=Modoumo, E=Ndjalobekoe, F=Biwala.

3.2.1 The Community Forest of Mpemog

Mpemog, which is approximately 5,000 ha, is the first of three community forests, in which research was conducted and was associated with three villages; Mang, Bompello, and Maschiembo. The simple management plan for the community forest was accepted in August 2003 and the forest has had two periods of timber exploitation. Because of issues with the logging partner not paying for the wood, the community has had to stop cutting timber and has gone into debt to maintain their status. They are

struggling to better understand the concept of community forestry and are considering expanding to include other activities, such as collective harvest and sale of non-timber forest products (NTFPs) from the community forest.

3.2.2 The Village of Mang

Mang is the largest of the villages associated with Mpemog, with a total of 289 households. The houses are mostly located within the main village, which also hosts the chief, but the village also includes a small hamlet. The two parts of the village are separated by a large natural savannah that gives the village its name. The savannah is an important part of the natural environment but also provides spiritual benefits. The main village consists of homes built very close together, along the main road. Mang maintains a high level of cleanliness and organisation. The village area is kept free from vegetation growth and the road is lined with white rocks and wooden posts, both systems installed by members of the community. Housing construction in the village is mixed and ranges from stick and mud construction with thatched roofs to concrete construction, with the latter being owned by successful older adults. Mang, positioned at 44 km from Yokadouma, represented the farthest research site from the town of Yokadouma. The village is much closer to Mboy II, a very large mining community that borders the Central African Republic. Mang is a well-equipped village with its own Catholic health centre, several chapels, a primary school, a secondary school under construction, and a safe water point in the middle of the main village.

3.2.3 The Village of Bompello

The second research village of Mpemog community forest is Bompello which neighbours Mang. It is located at 39 km from Yokadouma and is noticeably smaller than Mang. It has 138 households divided into three hamlets that are approximately equal in size. The centre section houses the chief and is separated from the other sections on one side by a school and on the other by a forest area. The households of the village are more spread out than in Mang. While the area is less maintained than the village Mang, it is by no means overgrown. The village has its own primary school, but no safe water point, no health centre, and no visible chapels. Housing construction is of a lower quality, with many smaller stick and mud construction homes as well as some wood and some brick construction.

3.2.4 The Community Forest of Essayons-Voir

The second community forest chosen as a research site was Essayons-Voir, which is composed of four villages; Modoumo, Limoé, Mopouo, and Zokboulanebone and is 4,680 ha in size. Their simple management plan was approved in 2006, six years after submission to the government authorities. The community forest had one period of timber exploitation in 2007.

3.2.5 The Village of Mopouo

Mopouo is the largest of the villages that make up the Essayons-voir community forest. It contains two separate hamlets separated by a church and a river. The two sides divide the 147 households about evenly but are distinctly different. One section houses the chief while the other contains the family of a local elite, who is a former member of

the Cameroon national assembly. Mopouo is located 14 km from Yokadouma and hosts a primary school, a latrine, multiple chapels, and two safe water points, one of which is broken. Housing construction in this village is noticeably better than in all of the other villages. There is more wood and brick construction with fewer small homes, and fewer stick and mud construction. The village is well maintained.

3.2.6 The Village of Modoumo

Modoumo has fewer households, 119 in total, and is far more spread out. It contains three hamlets with significant space between houses even within a section. The centre section houses the chief and is medium-sized with one smaller and one larger to each side. These hamlets are separated by a school and a forested area. The village is well maintained in some areas and overgrown in others. Similarly, housing construction varied from one section of the village to another. Modoumo is located at 12 km from Yokadouma and hosts a primary school and Bahai centre but no visible water point.

3.2.7 The Community Forest of Mourikoualiye

Mourikoualiye is the third community forest and the one closest to the town of Yokadouma. There are eight villages that are members of the community forest with the president located in Ndjalobekoe, one of two villages studied. The creation of the community forest was set in motion in 2000 and came to fruition with the help of local and international NGOs but there has been no timber exploitation since 2008. The community forest area totals 5,000 ha.

3.2.8 The Village of Ndjalobekoe

Ndjalobekoe is a larger village located seven km from Yokadouma. It hosts 201 households and is composed of one main village with smaller sections on either side. The main village is very well kept with a river running through it. It hosts a nursery school, primary schools, a Catholic health centre, and chapels. It has a varied housing construction and in addition to being part of Mourikoualiye community forest, it has recently been approved to have its own community forest.

3.2.9 The Village of Biwala

Initially, we thought, and were told, that Biwala is a smaller village than Ndjalobekoe but it hosts 200 households. It is much more spread out and is composed of a larger section with smaller sections on each side. The village is four km from Yokadouma and it hosts a church but lacks a school, health centre, and water point. The housing construction varies.

Chapter 4: Youth Livelihood Strategies

4.1 Introduction

4.1.1 Livelihoods and the Sustainable Livelihoods Framework

The definition of livelihood provided by Chambers and Conway (1992) is the most commonly used and adapted in the literature. They indicate that it "comprises people, their capabilities and their means of living, including food, income and assets. Tangible assets are resources and stores, and intangible assets are claims and access" (p.10). A second definition states that "A livelihood comprises the assets (natural, physical, human, financial, and social capital), the activities, and the access to these (mediated by institutions and social relations) that together determine the living gained by the individual or the household" (Ellis 2000, p.10). The sustainable livelihoods (SL) framework, promoted by the United Kingdom's Department for International Development (DFID), is based on the five types of capital or assets: physical capital, human capital, social capital, financial capital and its substitutes, and natural capital which create an asset portfolio (Ellis, 1999; Adato & Meinzen-Dick, 2002; Alinovi et al., 2010). The framework is used for analysing causes of poverty and the factors that affect how people make a living. These include access to assets and the ability to put them to productive use, personal priorities and the social, cultural, political, and institutional context in which they live. It also takes into account the shocks and stresses affecting peoples' vulnerability and the relationship between relevant factors at a micro and macro level (Alinovi et al., 2010; Adato & Meinzen-Dick, 2002). It goes beyond the basic aspects of peoples' lives and identifies the features by which people in rural areas identify poor or well-off households, it recognises people themselves as actors with assets

and capabilities who act in pursuit of their own livelihood goals (Adato & Meinzen-Dick, 2002). The process of understanding livelihood strategies in a community are participatory and try to balance economic, institutional, social, and environmental sustainability while recognising the dynamic nature of livelihood strategies and people's flexible responses to changing situations (Alinovi et al., 2010).

According to de Haan and Zoomers (2005) "livelihood activities are not neutral, but engendered processes of inclusion and exclusion" (p.34). The success of a livelihood strategy can be based on a number of variables, including being part of status groups like women and youth, a kinship group, a network of clients or a patron, among others (de Haan & Zoomers, 2005). 'Youth' is one group that has even more difficulty engaging in effective livelihood strategies. One study suggested that youth represented half of the world's jobless in 2004. In rural Africa, youth livelihood opportunities are often particularly limited (Porter et al., 2007). Often, children and youth must contribute to household income or support themselves entirely while still in full-time education. The need to pursue off farm work to satisfy livelihood needs, is often further complicated by mobility and transport issues. This has caused greater difficulty for youth to ensure adequate livelihood outcomes (Porter et al., 2007). It is believed that the livelihood strategies of youth differ from those of adults but much work needs to be done to understand how they differ and for what reasons. However, in some cases youth are more likely to undertake enterprises that need heavy and sustained physical effort, engage in high-risk enterprises with high and quick returns, or develop short term enterprises, especially where they lack clear rights of control over land and other key assets (Waldie, 2004).

In most rural African settings, many poor maintain diversified livelihood strategies to reduce risks and because they cannot garner enough income from one single activity. This means that most small scale farmers also depend on forest products as part of their livelihood strategies (Barrett, Reardon & Webb, 2001; Sunderlin et al., 2005; McCusker, 2002). In SSA, a range of 30-50% reliance on non-farm income sources is common and is growing (Ellis, 1999; Barrett et al., 2001). Often, multiple activities are pursued by different family members allowing the household to take advantage of different opportunities and resources at different times (Adato & Meinzen-Dick, 2002). Additional literature shows that the poor are also heavily dependent on common pool resources for at least some of their livelihood activities. These informal sources provide significant benefits to the poor for income as well as cultural and social activities (Beck & Nesmith, 2001). The choice of a livelihood strategy is therefore, driven in part by preferences and priorities, but is also influenced by the policies and the formal and informal institutions and processes that impinge on people's everyday lives (Ali et al., 2007).

It has been noted that the poor are disproportionately dependent on forest resources because forest resources make up a larger portion of total income among the poor (Sunderlin et al., 2005). Forest-dependent people as described by Sunderland et al. (2005) means "reliance on forests - in a manner that is either difficult or impossible to replace - for a portion of environmental services, subsistence needs, safety net and gap filler functions, and opportunities for poverty elimination" (p.1397). Deforestation in developing countries is a problem because it affects the livelihoods of people dependent on forest products and services. Improved forest management, therefore, should

recognise the importance of forests to the livelihoods of local people (Sunderland et al., 2005). Little is known about how youth in rural Africa depend on the forest as part of a livelihood strategy leading to the focus of this research.

4.1.2 Outline

The research included in this paper aims to understand if rural youth in this region of Cameroon derive a large portion of their livelihoods from forest resources. It seeks to identify the different forest resources youth use to earn or provide a livelihood and to identify how important each of these resources is to the overall youth portfolio of livelihood activities.

4.2 Methodological Approach

4.2.1 Introduction

This research was conducted using a mixed methodological approach. The results presented are predominantly from the administration of a quantitative survey. The survey data are supplemented by qualitative data, primarily from focus groups and semi-structured interviews. The survey provides a rich dataset of information on youth livelihood strategies. Focus group and interview data supplement the survey with more in depth information to help understand why youth are focused on particular livelihood activities and what affects decision-making. All data collection was done in French, one of two official languages in Cameroon and the recognised language of the region. Communication was rarely an issue, especially with youth who have generally been educated to some extent in French. However, where language barriers existed, other members of the community translated to assist those who had difficulty understanding

and expressing themselves in French. Research was conducted during two research trips, from June to August 2012 and from January to March 2013.

Upon arrival in Yaoundé, Cameroon, the research staff of CIFOR and particularly the COBAM project team were consulted. Using input from the CIFOR staff, the research instruments were adjusted to fit the local context and were translated into French to ensure that they would be appropriate at the local level. CIFOR also provided preliminary results on initial research, including participatory mapping (using methods provided in Evans et al. 2006), of the region in which the research would take place. With the help of the local NGO ROSE (Réseau des ONGs locales du Sud-Est), an introductory meeting was held with traditional authorities and community forest leaders from Mang, Bompello, Mopouo, and Modoumo. These four villages were those originally chosen for the research project. These villages were chosen as they were already part of a larger research project with which we were collaborating[1]. They were chosen to ensure difference in size (based on number of households) and at varying distances from the closest urban centre, Yokadouma. More specifically the Chief (or his representative) of the four villages and the president of the each of the three community forests were invited to participate.

The meeting allowed the researcher to outline the research project, explain the objectives, and provide background as to why the researcher was interested in working with each village. It also allowed the researcher to explain the methods to ensure a clear

[1] COBAM (The Congo Basin Adaptation and Mitigation) project is a project of CIFOR that aims to provide the information, analysis and tools needed to implement policies and projects for adaptation to climate change and reduction of carbon emissions in the forests of the Congo Basin, with equitable impacts and co-benefits – including poverty reduction, enhancement of ecosystem services, and protection of local livelihoods and rights.

understanding of who would be asked to participate in the villages. It provided the community leaders with a better understanding of the research and an opportunity to ask questions, address concerns, and provide feedback to the researchers. This process also helped create a relationship between the researchers and the community leaders and ensure that we would be welcomed into the villages. It also provided an opportunity to plan the implementation of the first section of the research over the following weeks. To ensure that all invited members were able to attend, financing was made available to all participants to cover the cost of travel. Furthermore, as the meeting occupied a full morning, a meal was provided as is customary in the area. All invited community leaders were present for the meeting.

Two additional villages were added to the study at the end of the first research trip in order to better understand the differences between the villages immediately adjacent to Yokadouma and those further away that were originally part of this research. The researchers were introduced to the leaders of these additional two villages separately. As the researchers were present in the area prior to expanding into these communities, they were already recognised. Also, the researchers had spoken with the village leaders in these communities during the first research trip to ensure our presence would be welcomed during the follow-up trip.

4.2.2 Surveys

The survey (Appendix A) was used to identify specific aspects of livelihoods. The survey included demographics such as age, gender, and marital status to provide the information necessary to understand how livelihood strategies vary among different groups of youth. Specific questions addressed livelihood strategies including the types of

forest resources that are exploited as well as the contribution of each to the overall income. The surveys also included questions on whether or not youth work independently or as groups, how they make decisions about their livelihood activities, as well as their impression of resource depletion and climate change.

Surveys were administered to youth, young men and women, aged 19 to 30. This age group was chosen for a number of reasons. It is a mixed group and provides a number of perspectives. Youth in this age group can vary in marital status, number of children, current state of education, dependence on parents or family, and position within society. This age group makes up a large section of the population and is a major factor in terms of village labour force. This age group is also experiencing significant changes in access to education, mobility, and communications (especially with the introduction of cell phones). A stratified random sampling approach was chosen for this project to ensure that young men and young women had the opportunity to participate equally. It should also be mentioned that young women who were born in the village as well as those who came to the village through marriage were asked to participate in the survey.

Upon entering a village a coin toss was used to decide at which household to begin the surveying (Potts, Myer & Roberts, 2011). From the first household, every fourth house was chosen to participate in the survey. It was important to use every fourth house to ensure that the entire village area would be covered in the time provided and with the number of surveys required. It was also beneficial to create distance between houses as families build homes close to the father, therefore children from the same family would be living close together. Providing separation between the houses sampled allowed us to speak to as many separate families as possible. Furthermore, only one

youth from each household was asked to participate in the survey. If following the original strategy all potential households had been visited but the minimum number of households had not been surveyed, the process was restarted to include every other household. This process was continued until at least the minimum number of households was reached. It was not necessary to approach every household to meet the survey requirements.

Upon approaching a household, the researcher asked if a youth aged 19 to 30 lived in the household and asked to speak with them. If a youth was a member of the household but was not currently present, the houses were noted and revisited later in the day or on another sampling day that was convenient for the participant. The young man or woman was asked to choose a location where they were comfortable to have a conversation, often the home, cookhouse, or outside. To facilitate participation we allowed participants to continue working while we administered the survey. The participant was provided with a brief oral explanation of the project, the type of information the survey was asking, and their rights as a research participant. If the young person agreed, their consent was recorded and the survey was administered. The approach of using oral consent was approved by the UPEI Research Ethics Board prior to doing any fieldwork. Due to the transient nature of youth living with family, we asked whether they lived in this home before administering the survey. Surveys were administered by the primary investigator unless language or cultural barriers were problematic. The research assistant was present and provided further explanation when a language barrier existed.

In this research project we define youth as young men and young women aged 19 to 30. An older definition of youth was used because all youth (aged 11-30) is a large heterogeneous group and is not a meaningful analytical category for policy creation (Bennell, 2000). A minimum of 15 surveys in the smaller villages and a minimum of 20 surveys in the larger villages were administered. The numbers were chosen to be representative for the sizes of the villages and were reasonable to complete in the time provided. A total of 120 surveys were administered in six villages; Mang (32), Bomepello (17), Mopouo (21), Modoumo (15), Ndjalobekoe (20), and Biwala (15). Respondents included 60 young men and 60 young women between the ages of 19 and 30 years. Of the 120 respondents, 73% considered themselves married (formally or informally) but only 26% identified themselves as the head of their household. No explanation of head of household was given during the survey which means that positive responses could signify multiple situations. If a respondent identified as a head of household, this suggests they feel some form of autonomy whereas those still living within a household would be somewhat dependent on or would answer to, probably their fathers. This could be a situation of no longer living under one roof but could also be a recognition of status within the extended family. The number of children of the respondents ranged from zero to eight but the majority fell within one (22%), two (19%), and three (17%) children. The respondents varied in formal education levels with 48% completing some primary, 37% completing some secondary, and 2% attending post-secondary education. Thirteen percent identified as having no formal education (Table 4.1). Dropout and refusal rates for the survey were low with only one participant dropping out during the survey and two refusing to participate.

Table 4.1 Demographics for 120 surveyed youth in six villages near Yokadouma. Shows precent of respondents in categories of community forest, village, marital status, household status, number of children, and level of formal education.

Survey Respondent Demographics	% Respondents
Community Forest	
Mpemog	40.83
Essayons-Voir	30.00
Morikoualiye	29.17
Village	
Mang	26.67
Bompello	14.17
Mopouo	17.50
Modoumo	12.50
Ndjalobekoe	16.67
Biwala	12.50
Marital Status	
Married	73.95
Single	26.05
Household Status	
Head of Household	24.58
Not head of household	75.42
Children	
No	21.67
Yes	78.34
8 Children	0.83
Level of formal education	
None	11.67
Primary	48.33
Secondary	37.50
Post-Secondary	2.50

4.2.3 Focus Groups

A total of 12 focus groups were held to address the livelihoods research. In each community two focus groups were held with a number of young men and young women. The men and women were separated for the focus groups as is customary. This allowed the researcher to focus on the differences between livelihood strategies of men and women, but also to provide a safe space for women to participate, who may be less willing to speak in the presence of men. This method was validated by observations by the researcher and the research assistant in which men tended to dominate the conversation when in mixed company.

The focus groups with youth in the community provided general information about livelihoods in the area. Because the focus groups took place before conducting the surveys the information provided validated the content of the individual survey and provided the researcher with a base of knowledge. In each case young men and young women aged 19 to 30 were recruited to participate in focus groups. The number of participants was influenced by the ability of community members to spread the word about the meeting. Participation ranged in number from eight to 20 depending on the size of the village and the availability of youth to participate. Although focus groups often work best in groups of six to 12, the researcher decided not to reject any participants in an effort to be inclusive. In the case of larger groups, many participants were present more in a supportive role, acknowledging responses with support or lack of support but not participating fully by commenting themselves. To ensure that the focus groups were accessible to youth, the timing of the meetings was chosen in collaboration with several youth in each village. In this way, a time could be chosen that suited the daily schedule of the average youth.

Once the focus group participants were assembled, they decided on a location where they would feel comfortable participating in a discussion. Focus groups were held in school classrooms, in outdoor common areas, and in personal homes. Regardless of the location chosen, all focus groups were held out of hearing range of any adults above the age group of focus. This was by design to ensure that the youth were able to engage in a candid conversation without fear of retribution.

