

‘Benefit beyond carbon’ – for whom?

A Gender Analysis of Communal Forest Governance and Forest Resource Use in the Democratic Republic of Congo

Larissa Stiem

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Supervisor: Dr. Torsten Krause, LUCSUS, Lund University

Abstract

In an effort to mitigate global climate change, the REDD+ mechanism (an acronym for 'Reduced Emissions from Deforestation and Forest Degradation plus the role of conservation, sustainable management of forests and enhancement of forest carbon stock') continues to be put forward as an attractive carbon sequestration and forest conservation tool. The Democratic Republic of the Congo (DRC), hosting more than 63% of the Congo Basin rainforests, is the biggest receiver for REDD+ funding in Africa. These funds are used to improve forest governance towards sustainable forest management practices and forest conservation. In particular at the local level, these changes will affect communities' forest resource use, forest management practices, and ultimately their livelihoods. Given the fact that the DRC scores fifth highest in the world on the Gender Inequality Index, it is unacceptable that gender issues remain peripheral in the process of setting up REDD+ governance structures.

Therefore, my research addresses this issue of gender blindness in examining barriers to female participation in forest governance. Theories and frameworks from Feminist Political Ecology and Bina Agarwal in particular have guided the research for a deeper understanding of prevailing power relations and social norms that shape gender inequalities. Focus group discussions and individual interviews with community members in two different project sites in Equateur Province as well as field observations and expert interviews reveal socially constructed norms and perceptions on gendered forest knowledge, use and governance.

Key findings from this study show a striking discrepancy in de facto and perceived women's forest knowledge and activities in the forest, which nourish men's claims on dominant power over the use and management of forest resources. Likewise, women's traditional exclusion from forest governance is predicated on a systematic undervaluation of their capacities. Women could be equally involved in REDD+ though. With the increased emergence of emancipative thinking and better access to education, progressive values towards gender equality challenge patriarchal norms and practices. The study's findings show that men generally accept women's active participation in formal forest governance institutions – even leadership – provided that the woman is sufficiently educated.

In order for the whole community, men and women alike, to benefit from REDD+ interventions, it will be crucial to understand gendered differences in use, knowledge, and control over forest resources. In particular, women's capacities must be strengthened to empower them to participate and profit in an equal manner. Unless REDD+ activities are designed and implemented appropriately, gendered power imbalances could be deteriorated by REDD+ project activities.

Key words: REDD+, women, participation, sustainable forest management, feminist political ecology, sustainability science

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List of Abbreviations

CIFOR	Center for International Forestry Research
CBFP	Congo Basin Forest Partnership
CN-REDD	Coordination National REDD/ National Coordination REDD
COP	Conference of the Parties
DRC	Democratic Republic of Congo
FPE	Feminist Political Ecology
GDP	Gross Domestic Product
NTFP	Non-timber Forest Product
REDD+	Reduced Emissions from Deforestation and Forest Degradation plus the role of conservation, sustainable management of forests and enhancement of forest carbon stock
SFM	Sustainable Forest Management
WHRC	Woods Hole Research Center
UN-REDD	United Nations programme of REDD+

1 Introduction

1.1 Problem statement

There is international consensus that climate change will have unprecedented effects on ecosystems and human societies, unless serious action is taken (IPCC, 2014). In the search of mitigating carbon emissions from land use change, particularly in forested areas, the REDD+¹ mechanism is perceived as a promising option (UN-REDD Programme, 2010).

The Democratic Republic of the Congo (DRC) hosts the world's second largest rainforest and is a main target country for REDD+ (Maniatis et al., 2013). REDD+ interventions present the potential to improve rural livelihoods but also to undermine them depending on their design and implementation (Angelsen et al., 2012; Awono et al., 2014; Larson & Petkova, 2011; Lawlor et al., 2013). Given the fact that the DRC scores fifth highest in the world on the Gender Inequality Index (UNDP, 2012), it is unacceptable that gender issues remain peripheral in the process of setting up REDD+ governance structures in the DRC (Peach Brown, 2011).

Therefore, this study seeks to scrutinise if and how women can equally enjoy 'benefits beyond carbon'² from REDD+ interventions. Ensuring women's equal³ participation and benefit sharing is crucial for a number of reasons. First, rural women are more dependent on forests for their livelihoods than their male counterparts. They derive half of their income from forest resources, while forestry activities contribute to only one third of men's overall income (The World Bank et al., 2009). Second, sustainable forest management⁴ (SFM) plays an important role in mitigating and adapting to climate change (Guariguata et al., 2008). Studies conducted in sub-Saharan Africa found that rural women are generally more vulnerable to the effects of climate change compared to rural men (Bele et al., 2013; Gabrielsson et al., 2012; Juana et al., 2013; Terry, 2009). My previous research in a rural community in Lukolela, Equateur Province, DRC on climatic vulnerabilities showed that women have lower adaptive capacities compared to men due to a lack of financial resources, lower

¹ REDD+ is an acronym for 'Reduced Emissions from Deforestation and Forest Degradation plus the role of conservation, sustainable management of forests and enhancement of forest carbon stock' and a mechanism to achieve carbon sequestration by means of forest conservation and sustainable management in developing countries (UN-REDD Programme, 2010)

² 'Benefits beyond carbon' refer to ecological and socio-economic benefits that are supposed to be achieved by means of compliance to social and environmental safeguards (UN-REDD Programme, 2012). Generally, benefits from REDD+ interventions are not clearly defined and may refer to material as well as immaterial benefits (Luttrell et al., 2013).

³ 'Gender equality' means that 'women and men enjoy equal rights, opportunities and entitlements in civil and political life', while 'gender equity' refers to 'fairness and impartiality in the treatment of women and men in terms of rights, benefits, obligations and opportunities' (UN-REDD Programme, 2012, p. 10). Gender equality does not necessarily result in equal outcomes. Hence, gender equity (as a means) is needed to achieve gender equality (the goal).

⁴ 'Sustainable forest management' refers to the internationally accepted definition by the United Nations: "Sustainable forest management as a dynamic and evolving concept aims to maintain and enhance the economic, social and environmental value of all types of forests, for the benefit of present and future generations" (United Nations General Assembly, 2008)

access to education and information, time constraints, and a high dependence on subsistence agriculture (Stiem, 2013). Finally and foremost, gender inequalities could be exacerbated with adverse consequences (e.g. an even higher work burden for women, limiting women’s access to forest resources, etc.) in a country with high levels of gender inequality, if REDD+ activities are not designed and implemented appropriately (Gurung & Quesada, 2009; Terry, 2009).

1.2 Relevance and Research Questions

The positive effects of women’s participation in community forest management have been proven by a number of studies (Agarwal, 2009; Agrawal & Chhatre, 2006; Coleman & Mwangi, 2013). Ample evidence has been collected on the constraints of women’s participation in forestry in South Asia (Acharya & Gentle, 2006; Agarwal, 2001, 2009; Agrawal & Chhatre, 2006), but few on the African continent (Mai et al., 2011). Peach Brown (2011) has identified REDD+ policy gaps of gender consideration in theory and practice in the DRC. To date, however, no studies on women’s participation in forest governance on the local level have been published. My research will explore this knowledge gap by examining challenges and opportunities of gender-sensitive community participation⁵ in forest governance in two sites in Equateur province, DRC. Therefore, this study seeks to answer the subsequent research question:

How can gender-sensitive community participation in SFM under REDD+ be fostered?

The following sub-research questions and their associated objectives will help answer the overarching research question (Table 1).

Table 1: Research sub-questions and associated objectives

Research sub-questions	Objectives
RQ1. How do men and women differ in using, valuing and knowing about forest resources?	To explore how gender disparities can be addressed in communal forest governance
RQ2. What is the level of men’s and women’s participation in forest governance?	To compare the current level of participation among men and women
RQ3. What factors affect women’s participation in forest governance?	To understand how barriers to women’s participation are constructed and can be addressed

⁵ While a commonly used term in development work and research, ‘participation’ is a contested concept, and the gap between meaningful participation in theory and practice is often large. See also Gaventa (2002), Cornwall (2008), Reed (2008). My research is based on the claim that participation of forest-dependent communities is crucial for SFM (Ostrom, 1990; Cornwall, 2003; Pretty, 2003)

1.3 Aim and Contributions

The overall aim of my study is to advance the understanding of norms and practices that constrain female participation in forest governance in the DRC. Beyond this, my research is targeted at consulting REDD+ project proponents on the ground, concerning how to design and implement approaches towards gender equality. Finally, this research provides decision and policy makers in REDD+ and forest governance with recommendations contributing to the progression of a gender-sensitive REDD+ programme.

2 Setting the scene

2.1 A brief introduction to REDD+

REDD+ is a climate change mitigation tool and based on the premise that developed countries, which need to meet emission reduction targets, pay forest rich developing countries for conserving their forests and manage forests more sustainably (FCPF, 2013; UN-REDD Programme, 2009).⁶ Since its inception, REDD+ has harnessed criticism concerning social and environmental justice issues from various NGOs and social movements (Indigenous People Network, 2014; Les Amis de la Terre, 2008). Concerns were raised that projects operating under REDD+ would violate indigenous people's rights in assisting central governments to appropriate their forest user rights (Phelps et al., 2010). In response to these critiques, safeguards, whose primary and dual objective is to protect biodiversity and improve forest-dependant communities' livelihoods, were added under the 2010 Cancun Agreement, and so was the '+' to REDD (McDermott et al., 2012; UNFCCC, 2011). These safeguards are based on international agreements and conventions, including the Convention on Biological Diversity, the United Nations Declaration on the Rights of Indigenous Peoples, and the Convention on the Elimination of All Forms of Discrimination Against Women to name a few. Even though criteria promoting gender equality, gender equity, and the empowerment of women were explicitly included, they have been more lip services rather than concrete action in many countries (Gurung & Quesada, 2009; Peach Brown, 2011). The full inclusion of women will, however, be a critical first step to achieve full and effective⁷ gender equal participation and thus contribute to the success of REDD+.

⁶ The REDD+ mechanism was adopted in 2007 under the Bali Action at the COP 13 and has since been pledged about 2.78 billion US\$ under seven funds for its preparation, design, and implementation (Schalatek et al., 2012). The vast amount of funding for the preparations of national REDD+ programmes is channelled through the UN-REDD+ programme and the World Bank's Forest Carbon Partnership Facility (FCPF). Payments will be equal to the carbon that is not emitted as a result of better forest governance and SFM.

⁷ In terms of participation 'full and effective' is described as 'meaningful influence of all relevant stakeholder groups who want to be involved throughout the process, and includes consultations and free, prior and informed consent' (UN-REDD Programme, 2012, p. 10)

which is commonly measured in terms of the interventions' effectiveness, efficiency and equity⁸ (Angelsen, 2009). Various scholars agree that more effective and equitable outcomes can be achieved in addressing gender issues (Gurung & Quesada, 2009; Peach Brown, 2011). Overlooking women's valuable knowledge about forest governance could undermine effective strategies towards SFM and climate change mitigation (Agarwal, 2009; Demetriades & Esplen, 2009; Nelson et al., 2002). From an egalitarian perspective, it is unquestionable that women must benefit equally from REDD+ (Luttrell et al., 2013). In fact, neglecting gender equity in REDD+ could damage the programme's legitimacy (Peskett, 2011) and lead to incorrect assessments of forestry intervention's impacts on rural communities (Manfre & Rubin, 2012).

2.2 Forest use and governance in the DRC

The DRC, similar to the size of Western Europe, hosts over 63% of the Congo Basin forests (Figure 1), and 62% of the country's surface is covered by tropical forests (Debroux et al., 2007).

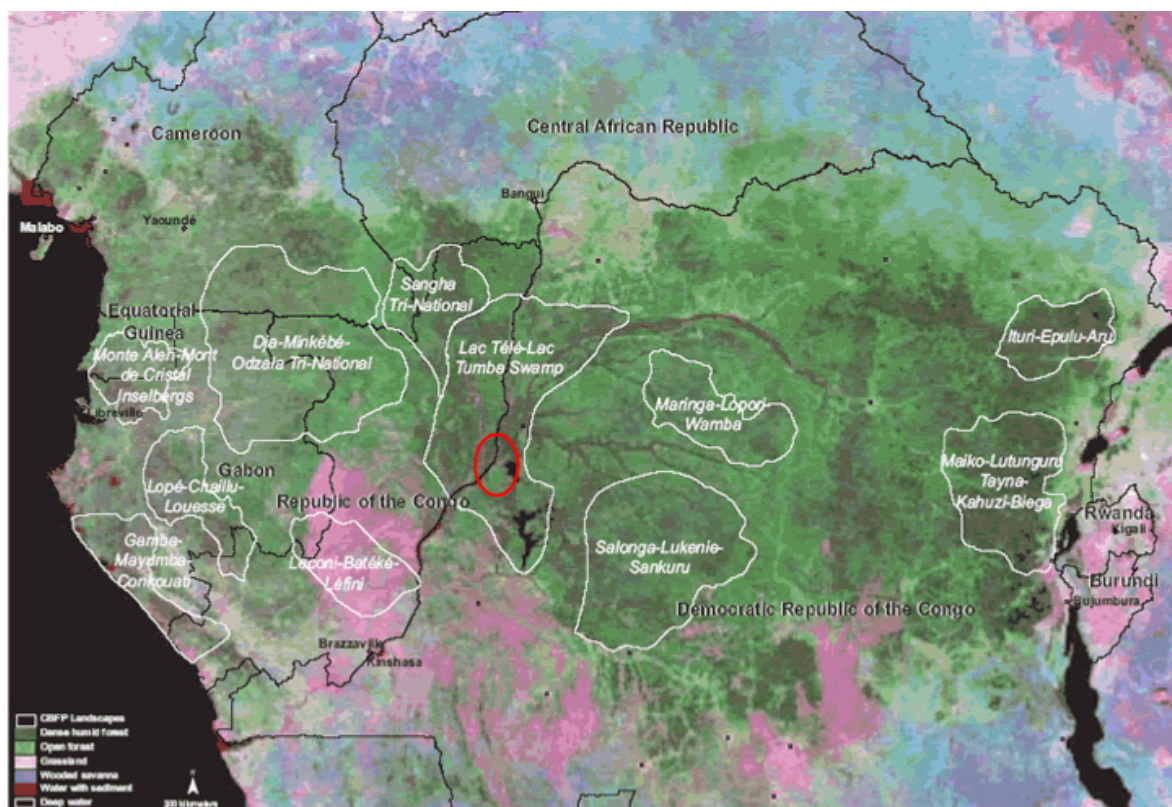


Figure 1: Map of the Congo Basin. (source: (CBFP, 2005): The study sites (red circle) are situated in the Lake Télé-Lake Tumba region, one of 11 landscapes that are of conservation and SFM interest to Congo Basin Forest Partnership (CBFP) due to their ecological importance (e.g. prevalence of endemic species). The black lines indicate country borders. Dense forests appear in dark green and degraded forests or agricultural areas in light green. Grassland is shown in pink and wooden savanna in violet.

