Reduced Emissions from Deforestation and Forest Degradation

A Gender analysis of REDD+ and its potential impact on community resources system

The Case of Angai Villages Land Forest Reserve, Tanzania

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List of Acronyms

REDD	Reduced Emissions from Deforstation and Forest Degradation in developing countries
REDD+	Reduced Emissions from Deforestation and Forest Degradation in developing countries, ehancement of carbon stocks, biodiversity and forest management
PLARD	Programme for Luapula Agricultural and Rural Development
HDR	Human Development Report
IPCC	Intergovernmental Panel on Climate Change
GHG	Greenhouse Gas
PFM	Participatory Forest Management
CDM	Clean Development Mechanism
URT	United Republic of Tanzania
FAO	United Nations Food and Agriculture Organisation
CBFM	Community Based Forest Management
JFM	Joint Forest Management
AVLFR	Angai Villages Land Forest Reserve
MUHIMA	Muungano wa hifadhi ya msitu wa Angai (Angai Forest Management Union)
GGCA	Global Gender Climate Alliance
IUCN	International Union for Conservation of Nature
UNDP	United Nations Development Programme
WEDO	Women's Environment and Development Organisation
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
CEDAW	United Nations Convention one the Elimination of all forms of Discrimination Against Women
MDG	Millennium Development Goal
UN-UDHR	United Nations Universal Declaration of Human Rights
ECOSOC	United Nations Economic and Social Council
DECRIPS	United Nations Declaration on the Rights of Indigenous People
UNCBD	United Nations Convention on Biological Diversity
UNCCD	United Nations Convention to Combat Desertification
UNCED	United Nations Conference on Environment and Development
HFA	Hyongo Framework for Action on disaster reduction
SOWP	State of World's Population
UNREDD	United Nations programme on Reduced Emissions from Deforestation and Forest Degradation in developing countries
WID	Women in Development
GAD	Gender and Development
WHO	World Health Organization
UN	United Nations
WEN	Women's Environmental Network
REDDNet	Knowledge sharing network on Reduced Emissions from Deforestation and Forest Degradation
UNDRIP	United Nations Declaration on the Rights of Indigenous People
PES	Payments for Ecological Services
REDD+ SES	Reduced Emissions from Deforestation and Forest Degradation plus Social and Enviromental Standards
FCPF	Forest Carbon Partnership Facility

CCBA	Climate Community Biodiversity Alliance
PLA	Participatory Learning and Action
CCI	Clinton Climate Initiative
MCDI	Mpingo Conservation and Development Initiative
MoU	Memorandum of Understanding
LIMAS	Lindi Mtwara Agribusiness Support
NGO	Non-governmental Organisation

Abstract

Key words: Gender – climate change – participatory forest management – REDD+ – Tanzania

Climate change is the greatest development challenge of the generation. The anthropogenic origins of the phenomenon are mainly in industrialized countries, while people living in poverty in developing countries are the most affected by the negative impacts and have the least capacity to adapt to the changing conditions. The majority of these people are women.

Reduced Emissions from Deforestation and Forest Degradation plus (REDD+) is a climate change policy that enables forest communities in developing countries to be compensated for the carbon that is sequestrated in their forest. REDD+ has been considered to have a high potential to enhance forest biodiversity as well as to bring positive social and economic opportunities to communities and forest management structures. Several threats have also been identified and many gender advocates have criticized REDD+, noting that it can further exacerbate gender inequality.

This research project studied REDD+ from a gender perspective, with an emphasis on its potential contribution to poverty alleviation at the local level. The case study was carried out in the Kiangara Community in Liwale District, Lindi Region, Tanzania, which is a part of the Angai Villages Land Forest Reserve. The study examined household and community resource management and politics, and the process of the surrounding communities obtaining ownership of the Angai Forest. On the basis of the collected data, the research project identified what would be the potential impacts of REDD+ in Kiangara from the points of view of poverty alleviation and gender equality. The study utilized Participatory Action and Learning methodology and partly applied Social Impact Assessment for Carbon Land Projects.