In each focus group the area was arranged so that the researcher and participants were sitting in a configuration, usually a circle, that promoted discussion. The researcher explained the goals of the project, the types of questions that would be asked, and the rights of participants. If participants consented to the methods they remained and were welcome to leave at any point during the discussion. Participants were encouraged to speak honestly and to participate to the extent that they felt comfortable. They were also encouraged to agree or disagree with other members as long as it was done respectfully. When the researcher felt that the participants were beginning to argue in a non-constructive manner the researcher identified that both opinions were registered and continued the discussion. Similarly, if the discussion veered far off topic, the researcher used probing questions to bring the conversation back on topic. As with the surveys, if problems with language or culture were encountered, the research assistant was present to ensure full understanding and to help manage the group where necessary.

The focus group information was recorded using two methods. The conversations were recorded using a digital recorder as long as all participants consented to the use of the device. During the process the research assistant also took notes. After each focus

group, the researcher wrote notes on what was discussed and experienced. These methods, taken together, provide a solid record of the happenings of each focus group.

4.2.4 Sharing of Results

General results of the research were shared with all villages included in the study during the second research trip. This process also provided access to the main results of the research to those who participated, as well as other members of the community who are impacted by these issues. This process facilitated the building of more solid relationships with members of the communities. It increased the researcher's accountability to the community members and participants and increased the level of trust between the researcher and the communities. Importantly, the meetings where results were shared created an opportunity to start a dialogue in the village and to open up discussion on issues that otherwise would not be discussed. It provided the opportunity for both young people and older people to have their opinions heard in a safe space where no participants were specifically identified. Sharing the results of the research also avoids the often 'extractive' nature of research conducted by international researchers in developing countries.

Participants were recruited for these meetings through word of mouth in each village. All members of the community were invited to attend and efforts were made to ensure that a variety of voices were present, including women, youth, and adults. In every case the chief was present. One large meeting was conducted in an outdoor space and seats were organised in a circle to promote conversation. Attendance varied from 12 to greater than 30 participants. The researcher and research assistant provided an overview of the data and the general results. We facilitated discussion about these results and

ensured that we had properly understood the situation in each village. If we were told that something was not correct, we opened up discussion and ensured that all present voices were heard and recorded any changes from the original results. Notes were taken throughout the process. The process also allowed the researcher to ask questions that arose concerning specific livelihood strategies or activities. When there was a disagreement about an issue it was recorded and the conversation was moved forward. For the most part, there was agreement about the results. The opportunity was also offered to all participants to ask questions and the researcher and assistant made themselves available as long as there were questions.

4.2.5 Analysis

Survey data were coded and entered into SPSS statistical software for analysis. Responses were grouped together based on similarity and all those that did not fall into any category were labelled as "other." Once the data were input and amalgamated, responses were analysed using descriptive statistics to understand trends and Chi-Square tests to assess significance. Notes were recorded during the initial focus groups and meetings held to share results, as well as recorded for further note taking. Responses were recorded and used to provide context and further explanation of survey responses.

Prior to any tests, the variables were tested for correlation using a correlation matrix in order to ensure a more complete understanding of their relationship. This process showed which of the variables were statistically related, allowing the researcher to gain insight into the significance of each variable. For example, it was found that being a head of household was linked to gender, as only men responded as being heads of households. Therefore, it is likely that any activity that is gendered is also likely to show

significance with the head of household. Similarly, if both villages of a community forest show significance, then it is likely that the community forest is likely to show significance. The results showed that gender was linked to the head of household, and number of children. Age was linked to marital status, number of children, and head of household. Furthermore, marital status was linked to education and number of children. Levels of education were also linked to number of children. Also, community forests were linked with the villages within them. It is important to understand the interactions of covariates when interpreting the results.

Descriptive statistics explain observed tendencies in the data and a Chi square test was used to assess the significance of any differences – primarily between villages, community forests and gender. All statistical tests met the assumptions of the Chi square, as the respondents were independent of each other. To ensure strength in the tests, no cases were presented where the cells had an expected count less than 5 in more than 20% of the cells and no cells have an expected count of less than 1 (Yates, Moore & McCabe 1999, p.734).

4.3 Results

4.3.2 Livelihood Portfolio

Due to the nature of livelihoods in the region, it was expected that youth would be participating in a diverse range of livelihood activities, including the use of forest resources. It was found that, when asked about general livelihood strategies, youth responded with a large variety of activities that were both forest dependent and not forest dependent. Most responses were agriculturally focused, with 97% of youth respondents mentioning agriculture as a livelihood activity, and 11% also mentioning cacao

(*Théobroma cacao*) production. The second most common livelihood activity cited was commerce, 42%, which included activities such as the making and selling of prepared food, wine, and other products, or the purchase and resale of items. Several other livelihood activities were mentioned less often including, hunting, collecting NTFPs, fishing, and skilled and unskilled labour. A smaller percentage of young people are either students, dependent on savings and loan groups, or remain dependent on family members for income and/or sustenance (Table 4.1).

Table 4.1 Livelihood activities of young male and female survey respondents shown in percent.

Livelihood Activity	Women (%)	Men (%)	All Respondents (%)
Agriculture	96.67	96.67	96.67
Cacao Production	3.33	18.33*	10.83
Hunting	-	31.67**	15.83
NTFP Collection	6.67	16.67	11.67
Fishing	5.00	6.67	5.83
Unskilled Labour	1.67	21.67**	11.67
Skilled Labour	-	25.00**	12.50
Commerce	68.33**	15.00	41.67
Student	1.67	3.33	2.50
Dependant on Family	5.00	8.33	6.67
Savings and Loans	1.67	3.33	2.50

Note: * Signifies chi-square significance at $p \leq 0.05$, ** Signifies chi-square significance at $p \leq 0.01$

It was also expected that there would be gendered differences in activities, which proved to be true. Commerce activities were more common amongst young women (χ^2 (1, n=120) =35.109, p=0.001) while cacao production (χ^2 =6.988, p=0.008), hunting (χ^2 =22.574, p=0.001), and skilled (χ^2 =17.143, p=0.001) and unskilled (χ^2 =11.644, p=0.001) labour were more prevalent activities amongst young men.

When youth were asked specifically about particular livelihood activities, the results varied somewhat from the responses to the initial general question. Agriculture remained the most common livelihood activity; 99% of respondents. Additionally, 88% of respondents said that they collect NTFPs and 83% identified fishing as an activity. Furthermore, 98% identified firewood collection as an activity. The proportion of young people participating in hunting activities was 35% while 22.5% participated in other activities, including artisanal gold and diamond collection, which had not been mentioned in response to the general question. It was expected that young men would participate in digging sand for construction materials; however, only 17% of respondents indicated it as a livelihood activity (Table 4.2).

Table 4.3 Table showing livelihood activities of youth survey respondents by gender, community forest, village, household status, marital status, and level of formal education. Results are from questioning that asked directly about these activities.

	Agriculture	NTFPs	Firewood	Hunting	Fishing	Digging Sand	Other
Women (%)	100.00	93.33	100.00	3.33	91.67*	8.33	11.67
Men (%)	98.33	83.33	96.67	66.67**	75.00	25.00*	33.33*
All Respondents (%)	99.20	88.30	98.30	35.00	83.30	16.70	22.50
Mpemog (%)	97.96	77.55	97.96	36.73	79.59	12.24	22.45
Essayons-Voir (%)	100.00	91.67	97.22	36.11	86.11	16.67	13.89
Morikoualiye (%)	100.00	100.00	100.00	31.43	85.71	22.86	31.43
All Respondents (%)	99.20	88.30	98.30	35.00	83.30	16.70	22.50
Mang (%)	96.88	68.75	100.00	28.13	71.88	3.13	15.63
Bompello (%)	100.00	94.12	94.12	52.94	94.12	29.41	35.29
Mopouo (%)	100.00	95.24	100.00	33.33	85.71	28.57	14.29
Modoumo (%)	100.00	86.67	93.33	40.00	86.67	0.00	13.33
Ndjalobekoe (%)	100.00	100.00	100.00	40.00	95.00	30.00	50.00
Biwala (%)	100.00	100.00	100.00	20.00	73.33	13.33	6.67
All Respondents (%)	99.20	88.30	98.30	35.00	83.30	16.70	22.50
Head of Household (%)	96.55	86.21	96.55	72.41**	84.27	24.14	37.93

Continued on following page

Table 4.3 Continued

Not Head of Household (%)	100.00	88.76	98.88	23.60	79.31	14.61	17.98
All Respondents (%)	99.15	88.14	98.31	99.15	83.05	16.95	22.88
Married (%)	100.00	90.91	98.86	39.77	87.50	18.18	25.00
Single (%)	96.77	80.65	96.77	19.35	70.97	12.90	16.13
All Respondents (%)	99.16	88.24	98.32	34.45	83.19	16.81	22.69
No Formal Education (%)	100.00	92.86	100.00	7.14	100.00	14.29	14.29
Primary Education (%)	100.00	94.83	98.28	36.21	86.21	17.24	22.41
Secondary Education (%)	97.78	80.00	97.78	44.44	75.56	15.56	26.67
Post-Secondary Education (%)	100.00	66.67	100.00	0.00	66.67	33.33	0.00
All Respondents (%)	99.20	88.30	98.30	35.00	83.30	16.70	22.50

Note: * Signifies chi-square significance at $p \leq 0.05$, ** Signifies chi-square significance at $p \leq 0.01$

There was little variation among the different subsets (village, community forest, marital status, number of children) of the respondents although some differences were noted. The community forest of Mpemog, particularly the village of Mang, showed higher participation levels in the collection of NTFPs, while fewer participated in digging sand. Also, more young single men tended to hunt and fewer fished. There continue to be noticeable gender differences in livelihood activities. Women were significantly more

likely to participate in fishing (χ^2 (1, n=120) =6.000, p=0.014) while men were more likely to participate in hunting (χ^2 =52.894, p=0.001), digging sand (χ^2 =6.000, p=0.014), and "other" activities (χ^2 =8.076, p=0.004). Those who identified as heads of households were also statistically more likely to participate in hunting (χ^2 (1, n=118) =22.739, =0.001). To further understand youth livelihood strategies we looked more closely at the collection of NTFPs and firewood collection, hunting and fishing, and agricultural activities.

Non-Timber Forest Products

As indicated previously, the majority of respondents mentioned the collection of NTFPs as a livelihood activity. This collection included a variety of fruit, plants, nuts and other products that were traditionally considered women's work. It was therefore expected that there would be gender differences in the NTFPs collected. However, the only significant difference was in the collection of okok (*Gnetum africanum)*, the leaf of an understory liana that is collected and often cut into small strips and boiled for consumption. More women and fewer men than expected were collecting okok (χ^2 (1, n=106) =5.176, p=0.023). Other NTFPs collected include bush mango (*Irvingia gabonensis)*, djiansang (*Ricinodendron heudelotii)*, kola nut (*Garcinia kola)*, and balaka (*Pentaclethra macrophylla).* Respondents also mentioned tondo, ndjembe, and mempa'a, three species of fruit bearing trees for which scientific names could not be identified based on the local names given.

Differences were also noted in the NTFPs collected based on village and community forest (Table 4.4). The main difference was found in the collection of snails

(*Murex* spp) and caterpillars (*Thaumetopoea* sp). Fewer respondents in the villages of Mang and Ndjalobekoe (χ^2 (5, n=106) =24.060, p=0.001), and the community forest of Essayons-voir (χ^2 (2, n=106) =12.366, p=0.002) collected caterpillars while more collected snails in Essayons-voir and, in particular, in the village of Mopouo. The opposite was true in the community forest of Mourikoualiye where fewer respondents in both the villages of Biwala and Ndjalobekoe were collecting snails (χ^2 (5, n=106) =42.042, p=0.001). More young people in the village of Bompello collected ndjansang (*Ricinodendron heudelotii*) (χ^2 (5, n=106) =13.788, p=0.017)

Table 4.4 NTFPs collected determined through individual youth surveys by gender, community forest, and village (in percent).

	Bush Mango	Ndjembe	Mempa'a	Caterpillars	Snails	Ndjiansang	Tondo	Balaca	Bita Cola	Okok	Ndongote	Mushrooms
Women (%)	96.43	73.21	42.86	66.07	41.07	44.64	3.57	5.36	-	21.43 *	3.57	1.79
Men (%)	92.00	84.00	48.00	56.00	40.00	36.00	8.00	2.00	4.00	6.00*	2.00	-
All Respondents (%)	94.34	78.30	45.28	61.32	40.57	40.57	7.55	3.77	3.77	33.96	2.83	0.94
Mpemog (%)	92.11	89.47	47.37	44.74	53.57	55.26	0.00	10.53	5.26	-	-	-
Essayons-Voir (%)	93.94	72.73	51.52	84.85*	78.79	33.33	6.06	-	-	-	3.03	-
Morikoualiye (%)	97.14	71.43	37.14	57.14	5.71	31.43	11.43	-	-	42.86	5.71	0.94
All Respondents (%)	94.34	78.30	45.28	61.32	40.57	40.57	5.66	3.77	1.89	14.15	2.83	0.94
Mang (%)	86.36	81.82	27.27	36.36**	27.27	40.91	-	20.00	-	-	-	-
Bompello (%)	100.00	100.00	75.00	56.25	56.25	75.00*	-	-	12.50	-	-	-
Mopouo (%)	95.00	80.00	65.00	80.00	85.00	20.00	5.00	-	-	-	5.00	-
Modoumo (%)	92.31	61.54	30.77	92.31	69.23	53.85	7.69	-	-	-	-	-
Ndjalobekoe (%)	100.00	65.00	40.00	35.00**	10.00 **	35.00	15.00	-	-	30.00	10.00	5.00
Biwala (%)	93.33	80.00	33.33	92.86	-**	26.67	6.67	-	-	60.00	-	-
All Respondents (%)	94.34	78.30	45.28	61.32	40.57	40.57	5.66	3.77	1.89	14.15	2.83	0.94

Note: * Signifies chi-square significance at $p \leq 0.05$, ** Signifies chi-square significance at $p \leq 0.01$

NTFP collection often occurred in groups although men were significantly more likely to work alone (χ^2 (3, n=106) =16.966, p=0.001). When working in a group, women were more likely to work in groups of women of mixed ages (43%) or with family (32%) but would also work with groups of exclusively young women (13%) or a mixed group (11%). Alternatively, men worked mostly in mixed groups (34%) or family (34%) while others worked in groups of men, young men, or pairs (Table 4.5).

Table 4.5 Work style and work group type for NTFP collection performed by male and female youth survey respondents.

Work Style	Female (%)	Male (%)	All Respondents (%)
Alone	1.79	18.00**	9.43
Group	76.79	44.00	61.32
Both	14.29	14.00	14.15
Alone or with wife/husband	7.14	24.00	15.09
Group Type	**Female (%)**	**Male (%)**	**All Respondents (%)**
Young Women	13.21	-	8.54
Young Men	-	10.34	3.66
Young mixed	-	6.90	2.44
Mixed	11.32	37.93	20.73
Mixed Women	43.40	-	28.05
Men Mixed	-	6.90	2.44
Family	37.74	37.93	37.80
Pair	-	6.90	2.44

Note: * Signifies chi-square significance at $p \leq 0.05$, ** Signifies chi-square significance at $p \leq 0.01$

When asked about the use of NTFPs, the results varied. It was expected that the uses of these products would vary given the diversity of products collected. We did expect that the sale of some of these products would be important for income, as typically young men collect NTFPs for sale. When asked about the uses we found that 99 of 119 respondents sold at least some of the NTFPs they collect, with the proportions varying (Table 4.6). Of those 99, 14% sell everything they collect, 5% sell greater than 3/4, 32% sell 3/4, 20% sell 1/2, 22% sell 1/4, and 6% sell less than 1/4 or only when they have excess. From this we see that youth collect a diverse range of products, which varies based on gender and location. These products are used for cash income and for sustenance.

Table 4.6 Proportion of NTFPs that are sold by female and male youth survey respondents.

How much of collected NTFPs are sold	Respondents (%)
All	16.13
>3/4	5.38
3/4	32.26
1/2	22.58
1/4	22.58
< 1/4 (or only when there is excess)	1.08

Firewood Collection

Similar to other NTFPs, firewood was collected by the majority of the respondents; all save three collected firewood. The collection of firewood is done

primarily alone or in small groups (Table 4.7). Again, men are more likely to work alone while women are less likely (χ^2 (3, n=115) = 19.422, p=0.001). Similarly, those who identified as head of household were also more likely to work alone or exclusively with their spouse (χ^2 (3, n=113) = 12.345, p=0.012). For those who do work in groups, both men and women were likely to collect firewood with other members of their family (77% and 89% respectively). Other women worked with groups of women of mixed ages or exclusively young women, while men worked with men or in mixed groups.

Table 4.7 Work style and work group type for firewood collection performed by male and female youth survey respondents.

Work Style	Female (%)	Male (%)	All Respondents (%)
Alone	37.93	42.11**	40.00
Group	29.31	8.77	19.13
Both	25.86	14.04	20.00
Alone or with wife/husband	6.90	35.09	20.87
Work Group	**Female (%)**	**Male (%)**	**All Respondents (%)**
Alone	37.93	42.11	40.00
Young Women	7.69	-	5.71
Mixed Women	19.23	-	14.29
Family	76.92	88.89	80.00
Young mixed	-	11.11	2.86

Note: * Signifies chi-square significance at $p \leq 0.05$, ** Signifies chi-square significance at $p \leq 0.01$

Of the 117 respondents who do collect firewood, only 19 of them sell this product (Table 4.8). Within this group, 5% sell all the wood they collect, 42% sell 3/4, 26% sell 1/2, and 26% sell 1/4. This indicates that the majority of respondents primarily collect firewood to meet household subsistence requirements, although it does have a place, however small, in income generation.

Table 4.8 Proportion of collected firewood that is sold by youth survey respondents (in percent).

How much of collected firewood sold	Respondents (%)
All	5.26
3/4	42.11
1/2	26.32
1/4	26.32

Hunting and Fishing

Hunting in this case describes both active hunting as well as trapping, which is very common. Therefore it is expected that there would be variety of game caught, which is in fact the case. In all locations there was no significant difference in the types of animals caught based on any of the factors studied. Many respondents stated that they catch whatever they can. Hunting game is a difficult livelihood strategy to assess due to the laws surrounding the selling of bush meat. Non-profit organisations, such as the World Wildlife Fund for Nature (WWF), have provided workshops to help curb the issue, but poaching still occurs. Villagers are legally able to hunt for sustenance but it is illegal to sell bushmeat. Therefore, some respondents would likely be unwilling to provide

completely honest answers. This being said, respondents regularly caught a number of animals including, the serval (*Leptailurus serval*), the western gorilla (*Gorilla gorilla*), cane rat (*Thryonomys swinderianus*), tree pangolin (*Manis tricuspis*), giant pangolin (*Manis gigantea*), porcupine (*Hystrix cristata*), bush pig (*Potamochoerus porcus*), guineafowl (*Acryllium vulturinum*), hare (*Lepus microtis*), along with various species of monkey, deer, mice, snake, antelope, and squirrels (Table 4.9).