⁸ Effectiveness refers to the 'amount of carbon emissions reduced or removals increased by REDD+', efficiency concerns 'the costs of these emission reductions or removal increases', and equity refers to 'the [fair and equal] distribution of REDD+ costs and benefits' (Angelsen, 2009, p. 5)

High levels of biodiversity are found in the Congo basin. The region's tropical forests are home to more than 400 mammal species (including emblematic species, such as the Okapi, chimpanzees, mountain gorillas, and forest elephants), over 1,000 bird species, and possibly over 10,000 plant species of which around 3,000 are endemic (CBFP, 2005).

Moreover, the regional forests represent a significant climatic importance. The forest canopy has a tremendous influence on regional precipitation patterns, as 77% of rainfall is generated by evapotranspiration in the Congo Basin (ESA, 2013). Given the fact that 95% of agriculture is rainfed in sub-Saharan Africa (Simelton et al., 2013), forest conservation also plays an important role in terms of agricultural productivity (Cline, 2007).

Forest resources, both timber and non-timber products, are an integral part for the livelihoods of an estimated 40 million people (more than two-thirds of DRC's total population in 2006) (Debroux et al., 2007). Wood constitutes the primary energy source with 80% of all domestic energy consumed in the DRC (Wolfire et al., 1998). In addition, non-timber forest products (NTFP) are crucial for many people. Bush meat hunting is particularly widespread in the DRC and about three times higher compared to neighbouring countries (Wilkie & Carpenter, 1999). Bush meat consumption represents the primary source of protein and an important source of income for rural communities in the DRC (Fa et al. 2003; Wilkie & Carpenter, 1999). Likewise, the consumption of wild forest vegetables, such as *Gnetum africanum*, are highly valued in Congolese diets (Debroux et al., 2007). Medicinal forest plants are important in rural areas, where health service infrastructure is poor and access to it limited. In Equateur province, where I conducted my research, an estimated 85% of households use medicinal plants for curing diseases (Ndoye et al., 2007).

Despite the importance of forests and forest resources for the majority of Congolese, deforestation is an immediate threat. Annual net deforestation rates in the DRC are estimated at 0.22% on average between 2000 and 2005 (CBFP, 2010; Ernst et al., 2010). These rates are as such low compared to rates in the Amazon (0.44%) and South East Asia (0.41%) (FAO, 2011), but high compared to neighbouring countries in the Congo Basin (CBFP, 2010; Ernst et al., 2010). On top of that, deforestation could increase rapidly to 0.3-0.5% per year by 2020 (Nayar, 2009), due to post-conflict, progressive economic developments along with growing investment in forestry and continued population growth (Debroux et al., 2007; IIED, 2013).

While the ultimate drivers of deforestation and forest degradation in central Africa are contested by different interest groups, there is consent that shifting slash and burn agriculture, fuel wood harvesting, and charcoal production are direct causes (GTCR & UN-REDD Programme, 2012). Demographic pressures, poverty, insecure tenure rights, policies encouraging deforestation, and

weak governance have been identified as underlying causes (Geist & Lambin, 2002; German et al., 2010; GTCR & UN-REDD Programme, 2012).

The Forest Code of 2002⁹ represents the legal policy framework for forest governance in the DRC and is supposed to reform the forestry sector after years of conflicts, wars, and pillage of natural resources (Eba'a Atyi & Bayol, 2009). Three governance types are classified under the Forest Code: permanent production forests (for logging activities), protected forests (multiple use, e.g. small-scale farming by local communities), and classified forests (environmental protection) (Du Preez & Sturman, 2009; Eba'a Atyi & Bayol, 2009). However, weak institutional capacities, especially on sub-national administrative levels, and persisting corruption in a 'fragile state'¹⁰ hamper implementation and enforcement of the Forest Code (Eba'a Atyi & Bayol, 2009; Karsenty & Ongolo, 2012).

Tenure and land rights are regulated under a dual system in the DRC. While the State is the sole legal owner of all land, customary law grants local communities user rights (German et al., 2010). Forest governance under customary law is transferred to customary institutions such as the traditional village authority represented by the chief or head of the clan. Even though communities' rights to land are protected by the Land Law and the Forest Code 2002, land tenure rights are often insecure as they are only claimed (i.e. by means of clearing a zone of forest) but rarely documented (Awono et al., 2014; Debroux et al., 2007). Land insecurity poses a unique problem for women, internal migrants and pygmy people (as distinct social groups), as they are traditionally not entitled to own land (German et al., 2010; Gouzou, 2009; Ragasa et al., 2012). Next to customary rules, legal law deprives Congolese women from their right to land. The Family Code grants women only usufruct rights over the family's land but denies them the right to sell user rights for land (Ragasa et al., 2012).

2.3 REDD+ in the DRC

The DRC, with its large and relatively intact forest cover, represents a promising partner for REDD+ (UN-REDD Programme, 2010). The programme started in January 2009 and was set up during a two-year readiness phase from 2010 to 2012. A ministry-independent, national REDD+ coordination (CN-REDD) is solely in charge of the design, implementation and management of a national REDD+ programme. Fifteen REDD+ projects¹¹ targeting the voluntary carbon market (Aquino & Guay, 2013)

⁹ The objective of the Forest Code 2002 is to 'create a legal framework that allows the forest to both fulfill its social and ecological roles in balance, the forest administration to contribute considerably to national development, and for local people to take an active part in forest management and be able to draw legitimate benefits' (Eba'a Atyi & Bayol, 2009, p. 113). For original text of Forest Code (in French), see

<http://www.leganet.cd/Legislation/Droit%20economique/Code%20Forestier/rdc-loiforets.pdf>

¹⁰ States are considered fragile when 'state structures lack of political will and/or capacity to provide the basic functions needed for poverty reduction, development and to safeguard the security and human rights of their populations' (OECD/DAC, 2007)

¹¹ These projects were at an early stage of their development phase as of June 2011 (Aquino & Guay, 2013). More recent data could not be allocated.

and seven REDD+ pilot projects under the auspices of the CN-REDD have been registered (Norad, 2010). The DRC represents the biggest REDD+ fund recipient in Africa, as it has been granted over 227 million US\$ and 41% of the Congo Basin REDD+ fund (Maniatis et al., 2013).

Although it will be challenging to implement effective REDD+ governance structures, given the post-conflict socio-economic and political context, REDD+ offers some avenues to tackle structural problems in the DRC's forest governance (Karsenty & Ongolo, 2012). REDD+ funded capacity building of sub-national governance structures, increased research, and attention to local community involvement has the potential to strongly affect national policy making in forestry (Aquino & Guay, 2013; PwC et al., 2013).

Yet, while various organisations and scholars have applauded the CN-REDD for its involvement of indigenous peoples and civil society in the preparations for a REDD+ national strategy (Maniatis et al., 2013; UN-REDD Programme, 2010; WWF, 2012), gender issues are not addressed sufficiently (Peach Brown, 2011). Peach Brown (2011) found that although the Congolese Government's National Adaptation Programme for Action explicitly states that women in the DRC are disadvantaged in society and more vulnerable to climate change, gender issues were not part of climate change discussions. The Ministry of Gender, Family and Children, which is mandated to ensure consideration of gender on political agendas, has not participated in the development of a national REDD+ strategy (MENCT, 2008, 2010).

2.4 Women and SFM

Ample evidence from case studies across Asia, Africa and Latin America shows positive relationships between women's participation in forest governance and improved SFM (Acharya & Gentle, 2006; Agarwal, 2009; Coleman & Mwangi, 2013; Mwangi et al., 2011; Westermann et al., 2005). In Nepal, the increased use of practices that reduce pressures of deforestation was associated with women's presence in forest governance institutions (Acharya & Gentle, 2006). Coleman & Mwangi (2013) found that a higher proportion of women in forest user councils implied fewer conflicts. This might be explained by Westermann et al. (2005) who showed that women ranked higher on attributes, such as solidarity, collaboration, and capacity to resolve conflicts, as they rely more on tendering informal relations within the family, kin, and community.

One must be careful though in concluding that a higher ratio of women in forest governance automatically conditions better sustainable outcomes. A comparative case study in East Africa and Latin America explored the link of the ratio of women in forest user groups and forest conserving behaviour (Mwangi et al., 2011). Findings demonstrated that achievements in SFM are highest in mixed and male-dominated groups due to higher frequencies of monitoring and stricter rule

enforcement. This phenomenon was linked to better access to technology for men and to women's reluctance to patrolling in remote areas, as they feared harassment by men.

3 Theoretical Underpinnings

3.1 Feminist Political Ecology

I carried out my research through a Feminist Political Ecology (FPE) lens. In the 1990s, FPE emerged as a subfield of Political Ecology¹² and a critical response to ecofeminism¹³ in advocating for a focus on the gender dimension in studying inequities in natural resource use and governance (Rocheleau et al., 1996). *Gender* is portrayed as a 'social interpretation of biology and social constructs', which leads to 'gendered differences in experiences of, responsibilities for, and interests in "nature" and environments' (Rocheleau et al., 1996, p. 3). This proposition further holds that costs and benefits of environmental change as well as access to resources are distributed unequally because of prevailing gendered power imbalances (Elmhirst, 2011; Leach, 2007; Rocheleau et al., 1996). In particular, FPE scholars seek to understand how differences in roles, responsibilities and environmental knowledge but also power relations and land rights construct gender asymmetries in a given society (Agarwal, 1997, 2001; Rocheleau et al., 1996). FPE is also concerned with local realities rather than with generalizations about women and the environment (Jackson, 1998).

Moreover, scholars of FPE caution against the notion of women as a homogenous group. They argue that other factors, including age, education, caste, ethnicity, social class, and marital status, often intersect with gender and thus shape attitudes and behaviours (Elmhirst, 2011). Therefore, as an integral part of my study, I examined peoples' participation in forest governance also with regards to different social characteristics (i.e. age, ethnicity, social status, education).

3.2 Theoretical foundation of research questions

This research is based on theories and frameworks developed by the development economist Bina Agarwal (1997, 2000a, 2001) and Rochelau et al. (1996), two pioneers of the scholarship on gender and forestry (Table 2). Bina Agarwal is considered as a researcher in feminist environmentalism, a stream of FPE that 'emphasises how men's and women's different tasks and responsibilities lead to gendered interests in resources and ecological processes' (Rocheleau et al., 1996, p. 4). As most of

¹² Political Ecology is a field of study within the discipline of Human Geography that is concerned with questions of social injustice and inequities that shape resource use conflict, distribution of and authority over environmental assets, impacts of environmental degradation, as well as implications of environmental governance for sustainability (Turner & Robbins, 2008).

¹³ Ecofeminism claims women to be inherently connected to Mother Nature based on their shared attributes and history such as reproductive capabilities and their oppression of patriarchal regimes (Mies & Shiva, 1993)

her research was undertaken in South Asia in the 1990s, I will verify how far her theories and frameworks hold in a different time and place.

Table 2: Research sub-questions and their theoretical underpinnings

Research sub-questions	Theory/ framework
RQ1. How do men and women differ in using, valuing and knowing about forest resources?	Theoretical assumptions that men and women differ in their knowledge, use and valuation of forest resources (Agarwal, 2001; Rocheleau et al., 1996)
RQ2. What is the level of men’s and women’s participation in forest governance?	Participation typology based on White (1995) and Pretty (1995) and modified by Agarwal (2001)
RQ3. What factors affect women’s participation in forest governance?	Analytical framework on determinants of women’s participation in forestry by Agarwal (2001)

3.2.1 How do men and women differ in using, valuing and knowing forest resources?

Men and women differ in their knowledge as well as how they use forest resources based on socially constructed, gender-specific roles and responsibilities (Agarwal, 2001; Rocheleau et al., 1996). While men are dominantly engaged in high value generating activities, including timber extraction and charcoal production for commercial use, women use forest resources to meet household needs, such as providing the family with firewood and food (Brown & Lapuyade, 2001). In turn, gendered division of work shapes distinct knowledge systems on different plant species and forest products, their locations, and usage (Agarwal, 2001; Lyon & Hardesty, 2012). Understanding these gendered differences is important to comprehend how it affects women’s participation in forest governance (RQ2 & RQ3).

3.2.2 What is the level of men’s and women’s participation in forest governance?

In order to explore barriers to female participation (RQ 3), it must be understood in what settings, under which circumstances and to what extent women are integrated (or not). Therefore, I have measured the degree and quality of men’s and women’s participation. Various scholars, starting with Arnstein (1969) in the late 60’s, have put forward typologies on levels of stakeholder participation (Reed, 2008). As most scholarship on participation neglects gender-sensitive issues, I use Agarwal’s (2001) participation typology to bring into play the gender dimension (Table 3). This typology is different to other typologies, as she is not concerned with ‘how a group is initiated’, but with the ‘extent of people’s activeness’ (Agarwal, 2001, p. 1625). She contests that self-initiation conditions high levels of participation.

Table 3: Typology of participation, based on Agarwal (2001)

Form/ Level of participation	Characteristic features
Nominal participation	Membership in the group
Passive participation	Being informed of decisions ex post facto; or attending meetings and listening in on decision-making, without speaking up
Consultative participation	Being asked an opinion in specific matters without guarantee of influencing decisions
Activity-specific participation	Being asked to (or volunteering to) undertake specific tasks
Active participation	Expressing opinions, whether or not solicited, or taking initiative of other sorts
Interactive (empowering) participation	Having voice and influence in the group's decisions

3.2.3 What factors affect women's participation in forest governance?

It is pivotal to broaden the analysis from differences in knowledge and tasks to dynamics of power, when studying how gender dimensions affect natural resource management (Rocheleau et al., 1996). In the light of this, the examination of how barriers to women's participation in forest governance are constructed and their underlying gendered power relations are the cornerstone of this study, which builds upon Agarwal's (2001) analytical framework (Figure 2).