The results of the study indicate that due to the long and externally driven process of participatory forest management in Kiangara, REDD+ runs a risk of becoming just another externally driven process. Because the ultimate objective of REDD+ is carbon sequestration, for it to enhance gender equality and contribute to poverty alleviation, everything depends on the implementers and participants in the process, rather than on the REDD+ mechanism itself. Furthermore, because of its expensive and extensive verification, monitoring and reporting requirements, it can unnecessarily draw attention away from improving local livelihoods, reducing inequality, and addressing the local drivers of deforestation. Due to the existing inequality at the community and household levels, REDD+ benefits are most likely to end up with those who are already better off, thereby enforcing elite capture. The study calls for alternative ways to support participatory forest management with climate funding that equally values climate change adaptation and mitigation and acknowledges their synergies.

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1 Introduction

> *Development is ultimately about power: the power to make decision over the access to and control over the use of resources. Anything that challenges how power is currently allocated, such as suggestion that it may be necessary to re-allocate power, will cause conflict. Gender blindness is a way of avoiding this conflict. A healthier way would be to address conflict constructively and incorporate it in the discourse that takes place between the stakeholders during the process of developing interventions.* - Arja Vainio-Mattila (2001:11)

The Human Development Report (2007/2008) narrates the challenge of climate change in a world characterized by interdependencies and inequalities. "Each person you know about and affect is someone to whom you have responsibilities: to say this is just to affirm the very idea of morality." These Kwame Appiah's words frame the interdependence into a moral imperative to take care of the most vulnerable: "Allowing the world's poor to bear the brunt of a climate change problem that they did not create would point to a high level of tolerance for inequality and injustice." (HDR, 2007: 60-61)

Anthropogenic climate change is caused by the utilization of fossil fuels and land use patterns that have resulted in increased levels of Greenhouse Gases (GHG) in the atmosphere and rising temperatures as well as triggered a variety of changes in climatic conditions around the world. The Intergovernmental Panel on Climate Change (IPCC) has concluded that climate change mitigation is not likely to achieve the targeted 2-degrees 'acceptable level' of average temperature rise. (SOWP, 2009:19) Climate change will affect all levels and aspects of societies, perhaps more than ever before. Changes in weather patterns, such as rains, storms and temperatures, will transform our environment, affecting biodiversity, sea levels, natural regeneration capacity, and in particular, rural livelihoods. The poor are the most affected, as they are often directly dependent on natural resources for their livelihoods and have fewer means to adapt to the changing environmental conditions in their localities.

The moral dilemma of climate change is that despite the fact that all nations and individuals have contributed to the problem, the developed countries have been disproportionately responsible through their industrial development and consumption. This has not only affected the environment and natural resources of the respective countries, but the growth of economies has been based on the resources and environmental bearing capacity of developing countries that have been harnessed through colonialism and globalization. Recently, the dynamics of global economy have shifted: the developed nations have suffered from

economic recession for several years, while developing countries, first in Asia and currently in Africa, record high levels of economic growth. This economic growth may be promising for the regions, but poses a further challenge for climate change mitigation.

Concurrently, climate change mitigation is a matter of urgency and a regime that needs all nations and individuals on board in order to work. This is more likely to happen if carried out in a just manner that secures benefits for everyone. However, the global climate negotiations seem to be losing political momentum and consensus on the legally binding responsibilities, mechanisms and ways forward. The moral and political challenge of the century is: How to make global development sustainable, climate-friendly and just?

The climate change regime has been dominated by a scientific and economic agenda that has lacked a human face and little attention has been paid to adaptation to climate change. Issues of gender, indigenous peoples, inequality and vulnerability, risk management, adaptation capacity of people living in poverty (who are already challenged with basic survival), and biodiversity have emerged on the agenda later as 'after-thoughts'. Therefore, these issues have not been properly integrated into the policies and mechanisms, but been taken on board in the form of voluntary and additional standards and the like. As these are neither binding nor part of the main documents, they run risk of not being taken seriously enough. Thus, the climate regime may further magnify the existing inequalities.