Table 4.9 Types of animals hunted by young men and one young woman survey respondents. Results shown in percent.

Type of animal	Female (%)	Male (%)	All Respondents (%)
Serval	-	10.26	10.00
Gorilla and Monkeys	-	43.59	42.50
Cane Rat	100.00	23.08	25.00
Pangolin	-	56.41	55.00
Porcupine	-	71.79	70.00
Hare	100.00	84.62	87.18
Deer	-	46.15	45.00
Rat	-	41.03	40.00
Reptiles	-	12.82	12.50
Other	100.00	20.51	21.43

Of the 120 young people surveyed, 42 identified hunting as a livelihood strategy. As expected, the pursuit of this activity differed according to gender (Table 4.10). Only

one female respondent identified hunting (with her husband) as a livelihood strategy. Significance was also found with characteristics that were found to be linked with gender, including heads of household and education. More heads of households hunted (χ^2 (1, n=118) = 25.455, p=0.001), while fewer of those with no formal education hunted (χ^2 (3, n=118) = 8.330, p=0.040). This is expected, as it was found that women were less likely to be heads of household and more likely to have no formal education. In contrast, significantly more female respondents and fewer male respondents fished as a livelihood activity (χ^2 (1, n=117) = 45.580, p=0.001). Similar to hunting, the variables of heads of household and education were also linked to fishing activities. Fewer of those who were heads of household (χ^2 (1, n=115) = 18.010, p=0.001) and more with no formal education (χ^2 (3, n=117) = 13.989, p=0.003) fished. The significance of hunting and fishing results demonstrate that there remains a gender division of work with more men hunting and more women fishing.

Table 4.10 Percentage of individual survey respondents who hunt and fish by gender, household status, and level of formal education.

	Hunting	Fishing
Female (%)	1.67	83.05**
Male (%)	65.00**	20.69**
All Respondents (%)	33.33	52.14
Head of Household (%)	72.41**	17.24*
Not Head of Household (%)	21.35	62.79
All Respondents (%)	33.90	51.30
No Formal Education (%)	7.14*	92.86*
Primary (%)	32.76	53.57
Secondary (%)	44.44	36.36
Post-Secondary (%)	-	66.67
All Respondents (%)	33.33	52.14

Note: * Signifies chi-square significance at $p \leq 0.05$, ** Signifies chi-square significance at $p \leq 0.01$

Fishing activities are generally performed as a group. Sixty percent of women work with a group of women of mixed ages for fishing while the others work exclusively with other young women (21%), family (15%) while only 4% work in a group of mixed

age and gender (mixed group). Similarly men work mostly with other young men (41%) or with family (38%). Others work with a group of men (7%) or a mixed group (14%) (Table 4.11). Hunting is done alone, in pairs or in groups of three.

Table 4.11 Work style and work group type for hunting and fishing performed by male and female youth survey respondents.

Work Style	Hunting		Fishing		
	Female (%)	Male (%)	Female (%)	Male (%)	All Respondents (%)
Alone	-	35.90	2.04	8.33	3.23
Group	-	35.90	79.59	50.00	73.77
Both	-	20.51	18.37	41.67	22.95
Alone or with wife/husband	100.00	7.69	-	-	-
Work Group	Female (%)	Male (%)	Female (%)	Male (%)	All Respondents (%)
Alone	-	35.90	2.04	8.33	3.28
Women (mixed ages)	-	-	62.50	-	51.72
Family	-	42.11	14.58	30.00	17.24
Women (young)	-	-	20.83	-	17.24
Mixed group (Young)	-	-	2.08	10.00	3.45
Men (mixed ages)	-	10.53	-	10.00	1.72
Men (young)	-	47.37	-	30.00	5.17
Mixed (in gender and age)	-	-	2.08	30.00	6.90

Note: * Signifies chi-square significance at $p \leq 0.05$, ** Signifies chi-square significance at $p \leq 0.01$

Of the 42 who hunted, 24 sell their product while only six of the 100 who fish sell. Five sell regularly and one sells when there is excess. Of those who sold bush meat, 14% sell 3/4 of what they catch, 43% sell 1/2, and 43% sell 1/4. Of those who fish, 61 responded with only 5 saying that they sell, while one said fish was sold only when there was excess (Table 4.12). This shows that hunting and fishing are used mainly for subsistence by young people in this region although income generation remains important. It was impossible to assess the real value of the sale of bushmeat due to the legal ramifications of doing so.

Table 4.12 Proportion of meat and fish being sold by female and male youth survey respondents.

Amount of meat and fish being sold	Hunting (%)	Fishing (%)
All	-	-
3/4	14.29	33.33
1/2	42.86	3.33
1/4	42.86	1.67
<1/4	-	1.67

Agriculture

As shifting cultivation is known to be one of the main livelihood activities in the region, it was expected that a majority of youth would be participating in agricultural activities. All respondents, except one, mentioned agricultural activities as a part of their livelihood portfolio. Coffee and cacao production were also mentioned, but to a lesser

extent than cultivation of food crops. Crops included staple foods such as peanut (*Arachis hypogea)*, plantain (*Musa paradisacia)*, macabo (*Xanthosoma sagitifolum)*, maize (*Zea mays)*, and cassava (*Maniot esculenta)* as well as a variety of other fruits and vegetables. These included pineapple (*Ananas comosus)*, eggplant (*Solanum trongum)*, avacado (*Persea americana)*, sugar cane (*Saccharum sp)*, okra (*Hibiscus esculenta)*, guava *(Psidium guajava)*, beans (*Phaseolus sp)*, yams (*Dioscora sp)*, mandarin (*Citrus reticulata)*, melon (*Cucumis melo)*, onion (*Allium cepa)*, papaya (*Carica papaya)*, pistachio (*Pistacia vera)*, potatoes (*Ipomoea batatas)*, prunes (*Dacryodes edulis)*, tomato (*Solanum lycopersicum)*, and tobacco (*Nicotiana tabacum)*. Cassava, macabo, plantain, peanuts, and cacao were the most commonly grown, followed by peanuts and maize (Table 4.13).

Table 4.13 Crops grown by youth determined by individual surveys (in percent) of respondents by community forest and village.

	Cassava	Macabo	Plantain	Peanuts	Maiz	Fruit	Pistachio	Beans	Potato	Okra	Pepper	Other
Mpemog (%)	95.83	79.17	75.00	47.92	66.67**	16.67	12.50	4.17	12.50	2.08	6.25	20.83
Essayons-Voir (%)	94.44	83.33	83.33	63.89	44.44	13.89	22.22	5.56	16.67	13.89	5.56	8.33
Morikoualiye (%)	100.00	97.14	85.71	25.71	11.43**	11.43	28.57	0.00	40.00	11.43	2.86	5.71
All Respondents (%)	96.64	85.71	80.67	46.22	43.70	14.29	20.17	3.36	21.85	8.40	5.04	12.61
Mang (%)	96.77	74.19	67.74	38.71	64.52	6.45	9.68	3.23	3.23	0.00	6.45	19.35
Bompello (%)	94.12	88.24	94.12	64.71	123.53	35.29	17.65	3.23	29.41	5.88	5.88	57.14
Mopouo (%)	90.48	80.95	80.95	66.67	42.86	23.81	19.05	9.52	14.29	4.76	9.52	14.29
Modoumo (%)	100.00	86.67	86.67	60.00	46.67	0.00	26.67	0.00	20.00	26.67	0.00	0.00
Ndjalobekoe (%)	100.00	100.00	85.00	28.57	15.00	15.00	40.00	0.00	50.00	10.00	5.00	5.00
Biwala (%)	100.00	93.33	86.67	20.00	6.67**	6.67	13.33	0.00	26.67	6.67	0.00	6.67
All Respondents (%)	96.64	85.71	80.67	46.22	43.70	14.29	20.17	3.36	21.85	8.40	5.04	12.61
Head of household (%)	96.43	82.14	96.43*	53.57	46.43	25.00	21.43	10.71	32.14	7.14	7.14	14.29
Not head of household (%)	96.63	86.52	75.28	42.70	42.70	11.24	20.22	1.12	17.98	8.99	4.49	12.36
All Respondents (%)	96.58	85.47	80.34	45.30	43.59	14.53	20.51	3.42	21.37	8.55	5.13	12.82

Note: *Signifies chi-square significance at $p \leq 0.05$, ** Signifies chi-square significance at $p \leq 0.01$

It was also anticipated that there would be gender differences in the crops being grown as the cultivation of "cash crops" is traditionally the work of men. This was true particularly with the establishment of cacao plantations (Table 4.14). Women had a tendency to work on the plantation of their husband or father (χ^2 (3, n=101) = 64.243, p=0.001) whereas young men, especially heads of households, were more likely to have their own (χ^2 (3, n=99) =19.664, p=0.001) (Table 4.12). Women were also more likely to respond that the cacao plantation belonged to both spouses (χ^2 (3, n=101) = 64.243, p=0.001). Respondents in the community forest of Mourikoualiye were more likely to say that the cacao plantation belonged to a husband or parent (χ^2 (6, n=101) =17.451, p=0.008) with the difference being most noticeable in the village of Biwala. More respondents in the community forest of Mpemog and fewer in the community forest of Mourikouliye produced maize (χ^2 (2, n=119) =25.115, p=0.001). This was most notable in the village of Biwala (χ^2 (5, n=119) =25.573, p=0.001). Also, fewer heads of household were not producing plantain (χ^2 (1, n=117) = 6.031, p=0.014). Fewer respondents were producing peanuts in the community forest of Mourikoualiye and more in the community forest of Essayons-Voir but the difference was not significant.

Table 4.14 Cacao and coffee production by youth youth determined by individual surveys (in percent) of respondents by gender, community forest, village, and household status.

	Cacao (producing)	Cacao (in production)	Cacao (husband/ parent)	Cacao (husband & wife)	Coffee
Female (%)	6.98	4.65	39.53**	48.84**	-
Male (%)	46.55**	43.10**	10.34	-	11.86*
All Respondents (%)	29.70	26.73	22.77	20.79	6.67
Mpemog (%)	21.95	36.59	14.63	26.83	3.70
Essayons-Voir (%)	41.94	19.35	12.90	25.81	9.38
Morikoualiye (%)	27.59	20.69	44.83*	6.90	10.00
All Respondents (%)	29.70	26.73	22.77	20.79	6.67
Mang (%)	20.00	40.00	20.00	20.00	3.70
Bompello(%)	25.00	31.25	6.25	37.50	-
Mopouo (%)	47.06	23.53	11.76	17.65	11.11
Modoumo (%)	35.71	14.29	14.29	35.71	7.14
Ndjalobekoe (%)	33.33	27.78	27.78	11.11	15.79
Biwala (%)	18.18	9.09	72.73	-	-
All Respondents (%)	29.70	26.73	22.77	20.79	6.67
Head of household (%)	53.85*	38.46	7.69	-	18.52
Not head of household (%)	20.55	23.29	28.77	27.40	2.63
All Respondents (%)	29.29	27.27	23.23	20.20	6.80

Note: * Signifies chi-square significance at $p \leq 0.05$, ** Signifies chi-square significance at $p \leq 0.0$

Agricultural work in many ways remains a family affair with both women and men often working with other family members in their fields. A total of 66.67% of women work with their family in agriculture. Others worked with other young women (16.67%) or other women (20.83%). A total of 52.38% percent of young men worked with family while others worked with other young men (38.10%), other men (9.52%), or a mixed group (4.76%) (Table 4.15). Furthermore, those without children are more likely to work exclusively alone (x^2 (7, n=118) =29.999, p=0.001).

Table 4.15 Work style and group type for agricultural work done by male and female youth survey respondents.

Work Style	Female (%)	Male (%)	All Respondents (%)
Alone	18.33	17.24	17.80
Group	33.33	32.76	33.05
Both	5.00	6.90	5.93
Alone or with wife/husband	50.00	63.79	56.78
Work Group	**Female (%)**	**Male (%)**	**All Respondents (%)**
Alone	18.33	17.24	17.80
Young Women	16.67	-	8.89
Young Men	-	38.10	17.78
Mixed women	20.83	-	11.11
Mixed Men	-	9.52	4.44
Mixed	-	4.76	2.22
Family	66.67	52.38	55.56

Note: * Signifies chi-square significance at $p \leq 0.05$, ** Signifies chi-square significance at $p \leq 0.01$

Of the 117 respondents, 100 regularly sell agricultural products. Others sell sometimes (n=1), only cacao and not other products (n=4), and only if they need the money (n=2). Most respondents keep most of their agricultural goods while selling excess. Of 111 respondents, 3% sell all of their goods, 11% sell 3/4, 23% sell 1/2, and 78% sell 1/4 (Table 4.16).

Table 4.16 Proportion of agricultural goods that are sold by female and male youth survey respondents.

Fraction of agricultural goods sold	Respondents (%)
All	-
3/4	17.65
1/2	41.18
1/4	38.24

All of these activities have a large number of participants and most are allocated to meet both subsistence and income needs, but the proportion to each depends on household priorities or preferences. These are only some of the many activities that youth participate in regularly to make up their livelihood strategy (portfolio).

4.3.3 Importance of Livelihood Activities

Although youth tend to participate in a number of livelihood activities, some activities are seen to be more important than others. When asked directly which livelihood activity was the most important, agriculture was the most common response while cacao production was the next most important. These two activities were seen to be

significantly more important to most respondents than any other livelihood activity. In total 73% of respondents chose agriculture as the most important while 13% chose cacao production. Other responses included NTFPs (3%), commerce (3%), gold collection (3%), hunting (2%), attending school (to garner future income) (2%), and other (2%) (Table 4.17).

Table 4.17 Most important livelihood strategies in percent of female and male youth survey respondents.

Livelihood Activity	Female (%)	Male (%)	All Respondents (%)
Cacao	5.00	20.00	12.50
Agriculture	83.33	61.67	72.50
School	3.33	-	1.67
Commerce	6.67	-	3.33
NTFPs	1.67	5.00	3.33
Gold	-	5.00	2.50
Hunting	-	3.33	1.67
Other	-	5.00	2.50

Note: * Signifies chi-square significance at $p \leq 0.05$, ** Signifies chi-square significance at $p \leq 0.01$

As shown in Table 4.17, men tend to opt for cacao and other non-forest livelihood activities whereas women tend to put agriculture first. Respondents in the community forest of Essayons-Voir were more likely to respond that cacao is the most important while those in the community forest of Mourikoualiye were less likely to respond that other non-forest activities were important (χ^2 (6, n=120) =17.725, p=0.007). Respondents

who were single were more likely to find other non-forest activities important (χ^2 (3, n=119) =12.207, p=0.007).

It was expected that young people would base their assessment of the most important livelihood activity on whether it was used for either income or sustenance. The responses indicate that this is likely the case. When asked why the chosen activity was the most important, 43% of respondents said it was for income, 25% said it was for food, and 13% said it was for both food and income. These were by far the most common responses, though there were various other responses too. Some stated that it was necessary for life (13%), because it was easy (2%), because education is important (2%), for future generations (1%), for spiritual reasons (1%), and for 'constancy' (2%). 'Constancy' was a term used to compare the consistency (in work, food, and income) derived from agricultural practices occurring all year when compared to seasonal activities. Men are more likely to name income as the most important factor while women are more likely to mention the need for food (Table 4.18).

Table 4.18 Percent of responses provided for why the selected livelihood strategy is the most important by gender (as determined through personal surveys).

Responses	Female (%)	Male (%)	All Respondents (%)
Income	38.60	47.17	42.73
Food	28.07	18.87	23.64
Income and Food	14.04	13.21	13.64
Necessary for life	12.28	13.21	12.73
Constancy	1.75	1.89	1.82
Easy	1.75	1.89	1.82
Education	3.51	-	1.82
Future Generations	-	1.89	0.91
Spiritual	-	1.89	0.91

Note: * Signifies chi-square significance at $p \leq 0.05$, ** Signifies chi-square significance at $p \leq 0.01$

Based on these responses we see that the potential to generate income is a major driver for participating in particular livelihood activities. Those participating in the above mentioned activities, NTFPs, firewood, hunting/fishing, and agriculture, were often using these products at home while also selling a portion. When asked directly, the majority of respondents claimed that they receive 3/4 or more of their annual income from the above mentioned resources, the combination of all livelihood strategies that are forest dependent, including agriculture. A total of 30% receive all of their income from these sources while 53% gain 3/4 or more, 5% gain 1/2, and 13% gain 1/4 or less (Table 4.19). This shows that a majority of these youth are dependent on forest-based livelihood activities as their primary source of income.

Table 4.19 Percentage of total income gained by combined forest resources (NTFPs, firewood, bushmeat, fish, and agricultural products) by gender as determined through personal surveys.

Total income from forest resources	Female (%)	Male (%)	All Respondents (%)
<1/4	5.00	10.00	7.50
1/4	1.67	8.33	5.00
1/2	6.67	3.33	5.00
3/4	36.67	28.33	32.50
>3/4	21.67	18.33	20.00
All	28.33	31.67	30.00

Note: * Signifies chi-square significance at $p \leq 0.05$, ** Signifies chi-square significance at $p \leq 0.01$

Several of these resources contribute to income to a great extant. When asked which resources were the most important for income, several important results emerge. Of agricultural products 62% of respondents said cassava was the most important for income generation and 15% chose cacao. Women were more likely to indicate cassava, while men were more inclined to indicate cacao. This was expected because, although women work in cacao fields, it is still unlikely that a woman would be the owner. She would therefore not benefit as much from the income. Other income generating crops included maize (3%), plantain (4.5%), macabo (1%), peanut (2%), and pistachio (4%). Ten percent of respondents said that all crops contribute to income and therefore they could not chose just one (Table 4.20).

Table 4.20 Agricultural products that contribute most to youth income by gender (in percent of respondents) as determined through personal surveys.