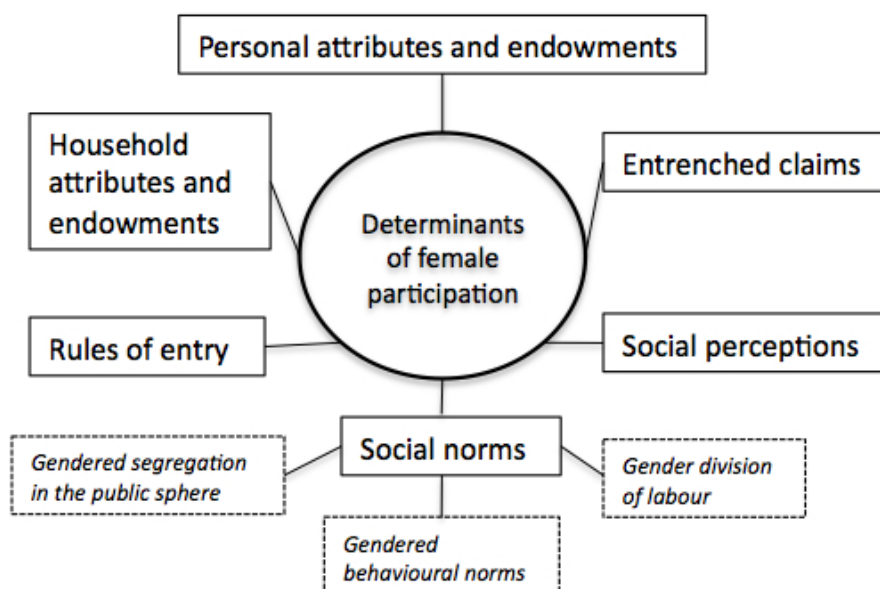


Figure 2: Analytical framework on determinants of women's participation in forestry, based on Agarwal (2001): This framework shows the six elements that constitute determinants of female participation in forest governance. The element "social norms" is subdivided into the three categories 'Gendered segregation in the public sphere', 'Gendered behavioural norms', 'Gender division of labour' (dashed lined boxes). The six elements that determine female participation do not underlie a hierarchical order but are a function of determination of female participation in communal forest governance (Agarwal, 2000b).

Agarwal (2001) finds that women are disadvantaged from equal participation in forest governance in communities with patriarchal value systems and practices for a number of reasons. According to Agarwal (2001), *rules of entry* determine membership rules of community forest user groups such as 'one person per household' or membership fees, all of which may impede women to participate. *Social norms* equate norms constructed in a given society that restrict women's public participation. These norms are divided into (i) gender segregation of public space, (ii) the gender division of labour, and (iii) gendered behavioural norms. *Social perceptions* are mostly related to how men perceive women's capabilities to participate effectively in forest governance, which are customarily undervalued. In asserting their hegemonic positions, men seek to preserve *entrenched territorial claims*, which in turn strengthens their reluctance to sacrifice parts of their power to the benefit of women. Besides gender, women can be excluded from participation because of other *personal endowments and attributes* such as illiteracy. In other cases, not gender but *household endowments and attributes* (e.g. low caste or ethnicity) can constrain a person's participation.

4 Methods

4.1 Description of study sites

First, I chose Equateur province as a study area based on its relevance to forest governance. The province harbours most of the DRC's total forest area (around 30%) (Debroux et al., 2007). Second, gender inequality is expected to be higher compared to other provinces, as this province is the poorest with 93.6% of total population living under the poverty line (UNDP, 2009) and has one of the highest rates of women without formal education (36.3%) (Ragasa et al., 2012). I conducted this study in two sites to scrutinise whether the construction of gender asymmetries and its underlying constituents differ across geographical locations within the same landscape (Figure 3).

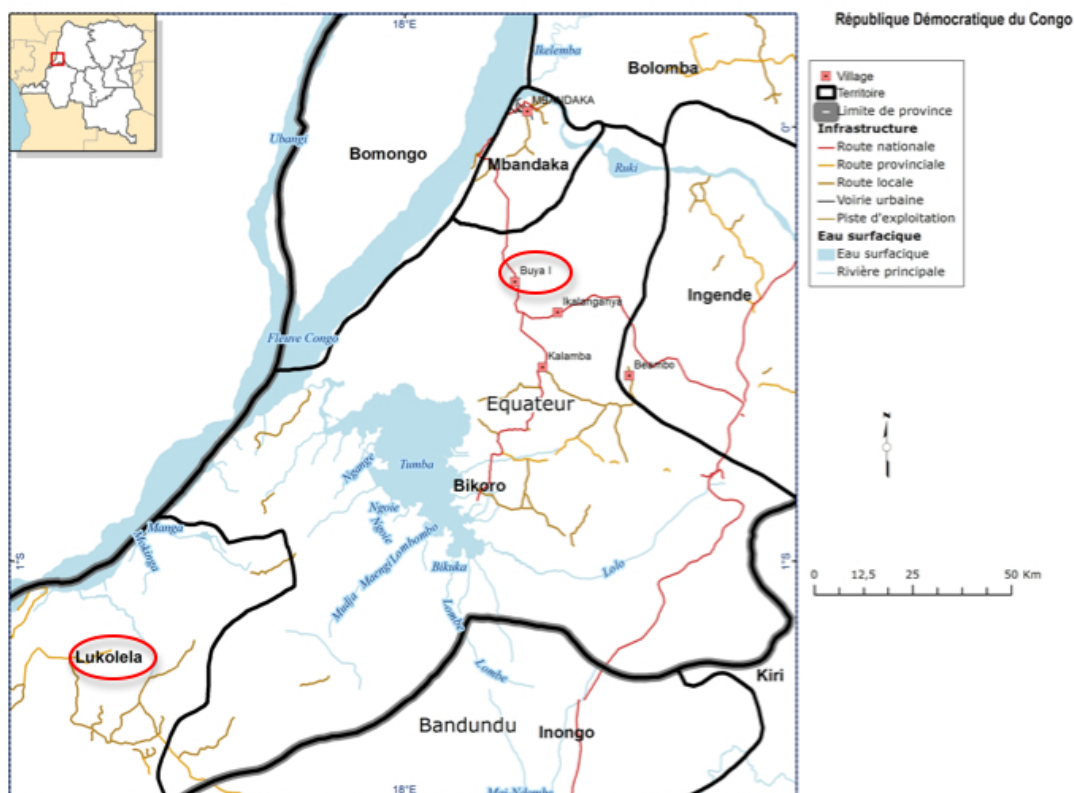


Figure 3: Map of study sites in Equateur province, DRC (source: WHRC): Study sites are indicated by red circles. The map in the upper left corner shows the whole DRC (study area indicated by red box). Water bodies appear in blue. Borders of territories are indicated by black thin lines and the provincial border by thick black lines. Red, yellow and brown lines illustrate the road network.

4.1.1 Buya 1 - REDD+ pilot project site

The REDD+ pilot project in Buya 1, managed by the Woods Hole Research Center (WHRC),¹⁴ was chosen, because it is the only REDD+ project in the DRC that is situated in a forest zone under communal forest governance (Norad, 2010). After a two-year preparation phase, the project was launched in March 2013¹⁵. In compliance with UN-REDD social safeguards, the community was informed about the project and asked for their consent during FPIC¹⁶ (Free, prior and informed consent) sessions.

Buya 1 is a village of around 3000 inhabitants and situated along the main road between Mbandaka (provincial capital) and Bikoro (Samndong, 2014). Subsistence agriculture largely dominates socio-

¹⁴ For more information, please go to http://www.whrc.org/resources/fieldnotes/equateur_project_0413_fieldnotes.html

¹⁵ REDD+ interventions have been jointly decided with community members and local partner organisations focusing on SFM and in particular addressing drivers of deforestation. Prospective activities may include agroforestry, sustainable agriculture, promotion of off-farm income-generating activities, environmental education, and investment in education.

¹⁶ FPIC is an integral part of the REDD+ social safeguards and refers to 'the collective right to give or withhold free, prior and informed consent, which applies to all activities, projects, legislative or administrative measures and policies that take place in or impact the lands, territories, resources or otherwise affect the livelihoods of indigenous peoples' (UN-REDD Programme, 2012, p. 10). This safeguard is based on the UN Declaration on the Rights of Indigenous Peoples.

economic activities. Small-scale informal commerce, hunting, and fishing in the swamp forests is also practiced.

Bantu people represent the main ethnic group, while Batwa pygmies¹⁷ constitute a minority group with around 5 to 7% of the population (M. BOKOLI BOSIKO, pers. comm. 20/03/2014). They work for Bantu people as farm labourers for low salaries, have a low social status and experience much discrimination. Only 35% of community members are land right holders, who are also descendants from the first settlers in the village (M. BOKOLI BOSIKO, pers. comm. 20/03/2014). Most people have migrated from other territories and provinces and lease land from the land right holders for farming purposes.

Due to demographic pressures, much forest has already been cleared for agricultural purposes, and savannah now greatly shapes the landscape. Some primary forest outside the village is still to be found, where high prevalence of swamps has prevented tree logging and farming activities (Annex 1).

4.1.2 Lukolela – the potential REDD+ project site

I chose Lukolela as my second study site, as I conducted research there last year and therefore have an insight of social and environmental issues already. This study site constitutes a potential REDD+ project envisioned by the Center for International Forestry Research (CIFOR) in Lukolela territory and is part of one of six COBAM¹⁸ projects in the Congo Basin.

This rural town is home to nearly 30,000 inhabitants (census June 2013, Health Centre of Ilonbola and Itumba). Subsistence farming based on shifting cultivation is the predominant economic activity in Lukolela (Stiem, 2013). Other dominant economic activities include fishing, informal trade, and public service.

Human intervention has significantly shaped the natural landscape. Agro-industrial cacao, coffee and palm oil plantations largely abandoned since the end of colonialism, slash-and-burn subsistence farming, continuously increasing production of charcoal, and expansion of the city have caused deforestation and forest degradation (CIFOR/ RAFM, 2012).

¹⁷ The term 'pygmy' has been abused to describe people of small height. In this thesis I use this term, because it is commonly used by pygmies themselves and other people in the study area and clearly refers to the social group I am talking about. I chose not to use the term 'indigenous' because it may lead to confusion, as the pygmies living in Buya 1 are not indigenous to the area. Pygmies living in Buya 1 belong to the ethnic group of Batwa, one of many ethnic groups that are considered as indigenous in Central Africa.

¹⁸ COBAM stands for Climate Change and Forests in the Congo Basin. Synergies between Adaptation and Mitigation. The objective of COBAM is to identify synergies between adaptation and mitigation strategies in order to provide decision makers and local communities with the necessary information and tools to strengthen their adaptive capacities and to mitigate the effects of climate change. More information can be found under <http://www.cifor.org/es/cobam/home.html>

4.2 Methodological perspectives

For ontological and epistemological guidance throughout my research I used a critical realism approach. This perspective is often used by political ecologists and views the world as a construct of various layers of realities, of which some are observable to us (Carolan & Clark, 2005; Turner & Robbins, 2008). Hence, critical realists seek to explore the hidden relations and underlying mechanisms that construct these layers independently of the researcher (Alvesson & Sköldberg, 2009). Studying contextual causalities is especially important, as the 'social world is reproduced or transformed in daily life' (Bhaskar, 2011, p. 4). These methodological views coincide with feminist political ecologists' aspirations to understand power relations that determine socially constructed gender regimes (Leach & Green, 1997; Rocheleau et al., 1996).

4.3 Research Strategy & Design

This study is underpinned by a qualitative research strategy, as I sought an in-depth analysis of a particular problem focusing on a relatively small sample and valuing words over numbers (Silverman, 2009). Moreover, I opted for a case study design, also commonly used by political ecologists, to understand issues in a local setting (Turner & Robbins, 2008). This design is in line with the research objective, which is to understand a particular problem (i.e. lack of gender-sensitive community participation) in a specific context (i.e. REDD+ projects) in a particular geographical location (i.e. Buya 1 and Lukolela).

4.4 Data Collection Methods

For my research, I collected primarily qualitative data. Later on, I triangulated these data with personal observations and literature in order to look at issues from different angles and to see whether and where these different data match (Silverman, 2009). This approach is helpful in understanding underlying dynamics and hidden power relations that lead to gender-differentiated forest use, knowledge and governance (Mai et al., 2011). During individual interviews, I asked participants about their knowledge of the forest as well as men and women's activities in the forest, which I cross-checked with field observations and informal conversations during narrative walks. By doing so, I uncovered discrepancies between perceived and de facto gendered knowledge and activities.

4.4.1 Semi-structured interviews

I conducted individual, semi-structured interviews with 40 community members (Table 4). An interview guide with open-ended questions guided the interview (Annex 2). This method gave me some degree of flexibility to follow up on interesting answers, while providing the necessary

guidance to steer the conversation in a certain direction.

Table 4: Overview of participants of individual interviews by sex

	Men	Women	Total
Buya 1	11	11	22
Lukolela	9	9	18

In order to study different layers of realities that shape the gender notion, it was important to have a sample composed of people with diverging opinions and views (Lawson, 2003). Therefore, I used a mix of purposive and convenience sampling. First, I selected participants based on socio-economic factors that ensured a heterogeneous sample in terms of sex¹⁹, age, social status (standard of living, education, occupation, land right holder), education, and occupation (farmer and off-farm occupations such as teacher or nurse) and ethnicity (Bantu or pygmy) in Buya 1 (Annex 3 and 4). Second, I chose interviewees based on their availability and willingness to participate. No person refused an interview.

4.4.2 Focus group interviews

After individual interviews with community members I used focus group interviews to follow up on important key research topics (Annex 5). These interviews provided me with more in-depth information concerning the third, research sub-question. Some questions stirred up discussions with diverging and sometimes opposing opinions that helped me understand certain complexities in relation to gendered power relations as well as to see how social perceptions of gender are formed and seen in a group.

I conducted five focus group interviews in Buya 1 and two in Lukolela. Participants were selected according to sex, age, social status (perceived level of poverty) and occupation (farmer and off-farm occupation such as teacher, nurse) and ethnicity (Bantu or pygmy) in Buya 1, in order to obtain a diverse sample (Annex 6 and 7). I opted for women and men-only groups, because for my study, it was important to give voice to those that usually do not get the chance to speak up. Hence, I sought to ensure that interviewees could express themselves freely, without feeling constrained by social norms (e.g. discrimination against sex or ethnicity). This consideration turned out to be important for women and pygmies.

4.4.3 Key informant interviews

I chose to interview experts with work and research experience on gender issues and/or forest

¹⁹ 'Sex' refers to biological attributes that define men and women and should not be confused with 'gender' which concerns socially constructed feminine or masculine characteristics.

governance in the DRC as well as two members with knowledge about forest and land issues in the study to prepare my field research (Annex 8 and 9). These interviews gave me inspirations for individual and focus group interviews with community members and provided me with a better understanding of gendered forest use and governance.

Seven experts were selected based on purposive sampling. The advantage of this method is that participants were chosen based on their relevance to answering the research questions (Bryman, 2008). In some cases, I made use of my own contacts, and in other cases, AMFN and WHRC provided me with contacts of relevant key informants. No person denied an interview.

4.4.4 Narrative walks, field observations and informal conversations

I conducted research for a month in Lukolela in July 2013 through which I came into contact with the local community and learnt about their values towards forest resources and forest management practices. On several occasions, I went far into the forest and interviewed farmers in the fields. In Buya 1, a narrative walk and informal conversations before and after the interviews contributed to developing my understanding of the village community (Jerneck & Olsson, 2013). I also observed the various activities done in the forest by men and women.

4.4.5 Research assistance

The assistance of interpreters was needed for 38 interviews, all focus group discussions and the narrative walks. The sex of the research assistants was considered in relation to the interviewees. Female interpreters assisted me in interviewing women and male interpreters in interviewing men. Additionally, I chose research assistants in accordance with their ethnic background for interviews in Buya 1.