1.1 Forests in rural household economies in Sub-Saharan Africa

Forest has a significant role in the lives and livelihoods of the people living adjacent to it. This relationship should not be mystified or assumed harmonious, and differences in the nature of the relationship among community groups ought to be acknowledged (Tacconi, 2007: 342).

> People use, and have used trees and forests to enrich and provide sustenance to their lives, as forests and woodlands are widespread throughout the region. Though many of the fundamental uses of trees may be similar, different peoples and different stakeholders use trees in different ways for different purposes under different conditions. Subsistence requirements and cash needs, especially to meet contingencies amongst rural people, are important, together with a range of goods and services, including catchment and watershed functions. Less obvious are the wide array of cultural, sacred and spiritual uses that trees and forests have. (Barrow, *et al*. 2002: 20)

Yet, from a social policy point of view, it is interesting to study this relationship between the different groups of people in the community and the forest, and the role that this relationship plays as a social context that enables and disables security, wellbeing, equality, dependency, and welfare through access to and control over resources and livelihoods. These relationships are always gendered. Thus, forest itself as part of the natural environment does not have a social nature, but in the relationships with the people, 'the social' is constructed.

Through this perspective, forest policies that aim at addressing the relationships between people and forest as well as the meanings and values of these relationships as social constructs become social policy. It is important to bear in mind that forest policies do not primarily exist as a social policy, but have various kinds of objectives for forest utilization, conservation, and management, and often fall short in capturing 'the social' aspect that these have or it has been added as 'an afterthought'. Nevertheless, they contribute to the construction of the social reality in which people and forest co-exist and interact. This nature of forest policies has become even more prominent through the decentralization of forest management and increased emphasis on community involvement. In order to achieve conservation and sustainable management objectives, the policies are challenged to address local realities of poverty, diverse uses and interests with regard to forest, power structures and inequality to motivate the communities to become agents in forest management. Forestry has become community work that requires a broad spectrum of understanding and expertise beyond the technical aspects of forest management itself.

Despite the rich resources at hand, forest-dependent communities are commonly characterized by poverty. There are several views on the reasons why these two co-exist: some claim forests have survived in remoteness, where communities have limited opportunities and exposure to expand their livelihoods and political influence. Others see that the reason for high poverty prevalence is that forests are common resources and repel investment and market-oriented utilization. (Sunderlin, *et al.*, 2005: 1383-1389; MacQueen, 2008: 671; Wunder, 2001: 1818-1819; Brechin, *et al*., 2002: 42-43) Often emphasis is placed on the income-generating aspect of forest resources and their enhancement. However, forest-based microenterprises [1] play a less significant role in rural household economies than subsistence resources. (Kaimowitz, 2003: 45) According to several studies cited by Dubois

[1] Forest microenterprises consist of salaried working for logging businesses, pit-sawing, woodworking, carpentry, furniture production, commercial hunting, charcoal making and tree planting. (Kaimowitz, 2003: 45, 49)

(2003) and Kaimowitz (2003), forest resources contribute significantly to household consumption and income in a complementary manner.

> Forest and tree stocks provide a reserve upon which people can fall back for subsistence and income, especially in times of crop failure, employment and other kinds of hardship, or to meet exceptional needs. Forest and tree foods are most extensively used to help meet dietary shortfalls during particular seasons in the year. Energy rich tree foods such as roots, tubers, leaves, rhizomes and nuts are especially important during emergency periods such as floods, famines, droughts and wars. In addition to food, forests and trees outside forests play often a significant role in meeting the needs of the rural poor, including those related to shelter (building material) and health (medicinal plants). (Dubois, 2003: 67)