Agricultural Product	Female (%)	Male (%)	All Respondents (%)
Cassava	71.43	51.79	61.61
Maize	3.57	1.79	2.68
Plantain	1.79	7.14	4.46
Cacao	5.36	25.00	15.18
Macabo	-	1.79	0.89
Peanut	1.79	1.79	1.96
Pistachio	3.57	3.57	3.57
All	12.50	7.14	9.82

Note: * Signifies chi-square significance at $p \leq 0.05$, ** Signifies chi-square significance at $p \leq 0.01$

There was a similar divide in NTFPs when focusing on income generation. Sixty-one percent of respondents chose bush mango as the most important followed by caterpillars with 15%. Other responses included njembe (5%), djansang (5%), snails (2%) and mempa'a (2%). Again, 11% stated that all NTFPs were important for income (Table 4.21). Men were more likely to think that njembe and bush mango were more important while women were more likely to choose djansang and caterpillars. This is expected as ndjembe and bush mango are sold in large quantities in the region. For both agricultural and NTFP products, women were more likely to state they were all important for income generation.

Table 4.21 NTFPs that contribute most to youth income by gender (in percent of respondents) as determined through individual surveys.

NTFP	Female (%)	Male (%)	All Respondents (%)
Bush Mango	55.77	65.96	60.61
Njembe	1.92	8.51	5.05
Djiansang	7.69	2.13	5.05
Caterpillar	17.31	10.64	14.14
Snails	1.92	2.13	2.02
Mempa'a	-	4.26	2.02
All	15.38	6.38	11.11

Note: * Signifies chi-square significance at $p \leq 0.05$, ** Signifies chi-square significance at $p \leq 0.01$

4.3.4 Factors Affecting Livelihood Decisions

Seasonal Variation

Decisions regarding livelihood strategies can be affected by a wide variety of factors. Here we will discuss only a few that were considered to be of importance. Seasonal variation must be considered when focusing on forest-dependent livelihood activities. Activities change throughout the year, creating a cyclical pattern. Most respondents mentioned that they participate in agricultural activities all year, ranging from clearing and burning fields, to planting, and harvesting at different times throughout the year. Hunting and the collection of NTFPs tend to be more seasonal. Hunting occurs more often in the wet season while different NTFPs are collected seasonally when they are available. Due to the ongoing need for firewood, it is collected during all seasons of the year. When asked about the seasonality of their work, 35% said that they participate in all of their livelihood activities throughout the entire year, 12% mentioned that they

work only during school vacation, and 20% work the fields all year but participate in other activities at varying times. Another 21% of respondents said that all of their activities vary with the seasons, 3% do agriculture all year except during the cacao season, and 2% work based on the availability of jobs (Table 4.22). Respondents spent an average of five hours (4.95 hours, n=115) daily participating in forest-based livelihood activities.

Table 4.22 Time of year that respondents (percent) spend on combined forest activities by gender as determined through individual surveys.

	Female (%)	Male (%)	All Respondents (%)
All Year	45.45	30.36	37.84
During School Vacation	9.09	16.07	12.61
Fields all year, other activities by season	21.82	21.43	21.62
Varies with the seasons	20.00	25.00	22.52
Fields all year except during the cacao season	3.64	3.57	3.60
Based on work availability	-	3.57	1.81

Note: * Signifies chi-square significance at $p \leq 0.05$, ** Signifies chi-square significance at $p \leq 0.01$

Market Factors

It was expected that access to markets would have an impact on the types of livelihood activities taking place in each region. Therefore, those who were located closer to an urban centre (Yokadouma) would be expected to have access to a greater range of market opportunities and would potentially be more involved in income generation from resources that could be sold in the town. On the other hand, it was expected that living further from the town would limit income opportunities and would therefore change the pattern of livelihood activities taking place. The results relating to market access varied, based on the specific product being sold. The most distinct difference is seen in the sale of firewood. Within the four villages furthest from Yokadouma, only one respondent was selling firewood, whereas the sale of firewood was an important livelihood strategy in the villages of Ndjalobekoe and Biwala, the villages closest to the town. This was expected as the sale of firewood requires purchasers who do not have free and easy access to it. This is only the case for those in the villages who can sell directly to persons in Yokadouma, where access to firewood is more limited than in the village. The sale of other products, NTFPs, bushmeat, and agricultural products, also showed similar tendencies based on the proximity to Yokadouma. For the sale of NTFPs and agricultural products, in villages further from Yokadouma, most sales take place in the village itself, while little marketing of produce occurs in Yokadouma. As the distance to Yokadouma becomes shorter, fewer participants sold their produce in the village itself and instead took it to Yokadouma to sell. The sale of bushmeat took place primarily in the village for all of communities, but several participants also sold in other locations (Table 4.23).

Table 4.23 Location of sale of combined forest resources (NTFPS, firewood, bushmeat, fish, and agricultural products) for each village studied (in percent of respondents) as determined through individual surveys.

	Within the village	Ngola	MboyII	Mempoy	Yokadouma
Mang (%)	96.55	3.45	6.90	6.90	13.79
Bompello (%)	75.00	37.50	-	6.25	18.75
Mopouo (%)	88.89	-	-	-	27.78
Modoumo (%)	60.00	-	-	-	80.00
Ndjalobekoe (%)	60.00	-	-	-	90.00
Biwala (%)	20.00	-	-	-	100.00
All Respondents (%)	70.80	6.19	1.77	2.65	50.44

There were also differences in who respondents were selling their products to. It was expected that those who were selling within the village were likely selling to other villagers but that was not often the case. In all villages, with the exception of Biwala, the vast majority of participants sold to *buyam-sellam* merchants. These are merchants who travel to the villages and purchase forest products to be re-sold in Yokadouma or other urban centres. In the village of Biwala, participants sold their products to both to *buyam-sellams* and directly in the market in Yokdouma. Agricultural products were also sold primarily to *buyam-sellams,* although there was more diversity in where these products were sold. These products are sold to local villagers and also in markets, both in Yokadouma and in other town markets, such as those in Ngolla and Mboy II. There are no visible trends in the sale of bushmeat. It is sold similarly to *buyam-sellams* and to villagers. In the village of Mang there was a noted difference with the majority selling to

villagers and fewer to merchants (Table 4.24). As mentioned above, the sale of bushmeat is prohibited and therefore the numbers selling outside of the village may be low. These results suggest that access to markets does have some impact on where and to whom forest products are being sold.

Table 4.24 To whom combined forest resources (NTFPS, firewood, bushmeat, fish, and agricultural products) are sold for each village studied (in percent of respondents) as determined through personal surveys.

	buyam-sellams	Villagers	Anbody	Market	Forester	Yokadouma	Buyer
Mang (%)	55.17	58.62	13.79	-	6.90	6.90	3.45
Bompello (%)	50.00	37.50	25.00	-	25.00	12.50	-
Mopouo (%)	88.89	-	-	-	5.56	11.11	-
Modoumo (%)	53.33	13.33	6.67	40.00	6.67	6.67	-
Ndjalobekoe (%)	68.42	15.79	-	31.58	-	-	-
Biwala (%)	26.67	-	-	93.33	-	-	-
All Respondents (%)	58.04	25.00	8.04	23.21	7.14	6.25	0.89

Environmental Factors

When discussing forest-dependent activities, one must also consider the environment. Access to the above mentioned resources is necessary for these livelihood activities to take place. This access can be altered or denied based on environmental change. Here two potential changes will be discussed, resource depletion and climate

change. As there are no restrictions on the amount of hunting, fishing, or the collection of NTFPs, there is a risk of depletion, especially as the population grows. Of those youth who participate in hunting, 49% hunt during the wet season, 6% during the dry season, 43% said it was seasonal, and 3% of participants hunted all year. Despite the limited time spent hunting, 81% of respondents stated that the number of animals available to be caught has decreased in the recent past, whereas only 9% claimed the numbers stayed the same and 9% said it was variable. Similar results were observed among participants who fish. Of those who fish, 67% do so during the dry season, 6% during the wet season, 24.5% work seasonally, and 2% all year. Furthermore, 58% identified that fish resources were depleted in comparison to the recent past, 27% identified variation from year to year, while only 13% stated that the resource stayed the same and 2% stated that numbers had increased (Table 4.25). These results indicate that depletion is a serious concern for youth from the region.

Table 4.25 Time of year that respondents spend hunting and fishing and how the associated resources are perceived as changing (in percent) as measured through personal surveys.

	Hunting (%)	Fishing (%)
Season		
All Year	2.86	2.04
Seasonally	42.86	24.49
Dry Season	5.71	67.35
Wet Season	48.57	6.12
Status of resource		
Increasing	-	2.17
Decreasing	81.25	58.70
No Change	9.38	13.04
Variation	9.38	26.09

A second issue to consider is climate change, which may alter the quantity of crops and NTFPs and when these resources are available. This renders local knowledge, which is heavily dependent on understanding weather and climate patterns, less reliable. Changing access to resources is likely to require increased competition over these resources, or a change in livelihood strategy, which could increase depletion of resources. Of those who responded, at least 36% have heard the term ‘climate change.’ However information about REDD+ was not available at the village level. Within the group who had heard of climate change, 15% heard it discussed at the village level, 3% in Yokadouma, 13% heard it on the television or radio, 21% discussed the topic at school, 21% heard of it in a meeting, and another 28% said that they were directly feeling the impacts of climate change (Table 4.26). The use of the term climate change is not very

widespread to describe the changes in weather patterns, and it is likely that more participants recognise changes that they do not associate with 'climate change.'

Table 4.26 Where respondents who recalled hearing of the term "climate change" learned of the issue (in percent of respondents) as measured through individual surveys.

Where they heard of the Term "Climate Change"	Respondents (%)
Village	15.38
Yokadouma	2.56
TV or Radio	12.82
School	20.51
Meeting	20.51
Feeling the impacts	28.21

4.4 Discussion

4.4.1 Major findings

Livelihood Activities

All youth interviewed for this work were dependent to some degree on forest resources to maintain their livelihoods. For the majority of youth in the villages studied, forest-based activities, particularly agriculture, the collection of NTFPs and firewood, as well as hunting and fishing, were the main sources of income and/or sustenance. From this we can state that rural youth in the villages studied, Mang, Bompello, Mopouo, Modoumo, Ndjalobekoe, and Biwala, do in fact derive a large portion of their livelihoods from forest based activities. Youth surveyed in this region tend to be forest dependent, using a wide variety of forest resources for sustenance and income but also engage in

non-forest activities such as commerce. These non-forest activities are used mainly as a way of increasing income and even when it is the primary source of income, they remain dependent on the forest for sustenance, particularly agriculture. These results are in line with previous research showing that rural populations tend to maintain diversified livelihood strategies in order to reduce risks (Sunderlin et al. 2005, Barrett et al., 2001) and that non-farm sources of income constitute an important component of livelihood strategies (Barrett et al., 2001).

There were noted differences when youth were asked generally about their livelihoods and when they were asked about whether or not they participated in specific livelihoods activities. The initial responses focused on activities that were important for income generation, activities that were currently in season, and activities that are done daily. These were the activities that were likely at the front of the mind when youth were asked about their livelihood strategies. When asked directly, activities such as firewood collection and fishing became more prevalent. These two activities are done primarily for sustenance and fewer respondents identified them as important for income generation. It is also possible that, particularly among women, those activities that are considered chores - activities done only for sustenance - are not considered ‘work’ and were therefore not initially mentioned (Sikod 2007).

There are few differences between villages and community forests when studying the general livelihood portfolio of surveyed youth. This is likely because the resources available change little within the area studied, and the villages were relatively close together and within the same eco-region. Differences in villages and community forest were noted primarily in two areas, the types of NTFPs collected, and in where and to

whom products are sold. Gender remained an important determining factor for livelihood activities with traditional gender roles being predominant. There were some changes noted such as the increase of young males in NTFP collection and some women participating in cacao production. Although women were not participating in large numbers, the fact that they are participating at all shows some changes occurring compared to what was observed in the adult population and the work of Brown and Lapuyade (2001) on gender division of labour in the forest of Cameroon. Other factors, such as education levels, being head of household, and marital status seemed to have very little impact on general livelihoods. Where these factors are very gender linked, the differences that were observed could easily be linked back to gender. However, there were some trends noted. Those who were heads of household were more likely to be involved in hunting activities and less involved in fishing and firewood collection. This is likely because if a respondent acts as head of household the primary concern would be to provide bushmeat for the family, while other members would be likely to participate in the daily traditional women's work of collecting firewood for cooking.

In general, we see that forest based livelihood activities of youth have many similarities to their parents' generation. We can expect a continued forest dependence into the future. Agriculture, in the form of shifting cultivation and cacao production, is the primary livelihood activity, not only because all but one youth surveyed participate in agriculture but also because it was deemed the most important by respondents. This 'slash and burn' style of agriculture and its impact on the forests of the region has been well documented (Njomjang et al., 2010, Sikod, 2007, Binam et al., 2004, Kotto-Same et al., 1997, Pérez et al. 2002). Agriculture is important to the overall portfolio as the main

and most consistent source of food and also as a main source of income for most respondents. This was not surprising to learn because agriculture seemed to be the main source of livelihood for the adult population of the area. Even though cacao production is important to the livelihoods of youth and adults in the region, young men are less likely than their older counterparts to have cacao fields that are producing fruit. This has led to a far more diversified portfolio among young men (Brown & Lapuyade, 2001). A primarily agricultural livelihood is supported by a diverse range of forest and non-forest activities that play an important role in sustenance and income generation.

The only significant gender difference observed in the collection of NTFP was in the collection of *okok*. This difference could be because the plant is used for cooking and there were no cases of this plant being sold. Women do the majority of the domestic work, including the cooking, which would explain why women are responsible for this collection. The collection of some NTFPs, like this plant, are seen as an extension of their domestic responsibilities whereas products that have experienced long-distance trade historically are traded by men (Pérez et al. 2000). There were also differences noted in the collection of NTFPs between villages. This could be due to the season during which the surveys were conducted. Surveys were conducted during two distinct periods with different NTFPs in season, which could have affected how people responded to the survey. Furthermore, the availability of specific tree species could affect the amount of each NTFP, such as seeds and fruit, which is collected in each village. Finally, differences by village could be based on where the participants are selling the products and to whom. The preferences of the buyers may impact the type of products being collected.

Both men and women were heavily involved in the collection of firewood although the purposes of collection varied. The sale of firewood was only important to those living close to the town of Yokadouma where there was a market for the firewood. The sale of firewood in more remote villages is not profitable because there are no barriers to the access of firewood. Reasons for the collection of firewood for use also varied. Often it was collected for use in the household, primarily for cooking. In some cases, among the young men, it was collected for use in the common areas where people meet to socialise. It was brought to my attention that it was the responsibility of the young men to make sure that there was adequate firewood in the common areas.

It was difficult to assess any statistical findings for hunting because the subset of the population who participated in hunting activities was small. As mentioned in the results section, the laws surrounding the hunting and sale of bushmeat also made it difficult to get clear results. The World Wildlife Fund for Nature (WWF) and the regional office of the Ministry of Forests (MINFOF) have also been working in the region to decrease poaching. To this end, it was difficult to get a real understanding of how many young people are hunting and to whom they are selling the meat.

Although forest-based livelihood strategies similar to the parents' generation are the primary activities of most young people, there have also been a number of changes. There has been an increase in school enrolment in Cameroon over the last decade (The World Bank, 2014) combined with an increase in mobility in the area due to improved roads. More young people are staying in school longer and attending secondary school in Yokadouma or other towns. This has had an impact on youth livelihood strategies, in

some cases restricting them to school breaks. Furthermore, the increased mobility through better roads and access to moto-taxis, and access to Yokadouma, particularly in villages closer to the town has provided alternative livelihood activities. These include driving a *moto-taxi* or working for a business and increasing the access to goods for commerce. These non-forest based activities were shown to be important to the overall livelihood portfolio. Commerce was particularly important for young women. Within this sector, food marketing was particularly important. The importance of food marketing to women's livelihoods has also been noted by Pérez et al., 2002.

It was also noted that, as mentioned above, changing gender roles were a prominent factor in this study. It has been noted that there is historically a strong gender division of work in forest related livelihood activities similar to the divide in agricultural activities (Pérez et al., 2002, Brown & Lapuyade, 2001). Although there remain some noted differences in livelihood activities between men and women, particularly in hunting, labour, and fishing, there are also some changes that are occurring. The collection of NTFPs which is traditionally considered an activity of women is drawing in young men. This is likely due to the increase in market value of particular NTFPs such as the bush mango and ndjembe. We also see that young men are fishing in significant numbers. There were also female respondents who participated in hunting, labour, and cacao production. Although the numbers in hunting and labour were low, it is necessary to mention that any number of women doing these activities falls outside of the traditional gender norm for this region. There were also a number of female respondents who mentioned that cacao plantations belonged to them and their husband, as opposed to just their husband, suggesting that they have greater access to decision-making within

that construct. Furthermore, it was also mentioned that some women were renting cacao plantations as a means of increasing their income. These changes in gender roles suggest that youth are further diversifying livelihood strategies to include activities outside of the gender norms in order to increase their incomes.

Factors Affecting Livelihood Activities

There are a number of factors that affect livelihood decisions, three of which were discussed in this study. Some livelihood activities, such as fishing, lend themselves to being done in groups while others, such as firewood collection, are more likely to be accomplished alone. In this case, men were more likely to work alone while women were more likely to work in groups in all activities. Youth often worked with other youth, with their families, or with a group of the same gender when participating in most activities and mixed groups were much less common. Working in a group for livelihood activities influences how and when these activities take place and therefore affects the resources available. For example, if a group decides to go fishing in a river, they will likely have far more impact on fish stocks, through damming and larger catches, than if an individual were to do the same. This has a direct impact on access to the resource by others. This type of group work also increases the capacity of the youth by allowing them to gain information from those who have a better understanding of the area or resource being sought and by increasing efficiency. This is noted particularly when young men are clearing trees to create fields, in blocking a river to fish, and in maintaining and harvesting agricultural fields. Hunting and firewood collection, on the other hand, are

often done alone or in small groups because the success of the activity does not often increase with an increase in participants.

The issue of market access is interesting in this instance. Although the distance to Yokadouma had an impact on where and to whom survey respondents sold forest products, being far from Yokadouma did not exclude participants from the market. This was, in large part, due to the presence of *buyam-sellam* merchants. The impact of market access based on location was dampened by the introduction of *buyam-sellams*. These merchants allow members of villages to sell their goods without having to leave the village.