4.4.6 Limitations and challenges in field research

I started with two separate focus groups of 'older' men (i.e. above 30 years of age and father of children) and of 'younger' men (younger than 30 years) because I expected that young men speak more freely if they were separated from older men. This segregation turned out to be unnecessary, as old and young men shared many views on women in society and in forest governance. I continued with a women's focus group, in which 'younger' and 'older' women were mixed. Merging these two women's groups was necessary, because both groups in Buya 1 were busy in the afternoon and therefore preferred to have the focus groups in the morning. Likewise, only five out of eight pygmy women showed up for the focus group, because some of them could not join due to a funeral. All these circumstances explain the higher number of men in the focus groups in Buya 1. These imbalances in mere numbers did, however, not impinge on the quality of discussions during the focus

group interviews, as I could gather sufficient data that enriched my findings from individual interviews.

Local research assistants and their helpers (i.e. acquaintances) selected participants for focus group interviews due to logistical challenges (e.g. lack of time and difficulty of locating people during the day). I gave them a set of selection criteria to ensure heterogeneity in the sample but noticed a tendency to inviting people of their acquaintance. In both study sites, the women's focus groups had an above-average level of education and a high level of confidence. In individual interviews, I tried to compensate for this bias and chose women that had a lower or no level of education. On the contrary, a positive side effect of this group of confident women was that they were outspoken, critical, and willing to share many thoughts and experiences with me.

My initial plan was to examine participation in the COBAM project in Lukolela. CIFOR in collaboration with the African Forest Model Network hosted some workshops, to which they invited selected stakeholders. Therefore, I interviewed nine participants, all of which had a relatively high social status (e.g. secondary or university education, civil servant or reverend occupation). This is one reason why a higher level of education is found in the sample in Lukolela compared to Buya 1. The other reason is that the population of Lukolela is much more diverse in terms of socio-economic factors (diversity of occupation, higher levels of education) (Samndong, forthcoming; Stiem, 2013). Due to the scope of my study, the early stage of the COBAM project and the fact that this project is not a REDD+ project yet, I discontinued to assess participation in this project within my master thesis research.

4.5 Data Analysis

As a sustainability scientist I attempted to analyse and interpret the data within the social-ecological setting (Clark & Dickson, 2003; Jerneck et al., 2010). In doing so, I analysed my findings with special attention to the role of subsistence agriculture as the primary source of livelihood and as an integral part of the forest landscape (i.e. shifting, slash-and-burn agriculture). I further looked for patterns and discontinuities within and across interviews in the search for underlying gendered power relations and social norms that affect the gender regime in forest governance. In more detail, I looked for dominant discourses rather than for outliers. By means of triangulating field observations and statements from community members I discovered a striking divergence between de facto and perceived activities of women in the forest. Literature and quantitative data from previous studies confirmed qualitative findings from this study. Hence, triangulation of data further helped to weaken my researcher bias in interpreting the findings.

4.6 Research Ethics

“They want that you won’t forget them and that you also come visit them and not only the Bantu people. When they see that you are with pygmies, then things will change.”
(Translation of research assistant in focus group interview with pygmy men, Buya 1, 18/02/2014)

Dealing with ethical questions is essential when engaging with people whose lives could affect and be affected by field research. My responsibility as a researcher is to avoid an unequal exchange where participants are simply exploited for their knowledge (Mikkelsen, 2005). The statement of the pygmy man illustrates how researchers, often symbolising wealth and development, can create expectations that in many cases will never be met. Therefore, I gave voice to the people I interviewed by citing them directly in my thesis. I further intend to return the results of my research to the communities I studied. Moreover, I wish to publish my findings in a forum that targets policy and decision-makers in order to advance a gender progressive dialogue on REDD+ in particular and SFM in general in the DRC and beyond.

4.7 Reflections on the research process

As I have always been more interested in understanding foreign cultures, I chose a contrastive culture to my own as a research subject. The fact that I was a foreigner to the community had certainly both negative and positive effects on the research process. Evidently, I will never be able to fully understand all complexities and hidden dynamics that underlie traditions and customs of the studied communities. Nonetheless, my special position also facilitated the research process. The mere fact that I was a foreigner allowed me to ask very naïve questions in order to explore reasoning behind certain customary values and practices. Similarly, the fact that I was a woman did not seem to impinge on men’s statements. I felt that they considered me as an outsider and very different (e.g. in terms of my educational, cultural and ethnic background) to the women in their village. They did not hesitate to tell me to my face that women are inferior and less intelligent by nature compared to men. Hence, I considered my position as a foreigner as an advantage rather than a barrier in terms of the research topic and the cultural context.

5 Presentation and Analysis of Findings

In this chapter, I present aggregated findings, which are organised according to the three research sub-questions.

5.1 Use and valuation of forest resources (RQ1)

The findings reveal gendered differences in relation to values of forests and tree species as well as activities in the forest and understanding of SFM (Table 5).

Table 5: Use and valuation of forest resources by gender

	Men	Women
Value of the forest	A source of livelihood in general and income, also source of food in a few cases	A source of livelihood, food and basis for farming and income
Division of activities in the forest	Cutting trees, burning scrubs, preparing fields for farming, hunting, fishing, collection of NTFP for construction, production of charcoal	Farming, collection of water and firewood, collection of NTFP for chikwangue, fabrication of chikwangue, fishing
Indicator for a healthy forest	Big trees	High soil fertility, good harvest
Value of tree species	Food trees, trees for artisanal use and construction	Firewood trees, food trees, trees for construction
Value of NTFP	Food	Food
Understanding of SFM	To leave land fallow, control over deforestation	To leave land fallow

5.1.1 Activities in the forest and uses of forest resources

Overall, women have a larger share of work in the forest compared to men. They do farm work in the forest and on forest edges almost every day. Women are responsible for the cultivation of cassava, the primary staple food in the DRC. Likewise, the transformation of cassava roots to chikwangue²⁰ is reserved to women. This is a lengthy process of which the first stage is often realised in the waters of swamp forests. Sometimes men assist women in seeding and harvesting, but they consider in particular weeding as women's work and thus as 'easy' and non-masculine. Besides farming, subsistence activities mainly carried out by women in the forest include fetching water as well as gathering firewood and non-timber forest products for the fabrication of chikwangue. Men only collect firewood, when they happen to find it randomly, but this task is rarely their responsibility. Few women fish in the forest, but when doing so, they use a different method compared to men,

²⁰ Chikwangue is a dense paste produced from the roots of cassava and mixed with water. 35 to 45g of dry material are needed to produce 100g of chikwangue. This product is very popular because when wrapped with banana leaves it can be preserved over the day and transported easily. (Massamba et al. 2004)

which is referred to as ‘scooping’²¹. Children, more girls than boys, help women with collecting firewood and fetching water.

Men’s main forest activities include clearing forestland for farming and logging trees. According to interviewees, this activity is reserved to men for two main reasons. First, men are perceived to be physically stronger and would therefore be better equipped for this work. Second, men negotiate, attribute and own user rights to land. In some cases, women also clear-cut the forest, notably when their husbands are absent²². Male-dominated activities further comprise fishing and collection of NTFP for construction of housing. In Lukolela, charcoal production constitutes a male-typical forest activity. Hunting is the only activity that is exclusively practiced by men. Traditional norms even prohibit women to consume certain types of bush meat.

The collection of medicinal and comestible NTFP, other than bush meat, is much less gender-specific, though more women than men tend to collect the latter one. One of the main reasons why the collection of these forest resources is less gender-differentiated is because these products are often picked randomly or only when needed in the case of medicinal plants.

5.1.2 Values and knowledge of forest resources

The findings reveal gendered differences in valuation²³ of forest resources. Men mostly associated big trees as opposed to savannah grass with a forest in a good condition. On the contrary, women related primarily good harvests and high soil fertility to a healthy forest.

Participants were then asked to indicate the trees species and NTFP that are most important to them and their families and subsequently for what use. Overall, men indicated a multitude of food trees,²⁴ trees for artisanal use and for construction. Tree species mostly cited by women, especially in Buya 1, are used for firewood. Food trees and trees for construction were also named, but to a much lesser extent. In Lukolela, both women and men attached high values to trees for construction and artisanal use.

No gender differences have been found in terms of valuation of NTFP. Men and women alike prioritise comestible forest products. Many more participants in Lukolela than in Buya 1 cited both trees and NTFP for medical use, which is in line with the fact that these products are more harvested in Lukolela than in Buya 1.

²¹ In applying this fishing method, women dam a small water stream or pond and collect the fish with a basket.

²² The husband can be absent for many reasons, including death, divorce or displacement (e.g. for work).

²³ Valuation of forest resources is referred to use-values and not to monetary valuation.

²⁴ The term “food tree” implies any kind of tree species that provides food such as fruits, caterpillars, mushrooms, etc. Hence, it does not have to be a fruit tree but can also be a host to a comestible animal or plant species.

5.1.3 Understanding of sustainable forest management

All study participants attached very high values to the forest. A reverend in Lukolela said, “The forest is our life”, and a female farmer in Buya 1 claimed, “We live only from the forest”. Men describe the forest often as a source of livelihood in general, whereas women tend to relate it more specifically to a source of food and farming.

Most participants, irrespective of their sex, considered leaving land fallow for a few years to recover from cultivation and to restore soil fertility as SFM. Some men were concerned about the need for enforcing regulations of forest use and deforestation.

Some participants claimed that women were more concerned over preserving the forest.

*“(…) they [women] will make sure that their children will also have fields to cultivate.”
(Focus group interviews with pygmy men, Buya 1, 18/02/2014)*

“She is more concerned about forest conservation compared to men. I have the impression that they have well understood the necessity to protect the forest.” (Interview, male respondent, Lukolela, 04/03/2014)

5.2 Gendered participation in forest governance (RQ2)

In assessing women’s and men’s level of participation in the FPIC process of REDD+ as well as in traditional forest governance institutions, Agarwal’s (2001) adjusted typology of participation guided the questionnaire (Figure 4).

5.2.1 Participation in the REDD+ FPIC process

Overall, FPIC participants that I interviewed were very satisfied with the meetings held by the WHRC. They appreciated the fact that everyone was invited, treated equally and asked for their opinion. Traditional gendered behavioural norms that do not allow women to speak up in public did not play a major role. Quite the contrary, women were outspoken and criticised men harshly for their laziness and demographic explosion (M. Kermarc, pers. comm. 10/02/2014). Men, on the other hand, respected and listened to women’s contributions during the FPIC meetings. A widowed, illiterate woman, who lived in a rather marginalised position in the community, appreciated that she was able to participate actively.

“Everyone listened to me because the people of REDD+ gave everyone the opportunity to speak up and pose questions.” (Interview, female respondent, Buya 1, 13/02/2014)²⁵

²⁵ All research was conducted in French and Lingala, with the exception of one expert interview in English. Citations from interviews are my free translation from French to English.

Nearly all FPIC participants interviewed posed questions during the meetings and all of them felt that their contributions were taken into consideration irrespective of sex, age, ethnicity or migrant status. According to interviewees, their voices may affect decisions about a prospective REDD+ pilot project.

“The people from REDD+ are very open to us. They listened to us. (...) We asked questions, we told them what we wanted or desired. People gave different opinions and then we found an agreement.” (Interview, male respondent, Buya 1, 12/02/2014)

Based on Agarwal’s (2001) typology of participation, both men and women’s involvement is positioned towards an interactive level, as they were empowered to make their voices heard and to take part in decisions concerning a prospective REDD+ pilot project in their community (Figure 4). The community has so far given their consent to the project, but only partly decided upon prospective project activities, as the project is still at an early stage (M. Kermarc, 10/02/2014). The findings from interviews with FPIC participants confirm that the community has indeed been asked for their consent by the WHRC. Due to the fact that the community’s *interactive* participation is still in its beginnings, I placed the community’s level of participation on the lower end of the unit of ‘interactive participation’.

5.2.2 Participation in forest governance under customary law

Customary law largely excludes women from influencing forest governance. Although land user rights are considered as family property and not bound to an individual, male family members hold all decision-making power.

“The woman can also use the forest, but she does not have the right to property of the forest, no matter if she has once been the daughter of the customary chief or the king (...), she will only have usufruct rights on the forest (...). And that is not normal. Her little brothers have the right to decide everything.” (N. Mainzana, pers. comm. 05/02/2014)

In the two study sites, forest governance is largely realised on the clan²⁶ or family level. The head of the clan, the ‘notable’²⁷, the oldest male member, is charged with land distribution among the clan members. Conflicts over land are usually resolved within the clan as well. Women’s participation is limited to monitoring and observing the process, i.e. functioning as witnesses. Especially in forest governance, women remain largely excluded.

²⁶ The first settlers of the village constitute the different clans in Buya 1 and in Lukolela respectively

²⁷ ‘Notable’ is the French translation and signifies a person that enjoys much honour and respect by the community members.

“Those are notably men, never women [who participate in forest governance]. That is men’s business. Women are not associated in environmental governance.” (M. Nyombo Zaina, pers. comm. 05/02/2014)

Women, provided that they are clan members by heritage (i.e. not by marriage), may possess some decision making power over forest governance, only when the man is absent.

“The people that have really the right to govern the forest are men. In the case of the man being absent, the woman, if she is a land right holder, she can take decision about forest governance, but usually that are men. If I am given a portion of land, those are men, land right holders, who give it to me for cultivation.” (Interview, male respondent, Buya 1, 14/02/2014)

Overall, women’s participation in village decision-making bodies on forest governance is restricted to a passive level (i.e. their voices are not considered in decision-making). In few cases, women’s participation may be more active (when their men are absent), but their decision-making power remains mainly marginal (Figure 4).

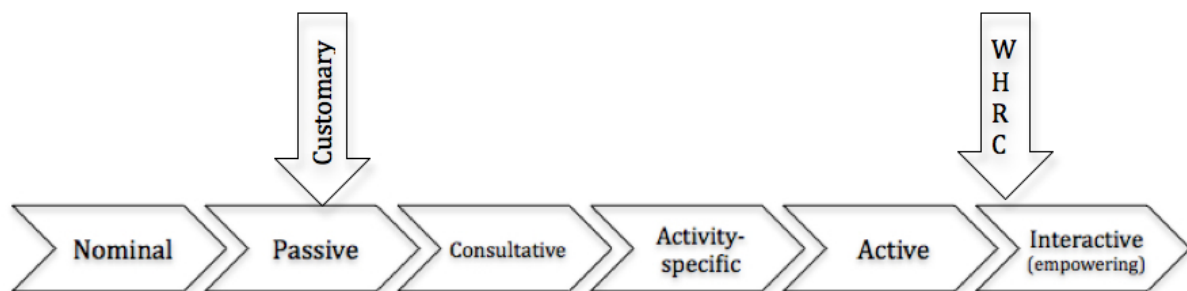


Figure 4: Level of women's participation in customary village meetings on land allocation and during the FPIC process led by the WHRC, based on Bina Agarwal’s (2001) typology of participation.