According to Kaimowitz (2003), several case studies on Sub-Saharan Africa show that forest plays a major role in the lives of rural populations as a supplementary income and food source, amounting to about 15-42% of household incomes. The majority of households living adjacent to forests get their main income from agriculture. Yet, they rely heavily on forest resources that serve as an "important buffer during hardship" (Kaimowitz, 2003: 45). The significance of these resources depends on class. Although well-to-do households consume these resources more in absolute terms, the poorest ones are the most dependent on them, particularly women and children. (Ibid, 45-48; Sunderlin et at., 2005: 1391; Working Group for Gender and Forestry, 1995: 15) The poor households' access to resources is threatened by deforestation and forest degradation, but also by privatization of forest resources and elite groups' increasing control over them, which affects health and nutrition and often leads to further degradation due to over-exploitation of the resources at hand. (Kaimowitz, 2003: 52-53) Deforestation limits the living space of the poor and other vulnerable groups that are often dependent on forest resources and have to spend longer time and cover longer distances to gain access to them (Kapunda 1998: 83-84). However, it is important to note that

> [… for] households that rely on forest products for subsistence and to compliment their cash incomes, these products offer no real prospect of getting them out of poverty. Precisely because it is easy for anyone to engage in these activities without much capital, land or skills they tend to provide low returns for labour. Nonetheless, losing access to these products and markets can have very negative impacts on rural households and even threaten their survival. (Kaimowitz, 2003: 49)

Usually rural people living in poverty utilize diverse livelihood strategies to maximize incomes (as one livelihood does not provide sufficient income) and to manage risks. These livelihood strategies combine agriculture and forest-based activities. The latter often have

lower returns, and therefore, they are proportionally more dominant in the livelihood strategies of the poorest groups that have limited access to other, more profitable income sources requiring investments, special skills or social connections that poor people possess less frequently. (Sunderlin, *et al*., 2005: 1389; Wunder, 2001: 1826-1827) Furthermore, due to insufficient credit, insurance and social protection systems in developing countries, the common resources are an important risk mitigation measure. Yet, Delacote (2009) argues that as much as they assist poor households in survival, they can prove to be poverty traps. These safety nets are also increasingly vulnerable to pressure from the over-dependency and overuse of the resources. (Ibid, 305-306) With climate change, the stress on the safety nets is likely to increase due to the degradation of biodiversity and people's increased need to adapt. At the household level, food insecurity may often not be caused by the lack of available food but by inadequate resources to access it. Thus, the poorest are forced to live with chronic food insecurity and poor nutrition, which also affects their capacity to get involved in natural resources management activities. (Kapunda, 1998: 85)

The forest-poverty interrelation has a dual face. According to Sunderlin, *et al*. (2005), forests contribute to 1) poverty mitigation and avoidance as well as 2) poverty elimination. The first refers to the safety net function of subsistence resources that are used during seasonal shortages and emergencies to mitigate the level of poverty and to avoid falling into poverty. The latter includes "savings, investment, accumulation, asset building" sourced from forest resources that "increase income and well-being" (Ibid, 1386, 1391). This division of forest-poverty relationships splits resources into two categories: subsistence resources and those with commercial value. This division also has a relatively strong class and gender dimension: the low-value subsistence resources are the most important in the lives of the poorest households, particularly women and children, while the commercial resources are more significant to more powerful and resourceful people, mostly men. In comparison with agriculture in particular, timber-oriented forestry is highly capital intensive, and therefore dominated by wealthier people. (Wunder, 2001: 1827)

There are varying views about how successful forest management can be in poverty reduction. Even though many researchers acknowledge the potential that forest management could have (e.g. Mahanty *et al*., 2009: 269; MacQueen, 2008: 671-672), there is more or less a consensus that poverty reduction through forest management cannot be assumed and that it is difficult to show tangible social or pro-poor economic benefits from these processes (Wunder, 2001: 1824-1827; Tacconi, 2007: 343; Oyono, 2005: 11).