Environmental factors related to the availability and ultimately access to resources has an impact on forest related livelihood activities. Depletion and climate change are very likely to have an impact on the sustainability of these livelihood portfolios. There was concern amongst respondents that depletion due to pressure on resources such as bush meat, fish, NTFPs, and land for agriculture is likely to increase as the population grows (see USAID, 2011). This study looked directly at how respondents assessed the issue of depletion and for both fish and bush meat, the vast majority of respondents recognised that the resources had decreased in the last number of years. This is echoed in Brown & Lapuyade (2001) where survey respondents said that fish and meat is increasingly hard to find and that the men identified too many hunters as the reason behind the decrease. This is a concern for their livelihoods moving forward as continued extraction could degrade the resource base, biodiversity, and environmental services, creating a trade-off between the ability of current and future generations to benefit from these resources (Wunder, Angelson & Belcher, 2014. In some situations, these decreases

can be mitigated through changes in livelihood portfolios or by the creation of projects to increase the stocks of these resources. In this case, several of the villages, or members of those villages, had engaged in activities to improve access to these resources. In the villages of Biwala and Mopouo the creation of aquaculture ponds was being discussed or taking place as a means to help decrease the pressure on fish stocks. There was a tree nursery created by an NGO in the area and in Mopouo, the women's organisation had created its own tree nursery and were planning on planting economically important species. It was mentioned that this would help with climate change mitigation and increasing the income of women. Though not studied in this work specifically, it should also be noted that NTFPs are also highly susceptible to overexploitation, particularly in open-access situations such as community forests (Sunderlin et al. 2005).

The issue of depletion is only aggravated by the loss of forest through commercial timber production, which is also adding pressure to climate change. Climate change is already having impacts on the seasonality of livelihood activities. The changing seasons are already impacting the success of crops and creating the need for new knowledge of the climate and seasons to deal with the changes. These changes are predicted to worsen over time, as climate change worsens, resulting in pressures on livelihood activities and resources. It has been noted that Cameroon's limited capacity for irrigation and its high population growth rates will increase the probability of food shortages in the case of less than adequate rainfall (Molua & Lambi, 2006). It is important to understand that unforeseen shocks such as a bad harvest could increase pressure on other forest resources and put livelihoods at risk (Wunder, et al., 2014).

4.4.2 Implications

Theory

The Sustainable Livelihoods Framework (SLF) was helpful in framing the analysis of these results. The framework helped to ensure that the research was grounded in a set of principles that focused on human factors and that looked holistically at livelihoods, including all diverse activities and understanding intensification and migration as livelihood options. The framework also provided insight into the dynamism of livelihoods and showed that livelihood strategies have and continued to change due to internal and external factors. Finally, the framework provided information on how to understand the sustainability of livelihood strategies in the context of resource rich and financially poor situations. This focus was the basis of creating a survey that allowed youth in the area to describe how they define their livelihood activities, to outline how they make decisions about their livelihoods, and to describe what activities are most important to them. This allowed for the livelihood portfolio to be defined and to understand it in the context of the assets and capitals that are prominent in the region. It also included aspects of vulnerability, in this case primarily environmental vulnerability that impacts these activities. This understanding of livelihood strategies and activities is helpful in understanding how environmental change and policy will impact the livelihoods and provides a set of principles to guide action to address poverty (IFAD, n.d., DFID, 2001).

Policy

Although it is difficult to generalise the results of this study, using the SLF there are some general policy implications stemming from this work. First, it is obvious that

environmental capital is prominent in the Congo Basin rainforest. The dependence on the environment also increases the vulnerability of the livelihoods of the population. As environmental factors change so will the livelihood portfolios of those dependent on the affected resources. Livelihood strategies will adapt, either through intensification, diversification, migration, particularly of youth from rural to urban regions, or through a combination of these strategies. In this work the focus was on diversification of livelihood strategies but migration and intensification are also important considerations. This has direct implications for policy creation in that livelihoods could be significantly impacted by environmental regulations. In this case, regulations must consider potential livelihood alternatives for the population and how that may increase undue pressure on unregulated products. This study also shows that gender differences must also be considered as policy is likely to have different impacts on different livelihoods activities.

4.4.3 Limitations

This study aimed to understand forest related livelihood strategies of youth in six villages in eastern Cameroon. The scope of this project, which ventured into several interrelated topics pertaining to how youth use the forest, was ambitious and resulted in a number of limitations related to the design and execution of the research. These issues will be acknowledged and discussed here. Although the sample size of 120 surveys was adequate for our purposes, a more developed livelihoods analysis would benefit from a more robust sample. A larger sample size would have provided for more complete meaningful statistics on sub-populations and for livelihood activities that are less prolific. It would also provide the possibility of stratifying the sample for more factors than gender alone which would in turn ultimately provide more insight into livelihood

differentiations. The study would have also benefited from a longer or more diversified sampling period as it relates to seasonal variation. Although the sampling period was adequate for amassing the necessary data, a sampling period that covered the seasons of various livelihood activities may improve the accuracy of the data. The method used was dependent on participants recalling accurately what they do and the proportion of time they spend doing activities at different times during the year. For future research, it would be beneficial to sample during the various seasons to broaden the responses in the survey data. The study did not cover questions related to household or personal income that might provide more precise data. These type of data could provide a better description of how much income is garnered from participating in the mentioned livelihood activities, and consequently provide more accuracy in how each activity contributes to the livelihood portfolio. For the purposes of the above study, the methodology used provides an adequate understanding of youth livelihood strategies to respond to the research questions in this study.

4.4.4 Suggestions for further research

The research on youth livelihoods in East Cameroon brings to light a number of gaps in the academic literature that could benefit from greater focus. A similar study of youth livelihood strategies in other regions of Cameroon could provide context and further understanding of the variety of livelihood activities and forest resources that are important to this demographic. This could be extended to include a full SLF study to include information about migration, diversification, and intensification of livelihood activities in the region and how different forms of capital (ie. natural, social, and financial capital) interact in the area. There is variation within the humid forest zone and among

other forested regions in the country. It is necessary to understand how these forests are used for income generation and sustenance to fully understand the potential impacts that REDD+ policies will have on youth more broadly. Youth livelihoods and the impact of REDD+ policies could be studied at the regional and national levels. To provide context, a similar study used to understand the livelihood strategies of adults in the same region would be useful. This would show the differences between youth and adult livelihoods in the area. This type of comprehensive look at livelihoods would also allow for predictions of how livelihoods are likely to continue to change into the future. This information, in combination with research on the impacts of climate change on livelihoods, can provide insight into the potential outputs and reactions to REDD+ policies for people living in forested regions.

Chapter 5: Youth Participation in Environmental Decision-Making

5.1 Introduction

5.1.1 Forests as Common Pool Resources

A common pool resource is any man-made or natural resource that is held in common by a group of people. It is defined as "a resource that generates finite resource units in which one person's use subtracts from the quantity of that resource available to others. Most are sufficiently large that multiple actors can use the resource system simultaneously and efforts to exclude potential beneficiaries are costly" (Ostrom, 2000, p. 29). Two clear characteristics emerge from this definition. The first is excludability, or control of access, and the second is subtractability. Feeny et al. (1990) define common pool resources as "a class of resources for which exclusion is difficult and joint use involves subtractability" (p.4). The forests of Cameroon and access to the resources derived from them, agricultural land, NTFPs, game, etc. are considered to be common pool resources (Blaikie, 2006, Andersson, 2006)

There have been many instances of the success of common pool resource management over centuries but there have also been many failures (Ostrom, 1999; Dietz et al., 2003). A key factor, noted by Ostrom (1999), is that common pool resources can be sustainably managed when those dependent on those resources are involved in the governance process through collective-choice agreements. Given this, some believe that it makes administrative and economic sense to include resource users in resource management. Feeny et al. (1990) state that "in order to understand the outcome, one needs to know the nature of the resource, the whole array of decision-making arrangements, including the property-rights regime, and the nature of interactions among

users and regulators" (p.13). In reality, common resource management functions similarly to private property and state property regimes in that some work well while others do not (Bromley, 1992).

CBNRM focuses on the collective management of ecosystems to improve human well-being and aims to devolve authority to the local level, empowering communities to manage their own resources (Fabricius & Collins, 2007). This requires the development of institutional and organisational arrangements designed to help improve local decision-making. It should also be noted that CBNRM is generally seen as a mechanism to address both environmental and socio-economic goals and to balance the exploitation and conservation of valued ecosystems (Armitage, 2005). Andersson (2006) states that positive outcomes in decentralised environmental governance are unlikely in the absence of popular participation in decision-making and a downwardly accountable local government, and with the technical capacity of the local unit and a secure source of funding.

5.1.2 Community Forest Management

In 1994 the Cameroonian government passed legislation that created the potential for community forests. The management of a community forest is entrusted to the village(s) concerned and they are granted usufruct rights as long as they are responsible for the forest management (Sonwa et al., 2001). The general assembly provides an opportunity for the community to debate issues and make major decisions and to elect the officers who occupy the executive body (Mvondo, 2006). The management committee is generally made up of less than ten members who are frequently recruited from the elite (deBlas et al., 2009). Community forests are used for timber resources but also for

agriculture and non-timber forest products (NTFP), such as medicine, food, construction materials, and cultural and religious items (Brown & Lassoie, 2010b). The law also states that if a community forest is being poorly managed, the Ministry in charge of forests will withdraw the managerial powers from the village community concerned (Oyono et al., 2007).

5.1.3 REDD+ and Institutions

Within the literature on forest decentralisation, there is a growing understanding of how institutional factors may promote local livelihoods and forest conservation. This is particularly important when considering the context of policies to reduce emissions from deforestation and forest degradation (REDD+) (Hayes & Persha, 2010). It is important to recognise that regardless of policies instituted at the regional, national, and international levels, the outcomes are filtered through the local context, as local institutions, such as local government, NGOs, and communities, will interpret these policy changes according to their institutional perspectives (Andersson, 2000).

5.1.4 Youth Access to Decision-Making

The UN World Youth Reports and the African Youth Charter highlight the importance of the participation of young people in decision-making as a way to build stability and local solutions to poverty in Africa (Lavender, 2008). Bennell (2003) argues that youth have their own particular problems and needs and therefore development and poverty reduction strategies must be youth-centred if these needs are to be adequately addressed and sustainable development achieved. Providing youth with a chance to actively participate in public discourses provides opportunities to challenge the ways

youth are represented (Bessant, 2003). Youth are also increasingly tuned into emerging global discourses about positive futures. These include human rights and human development discourses. In this way youth are a meeting point for local traditional knowledge and new forms of doing and thinking (Lavender, 2008). It has also been argued that education and child-labour policy, where youth have a large stake, will improve if young people are provided an opportunity to voice their perspectives (Chant & Jones, 2005). Finally, social psychologists have also pointed to the importance of social and political engagement for youth well-being. Studies have shown that one of the reasons young people become involved in conflict is as a means to be politically active, where other options for political engagement are not available (Lavender, 2008).

Youth, however, are often subsumed into the adult population in Africa because there is an assumption that young people do not face special economic and social needs that would give them priority over and above other economically vulnerable or excluded groups (Chigunta, 2002). Furthermore, governments lack an understanding of the benefits of youth involvement in consultation processes (United Nations, 2010). Since every society has its own definition of youth, this makes it difficult for those who create and implement policy to share ideas and create an understanding about such a heterogenous and varied group (Waldie, 2004).

5.1.5 Outline

This chapter aims to address the second and third hypotheses outlined in the general introduction. Specifically it aims to understand the current role of youth in decision-making institutions at the local level, to identify how youth make decisions relating to the environment on a daily basis, and to identify the involvement of youth in

climate change and REDD+ discussions to date. With regards to the third hypothesis, that current rules and norms or local institutions work to prevent the entry of youth into local institutions, this work aimed to identify the rules and processes that affect the level of involvement of youth and determine how youth might overcome existing barriers to be included in decision-making in the future.

5.2 Methodological Approach

5.2.1 Intro

As described in Chapter 4, this research was conducted using a mixed methodological approach. The results presented are derived predominantly from the qualitative interviews and focus groups but are supplemented by survey data. All interviews and surveys were conducted in French and data were collected during the same two research trips outlined in Chapter 4, from June to August 2012 and from January to March 2013.

5.2.2 Interviews

Semi-structured interviews with key informants were the primary method used in collecting data for this research. This approach was used to gain a better understanding of the context of the villages and to learn about youth participation in decision-making. Interview participants were chosen based on the observation of the researcher and the research assistant after spending some time in each village. Participants were chosen based on their perceived knowledge of the village and included prominent members of society, such as teachers, pastors, village and organisation leaders, but also included several youth leaders, and general village members. This provided a variety of

perspectives on issues of youth, but also their perceptions of effectiveness of decision-making structures in their village. Once a key informant was identified, they were approached, provided with an overview of the research, and asked to participate in the study. They were provided with an explanation of their rights as a participant and if they consented verbally, the interview was scheduled. The interview took place at a time and location that was mutually agreed upon, often in the informant's home. All interviews were digitally recorded with the permission of the participant.

Interview questions focused on youth participation in associations in the village, including the forest management committee and the traditional authorities. The interview also included questions about the importance and challenges of including youth in decision-making, and information on the transition from youth to adulthood as experienced within the village. Other questions addressed the topics of climate change, land tenure, community forest management, and village conflicts. This combination of questions allowed the researcher to better understand the village and where youth were able to participate in society within the decision-making structures, but also more generally. This combined approach, using an interview guide (Appendix B) allows the researcher the flexibility to probe areas of interest. It also allows the option to probe new areas not originally anticipated in the original instrument's development (Patton, 2002, 347).

5.2.3 Surveys

Surveys were completed with youth age 19 to 30 as described in Chapter 4 of this thesis. The surveys were administered to gain information from youth on a number of relevant topics. These topics included how youth participate in the village authorities and

community forests, how they feel they should be involved and why, whether or not they want to be involved in decision-making, and how they are involved in other village associations. Information received from the survey also included how they make decisions about resources on a daily basis (as they relate to their livelihoods) and whether or not they had heard of climate change and REDD+.

5.2.4 Focus Groups

Focus groups were conducted as described in Chapter 4 of this thesis. The focus groups with village leaders and community forests allowed the researcher to see firsthand the participation of youth in these decision-making structures. These focus groups also provided information about how leaders perceive the participation of youth in the community and in decision-making. It gave an understanding of how leaders viewed the inclusion of youth in decision-making in the village. These focus groups also allowed the researcher to better understand how the village leaders and community forests function and how decisions are made. Similarly, focus groups with young men and young women allowed the researcher to gain information about the role of youth in decision-making and why they feel their role is important. The focus groups also provided information on how youth are involved in other associations, their understanding of the community forests, and their understanding of climate change. In both cases, the focus groups allowed the researcher to identify barriers to participation. Furthermore, they gave the researcher the opportunity to meet important members of the village and identify potential key informants.

5.2.5 Sharing of Results

Results of this study were shared with the villages during the second research trip, from January to March 2013. The process by which participants were recruited and the setting has been discussed in Chapter 4 of this thesis. Meetings were organised in each of the six participating villages and all members of the village were encouraged to participate, but it was ensured that youth were represented and the chief was present. The results of these meetings were mixed. Where the information in this study touched on the relationship that adults have with youth, there were some disagreements during these meetings. Whenever there was a disagreement between the adults and youth about a result, the difference was noted and the researcher moved to the next issue. Efforts were made to ensure the disagreements did not escalate to open conflict.

5.2.6 Analysis

Following the data collection period, interviews were transcribed verbatim in French by the researcher. Through use of Nvivo qualitative analysis software, the content was coded and analysed following procedures laid out by Patton (2002) and Strauss and Corbin (2008). The data were organised into themes based on an a priori list of themes, created to include responses to the questions asked. Inductive codes were added to the list throughout the coding process. Themes included land management, community forest management, youth representation in institutions, transition to adulthood, barriers to participation, and the importance of youth involvement, among others. Themes were determined through an iterative process, reviewing focus groups, surveys, and interviews to respond to the research objectives. Quotes representing these themes were then chosen to further explain the perspective of the interviewees. A total of 29 interviews, 120

surveys, and 21 focus groups were conducted across the six villages. Surveys and focus groups were analysed as described in the Chapter 4 methods section.

5.3 Results

5.3.1 Defining youth

The idea of youth as a cultural construct was introduced in Chapter 2 of this thesis. Prior to understanding the results as they relate to the research objectives, it is necessary to explain what is meant by "youth" in the relevant cultural context. In the region of study, the separation of youth and adults is very complex. It is dependent partially on age but is also affected by actions. These definitions are also prone to exceptions and additions while also occasionally being gender based. Furthermore, there were suggestions that being an "adult" could have various meanings; from having the ability to voice opinions within the family to adopting the responsibilities of an adult to having the right to participate in village decision-making. With this in mind, it is reasonable that the age ranges of when a youth becomes an adult varied. Most respondents suggested that adulthood begins somewhere around the age of 30, though one respondent suggested as young as 22. Several suggested 25 or 25 to 30 while others put the range at 30 to 35. Still others put the age of adulthood at 32, 35 to 40 or as old as 40 to 50 before one was considered an adult.

All but three respondents used marriage and/or children as a defining factor of adulthood. In most cases, the age range became irrelevant if a youth was married with one or more children. At this point, they would be considered an adult because they took on the responsibilities of an adult by doing these things. Some suggested that the age range they chose reflected this fact, stating that the age range was relevant because one

does not attain this age without being married and having kids. Five respondents suggested that even though young men are considered an adult at this point, young women may not really be considered an adult after being married and giving birth but must gain experience and age before they are considered at the same level as older mothers. Other suggested signs of adulthood that were mentioned include; building a house, creating fields, gaining all household skills necessary to maintain a family (women), when you feel like a man, when you are seen as capable of making tough decisions, when you leave school, and when you can take responsibility for your family. In Ndjalobekoe, two respondents mentioned that adulthood was linked to strength. For example, adulthood begins when a young man can carry a heavy log, or when a young woman can carry a large amount of water.

Based on these results, our chosen age group of 19 to 30 is appropriate to show the activities of young adults and to understand this age of transition from youth to adult. There is also no consistent point that defines when a youth becomes an adult in this context. Focus groups included groups varying from seven to 20 plus people within the age range defined for the research. Survey respondents included the full age range of 19-30 with a few older outliers, but more respondents (62.5% under 25) were in their early 20s (Figure 5.1).