5.3 Determinants of women’s participation in forest governance (RQ3)

The findings revealed a multitude of factors in each category of Agarwal’s (2001) analytical framework of determinants of women’s participation in forest governance (Table 6).

Table 6: Findings capturing determinants of women's participation in forest governance

Rules of entry	Social norms	Social perceptions
<ul style="list-style-type: none"> - Networks, relationship with influential people - Clan membership - Affiliation with local organizations 	<ul style="list-style-type: none"> - Customs prohibiting women to speak up in public - Restriction of women's role to witnessing meetings - Submissive behaviour - Husband's guardianship - Religious beliefs - High workload on women 	<ul style="list-style-type: none"> - Neglect of women's multiple activities in the forest - Devaluation of women's contributions to forest management - Higher valorisation of men's knowledge about the forest - Devaluation of women's capabilities
Entrenched claims	Personal endowments and attributes	Household endowments and attributes
<ul style="list-style-type: none"> - Men assert power over the family - Men's reluctance to do women's work 	<ul style="list-style-type: none"> - Marital status, age - Limited experience in public forums - Level of education 	<ul style="list-style-type: none"> - Ethnicity (e.g. pygmies) - Clan membership - Social status

5.3.1 Rules of entry

The WHRC called in a village meeting hoping for every community member to take part in the first FPIC meeting. Interviewees estimated that nearly all villagers participated in this introductory meeting. Nonetheless, the invitation did not reach everybody in the village. The WHRC invited the community members through the customary village chief. The findings from interviews with non-participants demonstrated that they had not been informed because they were either not well integrated in the community (this concerns some migrants and pygmies in particular), or because they did not maintain relationships with influential people, including the customary village chief or heads of clans, or because they were not member of any local organisation.

In traditional village meetings, during which decisions on land rights and allocation are made, only holders of land user rights (i.e. those with customary claims) are invited. Women are sometimes present, but their participation remains mostly passive.

“Men are more often trusted with high positions. (...) And that is why men are more often invited compared to women. And then also because women have always been rejected. (...) This bad mentality of our ancestors that women are not really useful in men's views.”
(Focus group interview with women in Lukolela, 03/03/2014).

The majority of women that criticised customs driven by patriarchy tended to be fairly well educated, more confident and better informed due to higher physical mobility compared to their female fellows.

5.3.2 Social norms

5.3.2.1 Gender segregation in the public sphere

Customs and traditions preclude women's active participation in public forums and especially when men are present. With the diffusion of emancipative thoughts, customary rules have become less rigid. In some spheres, it is now more common for women to be involved in matters that concern the community.

"Customs and traditions do not allow women to speak up in public if there are other men. But now with emancipation women can also speak up with regards to matters that concern her." (Focus group interviews with Bantu men, Buya 1, 17/02/2014)

The findings further show that improved access to education for women and gender equal norms and values as promoted by international NGOs and the Mobutu regime have promoted emancipation.

5.3.2.2 Gender division of labour

Women bear a heavier workload compared to their male counterparts. While many men relax in the afternoon after they have returned from the forest, women are charged with much domestic work. In the light of this, many men argue that a forest committee should have more men than women because of women's household duties. Similarly, women argued that it would be difficult for them to make large time commitments (i.e. several hours or an entire day) for community activities.

"Most women have a lot of work. They are not really free [to participate in a forest committee]." (Focus group interview with men, Lukolela, 04/03/2014)

"You cannot keep away the women [from their homes] for the whole day. Otherwise their husbands will get angry." (V. Bawangi, pers. comm. 02/03/2014)

5.3.2.3 Gendered behavioural norms

Predicated on religious and traditional beliefs, the woman is expected to display a submissive and introvert behaviour in the public sphere. According to interviewees, regardless of their sex, some women seem to have internalised these cultural norms in their behaviours and are reluctant to speak up in front of men.

"Women are always shy in meetings. Women always have to be encouraged to speak, or they even have to be forced to speak. (...) Women are always scared to speak up, they are intimidated by men." (Interview, male respondent, Buya 1, 12/02/2014)

“I go everywhere, also where men go. I don’t have any complexes. Other women are scared. They don’t participate. It’s also women’s fault. The woman has complexes because of customs.” (Focus group interview with Bantu women in Buya 1, 20/02/2014)

Another customary rule requires the woman to leave her family and become part of her spouse’s family, once she is married. Therefore, some men postulated men’s superiority in forest governance due to women’s possibility of leaving the community.

5.4 Intrahousehold power dynamics

In addition to the aforementioned social norms, certain power dynamics within the household impinge on women’s participation in forest governance. For this reason, this sub-category is added to the framework (Figure 5). According to interviewees, the woman usually needs the approval of her husband, the head of the household, to participate in any kind of communal activity, such as a REDD+ project.

“According to our culture, the woman is not really capable to take more responsibility than the man because in our family the man is the one who is responsible, who takes all the responsibilities. The woman is subordinated to almost everything. (...) The woman is always under the responsibility of someone. This someone is the man.” (Focus group interview with men in Lukolela, 05/03/2014)

“Men tell women that they are inferior to men. Once men have married their wives, they can control and command them.” (Interview with pygmy woman, Buya 1, 19/02/2014)

Ancillary, religious conceptions enforce the subordination of the woman to her husband.

“God has sent the woman on Earth to obey the man. That is why the woman always has to be after her husband.” (Focus group interview with men in Lukolela, 05/03/2014)

Beyond religious beliefs, customary as well as statutory law, defining men and women’s responsibilities in the family, enforce unequal gendered power relations.

“[Women’s roles are] To serve man, wash his clothes, make food for him, take care of the children. (...) The man is responsible for the family. He has to work to earn money. He has to provide for his family.” (Interview, female respondent, Lukolela, 28/02/2014)

“It’s the husband who has all the decision-making power. (...) That is how it is in our country. It’s the family code.” (Interview, female respondent, Lukolela, 01/03/2014)

5.4.1 Social perceptions

Due to the multitude of elements that fall under this dimension of Agarwal's framework I have divided it up in sub-categories to fit the context (Figure 5).

5.3.3.1 Gender-stereotypical activities in the forest

Triangulation of data from individual interviews, focus group interviews and field observations reveals that women perform much more work than generally perceived. The majority of interviewees regardless of their sex named farming as the only activity typical for women. Very few participants recognised collection of firewood as a typical female forest activity. Field observations show that women also fetch water, wash clothes in water streams and produce chikwangué. Likewise, men overlook the fact that women are performing increasingly typical men's work such as field preparations, when the man is absent.

On the contrary, study participants, men and women alike, named a multitude of activities typically practiced by men in the forest. These include clearing forestland for farming, logging trees, farming, fishing, hunting, and collection of non-timber forest products, including palm nuts or palm tree leaves as constructing materials.

5.3.3.2 Knowledge about the forest

Women and men's knowledge about the forest is much connected to their activities and the forest resources they use. Most participants valued men's knowledge as more profound. One of their main arguments was that men seem to know the limits and zoning of land better, as they explore the forest in the search for new agricultural land or on hunting trips. According to many interviewees, most of whom were male, women's knowledge is limited to farming.

"First of all, men have knowledge about the forest. They bring their ideas home to their women. Women don't have any knowledge about the forest because they are only engaged in farming." (Interview, pygmy man, Buya 1, 18/03/2014)

During the narrative walk in Buya 1, I discovered that, opposed to this gendered conception of knowledge, all women I met knew the limits of the respective land. However, they do not have any decision-making power in terms of distribution of land.

Also on a level of consciousness, the de facto knowledge of women did not challenge the dominant narrative. Only few female participants claimed that women had more knowledge about the forest.

"The woman can have much knowledge about the forest compared to men because there are women that are the whole day in the forest and the men don't go really often into the forest." (Focus group interview with Bantu women, Buya 1, 20/02/2014)

5.3.3.3 Contributions to forest management

Despite a large consent that women should be included in forest governance, opinions on the quality and quantity of women's contributions diverged substantially. Men's superior involvement in forest governance has often been predicated on the higher valuation of men's knowledge and activities in the forest.

"Men must dominate [in a forest committee] because men work more than women, because men cut trees, it's more work than women's work. (...) Men know more about the forest than women. (Interview, female respondent, Lukolela, 28/02/2014)

When participants were asked about the positions women could hold in a potential forestry committee, most of them, irrespective of their sex, attributed management of funds to women. A few participants, mostly male, said that women should be included in order to serve men, e.g. with food. Yet, other participants would accept women to hold any kind of position provided that she would be educated. Men's acceptance of female inclusion in forest governance seemed to progress with men's level of education.

5.3.3.4 Capacities

One of the main arguments by men for women's low participation in forest governance was their lower level of education. In a few instances, men even considered women to be limited in their analytical thinking capabilities by nature. They sometimes referred to the 30% ratio of women as demanded by the government as a minimum female representation in the political sphere. Others suggested having a 40% female ratio. Only in rare cases, men proposed to have an equal representation. Most men stated that they would accept women to be more engaged in forestry, given the case that they would be well educated and therefore more skilled.

"It's important that women have the capacities, but they need to educate themselves to reinforce these capacities. Then they can also do the same work as men." (Focus group interview, male respondent, Buya 1, 12/02/2014)

"Those women who have studied can contribute a lot [to forest governance]. Even for participatory mapping they [the WHRC] have used many women." (Focus group interviews with young Bantu men, Buya 1, 17/02/2014)

With the dispersion of gender equal values and improved (even if only marginally better) access to education, changes in rural women's capacities have been observed.

“But today since women are better educated and emancipated, women have the right to speak up and also the capabilities due to a higher level of education.” (Interview, female respondent, Buya 1, 13/03/2014)

Most women were in favour of having an equal number of women and men in a forestry committee, though some women preferred to have 40% of women because of lower levels of education and time sacrifice. In a few cases, interviewees, men and women alike, considered traditional knowledge as a legitimate reason for women’s participation.

In Lukolela, several men did not trust women-only groups to succeed with development projects. Many of them referred to women’s alleged incapability to lead meaningful discussions.

“Women also show bad behaviours in committees. [What kind of bad behaviour?] Blasphemy. This does not exist for men. Men can always discuss and find a solution.” (Interview, male respondent, Lukolela, 04/03/2014)

5.4.2 Entrenched claims

Even though men would theoretically accept women to be involved in communal forest governance, they are nevertheless reluctant to change prevailing structures that perpetuate their personal privileges. In this sense, men firmly assert their role as the head of the household, which gives them much decision power over their wives’ participation in communal activities. Most men would not be willing to take over women’s work and release their wife from her household duties for one day in order for her to participate in SFM projects. Doing women’s work is anticipated as diminishing their masculinity.

“Men’s ratio [in a forest committee] should be higher because men have an authority over women. That’s how God has created men and women” (Interview, male respondent, Buya 1, 14/02/2014)

“We indicate the number of 4 [women’s ratio in a forestry committee of 10 persons] because one can never be on the same level of equality. You always need to have a difference despite of all emancipation. There must always be superiority [of men].” (Focus group interview with men, Lukolela, 05/03/2014)

5.4.3 Personal endowments and attributes

In terms of personal attributes, women’s participation in village meetings is generally confined by a low level of confidence, limited experience in public forums, and their low level of education.

“I feel uncomfortable during meetings when participants are asked to sign up on a list. My mother only sent my brothers to school.” (Interview, female respondent, Buya 1, 21/02/2014)

“No, I did not [pose questions during the FPIC meeting] because I have not studied. I do not know how to speak in front of men. I would like to go to school and learn how to speak in public.” (Interview with pygmy woman, Buya, 19/02/2014)

These findings correspond with observations from experts I interviewed. All of them concluded that a low level of education poses a major barrier for women to engage in the public sphere.

Marital status sometimes plays a role in women’s participation in the public sphere. In Congolese culture, married women with children are more respected and taken seriously than younger women. They are also more confident themselves and therefore more vocal in meetings.

5.4.4 Household endowments and attributes

Ethnic belonging poses another impediment to participation in public forums. In Buya 1, pygmies do not mix with Bantu people in associations or public gatherings, as they are considered as wage labourers, almost slaves, rather than full community members. Pygmies also exclude themselves due to experienced antipathies and would prefer pygmy-only groups within REDD+ project programmes.

“Bantu people don’t like to see pygmies. They don’t want to live together; they don’t want to eat together. (...) Bantu people view us as animals.” (Focus group interview with pygmy men, Buya 1, 18/02/2014.

In addition, it is more difficult for pygmies to attend meetings, as they need the approval of their Bantu employers.

Families not originating from Buya 1 are more excluded from the community than members of autochthonous clans, as they tend to be poorer (i.e. they do not own land). Possession of financial capital usually promotes their place in the community substantially.

Once again, the findings reveal that level of education increases integration in the village and someone’s social status. In Lukolela, many migrants are fairly well educated and respected and hold high positions in government or educational institutions.

5.4.5 Revision of analytical framework

The results of my study necessitate an alteration of Agarwal’s (2001) analytical framework in order to fit the context of the present case study (Figure 5).

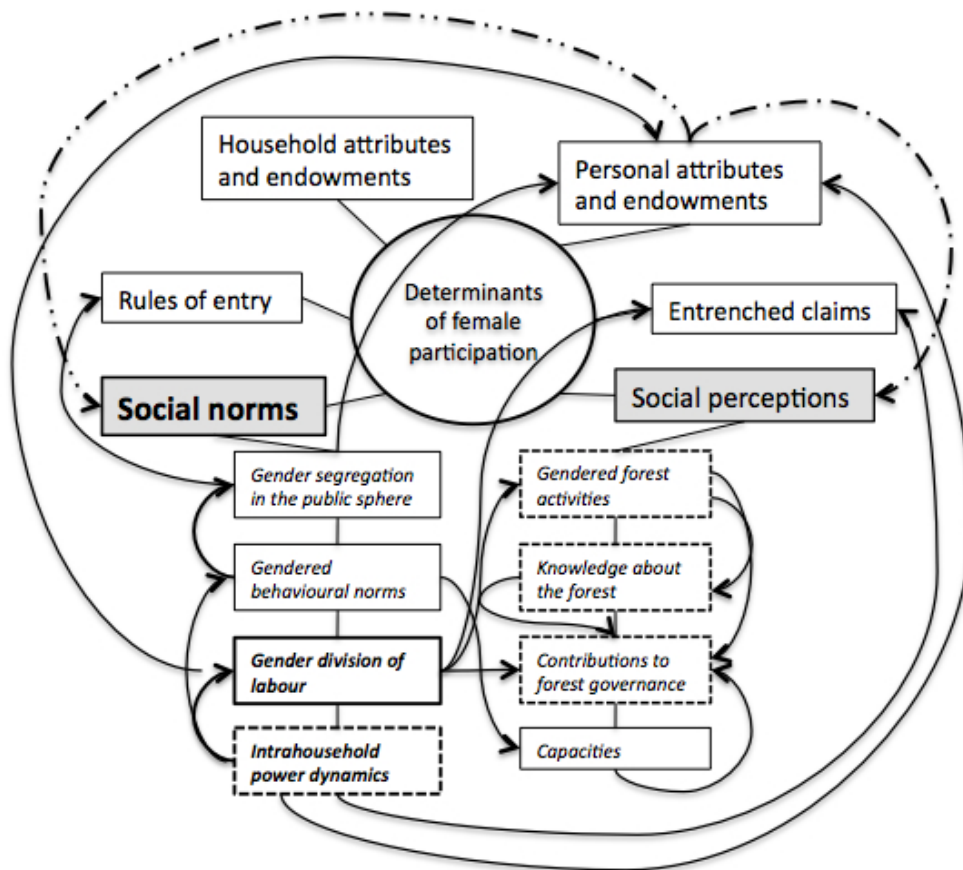


Figure 5: Extended analytical framework based on Agarwal (2001): Dashed lined boxes represent added sub-categories that emerge from my findings. Agarwal (2001) explains social perceptions by men’s perceptions on women’s capacities to engage themselves in forest governance, but does not indicate ‘capacities’ explicitly as a sub-category (it would be the only sub-category). Therefore, I added ‘capacities’ to the element ‘social perceptions’ for the sake of completeness. The arrows indicate the direction of influence one element has on the other. Many more connections are possible. Dashed line arrows mean reinforcing and other arrows refer to weakening impact. Findings from the present case study underline that gender-based social norms and perceptions affect forest governance more than other elements. Therefore, these two elements are highlighted by grey shaded boxes. Within the category ‘social norms’, ‘gender division of labour’ and ‘intrahousehold dynamics’ have a significant impact on other elements of the framework and are therefore stressed.