Table 1: Relationships of poverty reduction and forest conservation emphasise the importance of a process that aims towards a win-win situation. (Adopted from Mayers, 1997 in Dubois, 2003: 72 and Sunderlin, *et al*., 2005: 1395)

	Poverty increase	Poverty reduction
Forest reduction	Unsustainable use of forest resources does not benefit the poor	Poverty is reduced by conversion of forest to other land uses
Forest increase	The poor have less access to forest resources because of conservation	Pressure on forest is reduced by sustainable livelihoods in or outside forest

The multifaceted nature of the forest-poverty relationship, combined with the contribution of valued and un(der)valued resources to household wellbeing, makes assessment complicated. However, considering the co-existence of high poverty levels and forest resources, poverty reduction needs to remain high on the agenda of forest management in developing countries. This is a critical question both in participatory forest access and social policy: how to enhance the extent that it can assist the poor. There is evidence indicating that poverty prevention is an area where forest access as a safety net is able to provide a notable contribution. It is less evident, however, how successful these interventions can be in lifting people out of poverty. According to Voipio (2011: 25), safety nets that *prevent from getting into poverty* are more vital for social policy than the often more emphasized *opportunities of getting people out of poverty*. However, considering the strong livelihood orientation of forests and the need to understand the gendered nature of resources, both of these aspects are worth looking into.

1.2 Political ecology of deforestation

Forest conservation is "by definition is a social and political process" (Brechin, *et al*., 2002: 42) Political ecology studies the interrelation between the environment and people. According to Schubert (2005), political ecology does not have any "coherent 'grand' theory, but rather a specific lens through which one can examine" these interactions, with "conceptual tools for analysis". (Schubert, 2005: 9) Nygren (2000: 11) notes that the importance of research on deforestation was only acknowledged after it appeared on the global political agenda. The politics over forest resources exists from global level all the way to a household level, and is often characterized by conflict. Therefore, forest management should also be seen as a political process where resource distribution, access and control are enforced, negotiated, and redistributed. Feminist political ecology, pioneered by Rocheleau (1996), studies the different aspects of gendered knowledge, rights (or lack of rights) defined

by gender, and gendered agency and politics, challenging the "myth of value-free objectivity and universality in science". (Rocheleau, *et al*., 1996: 9)

The political ecology of deforestation also emphasises that it is a social process where the interests of different groups co-exist or clash, power and inequities define access and control over resources, and these relationships between the resources and resource users have been politically and historically constructed. (Nygren, 2000: 12) Ignorance, lack of proper management and population growth among the local people or the poor, often claimed to be the reasons for deforestation, are confronted by addressing economic and political challenges, social actions and inequality as drivers of deforestation. (Blaikie and Brookfield, 1987 in Nygren, 2000: 12)

Wunder notes that deforestation is a dynamic process, which cannot only be linked to an actor's poverty level. Although in Africa many of the drivers of deforestation are "vicious circles" of unsustainable coping strategies and lack of alternatives, some of the drivers, such as illegal timber logging by investors and migrants, are opportunistic in nature (Wunder, 2001: 1819-1820). Macro-economic changes or political inefficiencies (e.g. policy or structural changes, economic incentives, corruption, or dysfunctional justice system) provide these kinds of opportunities. In this type of deforestation, the role of the local people is instrumental, as they usually provide piecework labour for an external actor's timber harvesting business, but are not decision-makers in the process. This type of investment provides, besides the short-term employment prospective (and in some cases tax revenue), a very limited contribution towards community sosio-economic development in terms of trickle down. (Wunder, 2001: 1823)

1.2.1 Participatory forest management (PFM)

Participatory approach to natural resources management was adopted within the development cooperation paradigm in the 1990s. This was also the case with Participatory Forest Management (PFM). According to Agarwal (2010: 75), decentralized forest governance has usually been grounded in research on the general decentralization processes that have taken place (and still do) despite the fact that the decentralization analysis itself has not had a significant link to environmental governance. PFM evolved from the failure of the state-run model of forest management and conservation towards community-oriented co-existence with forests. (Agarwal, 2010: 75-80). It is a decentralized forest management approach that

involves local people in decision-making, utilization and management, and that gives the (entire or partial) legal authority and tenure over the forest to the community. (Mustalahti, 2008: 110) It is, as any local natural resources management, about "conscious and organized local efforts, whether project-related or not, to durably maintain or increase the regenerative capacity of local natural resources." (Van den Breemer and Venema, 1995: 4). The ideological aim of PFM is to enhance economical, social and environmental sustainability by enabling livelihoods and income generation as well as conservation and sustainable utilization, while securing the forest rights of the poor and marginal groups. (Mustalahti 2009: 110)