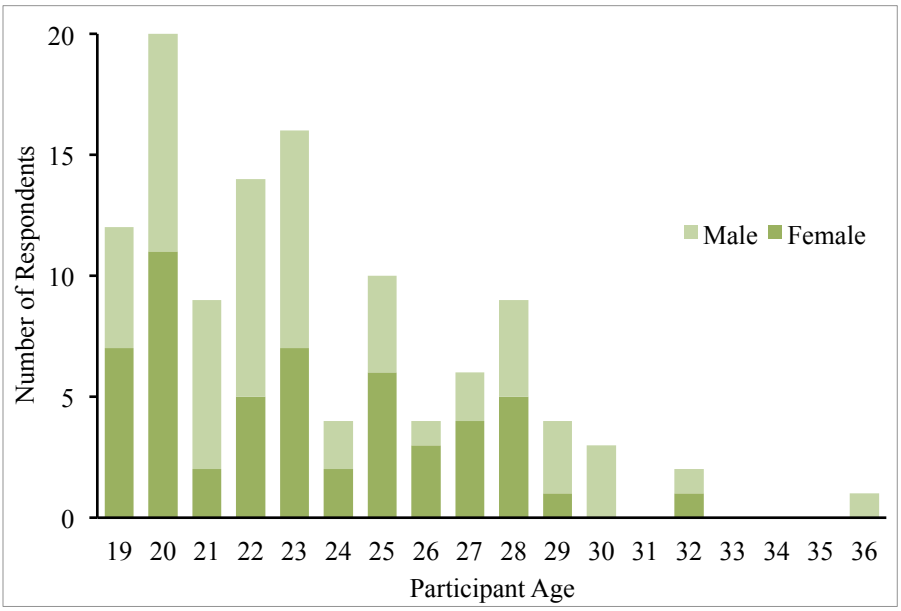

Figure 5.1 Age distribution of 120 individual youth survey respondents in six villages near Yokadouma, Cameroon.

5.3.2 The role of youth in formal institutions

Traditional Authorities

To understand how youth fit into the current formal decision-making structures, it is important to first describe these structures and how decisions are made within the community context. Traditional authorities exist within each village in the form of the traditional council and traditional tribunal. As discussed in Chapter 3, the role of the chief and the traditional authorities varied prior to colonisation but have since been used as an extension of the government administration. The traditional authorities are generally responsible for decisions regarding the village and dealing with any conflict. The position of chief is based on a patrilineal system. The heads of extended families, or 'grand famille', are considered the representative of the chief within the family and are responsible for dealing with any family conflict. If it cannot be dealt with internally, it is

then brought to the chief and his council. If the council is unable to resolve the issue, it is passed in turn to the administrative authority in Yokadouma or the police if necessary. Each village has a similar authoritative structure with slight variations. In general the traditional authority is made up of the chief and his councillors '*les notables*' who are either chosen or heads of extended families.

It was possible to identify how many youth were involved in the traditional authorities of each village through focus groups with these authorities and surveys with youth. In Mang, the village furthest from Yokadouma, there was a "youth" representative present during the focus group who was the primary translator and facilitator amongst the authorities. In an interview he stated that he had been a member of the traditional tribunal for three years after he had been identified as a leader based on his behaviour and status within the village. In the focus group with the young men in Mang, they identified that the youth president, who was not present in the focus groups, also sits on the traditional tribunal. In the focus groups with the traditional authorities they stated that in general, men must be 35 or 40 before they can join them. It is believed that at this age a man possesses the experience and attitude necessary to make decisions, whereas youth are still hindered by their fears and refuse to face certain issues for which the community is responsible. In contrast, Bompello had no youth representative at the level of the traditional authorities. Members of this institution stated that one must be at least 48 years of age to participate at which point they will have the experience and exhibit the necessary qualities. The young men stated that they were in fact not involved and that they were mere observers during sittings of the traditional tribunal, leaving them with inability to represent themselves in the case of a problem.

In Mopouo, attitudes were somewhat mixed amongst the members of the traditional authority. There was no youth member as part of the traditional authorities and members stated that it is an affair of adults. However, it was also mentioned that a youth could become a member in the absence of an older head of household. It was also mentioned that a youth as young as 25 could become a *notable* or head of a family if the population wants to ensure that the leader will not be weak in the face of the government administration. Similarly, in Modoumo there are not currently any youth members, but the members said there could be if the current family representative is no longer able to carry out their responsibilities. Although youth are not members of the traditional authorities, they mentioned that youth are present during the decision-making.

The traditional authorities and traditional tribunal of Njalobecoee are composed of older men who feel that youth cannot simply be integrated because the elders are the holders of tradition. One must spend a long time learning the traditions and customs to be considered for the traditional authorities. Members stated that, in the past, they would pay attention to the youth as they age to help identify which would be capable keepers of tradition and become members of the traditional tribunal but this has changed in recent years. In Ndjalobekoe it was stated that there is no age requirement to become a *notable* but that a person has to be old enough to hold tradition and to manage the family and one must be a reasonable adult to be part of the traditional tribunal. There is no youth representative to the traditional authorities and an adult key informant stated that

> "Where we are, Ndjalobekoe, there is less than 20% participation of young people in relation to the management, whether from forest revenues, whether any revenues. And at the level of the traditional authorities we could say it's nil. Because there, we don't involve young people."

Similarly, in Biwala, members of the traditional authorities stated that youth are not involved because the authorities are the keepers of tradition and if youth are involved then the secrets of the village would be divulged. The chief stated that the system in place is to involve youth who are eager as members of the "chief's soldiers," those youth who are responsible for the protection of the village.

As shown here, representation of youth among the village authorities in these villages is low. Beyond the focus groups, five young men self-identified as being part of the traditional authorities through the survey. In Mang there was a youth president, while in Bompello and Ndjalobekoe others identified as the chief's assistant or the chief's communicator. Two respondents in Mopouo and Ndjalobekoe also identified as being part of the "chief's soldiers." In these cases it is uncertain as to whether they have much power over the decision-making process. It must also be noted that those who self-identify as part of the traditional authorities are in positions that are inherently left out of decision-making. The village authorities are traditionally, and for the most part remain, a part of adulthood.

Forest Management Committees

Decision-making within the community forests occurs within two main structures; the forest management committee, that is charged with the day-to-day management of the forest, and the general assembly, that usually meets on an annual basis and includes all members of the communities concerned. Of the three community forests studied only one, Mpemog, had a youth member on the community forest management committee. Mpemog is the community forest furthest from Yokadouma and includes the villages of Mang and Bompello. During the focus group there was one youth member present. The leaders of the community forest said that they have several youth members but the group has not met in a while so it was hard to judge the actual involvement of these youth. Both the young men and young women of Mang and Bompello were not fully aware of how the community forest is managed. Both the young men in Mang and the young women in Bompello specifically mentioned that their involvement in the community forest was strictly through physical labour and that they were not present when decisions were made. It is interesting to note that the young men in Bompello, mentioned that Mang dominates Bompello in all aspects of the community forest. They mention that there are two offices for Mepmog, one in Mang and one in Yokadouma. They feel this expressly limits the impact of Bompello and therefore Bompello youth from the decision-making structures of this community forest. This notion did play out in what was observed by the researcher and the research assistant while in the area. This became evident in the construction of the secondary school in Mang. The population of Mang identified the community forest as the means of funding the construction of the school. When this was mentioned to the youth of Bompello, they were unaware that this was the case. The larger

size and more dynamic nature of the population, especially the youth, in Mang resulted in them being the dominant decision-makers in this community forest. Although there are members of Bompello in the community forest management committee, they feel as though they are often excluded from decision-making.

The community forest of Essayons-Voir lies between Mpemog and Mouriqoualiye and includes the villages of Mopouo and Modoumo. The leaders of Essayons-Voir identified two members who currently do not qualify under our definition of youth but who were under the age of 30 at the outset. However, through an interview with one of these 'youth' members, it was discovered that he was the technician, and had no part in the decision-making around the community forest. These concerns were echoed in the focus groups with young people. The young men in Mopouo stated that the community forest was an adult affair and that they do not have access to decision-making. They also stated that to benefit from anything, one must have a wife. This links back into how the adults view the transition from youth to adulthood. The young men stated that they wanted to be involved but that the adults do not feel they have to justify themselves to the youth and things are complicated, particularly when money is involved. These sentiments were shared with the young men in Modoumo who stated that the youth were only informed about the community forest when they were wanted for labour. They had limited knowledge of the community forest and they said there were no youth in the forests management committee.

According to the forest management committee of Mourikoualiye, it has been the youth who have benefited most from the first timber exploitation. The youth, guided by the adults, have been responsible for the paid labour and have therefore been able to gain

income but, after all labour costs were paid, the community was unable to make any money from the endeavour. An informant from Ndjalobekoe called the youth "the engine of the community. Because, us the elders we can't really do anything, we're already finished." They feel that the youth should be involved in the forest in many ways but when it comes to choosing the executive, it requires strong men who are serious. The young men of Biwala were aware of how decisions are made within Mourikoualiye and feel as though they are included in discussions with the delegate to the community forest. It was mentioned by one focus group member that, occasionally, older members of the village make decisions without consulting youth when the situation is deemed too 'delicate'. The young women, contrarily, feel as though adults do not want them present during meetings. They stated that this was a result of their behaviour and said that they often go to meetings to listen but not to participate. Similarly, in Ndjalobekoe, young men felt as though they were not invited to participate in decision-making regarding the community forest and the young women stated that they were not only not included in decision-making, but also were not involved in the labour of the community forest.

In Biwala the traditional authorities mentioned that it was the youth who are the labour in the community forest, are responsible for delimiting it, and the ones who are sent manage any conflicts with members of other villages or companies infringing on their land. For these reasons they feel the youth should be involved and stated that they always include the youth in decisions about how the revenues from the community forest are distributed.

The results for the inclusion of youth in decision-making within the community forest management committees of Mpemog, Essayons-Voir, and Mourikouyaliye are

similar to those of the traditional authorities of the associated villages. The executive committee includes very few youth, none under the age of 30. This being said, the executive committee feels that youth are the largest beneficiaries of the community forests, either through the availability of paid work or through the programs that have been established with the revenues. However, some youth still feel that they are not integrated into the decision-making processes of these community forests. Several adult key informants sided with the youth, stating that the adults in decision-making positions are preventing youth from entering. One key informant said,

> "But, without lying to you, the youth really want to insert themselves, young people want to get into the management and everything. But the problem, the elders opposing them, it's that that causes the problem, I must say, it's that that brings the problems."

This was reiterated by another adult informant who stated,

> "You know that in Africa, especially here, young people do not have a voice. Young people do not have enough of a voice. Nowadays young people try a little to get involved already but find difficulties in facing their parents."

Other Organisations

In each of the villages there are number of formal institutions or associations that exist outside of the main decision-making bodies that play a large role in the life of the

village. These include savings and loans groups, work groups, women's groups, church groups, and other common interest groups. It was said by one participant that it is the old who manage the village, but the youth who manage the associations. This was supported by the data from the surveys, focus groups and interviews. Although youth representation is lacking with the two main formal decision-making structures in the villages, youth remain active within the communities in other ways. In all of the villages studied, both youth and adults identified the importance of youth in different types of village associations and institutions. A total of 71.6% of youth survey respondents identified as being members of associations in their villages. The types of organizations that youth participate in vary, with the majority of those in groups participating in savings and loans groups (Table 5.1).

Table 5.1 The types of village organisations and associations in which youth participate as determined through individual surveys.

Association Type	Female (%)	Male (%)
Work Group	17.02	26.92
Savings and Loan Group	70.21	44.23
Student Association	0	5.77
Church Youth Group	2.13	1.92
Youth Group	4.26	11.54
Women's Association	4.26	0
Political Association	0	1.92
Common Interest Group	2.13	7.69

The involvement of youth in village associations is fuelled in part by the fact that youth are the largest part of the population but also indicates that youth are organised and have an interest in being involved in their communities. In focus groups it was mentioned that in many cases youth are also presidents and members of association executives. These associations have been successful in promoting group sales of NTFPs for increased incomes, communal fields to further supplement incomes, and the creation of aquaculture ponds to help stem the issue of resource depletion, among others. There was also the presence of specific youth groups in some of the communities studied. In Mang, youth were organised into a youth group, student group, and church youth group. Biwala also had a group responsible for youth issues. Ndjalobekoe had a youth group that was primarily involved in communal work. In Modoumo there is no specific youth group; however, youth do organise themselves when problems arise to help each other cope. Similarly, in Bompello, there was no youth group but there was a youth leader (over 30 years in age) who is charged with helping to resolve issues among youth. Finally, in Mopouo, there was no youth group initially but on the second research trip we were informed that they were in the process of developing one.

Meetings and Seminars

Through interviews and focus groups it was possible to gain an understanding of the work that had been done by government and NGOs in the area in terms of climate change education. CIFOR (Center for International Forestry Research), ROSE (Résau des ONG Locales du Sud-Est), WWF (World Wide Fund for Nature), SNV (Netherlands Development Agency), and government agencies held meetings within the villages and in

Yokadouma regarding climate change and community forestry. For the majority of these meetings, men, women, youth, and the Baka were invited to attend. According to attendees, all members participated in the same capacity, suggesting that all were all contributing equally. It was however, unclear how these participants were chosen. In particular cases, only certain people were selected for meetings and the intent was for those people to bring the information back to the villages. These meetings excluded youth.

REDD+ as a potential climate change mitigation strategy was not well known or understood in any of the research villages. There was little recognition of the acronym, the full name, or the associated projects. However, the community forest management committee of Essayons-Voir mentioned that they were asked, if provided with compensation, if they would be willing to halt timber exploitation activities. The members of the committee said that they were interested in the prospect of this arrangement. The issue of climate change was recognised in all focus groups with adults to different degrees. These results were echoed in the surveys where young people were unaware of REDD+ but a large number had heard about climate change. This was expected as WWF among other groups had been conducting workshops on climate change with village leaders and community forest committees in the region.

In summary, youth are an integral part of the functioning of village associations and have developed youth-centric and youth only organisations. As members of association executives they are able to have an impact and are contributing in many ways to the villages where they live. They have also been involved in meetings and seminars

that have been hosted by local, national, and international NGOs dealing with issues of forest management and climate change. Though they remain underrepresented in decision-making structures, they are represented in other parts of society.

5.3.3 Environmental Management Outside of Formal Institutions

Although community forest management decisions are made at the level of local formal institutions, local actors make decisions on a daily basis that impact the long term sustainability of these resources. Youth are not excluded from this process. Everyday youth make decisions, alone and in groups, regarding forest resources. These can be influenced by a number of factors including land tenure and livelihood decisions.

Land Tenure

Traditional land "ownership" is based primarily on user rights. For example, when building a field it is expected that one would not construct a field in an area already farmed by another member of the village. A person can clear land in the virgin forest around the village. In the same sense, one generally builds a home close to that of one's father. It is uncommon to build a home in a different section of the village and, if so, permission from the family living there would be needed. The land tenure system in the region of study is also, for the most part, patrilineal. Young members of the community are given plots of land that are part of the larger section of forest "owned" by their parents, which was passed to them by their grandfather. Decisions regarding access to land within a family are made by the parents. Youth are provided with a portion of land as designated by an adult family member. Young women are provided the same access to land for food crops as young men. However, young men are the inheritors of land for

permanent crops, such as coffee and cacao, as young women are expected to marry and leave the village. Although distribution of family forest land is generally made by the adults, the choice of what crops to grow and how and when to work is entirely up to each family member.

Livelihood Decision-Making

As outlined in Chapter 4, youth work, alone and in groups to fulfill livelihood needs. The individual and group decision-making by youth regarding forest resources for livelihood purposes impacts those resources in the long run. To understand the role of youth in decision-making on a daily basis, one must examine the resource-based decisions being made. The forest is generally considered unrestricted in terms of NTFPs collection, firewood collection, hunting, and fishing. However, the impact that youth have on these resources is dependent on how decisions are made surrounding their livelihood strategies. Who makes the decision and how such decisions are made impacts the environment and the community forest.

Table 5.2 How decisions livelihood decisions (when, where, and how much is collected/grown) are made within work groups for forest-based livelihood activities as determined through individual surveys with young men and young women.

		The group agrees	Older member	A youth	Husband/ Wife	One who knows the sector	Other
NTFP	Female (%)	42.31	9.62	20.19	2.88	12.50	12.50
	Male (%)	20.31	17.19	31.25	-	12.50	18.75
	All Respondents (%)	33.93	12.50	24.40	1.79	12.50	14.88
Firewood	Female (%)	36.67	10.00	30.00	-	6.67	16.67
	Male (%)	30.00	15.00	45.00	-	5.00	5.00
	All Respondents (%)	34.00	12.00	36.00	-	6.00	12.00
Hunting/ Fishing	Female (%)	60.00	17.78	8.89	-	-	13.33
	Male (%)	38.46	15.38	19.23	-	7.69	19.23
	All Respondents (%)	52.11	16.90	12.68	-	2.82	15.49
Agriculture	Female (%)	15.38	18.68	4.40	50.55	7.69	3.30
	Male (%)	16.92	13.85	61.54	1.54	3.08	3.08
	All Respondents (%)	16.03	16.67	28.21	30.13	5.77	3.21

When working in groups it is common for decisions about when and where to participate in specific livelihood activities to be made democratically by members of the work group. Decisions are made regularly by consensus, or by any youth member of the

group. These results show that even when working in groups, each member has the ability to participate in decision-making. However, in a number of cases, decisions are made by an older family member or by the elder in a group (Table 5.2). This shows that there is still a tendency to rely on adults for direction and traditional knowledge. When youth make decisions on their own, they seem to be driven by need and strength. When asked how they make decisions about their livelihood strategies; how they decide to partake in NTFP collection, firewood collection, hunting and fishing, and agriculture; how they decide where and how much to produce or collect, youth responded primarily that they partake in activities that they know and understand based on traditional knowledge and they are personally driven by need. They produce and collect as much as they need to feed themselves and their families or based on the money that they require. They also work to their capacity, collecting as much as they can carry and cultivating as much agricultural land as they can. This is not surprising based on what was observed of livelihood strategies in the area. It should be noted that, although respondents observed declining resources and increasing population, none mentioned the need to use these resources sustainably. The prevalent thought process seems to centre on the view that there is enough forest to sustain them. Therefore, even though youth are excluded in formal decision-making structures relating to the forest, their livelihood decisions and unrestricted access to the forest has an impact on these resources.

5.3.4 Rules and processes that encourage youth participation in formal institutions

There are a number of factors that were identified that affect the participation of youth in formal and informal decision-making within the villages of interest. These factors can be identified as those that encourage participation, or the perceived benefits of youth involvement, and barriers to participation.

Education and Mobility

There are many factors that exist to encourage youth to participate in decision-making. Both youth and adults alike mentioned the importance of youth mobility. Youth have the physical ability to travel not only to Yokadouma, but also to other important settings for meetings or to gain information to improve their condition. This suggests that many youth have more experience outside of the village and in interacting with differing peoples and ideas. Youth have the ability to travel for work as there is increased need for labour in mining and forestry sectors. Many youth travel to attend secondary and post-secondary education within the region and as far as the capital. The majority of these youth attain a level of education that was not available to their parents' generation, due to the increase in the number of local schools and the emphasis on education placed by the government and NGOs alike. When discussing the community forest, one key informant mentioned that young people had provided a suggestion of saving money for larger projects for the community instead of dividing the cash or foodstuffs. He said,

> "Young people, with their innovations, came to bring the idea; we must not share money, we should not buy, if you do not have salt…it shouldn't come from the the sky [heaven]. You shouldn't take it from the sky. Now, we made new ideas with those youth and the innovations they had. The money that comes from the royalties stays in the bank."