My findings show that gender based social norms and perceptions play a significant role in determining acceptance of women in forest governance. Social norms underlie and affect all other elements of the framework (except for household attributes and endowments, which is an intersectional category). Results from my case study reveal that ‘gender division of labour’ and ‘intrahousehold power dynamics’ shape the elements that determine female participation substantially. These two elements sustain men’s privileges and as such build the fundament for men’s assertion of their ‘entrenched claims’. ‘Personal attributes’, such as a low level of confidence, emerges from men’s hegemonic position over women, and a low level of education is greatly due to women’s higher workload restricting their access to education.

Within the category of 'social perceptions', the triangulation of my data uncovered different layers of perceptions of women's capabilities and activities, which reinforce each other within this category. For example, perception of women's work in the forest (i.e. farming) affects perceptions of women's knowledge and possible contributions to SFM.

Moreover, in the present context of my case study, customary rules do not seem to determine value systems of local communities as rigidly as argued by Agarwal (2001). With the increased diffusion of emancipative thoughts, modern values of gender equality intersect with traditional and religious beliefs. Even though many male study participants insisted on their dominant power over women in both the public and private sphere, they tended to accept higher levels of gender equality (in some domains), when women possessed higher levels of education. In addition, confident and educated women challenged oppressing social norms. As a consequence, a women's higher level of education (personal attributes and endowments) can weaken social norms and perceptions, as indicated by the dashed arrows in Figure 5.

6 Discussion

The findings of the present case study have unravelled a multitude of gendered differences in relation to use, valuation, knowledge of and control over forest resources as well as social norms and perceptions that enforce the continuous exclusion of women in forest governance. Neglecting these gender asymmetries can undermine effective and equitable REDD+ outcomes and further enforce gender inequalities. This chapter begins with discussing different themes underlying the research questions in relation to implications for REDD+ interventions and ends with recommendations for designing and promoting gender-sensitive practices.

6.1 Gendered use of forest resources

This study's findings confirmed that forest resource use is highly gendered. While women cater for household needs on a daily basis, men's work is rather of occasional nature. Forestry interventions that fail to notice women's responsibility of collecting firewood and other forest products can have adverse effects for the well-being of the entire family, particularly given the high dependence on firewood as a primary energy source for cooking. In Lukolela, 88% of all households (Stiem, 2013) and in Buya 1, presumably all households use fuel wood as an energy source for cooking (M. Kermarc, pers. comm. 10/02/2014).

In addition, women play an outstanding role in cassava cultivation. Cassava is the main staple food in the DRC that made up 677 kcal/ capita/ of caloric intake and over 60% of all crop production in 2013

(FAOSTAT, 2013). Therefore, overlooking women's role in feeding the family could have severe consequences in a country that has scored highest on the World Hunger Index over the past years (Welt Hunger Hilfe et al., 2012).²⁸ Understanding women's special role in regards to the nexus of food security and forests is pivotal for REDD+. Karsenty & Ongolo (2012) argue that REDD+ would have the unique opportunity of reconciling the combat against climate change and food insecurity, if designed and implemented appropriately. Initiatives promoting sustainable agriculture, including agroforestry and agro-ecology, could tackle some of the drivers of deforestation (e.g. demand for farmland) and increase agricultural productivity (Altieri & Toledo, 2011; CGIAR, 2012).

6.2 Gendered knowledge and valuation of forest resources

Some interviewees argued that women would be more concerned about conserving the forest for the sake of their children. My findings coincide with research results of Agarwal (2009) who suggests that women tend to be concerned about securing forestland for their children, given their socially constructed roles and responsibilities. Additionally, women have a propensity to use forest resources in a more sustainable way, given their higher dependence on and the necessity to preserve these resources as their source of livelihood (Mwangi et al., 2011).

Furthermore, the findings confirm that women and men value different tree species associated with their differences in use and needs, as suggested by Agarwal (2001). This divergence in valuation and possibly knowledge of tree species may have important implications for tree growing activities, such as agroforestry and/or reforestation projects, both of which are popular carbon sequestration tools. Overlooking women's needs could enforce gender inequalities, if, for example, forestry interventions did not account for important tree species providing fuel wood.

Neglecting women's valuation and unique knowledge of forest resources could undermine effective REDD+ initiatives in terms of local forest governance and adaptive strategies to climate change (Agarwal, 2009; Demetriades & Esplen, 2009; Nelson et al., 2002). Therefore, the question is not who has more knowledge about the forest, rather it is about recognizing men and women's different yet important and unique knowledge, which makes both of them eligible and indispensable to contribute to SFM.

6.3 Customary control over forest resources and forest governance

Scholars in the realm of FPE have advocated for the importance of a deeper understanding of women's land rights in relation to environmental governance and the related implications (Leach,

²⁸ According to estimated by FAO, 6.35 million people face acute food insecurity in DRC (FAO, 2013). In Equateur province, only 40% of the total population are considered as food secure (WFP, 2012).

2007; Rocheleau et al., 1996).²⁹ My findings revealed that control over access and use of forest resources lead to customary exclusion of women. Women's limited decision-making power over land could also have far-reaching impacts on SFM programmes, such as REDD+. Women would not be able to decide independently whether they would like to devote their land, entirely or partly, to project activities in exchange for benefits (Demetriades & Esplen, 2009). In a similar sense, they may not be motivated to invest their efforts and time in sustainable development of their land due to insecure tenurial rights (Goldstein & Udry, 2008; Meinzen-Dick et al., 1997).

6.4 Promoting gender equality through REDD+ social safeguards

Traditionally, a Congolese woman's place is first and foremost restricted to the household. Customary law does not allow her to speak up in public nor to decide independently about the use of her family's land. Now that the International Community has unanimously denounced patriarchal oppression and the West has abandoned gender discriminatory rules and practices (yet certainly not entirely!), we demand other cultures to follow. Therefore, a critical examination is required that asks in how far REDD+ social safeguards of gender equality and democratic processes are imposed as Western ideals and if, to what extent this is legitimate. The scope and focus of this study does not allow answering this philosophical question entirely, but the analysis of findings has hopefully shed some light on this issue.

The findings from interviews and field observations have uncovered a co-existence of traditional and modern values and practices. With the emergence of ideas about emancipation, customary rules on women's participation have evidently become less stringent. Study participants, irrespective of their sex, seem to have not only accepted but also appreciated rules set by the WHRC for their FPIC meetings. The motives for displaying such compliant behaviour remain questionable though. Some FPIC participants may have acted this way, as they wished to be on good terms with the REDD+ project staff.

Most women that criticised patriarchal customs tended to be fairly well educated and more informed. This observation corresponds with Amartya Sen's view that people need to have the capabilities to make decisions on a 'good life'³⁰ (Sen, 1985). Everyone in a society, men and women alike, should have the '*real opportunity (...) to accomplish what [they] value*' (Sen, 1992, p. 31). Following this line of argumentation, women would have to be at least as well educated and informed as their male counterparts, to be able to empower themselves to make decisions that are

²⁹ A thorough examination of women's access and right to forest governance would go beyond the scope of this study and has been dealt with extensively (Adedayo et al., 2010; Nemarundwe, 2005; Rocheleau & Edmunds, 1997).

³⁰ Sen defines a 'good life' as 'a life of genuine choice, and not one in which the person is forced into a particular life—however rich it might be in other respects' (Sen, 1985, pp. 69–70)

not infiltrated and biased by patriarchal rules. In fact, numerous women-led, Congolese NGOs on different spatial levels are now fighting for women rights in the DRC (Gouzou, 2009; Bawangi, pers. comm. 02/03/2014; Nyombo Zaina, pers. comm. 05/02/2014). Traditional norms and values have been identified as main obstacles in advocating gender equality and some NGOs have therefore decided to start sensibilising customary leaders (Gouzou, 2009). This is a necessary move because despite all disagreement with regressive gender rules and practices, traditional and religious norms cannot be overlooked. Klaver (2009), who explored multi-stakeholder forest governance structures in Equateur province, DRC, concluded that local norms and values must be considered in order to legitimize governance structures for SFM. Seymour and Angelsen (2009) conclude that REDD+ has a greater potential than previous forestry and development interventions to promote social benefits, provided that projects comply with social safeguards.

6.5 Intrahousehold power relations

This study's results confirmed that the notion of the head of the household who holds responsibility and decision-making power of the family is still much ingrained in Congolese culture. Not only does customary but also statutory law enforce discrimination against women. Even though the Congolese constitution of 2006 declares men and women to be equal and postulates the promotion of gender equality, article 444 of the Family Code of 1987 clearly considers the husband as the head of the household, to whom the woman has to obey (Droitcongolais.info, 2014). Additionally, article 448 limits Congolese women in their capacities to act independently in public, as it requires them to seek their husband's approval for activities in the public sphere, such as opening a bank account, signing legal contracts, etc. (Ibid.)

Similarly, many study participants predicated the subordination of the wife to her husband on biblical terms³¹. In rural areas where most people do not have access to public media, religious confessions – largely Christian churches and Anglican streams imported from the United States – play a big role in setting norms and shaping opinions (Gouzou, 2009).

As a consequence of these gender norms constructed by various social-political institutions, marital guardianship constrains women's freedom to engage in public forums such as participating in a REDD+ project, as confirmed by other studies (Agarwal, 1997; Cornwall, 2003). Viewing the household as a homogenous unit may, therefore, enforce unequal gendered power relations and lead to unfair benefit-sharing among household members (Cornwall, 2003; Gurung et al., 2011). Women are likely to be excluded when development programmes primarily collaborate with the head of the household, who is in most cases male (Agarwal, 2001; Bandiaky, 2008; Gurung et al.,

³¹ See New Testament, Ephesus, 5-22, 23

2011). A comparative case study on REDD+ projects in Asia concluded that if women are not explicitly recognized as beneficiaries, such projects could widen gendered power imbalances (Gurung & Setyowati, 2012).

Equally important, should REDD+ projects work with a chosen elite of the community, female-headed households would be more excluded, as they tend to be poorer and less integrated in the community in rural areas (Gouzou, 2009). In Lukolela, income of female-headed households is on average 40% less compared to their male-headed counterparts (Stiem, 2013).

Besides women's participation in public activities, division of labour in terms of use of forest resources is mostly decided on the household level, which in turn affects forest governance (Peach Brown, 2011). A study in Southern Cameroon found that in the face of economic, political and ecological changes, intra-household negotiations determine access and rights to forest resources (Brown & Lapuyade, 2001).

6.6 Perceived gendered forest activities and knowledge about the forest

My findings from field observations and individual interviews with community members have shown that women exert many activities in the forest, such as fetching water, washing clothes and producing chikwangue, all of which are crucial to the family's well-being, but that were not valued as female-dominated forest activities. Domestic, unpaid work is often less visible and valued compared to men's work that is physically more visible (i.e. cutting trees) and/ or reimbursed monetarily (Agarwal, 1997; Rocheleau et al., 1996). In the light of this, many study participants, men and women alike, demanded men's dominance in forest governance due to their 'hard work' in the forest. Agarwal (1997, p. 11) refers to this phenomenon as a 'systematic undervaluation of women's contributions' and argues that women's work is often considered as 'unskilled' simply because of their gender.

Study results did not only show differences in de facto knowledge but also in perceived knowledge associated with gender. Interestingly, men's argumentation of women's inferior knowledge turned out to be false as evidenced by interviews during narrative walks. This proves that perceptions of knowledge and possible contributions to forest governance are largely based on socially constructed gendered norms and values as argued by Agarwal (1997) and Sen (1990).

As a consequence, REDD+ project developers and policy makers should not be blinded by social perceptions and dominant discourses that obscure realities on women's relevance in forest governance. In this respect, it is pivotal to give voice to those that are marginalised, yet have important contributions to SFM projects (Cornwall, 2003).

6.7 The power of education

Throughout the entire field research process, education has been a reoccurring theme. Many barriers to women's participation in forest governance could be overcome by strengthening their capacities. A woman's higher level of education along with a capacity to express herself publicly weakens customary prohibition of female active participation and is generally accepted as a legitimate reason for her to engage in the public in the same way as men. These observations coincide with Sen's ideas about women's agency. He advocates for education as an instrument to empower women, which will be beneficial to the well-being of the entire family (Sen, 1990). The need for investing in equal access to education becomes even more obvious when looking at the following figures. In 2011, the DRC scored fourth lowest in the world on the Gender Parity Index³² in secondary enrolment (UN Statistics, 2014). The socio-economic study from Lukolela revealed that more than 70% participants without formal education are women (Stiem, 2013). In Buya 1, half of women that are heads of households do not dispose of any formal education compared to 7.7% of male household heads (Samndong, forthcoming).

Efforts to improve access to education for girls should however not be to the detriment of boys. Generally, more educated men seemed to oppose women's public participation to a lesser degree. This observation matches empirical evidence from case studies in Latin America and East Africa that found a correlation between years of schooling of the head of the household and female participation in forest councils (Coleman & Mwangi, 2013).

6.8 Beyond gender

This gender analysis would not be complete without discussing intersectionality. While its definition remains contested (Smyth, 2007), it is commonly used to see where socio-economic factors other than gender intersect with the gender dimension and how these affect the phenomenon under study (Rocheleau et al., 1996). In the present case, marital status, age, level of education, ethnicity, clan membership and migrant/ social status was found to impact women and men's participation in forest governance and other public activities. Participation in customary decision-making bodies on land issues were almost exclusively contingent on clan membership. Moreover, pygmy people are excluded from public activities in general. On the contrary, some women, especially those with a high social status, were much engaged in community activities and associations in both study sites. As a consequence, development practitioners should not only focus on the gender dimension and overlook other marginalised social groups.