For PFM to be functional and successful, there are certain common elements that need to be in place (Mustalahti, 2009; Van den Breemer and Vanema, 1995; Mustalahti, 2007a; Mustalahti and Lund, 2010: 32). According to Mustalahti's house model of the key elements in PFM, there are four corner stones in successful PFM. Firstly, the communities must value the importance of their forest. This may need sensitization to change attitudes towards forest conservation. Secondly, the communities need to have a strong ownership of the forest, a feeling of belonging, and the future of the forest needs to be 'in our hands'. Thirdly, incentives or other kind of benefits are needed to compensate for the efforts invested in forest management. And fourthly, there need to be positive changes in the livelihoods in general, such as improved agricultural productivity or increased incomes. The walls of the model are extension services that respond to the various capacity needs of the communities and have long partnerships with the communities. Finally, the roof of the model is access to market and capability to profit from the markets. The construction site for PFM is the policy, strategy and legal framework that enables forest management and legal security for the communities. (Mustalahti, 2008: 111) Furthermore, the decision-making power and capacities of the communities over the forest resources are vital for both legal security and benefiting as well as for the feeling of ownership and being accountable for sustainable management. (Van den Breemer and Venema, 1995: 4, 17) Participatory forest management contains an assumption of a positive impact on communities and the environment – so called co-benefits. The co-benefits from the forest ought to be larger than from other land use types in order the forest management to be sustainable. (Tacconi, 2007: 342)

1.2.2 Reduced emissions from deforestation and forest degradation *plus* (REDD+)

Forests and the mitigation of greenhouse gases through reduced deforestation has become a hot topic in climate change debates. It has been estimated that deforestation contributes about 12-20 percent of total greenhouse gases, and therefore, through mitigation of deforestation and forest degradation, significant reductions in GHGs can be achieved. (IPCC FAR, 2007) Reduced Emissions from Deforestation and Forest Degradation (REDD) is a climate change mitigation policy introduced in 2007 that was developed from the Kyoto Protocol principles of carbon market to utilize the large GHG mitigation potential that avoidance of deforestation and forest degradation has.

> The idea of REDD is that owners of forests in the South could by restraining from land-use activities causing deforestation or degradation of forest lands and be compensated for this. The compensation would be comprised of payments on the carbon that would have been sequestrated in the forest after selling it at the international carbon markets. The aim of the mechanism is to create an economic incentive to protect forests by giving tangible monetary value of standing trees. (Corbera and Schroeder, 2011: 90)

There are two types of carbon markets: the official Kyoto Protocol Clean Development Mechanism (CDM, where governments offset carbon emissions as per the international agreement) and Voluntary Carbon Market (VCM, where companies can offset their carbon emissions as part of their corporate social responsibility). (URT 2011) The Kyoto Protocol had set targets for 2012, and currently there is no agreement to take up the emissions mitigation agenda. However, the Kyoto mechanisms are still in preparation and operation despite this.

REDD builds on the experiences gained from carbon sequestration in forestry projects over the years. However, it "has been intensely controversial since its inception." (Smith and Applegate, 2004: 154) Some argue that REDD can be an inexpensive way to reduce emissions compared to other ways to cut emissions. Others argue the contrary, asserting that REDD can undermine local livelihoods and forest communities' wellbeing (Ribot, 2011: 14-16, Smith, *et al*., 2000 in Smith and Applegate, 2004: 154). Some, in turn, believe that REDD can bring about positive co-benefits to local communities that enhance the biodiversity of forests and livelihoods as well as increase fund flows. Furthermore, "there is now a growing attention to the fact that a low carbon development process may in fact contribute to poverty

alleviation and economic development in these countries." (Funder *et al*., 2009: 18)

REDD was developed further to include a *plus* that brings social and environmental co-benefits from carbon stocks on board of the REDD agenda. These include a) pro-poor social co-benefits, b) improvement of forest governance, and c) environmental co-benefits (particularly such as biodiversity, soil conservation, and water). REDD+ has been adopted in countries that already have an extensive participatory forestry practice, like Tanzania, and it puts more emphasis on avoided forest degradation. (Funder, *et al*., 2009:47).