This access to education is continuing to expand as a secondary school was being built by the community forest of Mpemog in the village of Mang. It has provided this generation

of youth with different knowledge and skill sets than previous generations. These differences between youth and previous generations could mean that youth are more connected to outside factors and may be more affected by globalisation with travel and education, increasing access to radio, television, and cell phones.

The Youth Demographic

Youth were also seen as important due to their physical strength. It was stated that youth are the strength of the village. They make up the majority of the workforce, and are charged with the protection of the village. It was further noted that without the youth, these communities would have no means of preventing other villages or logging companies from infringing on their forest resources. For this reason youth are seen as an integral part of the community and adults in positions of authority see it as necessary to include them, or at least consider them in the decision-making in the village. This is influenced by the fact that youth are the largest part of the demographic within these particular communities. This inclusion is sometimes by default as there are so few older people left in the villages. As mentioned above, this was particularly evident in Mang where the adults specifically mentioned that if they made a decision that the youth did not agree with, there would be a revolt. This idea of youth being the strength of the village was often coupled with the notion that youth are the leaders of tomorrow. Many respondents pointed to the importance of youth having an understanding of decision-making to improve their ability to make decisions in the future when they gain positions of power. Several respondents mentioned that the current youth would need to know how the village institutions function so they could be successful in the future when their

parents' generation passed. There was also a commonly quoted phrase that was used when asked why it was important to include youth: "The youth is the Cameroon of tomorrow."

Youth Rights

An issue often brought up by youth was their rights as individuals to participate in decision-making. The majority of youth survey respondents stated that they should be included in decision-making and are interested in participating. As the majority demographic in the village, many youth stated that they feel it is their right to be included in decision-making structures like the village authorities and the forest management committees (Table 5.3). This thought was not only felt amongst the youth in these communities, but there concerns were echoed by a number of adult key informants who were interviewed with one stating,

> "Well, we want the young people to be involved a lot in the community forest because, uh, me, I don't see well to carry wood, it's them you see. To do everything down there to make money, it's them but they must manage it themselves. Because really, they aren't only slaves to carry the wood, huh?! They must manage it themselves!"

Table 5.3 Survey responses by young men and young women (in percentage) to the questions of whether they should be included in decision-making within traditional authorities and community forest management committees and whether they think it is possible in the current social climate.

	Should they be included in decision-making?		Can they be included in decision-making?	
	Female (%)	Male (%)	Female (%)	Male (%)
Yes	88.68	90.57	63.41	80.00
No	3.77	1.89	17.07	17.78
Unsure	7.55	7.55	19.51	2.22

5.3.5 Rules and processes that deter youth participation in formal institutions

Although both adults and youth identified benefits to the inclusion of youth, there remains a lack of youth representation in decision-making due to barriers in youth participation. These barriers centre around three themes; tradition and cultural norms, differing youth and cultural perceptions, and bureaucracy and corruption.

Tradition and Cultural Norms

There were many factors working against youth participation that were identified that all fall into the category of tradition. Barriers to participation, including the system of land tenure and the structure of the village authorities, all fall into the traditional cultural systems of the area. The system of land tenure prioritises the needs of the father especially in the creation of cacao and coffee plantations that youth, especially young women, work on for their parents often without major returns financially. Furthermore, the access to land for the creation of plantations and agricultural crops is decided by the

adults in the family, which can be seen as creating a type of dependency on parents for the creation of a livelihood. The traditional structure of the village authorities in all villages naturally restricts the inclusion of youth. The leaders of these villages have been chosen based on lineage and having the oldest male as the representative of each family. In this system youth are not considered, or are considered to be represented by the oldest male in the family. It is difficult to understand what this representation means without an in depth understanding of family dynamics.

There is also the prevalent notion within the cultural system that older adults have the knowledge and experience necessary to make good decisions, particularly in the case of decisions that affect the whole village. This inherently puts youth into a group that is seen as having little (or not enough) experience and knowledge to make appropriate decisions. This is evident in the descriptions of youth given by participants.

Adult and Youth Perceptions

The exclusionary aspects of these cultural norms are aggravated by a combination of perceptions that adults have of youth and youth behaviours that are not appreciated by adults. Adults mentioned a failure to complete school, drug and alcohol use, and changing priorities such as a lack of interest in marriage and dependence on technology as reasons that youth involvement is problematic in decision-making structures. One key informant stated, "Our generation, our future generation that's coming there, are too stubborn, too stubborn. Because if you go see, us the big brothers tried to convince them to go to school…they like driving motorcycles and taking drugs." It was hard however to find evidence that these behaviours were common among youth. Youth also stated

similar issues with adults in terms of alcohol use and differences in education as reasons that they wanted to be involved in decision-making. This denotes a generational divide in priorities and perceptions between youth and older adults.

Youth and adult perspectives on level of participation and how youth benefit from community forests also differ. In all villages and community forests, adults said that they consider youth the primary beneficiaries of the community forests, primarily through paid labour. This was thought to be important to adults because the youth benefited from paid labour even if the community forests were not successful in gaining income. It was also mentioned in one village that because youth are needed for the labour, if they truly disagreed with a decisions they could stop work and therefore had a certain level of control over the situation. Furthermore, when adults did make decisions, they felt as though they were making the best decisions for the benefit of the youth. Adults mentioned the creation of schools, scholarships for students, and the purchase of a television to watch the African Cup of Nations as youth benefits from the community forests. One key informant stated, "But me, personally, I know that everything even, in Mbimo[2] custom, everything that the man does is to prepare the future of the children."

There was also a distinct difference in how adults and youth viewed youth participation. Whereas adults claimed that youth were involved in the decision-making within village and community forests, the youth themselves felt excluded. An adult key informant from Mang stated that, although adults, women, and youth were able to participate in meetings in the village "…we don't really give a voice to youth, we don't really give a voice to women. However, the youth are intervening in their scope, they

[2] Mbimo is the ethnic group in the region of study. The population of all six villages identify as Mbimo.

have a limited scope. Yes this is the type that often talk about their problems in relation to the village leadership."

This sentiment was echoed by youth in all villages, where youth are invited to attend meetings but not to participate fully. In some cases, youth, particularly young women, stated that they were entirely unaware of how and what decisions were being made within the community forests. However, they felt they could contribute significantly to problem solving within the forest and the community. In Modoumo the youth claimed that they submitted proposals to improve the management of the community forest but have yet to receive any response.

These issues show that adults and youth view the situation of youth in the village very differently. Although the adults feel they are making decisions that benefit the youth, the youth are still unhappy about not being a part of these decisions. There is no consensus within villages or community forests for what constitutes meaningful participation. There is a misconception amongst at least some adults that youth do not want to be included in decision-making institutions and in understanding the changing ideals of young people. Finally, there is a disconnect between the actions of the few, with regards to drugs, alcohol, and education, and the behaviour of the majority, which is focused on securing sustainable livelihoods.

Bureaucracy and Transparency/Corruption

In addition to the first two socio-cultural aspects preventing the entry of youth into decision-making institutions, a third theme was identified as bureaucracy and a lack

of transparency, and the existence of corruption. A large and cumbersome bureaucracy is characteristic of Cameroon as a whole, but this is worsened when dealing with villages that do not have ease of access to government offices or services. Bureaucracy is an issue when dealing with community forest management committees, particularly when dealing with official changes to the structure of the authorities and FMCs. Consulting with youth could easily happen but systemic inclusion requires changes to these structures. The process of changing these structures or adding members to the FMCs requires changes to the government documents that outline the community forest agreement. This process requires the ability to complete and process the documentation through the appropriate government channels which has reduced the willingness of adult members to go through these changes. Community forests have failed to exploit timber due to incomplete documentation as a result of the characteristically slow government channels. This shows how this process impacts the ability of the villages and community forests to make other changes.

Another issue is transparency and corruption. The general public of the villages lack a true understanding of how decisions are made within the village, particularly regarding the community forests. Although general assemblies should take place annually, they have not been successful in informing community members of the current situation. Furthermore, information is not shared widely outside of the families of the chief and FMC executives. This is true particularly for marginalised groups like women and youth. There was little understanding, particularly amongst young women, about the limits of the forest not to mention the decision-making that occurs within the FMCs. One key informant stated,

> "…when we went to the meetings there, we were told that the money from our community forests was to help us; to build schools, create water points, there, where we drink water, it would make us a lot of things, even build health centres in the villages. This we have never seen. The leaders manage that how? There is the president, the treasurer, they do what with that money? We've never seen it. Water points, the schools we request, we don't see them."

This failure to communicate has resulted in the perception that the community forest executives are corrupt and keep revenues to themselves. This issue is aggravated by the fact that FMCs are often run by members of the traditional authorities or other elites within the villages. A member of the forest committee of Essayons-Voir said, "Such that, the projects, I have hardly seen them, but there were already other projects that should have happened but there were misunderstandings between two chiefs and the delegate of the CIG [forest management committee]." The lack of representation from the broader community, particularly when leaders often reside or spend most of their time in Yokadouma, shows a lack of accountability to the communities they are representing. There were also suggestions that the chiefs or members of the FMCs are not properly using or distributing village income. These issues are not particular to youth but do impact their ability to successfully integrate into these decision-making structures.

The combination of these three factors can be seen through the notion of youth as a workforce. There is a recurring theme among responsible adults that youth benefit

primarily from community forests through paid work. This suggests that youth are not viewed as equals within these structures because the decisions that are being made to benefit them, do not involve them. Including youth in the community forest only in terms of labourers or in the traditional authorities only as “chief’s soldiers” symbolises the marginalisation of this group in decision-making. This exemplifies all three of the themes noted above; it uncovers the cultural and traditional norms of where youth fit into society; it shows the disconnect between adults “including" youth and meaningful dialogue; and it highlights the unwillingness of these institutions to be transparent about their decision-making. Putting youth in these positions allows them to learn for the future, as was so often mentioned as a reason for their inclusion, but does not provide them with access to provide input or see the results of their ideas in a meaningful way.

5.3.6 How to overcome barriers to participation

Although there are many barriers preventing youth from engaging in decision-making institutions at the local level, there are factors that aid in overcoming these barriers. Several of these will be discussed in this section. However, it is important to recognise that there have already been many changes in how youth participate in the villages and their relationship to the adults in positions of power. It was mentioned that in the past, youth were not able to sit with the older adults and were not invited to even listen to meetings. The change in demographic to a much younger population has forced changes to the traditional and cultural norms and the system is evolving to be more inclusive of younger members of the population. It is very possible however, that because these changes are happening largely due to demographic shift, that younger adults and not youth under the age of 30 are more likely to be involved. Further to these “natural”

changes in dynamic, education, youth organisation and participation, meaningful dialogue could help to improve access to youth in decision-making institutions.

The most noted factor affecting the inclusion of youth in decision-making structures is youth self-organisation. There were noted differences between the villages that had youth organisations and those that did not. For those with organisations and specifically an elected leader, that leader was more likely to have access to the traditional authorities and the FMC. In these cases the elected youth became a representative for the chief to go to when in need of input from youth. This representative provided the youth, more often young men, a voice within these institutions and although that person was over 30 years of age, they still provided needed representation. Mang provides an excellent example of the success of youth organisations. With several youth organisations to their credit, the youth of Mang have been able to organise to ensure a clean and safe village but also to show strength in their organisation causing leaders to feel that youth have the ability to coordinate revolt if they disagree with any decisions made. Contrarily, in Biwala where the chief was responsible for appointing a leader to the only youth group, youth were far more constrained by the needs and wants of the leadership. In Bompello, the elected youth leader acts as a liaison between the youth and the traditional authorities. In Mopouo, Modoumo, and Ndjalobekoe where there is little youth leadership, they have no representation and no voice within the traditional authorities.

This can also be true of youth in other institutions within the village. Youth who are very active and participate in associations in the village are seen as having positive qualities and contribute to the betterment of the community. One key informant said, “Here we are happy because the youth in my village here, they are in the process of

understanding, they form their CIGs, their associations, they work together." Access to formal education is also considered an asset. In a number of cases, education was mentioned as a benefit in how adults viewed youth in their communities. Continued formal education also extends adolescence, delaying marriage and children, and providing youth with the opportunity to remain engaged in community organisations and associations. Further, it provides the ability to travel and to engage with new people and ideas as mentioned previously.

These factors are influenced by gender. Although young women were very involved in organisations in the villages and have been attending school in higher and higher numbers, they are still not considered to be on equal footing with young men. The prevailing argument against the inclusion of young women is that they will leave in marriage and therefore will not be around to help run the village. "…in Africa, and particularly here, girls are for the home. So we don't include women, whether in the management of associations, whether in the management of the traditional authorities, whether in anything that exists." said one key informant on the topic of including young women. They tend to be less involved in youth organisations, with the exception of Mang. In several of the villages, young women were considered to have less problematic behaviour than young men. However, they were also less likely to have a good understanding of how decision-making institutions function.

5.3 Discussion

5.3.1 Major Findings

Understanding the definition of youth was necessary to ground the analysis of the results in the context of the villages being studied. We were able to verify that the definition of youth used in this study was valid and allowed an exploration of the complexity of the term. As expected, there were differences in the definitions of youth that were provided by respondents but general themes quickly emerged. The transition to adulthood is not defined only by age but by life situation and life decisions such as getting married and having children. This was important to understand when considering differences in generational perspectives and understanding what it means to say youth are involved.

While there are some differences, common themes emerged among the villages and community forests. Youth are underrepresented in local decision-making institutions relative to their representation in the community demographics. In addition to not being formally included within the traditional authorities and forest management committees, youth, particularly young women, are not invited to participate in meetings or to provide input on issues relating to the use of the forest or the funds coming from any type of exploitation. In theory, community forests were put in place to benefit the whole of society. However, it is evident that youth are generally excluded from the decision-making process surrounding these forests. In the meeting with Mourikoualiye, the only community forest with a youth representative, the youth member did not speak. This was similar in the community forest of Essayons-Voir. Although they had no youth members, the younger members of the community forest did not speak throughout the focus group. This shows that a division between youth and elders within the community forests exists.

A similar situation exists within the village authorities. The composition of the traditional authorities, including heads of each extended family, makes it inherently difficult to include youth. Furthermore, even where a youth representative existed within the traditional authorities, as in Mang, he was older than 30. To be a member, one requires experience. This suggests that even if youth members gained positions within these institutions, they might still find it difficult to be considered equal members. This would need to change before youth are viewed as equal members of society.

The involvement of youth within the communities studied happens primarily through other associations and villages in the communities. Youth are very active, showing an interest in the village and competence in taking responsibility. Youth also have an impact on the environment as a result of their livelihood strategies, through individual and group decision-making. Open access to NTFPs, firewood, hunting, and fishing, has resulted in youth, as the largest demographic, having an impact on these resources. However, agriculture, the most important livelihood activity of youth in the area, remains limited by access to land which is generally granted by a parent, most often the father. Although this does not create tension within the village, it does show the control of adults over the land. This is relevant because access to land rights and other resources ensures the ability to maintain a livelihood. Therefore, land tenure defines who has access to these lands and resources and who will ensure the sustainable use of them (Sikod 2007).

The factors that encourage and prevent youth from participating in formal decision-making institutions were visible in all villages and community forests, although

the participation of youth varied from being entirely excluded from these institutions, to having youth representatives and/or adults listening to youth input. In all cases, youth and adults identified similar benefits stemming from youth participation in decision-making. However, there is a disconnect between identifying these benefits and the process of including youth in the decision-making. The lack of inclusion and differences between villages and community forests is based partly on what is considered participation by both youth and adults. Adults considered youth as 'involved' or 'included' if they were doing paid labour, if they were a technician, if representatives were chosen by the traditional authorities or the forest management committee, even if they did not speak in meetings. Youth were more likely to feel included if they had elected a representative or if they felt that the adults listened when they provided opinions and concerns about decisions. Stating that youth are included because adults make decisions that they feel benefit primarily youth reveals an attitude that adults know best. However, this process disregards what youth view as being the most important to them. The idea of meaningful participation must be defined in the context and mutually agreed on to create a space for policy decisions and benefits to be shared equally.

The results also illuminated some differences between community forests and villages and between young men and young women. There were differing answers about youth involvement within the traditional authority of Mopouo. This is related to the political situation of the village where elites in one half of the village hope to create a separate authority for their half of the village. These members seemed much more willing to include youth and break with tradition. There are also noted differences between Mang, where youth have had more success in being involved, and other villages, such as

Ndjalobekoe where the youth had not even considered having a representative among the authorities. The most noted difference in Mang was that the youth were well organised into a number of youth societies that had worked to better the village. Through this organisation they had been able to make their opinions heard. This resulted in the adults of Mang stating that decisions must please the youth in order to prevent a revolt. This combination of youth organising and adults recognising the power of that organisation, resulted in more concern for youth issues. All three community forests appeared dominated by elites, making it more difficult for youth to become involved. This aligns with the literature which suggests that elites often join committees for their own interest which can lead to the misappropriation of funds and lack of accountability to the village (Oyono, 2004, Etoungo, 2003).

There were also significant differences in how young men participate in decision-making compared to young women. Even in villages where youth were consulted, young women remained systematically excluded. This happened for a number of reasons, with adults and young men stating that the young women were not interested in becoming involved, their place was in the home, or that they would be married and leave the village. This has serious implications for the young women of the area, as there were young women who were very involved in the leadership of village associations. It appeared that this was leading to a greater recognition of the young women in the village. In Mang, the female-led students' association had been responsible for maintaining the village. In Mopouo, a women's organisation with youth leadership had created a tree nursery for economic important species. These young women were recognised by the

adults in the community. The underrepresentation of women in decision-making and institutions has been well documented (Sikod, 2007, Etoungou, 2003).

The creation of ongoing meaningful dialogue could help to ensure that youth and adults have an understanding of the perspectives of the other. There is a lack of communication within these institutions, between these institutions and the public, and between adults and youth in how and where they can be involved. These issues need to be acknowledged and discussed in order for all members of the communities to be able to engage in the decision-making processes. Dialogue can also help foster a sense a mutual respect by dispelling misconceptions and understanding systems.