³² The Gender Parity Index compares boy to girl's ratio in education

Besides social factors intersecting with gender, other factors that could, for example, be contextual to the respective study site were not very apparent. Views on gendered roles as well as women's capacities and their integration in forest governance did not differ based on the study site. The only significant difference was found in terms of valuation of tree species. Women in Lukolela, prioritised trees for artisanal and construction use next to trees for firewood. This observation may be linked to the higher prevalence of artisanal logging.

6.9 Engendering participation

Having analysed obstacles to women's participation in forest governance and their underlying causes, the question remains as to how to integrate women effectively.

While most male study participants favoured a smaller number of women in forest governance, most women demanded equal participation. Many scholars agree on a threshold of around 30% female representation that would give a bigger voice to women in decision-making (see Agarwal, 2010 for literature review); others caution, however, against the "add women and stir approach" (Cornwall, 2003, 2008; Nemarundwe, 2005). According to Agarwal (2010), raising the ratio of female representation can only result in effective outcomes, if women are equally involved in the entire decision-making process and not only in the final vote. In a setting where women are traditionally introvert and lack confidence and experience to advocate for their needs, a higher female proportion can give women confidence to speak up and in this way strengthen their agency (Agarwal, 2010).

In some instances, women-only groups may serve as an entry point and platform for aggregating and channelling women's needs and concerns to put women's positions forward more effectively (Arora-Jonsson, 2010; Cornwall, 2003; Westermann et al., 2005). A major drawback of women-only groups is, however, that they may not address gendered power relations and roles (Gotschi et al., 2008).

It is crucial that gender equality is not tokenistic in a sense that women's de facto participation is abused to legitimize a decision made by male members (Bandiaky & Tiani, 2010; Cornwall, 2003). One strategy to improve women's decision-making power in institutions is to give women positions of higher ranks (Gotschi et al., 2008). Most interviewees of this study, men and women alike, were relatively open to (well educated) women in leadership positions. Study participants had most confidence in women's capabilities to manage finances, as confirmed by other case studies (Bandiaky & Tiani, 2010). This trust may be predicated on positive experiences and/or habits since 58% of treasurers were female in a study sample of rural organisations in the DRC (Ragasa et al., 2012). Despite overall positive attitudes towards women leadership, most men were eager to preserve male dominance in a forest committee. The advocacy for women leadership may be challenging, as leadership is often associated with masculine traits and diverges from traditional norms (Coleman &

Mwangi, 2013; Gotschi et al., 2008). Empirical evidence from case studies in the DRC shows that 30% of sampled rural organisations were chaired by a women, whereas female overall representation amounted to 45%, ranging from 5 to 95% (Ragasa et al., 2012). In the light of this, institutions must be changed in a transformative and truly progressive manner in order to ensure effective female participation (Arora-Jonsson, 2010; Gotschi et al., 2008).

6.10 Limitations

Activities in the forest are greatly determined by the seasons in the DRC. I conducted my field research in the end of the dry season, which is the season for clearing fields for farming typically done by men. In the light of this, it is likely that men's importance in forest governance could have been overstated.

I made use of interpreters for nearly all individual interviews and focus group interviews. Incorrect or insufficient translations as well as the high number of research assistants limit the findings of my study. Certain concepts such as SFM have been discussed in order to ensure that all assistants use the same definitions. Even though the term 'sustainable forest management' does not exist in the native languages spoken, most participants understood its meaning well and were able to give us their opinions. In other instances, formulations and terms that are difficult to translate from French to the local languages posed a problem. Efforts were undertaken to reformulate and convey messages in an understandable way. In how far the interviewee understood my question correctly was sometimes difficult to assess since I had to rely on the judgment of my assistants.

Attitudes towards the WHRC and interviewees' appraisals of the FPIC processes have been very positive. Despite my efforts to distance myself from the WHRC and instead position myself as an independent researcher from Lund University, I wonder to which extent they have affiliated me with the REDD+ project management. I believe that this bias is marginal, as interviewees made similar statements independent of each other, and they also criticised the FPIC invitation process.

Agarwal's (2001) conceptual framework on determinants of women's participation in forestry is based on field research of the 1980s and 1990s in India and Nepal. Hence, it is questionable to what extent this framework is applicable in a different time and place. Agarwal also focused on formal community forestry groups, whereas my study was concerned with informal (customary) as well as potential communal forest governance (REDD+). Nonetheless, my findings have revealed more similarities than differences to Agarwal's identified constraining factors to female participation in forest governance. In line with her observations, many barriers to women's involvement are underpinned by customary norms and perceptions under a patriarchal regime. Hence, I argue that Agarwal's framework can be applied to a large extent in contemporary research on forest-dependent

communities in which patriarchal values systems are still prevalent. However, much acuity is necessary with regards to studying which areas have been subject to changes and what has triggered these changes.

Despite efforts of mitigating subjectivity through data triangulation, the revision of Agarwal's framework is based on the analysis of my findings and underlies my interpretation of the case. Many more connections between the different categories and their respective sub-categories are possible. An anthropological study would possibly uncover more relationships that determine gendered participation in forest governance.

6.11 Recommendations

Findings of the present study have shown a multitude of constraining factors contributing to women's exclusion from forest governance as well as gendered differences in use, valuation, and knowledge of forest resources that demand for a gender-sensitive approach to forestry interventions. The following recommendations do not represent an exhaustive list, rather they aim to illuminate important areas in designing and implementing REDD+ activities based on current study findings.

Striking differences between de facto and perceived forest activities and knowledge have been observed. Promoting recognition of women's value in forest governance could challenge this traditional devaluation of women's work and capabilities. On the same token, the role of farming in SFM must be communicated to REDD+ participants in order to stress the relevance of female participation in REDD+. It is also crucial to harness women's unique knowledge about forest resources and governance in order to design effective project activities.

In order to increase male acceptance of women in forest governance institutions and to challenge gender-discriminatory mentalities, it will be pivotal to strengthen women's capacities. Equally important, girls' and women's education and development of important skills such as presentation skills will give women the necessary confidence to engage themselves in public forums (Cornwall, 2003). The promotion of women's employment would strengthen their decision-making powers, notably within the household, and advance their involvement in public activities (Agarwal, 1997; Coleman & Mwangi, 2013).

In order to enhance women's decision-making power in all levels of forest governance institutions, it will be important to ensure female representation across horizontal and vertical axes (Arora-Jonsson, 2010). Study participants regard women in powerful positions as role models already. Therefore, REDD+ decision-makers are advised to employ women, especially for highly valued work, such as management positions, in order to endorse them as agents of change.

Women have much more daily workloads vis-à-vis men. It is therefore necessary to identify during which time of the day and during which season women are best available in order to facilitate their participation. Livelihood analysis tools would help collect these data (FAO, 2001).

Intra-household power relations must be taken into consideration to ensure that men, women, and children benefit equally from REDD+ interventions. Married women for example may not be able to participate due to constraints by marital guardianship (Gotschi et al., 2008). Likewise, power over land tenure rights and benefit distribution must be considered when leasing land for REDD+ activities. The vulnerability and ability of women of female-headed household should also be of concern. Assisting those women to secure and/or acquire land could advance their participation in REDD+ and have positive sustainable outcomes (Goldstein & Udry, 2008; Meinzen-Dick et al., 1997).

Due to benefits and disadvantages of both women-only and gender mixed groups, a hybrid approach is recommended. Women-only groups can give space to articulate and aggregate women's concerns, whereas effective female participation in gender-mixed groups has the potential to challenge prevailing power inequalities and ensure that women's voices are heard (Cornwall, 2003).

In selecting women for important positions in forest governance bodies, it is crucial to ensure that they truly advocate for their female fellows' interests. Equally important, women must be put in executive positions and be involved along the whole decision-making process in order to avoid that female participation is abused to legitimise decisions made by male members (Cornwall, 2003).

Special attention should be paid when selecting staff for REDD+ projects. Also male candidates should be advocates for gender equality, as they can play an essential role in modelling progressive behaviour in terms of gender (Ragasa et al., 2012).

Since religious confessions play a very important role in forming public opinions on gender roles, REDD+ project staff is advised to collaborate with gender progressive religious institutions and to try to advance a dialogue towards gender equality (Gouzou, 2009).

Finally, in supporting women's participation, REDD+ decision-makers should not neglect other marginalised groups in the community, including indigenous people and migrants (i.e. people that do not own land but lease). An intersectional perspective has to be a central feature in all REDD+ interventions.

6.12 Suggestions for future research

This gender analysis has highlighted important disparities between men and women in relation to forest governance. More in-depth research is however needed on the influence of customary and legal forest governance institutions as well as other organisations, such as churches and local peasant

cooperatives on REDD+ institutions. It will be crucial to examine how gender dynamics are manifested and flexible to be challenged.

Another interesting domain of research would be local women's organisations and their current and potential influence on communal forest governance. It would be especially important for project developers to know how these platforms can be utilised in alleviating gender inequalities in REDD+ projects. Additionally, more case studies on the local level are needed in understanding ethnographic particularities and their implications for forestry interventions. Finally, once gender progressive REDD+ practices have been implemented, it will be paramount to assess their outcomes. The development of a set of evaluation criteria under consideration of the local context could potentially facilitate gender mainstreaming of REDD+ in the DRC and beyond.

7 Conclusion

This study was conducted to explore how men and women differ in using forest resources as well as how underlying power relations restrict female participation in forest governance in two locations in the DRC. Study results demonstrated that social norms and perceptions along with a strong assertion of men's hegemonic position in society construct barriers for women to be equally involved in decision-making bodies on forest and land issues.

A critical realism approach helped me to uncover hidden layers of social perceptions and revealed that false perceptions of women's contributions, knowledge, and capacities are used to legitimise men's dominance in forest governance. Moreover, gendered division of labour and intrahousehold power dynamics, both of which strongly sustain men's hegemony and privileges, affect multiple factors that determine gendered forest use and governance. On the contrary, higher levels of women's education have the potential to challenge gender imbalances. These insights called for an alteration of Agarwal's framework and support the need for gender analysis of forest governance structures in a local setting.

A number of recommendations on how to advance gender progressive practices on the local level have been put forward. Empowering women's agency, notably in strengthening women's capacities, is among the priorities. Equally important, marginalisation of other social groups, such as pygmies and the landless, must be addressed to integrate them equally. REDD+ has the unique opportunity to reconcile SFM, climate change mitigation and improvement of rural communities' livelihoods. The success of REDD+ in achieving effective and equitable outcomes will however greatly depend on the ability to overcome gender inequalities and to ensure that women equally enjoy 'benefits beyond carbon'.

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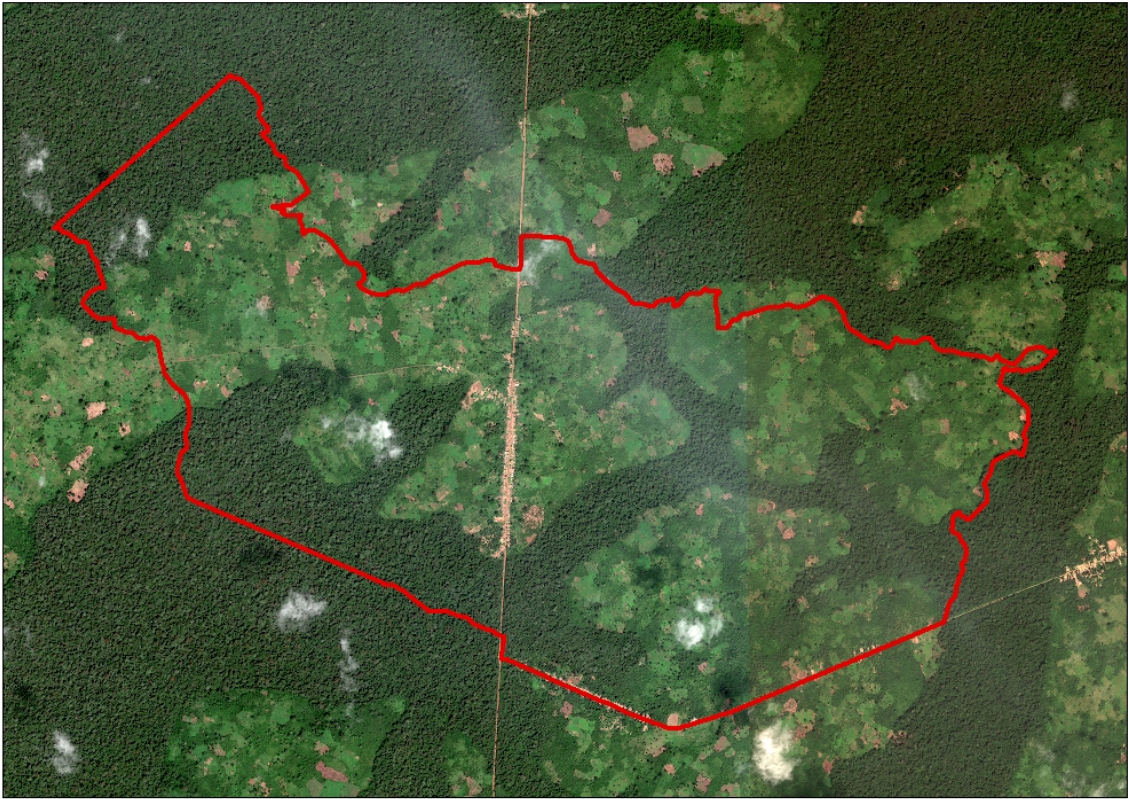
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Annexes

Annex 1: Map of REDD+ pilot project area, Buya 1 (source: WHRC)



Buya I, Equator Province, DRC

— Community limit

Annex 2: Interview guide for individual interviews with community members

Interview guide

Name of interviewee		File		Code	
Name of assistant		Lukolela	Buya 1	Date	

PART 1 – SOCIO-ECONOMIC SITUATION

A. Personal information

Age		Ethnic group		Clan		Sex	M	F
Nationality	DRC	Other		Village of origin		Migrant		
Marital status		Married	Divorced	Widowed	Single	Polygamous	Man absent	
Occupation*	1.		2.		Other			
Level of education	Primary school	Secondary	University	No formal	Other			
Which languages do you speak?*			Other					
Who is the head of household?			Interviewee	Age		Level of education		H F
Kids (in school)		Infants		Other members (partner)				

*Languages: 1=Lingala; 2=Ekonda; 3=Mongo; 4= Beginner in French; 5= Advanced level of French; 6= Beginner in English, 7 = Advanced level of English.