Although CIFOR had done some preliminary work in the area with regards to REDD+ projects, there was little knowledge of the policy among members of the communities studied. However, the issue of climate change was recognised in all focus groups with adults. This is largely because climate change and its impacts are already being felt within these communities. When considering the potential to assess the implication of youth in the REDD+ process, it is necessary to keep in mind that, at the village, level there is no access to internet, phone, and radio is limited. Access to information can be limited and therefore if information is to be shared, it must be done purposefully at the village level.

5.3.2 Implications

Policy

It is necessary to understand the social hierarchies within regions to understand how policy will impact different groups. Furthermore, it is important to consider youth as a potentially marginalised group and this should be a consideration in research and programming by the government, NGOs, and within international policy. It is necessary to understand the perspectives of all levels of society to truly understand the potential impacts of policies. This is particularly relevant if a policy is intended to benefit the community in its entirety to ensure that no particular group is excluded. This is relevant because, although youth are the most numerous group in this area, they remain marginalised in a number of ways.

5.3.3 Limitations

This study aimed to look holistically at youth environmental decision-making, both in local institutions and in their daily lives. These issues are complex and the scope of the project was large. Although the time allotted was adequate for this study, a more in depth study of institutional arrangements could benefit from more time in each village and an opportunity to interview more community members. This would have also allowed for more time to gain an understanding of the complex social hierarchy and traditional values.

A second issue in this research was the lack of understanding of the extent to which REDD+ had been discussed by NGOs with community forests in the area. It was understood prior to arriving in Cameroon that there had already been research in the area relating to the potential for REDD+, although, we were not certain of the extent of work.

It was a goal of this research to understand to what extent youth had been involved in discussions on REDD+ to date. However, upon arrival and in discussion with the focus groups, it was discovered that REDD+ related policies had not been discussed at the village level. This required changes in the structure of the research to focus on community forest involvement and not directly on REDD+.

5.3.4 Suggestions for further research

This type of research could be expanded to fully understand the role of youth in community forests, formally and informally, across the country. This would provide a broader understanding of how national level policies will impact youth as a group. Further research could also consider the role of youth in formal and informal institutions, how they have been successful within their communities, and how these differ from primarily adult run institutions. This may provide insight into how youth can be integrated into more adult dominated institutions. This topic would benefit from being approached through a gender lens to provide insight into why women remain less involved in formal institutions, even among young people, and what gender related barriers must be overcome to allow young women to participate openly in local institutions related to forests and decision-making.

Chapter 6: Conclusions

6.1 General conclusions

This work responded to two questions; do youth derive their livelihoods from the forest and how are youth engaged in local institutions that relate to forest governance. As discussed in Chapter 4, youth are forest dependent for their livelihood strategies, sustaining themselves and their families while also garnering an income from forest resources. Youth in the six research villages in eastern Cameroon have diversified livelihoods that are primarily agriculturally based in the forest, but include many other forest and non-forest activities such as hunting, fishing, collection of NTFP and firewood, commerce, taxi driving, and paid labour. However, these activities, similar to those of the older generation, are now threatened by greater scarcity, climate change, and other environmental and human factors. These are likely to increase in the future while also being impacted by external policy sources including those stemming from the REDD+ process.

Youth are also underrepresented in formal decision-making institutions relating to forest management, such as the traditional authorities and community forest management committees. However, youth are involved in other institutions and associations with the villages and impact forest resources through their daily livelihood activities. Although youth and adults within these villages identified benefits to youth participation in decision-making such as increases in education, mobility, and strength of the youth, there were also barriers to including them into the formal decision-making structures. Barriers include traditional and cultural norms, differing perspectives of adults and youth, and a lack of transparency and corruption within these institutions.

6.2 Theoretical Framework

When livelihood activities impact resources - directly or indirectly - those activities and the decision-making around those resources are inherently intertwined. In this case, it is impossible to maintain a sustainable forest based livelihood strategy without impacting those resources or being impacted by decisions made about the resources on which you depend. Therefore, one cannot study the impact of environmental change or policy without considering both sides of this coin; how the resources are used by people and how people are involved in successfully managing them.

The two components of this study can be combined easily in theory and in practice. If we consider Ostrom's principles, we assume that those who are dependent on a common pool resource can provide input to better manage that resource (Ostrom, 1999). In this case, because of their forest dependent livelihood, youth have a stake in these resources available in the community and other forests. Therefore, youth may be able to contribute positively to the management of these forests. They also have the ability to participate in timber extraction to potentially help improve their incomes. It is very difficult for these youth to ensure the sustainability of these forest resources when they have little or no formal control over these resources. This being said, youth do have open access to NTFPs, firewood, and hunting and fishing resources. They therefore have some control over how these resources are maintained for the future, considering a growing population and the potential for further depletion.

6.3 Policy Implications

These results have implications for policy creation regarding community forests, access to resources, and REDD+. Forest based livelihood strategies are a major contributor to the youth livelihood portfolio in the Congo Basin region of Cameroon. This makes the region particularly vulnerable to changes in the environment and policies that may impact access to forest resources. Long term sustainability of the current livelihood activities are therefore directly linked to the sustainability of the forest. Factors such as educational attainment, mobility, and the impact of environmental change and environmental policy may have impacts on intensification and diversification of livelihood strategies and rural-urban migration. There needs to be a thorough understanding of the impacts of environmental changes and of potential REDD+ related policy options. The current livelihood portfolio must be considered to ensure that appropriate and effective livelihood alternatives are available should they be impacted.

Although youth are the largest demographic in all villages studied, they remain marginalised from formal decision-making structures. Should policies related to REDD+ be implemented by existing local structures, such as community forests, youth and potentially other groups risk being marginalised by the process. In addition, though effort is often made to include women and indigenous groups in policies due to their current and historical marginalisation in political processes, youth are not always considered a marginalised group. This thesis argues that youth, and particularly young women, should be considered a marginalised group and should be included in any shared benefits coming from the REDD+ process. Through the UN, and at the regional and national levels, youth have participated in specific youth organisations and processes for decision-making.

However, these exclude the rural poor and do not impact the daily lives of those living in the area studied. This also includes national youth organisations that are based out of urban areas. Efforts must be made to ensure that impacted youth are included in the REDD+ process.

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APPENDIX A – INDIVIDUAL SURVEY

Date:
Caractéristiques de la Communauté:
Région :
Département :
Village:
Forêt communautaire:

Identification
Sexe: M ou F
Âge:
État civil: Marié Célibataire divorcé veuf ou veuve
Nombre d'enfants:
Emploi:
Êtes-vous le chef de votre famille Oui Non
Éducation: Pas allé à l'école école primaire école secondaire université
Rôle dans la communauté, si dans un poste de responsabilité:

---

1. Comment gagnez-vous votre vie? Est-ce que vous pouvez citer les activités que vous faites dans la vie?
2. Est-ce que ces activités varient avec les saisons (pendant l'année)? Quelles activités est-ce que vous faites pendant toute l'année?
3. Pourriez-vous nous donner le temps que vous mettez sur chaque activité?
4. Récoltez-vous les produits dans la forêt? Oui / Non
5. Si oui, quels produits récoltez-vous?

    a. PFNL (produits forestiers non ligneux)
    b. Bois de chauffage
    c. La viande de brousse
    d. Les produits agricoles
    e. Le poisson
    f. Le sable
    g. Autre (lister les, s'il vous plaît)

6. Lequel, de ces groupes de produits est le plus important pour votre ménage? Pourriez-vous les classer par ordre d'importance? En quoi sont-ils importants? (abondance, valeur commerciale ou revenues, consommation, valeurs culturelles ou sociales, etc.)
7. Pourriez-vous nous dire quelle portion de vos revenus vous gagner des produits forestiers?

    a. <1/4

b. ¼
c. ½
d. ¾
e. >3/4

8. Recevez-vous des payements autres que l'argent? (par exemple, si vous travaillez dans la forêt pour quelqu'un, il vous paye en valeur autre que l'argent)?
9. Quelle sorte de biens est-ce que vous recevez come paiement? Pourriez-vous me donner les proportions de chacun?
10. Quelle quantité de vos payements est sous forme d'argent? Quelle proportion estimez-vous?
    a. <1/4
    b. 1/4
    c. 1/2
    d. 3/4
    e. >3/4
11. Quel est la proportion des payements que vous recevez sous des formes autres que l'argent?

    a. <1/4
    b. 1/4
    c. 1/2
    d. 3/4
    e. >3/4

PFNL

12. Quelles sont les PFNLs que vous récoltez? Pourriez-vous s'il vous plaît les énumérer?
13. Quelle quantité consommez-vous? Combien vous donnez aux autres (votre famille inclus)?
    a. Tout
    b. ¾
    c. ½
    d. ¼

14. Vendez-vous ces produits? Oui/Non
15. Quelle quantité vendez-vous?

    a. Tout
    b. ¾
    c. ½
    d. ¼

16. Où vendez-vous ces PFNLs? Quelle distance parcourez-vous pour les vendre?
17. A qui vendez-vous les PFNLs?

18. Y a-t-il des PFNLs spécifiques qui sont plus important pour vos revenus? Lesquels?
19. Recevez-vous des payements en argent, des payements en dehors de l'argent, ou les deux?
20. Où collectez-vous les PFNLs?

a. Dans la forêt communautaire?
b. Dans une autre forêt?
c. Dans une zone protéger?
d. Quelque part d'autre (s'il vous plaît identifier)?

21. Collectez-vous les PFNLs par vous-même, avec un mari/femme, avec la famille et / ou comme membre d'un groupe?
22. Quelle est la composition de votre groupe? (hommes, femmes, jeunes, adultes, enfants)?
23. Quelles sont les PFNLs que vous collectez en groupe? Pouvez-vous s'il vous plaît les énumérer?
24. Dans le groupe, qui prend les décisions sur le moment de récolter les PFNLs?
25. Dans le groupe, qui prend les décisions sur les endroits où récolter les PFNLs?
26. Dans le groupe, qui prend les décisions au sujet de quelle quantité de récolter les PFNLs?
27. Quelles ressources collectez-vous tout seul? Pourriez-vous s'il vous plaît les énumérer?
28. Comment prenez-vous des décisions sur le moment de récolter les PFNLs?
29. Comment prenez-vous des décisions sur l'endroit où récolter les PFNLs?
30. Comment prenez-vous des décisions au sujet de quelle quantité de récolter les PFNLs?

Le bois de chauffage

31. collectez-vous le bois de chauffage? Oui/Non
32. Quelle quantité gardez-vous pour utiliser? Combien donnez-vous aux autres (votre famille inclus)?
    a. Tout
    b. ¾
    c. ½
    d. ¼

33. Vendez-vous le bois de chauffage? Oui / Non
34. Quelle quantité vendez-vous?
    a. Tout
    b. ¾
    c. ½
    d. ¼

35. Où vendez-vous le bois de chauffage? Quelle distance parcourez-vous pour le vendre?
36. A qui vendez-vous le bois?
37. Recevez-vous des payements en argent, des payements autres que de l'argent, ou les deux?
38. Où collectez-vous du bois?

    a. Dans la forêt communautaire?
    b. Dans une autre forêt?
    c. Dans un endroit protéger?
    d. Quelque part d'autre (s'il vous plaît identifier)?

39. collectez-vous du bois vous-même, avec un mari/femme, avec la famille et / ou comme membre d'un groupe?
40. Quelle est la composition de votre groupe (hommes, femmes, jeunes, adultes, enfants)?
41. Quelle quantité de bois de chauffage collectez-vous en groupe? Pouvez-vous s'il vous plaît les énumérer?
42. Dans le groupe, qui prend les décisions sur le moment de collecter du bois de chauffage?
43. Dans le groupe, qui prend les décisions sur les endroits où collecter du bois de chauffage?
44. Dans le groupe, qui prend les décisions au sujet de quelle quantité de bois de chauffage à collecter?
45. Quelle quantité de bois de chauffage recueillez-vous tout seul? Pourriez-vous s'il vous plaît les énumérer
46. Comment prenez-vous des décisions sur le moment de recueillir le bois?
47. Comment prenez-vous des décisions sur l'endroit où recueillir le bois?
48. Comment prenez-vous des décisions au sujet de quelle quantité de bois à recueillir?

Viande de brousse

49. Quels sont les types de viande de brousse que vous chassez? Pouvez-vous s'il vous plaît les énumérer?
50. Quelle quantité consommez-vous? Combien donnez-vous aux autres (votre famille inclus)?
    a. Tout
    b. ¾
    c. ½
    d. ¼

51. Vendez-vous la viande de brousse? Oui/Non
52. Quelle quantité vendez-vous?
    a. Tout
    b. ¾

c. ½
d. ¼

53. Où vendez-vous la viande de brousse? Quelle distance parcourez-vous pour le vendre?
54. A qui vendez-vous?
55. Recevez-vous des payements en argent, des payements en dehors de l'argent, ou les deux?
56. Chassez-vous différents types d'animaux dans le même lieu ou dans les lieux différents ?
57. Où chassez-vous la viande de brousse?

a. Dans la forêt communautaire?
b. Dans une autre forêt?
c. Dans un endroit protéger?
d. Quelque part d'autre (s'il vous plaît identifier)?

58. Est-ce que votre chasse change avec les saisons? Année par année? Expliquer.
59. Chassez-vous la viande de brousse vous-même avec un mari/femme, avec la famille et / ou comme membre d'un groupe?
60. Quelle est la composition de votre groupe (hommes, femmes, jeunes, adultes, enfants)?
61. Quelles sont les types de viande de brousse que vous chassez en groupe? Pouvez-vous s'il vous plaît les énumérer
62. Dans le groupe, qui prend les décisions sur le moment de chasser?
63. Dans le groupe, qui prend les décisions sur les endroits où chasser?
64. Dans le groupe, qui prend les décisions sur les quantités à chasser?
65. Quelles sont les types de viande de brousse que vous chassez seul? Pouvez-vous s'il vous plaît les énumérer?
66. Comment prenez-vous des décisions sur le moment de chasser?
67. Comment prenez-vous des décisions sur l'endroit où chasser?
68. Comment prenez-vous des décisions sur les quantités à chasser?

AGRICULTURE

69. Avez-vous des champs? S'il vous plaît expliquer les types de culture que vous faites.
    a. Parcelle fixe?
    b. Agriculture itinérante?
    c. A et b?
    d. Plantation de café ou cacao?
    e. Autre?
70. Quelles sont les produits que vous cultivez? Pouvez-vous s'il vous plaît les énumérer?
71. Quelle quantité consommez-vous? Combien vous donnez aux autres (votre famille inclus)?

a. Tout
b. ¾
c. ½
d. ¼

72. Vendez-vous les produits agricoles? Oui/Non
73. Quelle quantité vendez-vous?

a. Tout
b. ¾
c. ½
d. ¼

74. Où vendez-vous ces produits agricoles? Quelle distance parcourez-vous pour les vendre?
75. A qui vendez-vous?
76. Y a-t-il des produits agricoles qui sont plus importants pour votre revenu?
77. Recevez-vous des payements en argent, des payements en dehors de l'argent, ou les deux?
78. Est-ce que vous cultiver vous-même, avec un mari/femme, avec la famille et / ou comme membre d'un groupe?
79. Quelle est la composition de votre groupe (hommes, femmes, jeunes, adultes, enfants)?
80. Quelles sont les produits que vous cultivez en tant que groupe? Pouvez-vous s'il vous plaît les énumérer?
81. Dans le groupe, qui prend les décisions sur le moment de cultiver?
82. Dans le groupe, qui prend les décisions sur l'endroit où cultiver?
83. Dans le groupe, qui prend les décisions au sujet des quantités à récolter?
84. Quelles sont les produits que vous cultiver tout seul? Pouvez-vous s'il vous plaît les énumérer?
85. Comment prenez-vous des décisions sur le moment de cultiver?
86. Comment prenez-vous des décisions sur l'endroit où cultiver?
87. Comment prenez-vous des décisions au sujet des quantités à récolter?

AUTRE

88. Êtes-vous membre de la chefferie?
Oui Non
89. À quel titre êtes-vous impliqué?
90. Êtes-vous membre du comité de gestion communautaire des forêts?
Oui Non
91. À quel titre êtes-vous impliqué?
92. Pensez-vous qu'il est possible pour les jeunes d'être membre de ces institutions? Pourquoi?
93. Pensez-vous que les jeunes devraient être impliqués dans ces organisations? Pourquoi?

94. Si oui, dans quels rôles ?
95. Êtes-vous impliqué dans d'autres organisations dans la communauté? S'il vous plaît les énumérer.
96. Avez-vous entendu parler de la REDD +?
97. Avez-vous déjà été impliqué dans une discussion ou planification autour de REDD +? Comment avez-vous été impliqué (discussions entendues, ont participé activement à la discussion, membre de l'organisation qui planifie des activités ...)?
98. Pensez-vous que les jeunes peuvent être impliqués dans le REDD+?
99. Comment (dans quels rôles) ?
100. Quelles sont les questions qui ont été discutées à l'égard de la REDD +?

APPENDIX B – INTERVIEW GUIDE

Êtes-vous impliqué dans des institutions/organisations locales (Les Notables, comité de gestion des ONGs, groups informels, etc.) ? Qu'est-ce que ces institutions/organisations font. Y'en a t'ils qui sont liés à la forêt communautaire ou à l'environnement naturel ? Comment êtes-vous impliqué ?

Y a-t-il des jeunes (âgés de 19-30) impliqués dans cette organisation ? Comment sont-ils impliqués ? A quel niveau ?
Pensez-vous qu'il est important pour les jeunes d'être impliqués dans ces institutions ? Pourquoi ?

Comment, pensez-vous, les jeunes peuvent être impliqués dans la forêt communautaire?

Avez-vous entendu parler ou été impliqué dans des discussions sur la REDD + dans la communauté ? A quel niveau avez-vous participé? Y-avait-t-il des jeunes présents(es) pour ces discussions ? Comment est-ce qu'ils ont participés ?

Comment fonctionne le système foncier dans le village? Quels terrains sont privés ? En commun? Comment est-ce décidé ? Comment les jeunes s'insèrent dans ce système ?

A quel moment les jeunes deviennent ils adultes (on les accorde tous les droits donnés aux adultes. Les hommes, les femmes) ?

Comment les redevances forestières et les retombés de la forêt communautaire sont gérés? Est-ce que les jeunes bénéficient? Comment ? Les jeunes sont-ils impliqués dans les décisions au sujet des redevances et des retombées de la forêt communautaire ? Y a-t-il des conflits au sujet de la gestion des redevances forestières ? Ont-ils été résolus ? Comment ?

Connaissez-vous d'autres membres du village qui participent à ces organisations/activités ou sont informés sur ces sujets ?