C. Standard of housing

How many rooms (including salon) do you have in your house?	1	2	3	4	5
Material of wall?	Pisé/ clay	Adobe brick	Cement	Baked brick	Other
Material of floor?	Clay/ earth	Wood	Cement	Other	

D. Subsistence and income-generating activities

Do you collect forest products (timber and non-timber) in your household?	Yes	No								
What are the activities in your household and who practices them? H=father, F= mother, x= others (specify)										
Farming	Fishing	Hunting	Livestock	Firewood	Water	Clearing	NTPP (ali)	NTPP (const.)	NTPP (med.)	Chikwangue
H F X	H F X	H F X	H F X	H F X	H F X	H F X	H F X	H F X	H F X	H F X
Others										

PART 2 – KNOWLEDGE, IMPORTANCE AND USE OF THE FOREST

E. Importance of the Forest, perceived activities and tree species

Is the forest important to you? If yes, why? If not, why not?	Y	N					
What is your opinion on sustainable forest management? What does it mean to you?							
When do you consider the forest healthy/ in a good condition?	When do you consider the forest in a bad condition?						
What activities in the forest are typically practiced by the man/ woman?							
Man	Woman						
What tree species do you consider important for you and your family?							
Tree species	Food	Construct.	Medicine	Artisanal	Firewood	Others	Notes/ observations

F. Collection of non-timber forest products

What non-timber forest products are important for your family?							
Products	Commercial	Food	Medicine	Constr.	Others	Notes/ observations	
How many times a week do you go into the forest?							

PART 3 – PARTICIPATION IN FOREST GOVERNANCE AND OTHER PUBLIC ACTIVITIES

G. Formal organisation and participation in REDD+

Are you member of an association?	Y	N	Member since (month and year)	
Name			Position	
What is the objective of your association?				
Have you represented your association in the REDD project?	Y	N	Participation in REDD+ ?	

Participation in FPIC

Questions to non-participations in FPIC

Have you been invited to the FPIC meetings? If not why? If yes, who invited you?
Why did you choose not to go to the FPIC?
Would you have liked to participate in the FPIC?

Atmosphere/ respect of men

Please describe your experiences of the FPIC meeting. How was the atmosphere/ ambience? Did you feel comfortable? Why?
Have you only listened or also spoken up during the meetings? (Why did you not speak up?)
What questions did you pose? What was the reaction of other participants (especially men) and the project staff?

Contributions

Have you ever been asked for your opinion in the meeting?
Do you feel that your contributions/ suggestions have been taken into consideration? Why/ how?
Do you feel that you could contribute as much as other participants? Why/ how?
Do you feel that your ethnic group belonging, age, level of education, civil status, clan membership played a role during the meetings?
Have you taken decisions or voted during the meetings? If so, which decisions/ voted on what?

Determinants of women's participation in forest governance

What are women's/ men's roles in (customary) forest governance? What do you think about women's/ men's role in forest governance? Do you think women should be included in forest governance? Why?
What can women and men contribute to sustainable forest management? What are women's and men's knowledge?

What is women's (and men's) role in the community/ household? Have you observed changes? What do you think about these roles? Do you find that good?

In your culture, can the woman participate in public activities/ meetings where other men are present? Can she speak up in public/ in front of other men? How do men and women behave in gender-mixed village meetings?

If you had a committee/ group of 10 people whose responsibility is to manage the forest/ forest area in a sustainable way, would you need to have women in this committee? If yes, how many women? Why?

What would be women's roles and responsibilities in this committee?

Would you accept a higher ratio of women compared to men?

Would you allow your wife to participate in the forest committee? Would you release your wife from her duties so she can participate?

Can women own land? If so, under which conditions? How is land distribution regulated? Are conflicts concerning land distribution common? What kind of conflicts? In which type of institution are conflicts dealt with? Are women present? What are their roles?

Annex 3: Participants of individual interviews in Buya 1

No.	Sex	Age	Ethnicity	Migrant	Civil status	Head of household	1st Occupation	2nd Occupation	Education	FPIC participant
1	M	62	Ekonda	Y	Married	Y	Farmer	Fisherman	Secondary	Y
2	M	32	Ekonda	Y,N	Married	Y	Farmer	Merchant	Secondary	Y
3	M	26	Ngeletandu	N	Single	Y	Farmer	Pupil	Secondary	Y
4	M	74	Ngele	N	Married	Y	Farmer	Mechanic	Secondary	Y
5	M	54	Mongo	N	Polygamous	Y	Farmer	Merchant	Secondary	Y
6	F	50	Ekonda	Y	Widowed	Y	Farmer		None	Y
7	F	34	Mongo	Y,N	Polygamous	Y	Farmer	Merchant	Primary	Y
8	F	39	Bumba	Y	Married	N	Farmer	Merchant	Secondary	Y
9	F	57	Lieyese	Y	Divorced	Y	Farmer		None	Y
10	M	31	Ekonda	Y	Married	Y	Farmer	Reverend	Secondary	Y
11	M	56	Tumba	Y	Divorced	N	Farmer	Worker	Primary	N
12	M	45	Ekonda	N	Married	Y	Farmer	Fisherman	Secondary	N
13	M	33	Ekonda	Y	Married	Y	Farmer		Secondary	N
14	M	44	Pygmy	Y	Married	Y	Farmer	Fisherman	None	N
15	M	66	Pygmy	Y	Polygamous	Y	Farmer	Worker	Secondary	Y
16	F	N/A	Pygmy	Y	Married	N	Farmer	Worker	None	N
17	F	N/A	Pygmy	Y	Married	N	Farmer		None	Y
18	F	N/A	Pygmy	Y	Married	N	Farmer	Worker	None	N
19	F	40	Buya 1	N	Married	N	Farmer		None	N
20	F	32	Mbanga	Y	Single	N	Farmer	Merchant	Primary	N
21	F	45	Ebunga	Y	Married	N	Farmer	Merchant	Secondary	N
22	F	29	Mbanga	Y	Married	N	Farmer		Primary	N

Annex 4: Participants of individual interviews in Lukolela

No.	Sexe	Age	Ethnicity	Migrant	Civil status	Head of household	1st Occupation	2nd Occupation	Education
1	F	45	Mpama	Y	Married	N	Farmer	Merchant	Primary
2	F	76	Nunu	Y	Widowed	N	Farmer		None
3	F	35	Mpama	N	Married	N	Farmer		Primary
4	F	18	Nunu	N	Single	N	Pupil		Secondary
5	F	26	Nunu	N	Divorced	N	Student	Teacher	University
6	F	44	Nunu	Y	Single	Y	Farmer	Merchant	Secondary
7	F	48	Mpama	N	Divorced	Y	Farmer	Civil servant	Primary
8	F	34	Sengele	Y	Married	N	Civil servant	Merchant	Secondary
9	F	38	Mongo	Y	Married	N	Civil servant	Merchant	Secondary
10	M	63	Mbunza	Y	Married	Y	Merchant		Secondary
11	M	50	Mpama	N	Married	Y	Reverend	Teacher	Superior
12	M	43	Mpama	N	Married	Y	Farmer	Fisherman	Secondary
13	M	19	Sengele	N	Married	Y	Farmer		Secondary
14	M	57	Luba	Y	Married	Y	Civil servant	Teacher	Secondary
15	M	61	Mpama	N	Married	Y	Farmer	Teacher	University
16	M	54	Ngoli	Y	Married	Y	Reverend		Secondary
17	M	40	Mongo	Y	Single	Y	Priest	Teacher	Superior
18	M	39	Ngombe	Y	Married	Y	Reverend		University

Annex 5: Interview guide for focus group interviews

Interview guide for focus group interviews

(The discussion topics focus on RQ3: *What factors affect women's participation in forest governance?*)

1) Men's and women's roles in society

Discuss the role of women and men in the community/ household. What are their responsibilities/ tasks? What do you think about that? What does that imply for public activities?

In your culture, can the woman participate in public activities/ meetings where other men are present? Can she speak up in public/ in front of other men? How do men and women behave in gender-mixed village meetings?

2) Women in forest governance

If you had a committee/ group of 10 people whose responsibility is to manage the forest/ forest area in a sustainable way, would you need to have women in this committee? If yes, how many women? Why?

What would be women's roles and responsibilities in this committee?

Would you accept a higher ratio of women compared to men?

Would you allow your wife to participate in the forest committee? Would you release your wife from her duties so she can participate?

Can women hold a president position? Under which circumstances?

3) Perceived knowledge about and contributions to forest governance

What do you think about women's/ men's role in forest governance? Do you think women should be included in forest governance? Why?

What can women and men contribute to sustainable forest management? What are women's and men's knowledge?

Annex 6: Participants in focus group interviews in Buya 1

No	Focus group	Sex	Age	Occupation
1	Young men	M	18	Student/ farmer
2	Young men	M	19	Farmer
3	Young men	M	20	Student
4	Young men	M	20	Student
5	Young men	M	30	Farmer
6	Young men	M	27	Farmer
7	Young men	M	22	Farmer/ merchant
8	Young men	M	26	Farmer
9	Men	M	72	Farmer
10	Men	M	62	Farmer
11	Men	M	40	Farmer
12	Men	M	53	Farmer
13	Men	M	60	Farmer
14	Men	M	39	Farmer
15	Men	M	61	Farmer
16	Men	M	50	Farmer
17	Pygmy men	M	68	Farmer/ worker
18	Pygmy men	M	17	Farmer/ worker
19	Pygmy men	M	57	Farmer/ worker
20	Pygmy men	M	34	Farmer/ worker
21	Pygmy men	M	34	Farmer/ worker
22	Pygmy men	M	31	Farmer/ worker
23	Women	F	47	Farmer
24	Women	F	43	Farmer
25	Women	F	15	Student
26	Women	F	34	Farmer
27	Women	F	56	Teacher/ farmer
28	Women	F	40	Farmer
29	Women	F	33	Farmer
30	Women	F	20	Student
31	Women	F	35	Farmer
32	Pygmy women	F	N/A	Farmer
33	Pygmy women	F	N/A	Farmer
34	Pygmy women	F	N/A	Farmer
35	Pygmy women	F	N/A	Farmer
36	Pygmy women	F	N/A	Farmer

Annex 7: Participants in focus group interviews in Lukolela

No	Focus group	Sex	Age	Occupation
1	Men	M	40	Farmer
2	Men	M	56	Farmer
3	Men	M	32	Student
4	Men	M	46	Student/ farmer
5	Men	M	66	Fisherman
6	Men	M	25	Teacher
7	Men	M	23	Student
8	Men	M	32	Farmer
9	Women	F	44	Farmer
10	Women	F	37	Merchant
11	Women	F	28	Nurse
12	Women	F	34	Merchant
13	Women	F	62	Farmer
14	Women	F	32	Teacher
15	Women	F	37	Teacher
16	Women	F	47	Nurse

Annex 8: Interview guide for key informant interviews

1) Marie Nyanga

President of African Business Women Network, a network within the African Forest Model Network, Kinshasa

Could you please tell me about your work.

Please tell about your experiences in the field. What are your observations about dynamics between men and women?

What are differences between men and women in terms of their knowledge and usage of forest resources?

What are your observations concerning women's participation in forest governance? Why are women more absent in forest governance? What factors other than time constraints make it difficult for women to participate?

Does religion play a role in shaping gender relations?

Have you observed any changes in terms of gender relations? Where? What type?

What is people's reaction towards your work?

What changes would you like to see in the future?

2) Nene Mainzana

National Coordinator of Environmental Communication Network and member of the REDD+ Thematic Working Group (Civil Society), focussing on gender issues in REDD+, Kinshasa

Please tell about your experiences in the field. What are your observations about dynamics between men and women?

How do you assess the efforts/ success of integrating women in REDD+ on the project level up to the national level?

In your opinion, what are the major challenges to integrate women better in REDD+?

What are your observations concerning women's participation in forest governance? Why are women more absent in forest governance?

What is your opinion about REDD+?

3) Marie Nyombo Zaina

National Coordinator of the National Network of NGOs for the Development of Women in DRC, Kinshasa

Could you please tell me about your work.

Please tell about your experiences in the field. What are your observations about dynamics between men and women?

What are your observations concerning women's participation in forest governance? Why are women more absent in forest governance?

Does religion play a role in shaping gender relations?

How are gender relations among pygmy people?

What is people's reaction towards your work?

What changes would you like to see in the future?

4) Melaine Kermarc

Project Manager of REDD+ pilot projects in Equateur led by the Woods Hole Research Center, Mbandaka

Please tell me about the first encounter with the rural community. How did you approach them? What were their reactions towards you?

Please tell me a little about the first meeting. How was the atmosphere?

What is your judgment on the participatory process? How do you ensure to make it participatory?

Do you generally pay attention to gender? How do you ensure women's inclusion in meeting?

What are your selection criteria for members in meetings and committees? Do you pay specific attention to a gender balance?

What is the ratio of women to men in meetings/ committees/ working groups?

Do women feel comfortable in meetings? How do you make them feel comfortable?

Please tell me about the particularities of Buya 1. Why did you select this village as a pilot project area?

5) Valérie Bawangi

President of Equateur Focal Point of Women Collective, Lukolela

Could you please tell me about your work? Please tell about your experiences in the field. What difficulties/ challenges do you face in your work?

What are differences between men and women in terms of their knowledge and usage of forest resources?

What are your observations concerning women's participation in public activities/ associations?

What factors make it difficult for women to participate? How do men and women behave in meetings towards each other?

What are the challenges and opportunities of integrating women in development projects?

6) Jean Claude Lofete

Secondary customary chief in Buya 1

What are your responsibilities and tasks as a customary chief?

What are your responsibilities and tasks in terms land tenure?

Are there any conflicts concerning forest use and land user rights in Buya 1?

Are there any conflicts between Bantu people and pygmies in Buya 1?

Are there any conflicts in terms of forest use? How are these conflicts dealt with?

Are there differences between men and women in terms of forest use and collection of NTFP? What do these differences imply?

7) Toussaint Nzali Ebengo

Member of a clan originating from Lukolela

Are there any conflicts concerning forest use and land user rights in Lukolela?

Are there any conflicts between Bantu people and pygmies in Lukolela?

Are there any conflicts in terms of forest use? How are these conflicts dealt with?

Who are different clans in Lukolela? Are there any conflicts concerning tenure issues among them or with migrants?

Annex 9: Participants of key informant interviews

Names	Organisation and function
Marie Nyange	President of African Business Women Network, a network within the African Forest Model Network, Kinshasa
Nene Mainzana	National Coordinator of Environmental Communication Network and member of the REDD+ Thematic Working Group (Civil Society), focussing on gender issues in REDD+, Kinshasa
Marie Nyombo Zaina	National Coordinator of the National Network of NGOs for the Development of Women in DRC, Kinshasa
Melaine Kermarc	Project Manager of REDD+ pilot projects in Equateur led by the Woods Hole Research Center, Mbandaka
Valérie Bawangî	President of Equateur Focal Point of Women Collective, Lukolela
Jean-Claude Lofete	Secondary customary chief in Buya 1
Toussaint Nzali Ebengo	Member of a clan originating from Lukolela