The issue of benefits in REDD+ is ambiguous and often they refer to various types of positive trade-offs or side effects of the mechanism. In addition to carbon benefits, which are payments from ecosystem services, co-benefits have been envisaged (Peskett, *et al*., 2006: 2-5)

> Good forest management secures the survival of forest ecosystems and enhances their environmental, socio-cultural and economic functions. It can both maximize forests' contribution to climate change mitigation and help forests and forest-dependent people adapt to new conditions caused by climate change. Improved forest management practices for climate change mitigation and adaptation should be planned and implemented in tandem, as they are closely linked. (FAO 2009: 2)

A lot of expectations have been placed on both Participatory Forest Management (PFM, which is the basis for REDD+ framework and projects) and REDD+ in terms of social co-benefits and social ecosystem benefits to the communities engaged. Involvement in forest governance, capacity building, transformed sustainable livelihoods and benefits have a potential of contributing to community empowerment and development. In addition, the positive effects on biodiversity and ecosystem services can improve the wellbeing and livelihoods of the communities. These would include positive but indirect enhancement of biodiversity, forest resources, and social wellbeing as a result of the REDD+ process (FAO 2012: 4; von Scheliha, *et al*, 2009: 8-17). Cranford and Mourato (2011: 90) divide the community benefits into in-kind and indirect incentives. Through funding forest management in REDD+, the benefits can also be direct, as in terms of capacity building, investment in alternative livelihoods, improved governance, sustainable logging, and so on. (FAO, 2012: 4; Chhatre and Agrawal, 2009: 1; Smith and Scherr, 2002: 3-21)

Some move further to discuss "wider development benefits" that improve the conditions of people who are not involved in carbon sequestration (Peskett, *et al*., 2006: 4) and link

REDD+ targets to other development policies (Dutschke and Wolf, 2007: 12-20; Román, *et al*.,). This makes assessment of the social impact of REDD+ complicated, because there is no consensus on what the potential positive impacts of the mechanism are, beyond the minimum 'do no harm' principle. Furthermore, there are concerns about the regularity and predictability of the flow of funds as well as the potentially high transaction cost. (Peskett, *et al*., 2006: 2, 4; Dutschke and Wolf, 2007: 21-24)

Caplow, *et al*. (2010) evaluated so-called pre-REDD projects in order to draw lessons from the outcomes and impacts that REDD might have in the future on land use and livelihoods. Some of the projects were poorly documented and evaluated, particularly in terms of social outcomes, and the researchers argued that because of this, an opportunity of "learning while doing" has to some extent been lost. While calling for further evaluation of REDD projects, they note that it is important to simultaneously assess the interplay of carbon benefits and co-benefits, and their contribution to local social outcomes. (Ibid, 163-165)

Corbera and Schroeder (2011) note that it is important to take note of the agencies of various actors in REDD+ governance that influence the outcome of the mechanism.

> The interplay of REDD+ and development goals, poverty alleviation, economic growth and the drivers of deforestation is also insufficiently understood, as are the impacts from PES schemes on local livelihoods and local communities. (Ibid, 96)

According to them, one of the key issues in REDD+ governance is the mechanism's adaptability, i.e. "the preparedness of the REDD+ regime and of the emerging national strategies to deal with unforeseen changes in dynamics around the drivers of deforestation, and unintended consequences from other policy processes or socio-economic goals". (Ibid, 93) They also raise concerns about the accountability, legitimacy, and accessibility in REDD+, particularly by those who are disadvantaged due to structures or distances that work against their inclusive agency in the mechanism. (Ibid, 94-95) In addition, governments are the most likely entities to coordinate REDD+ at the country level, which has raised concerns about whether the mechanism would undermine the progress that has been done so far on the decentralization of forest management. (Phelps, *et al*., 2010: 312; Corbera and Schroeder, 2011: 90) There are also doubts about whether the government-led approach would attract private sector involvement. (Corbera and Schroeder, 2011: 90)

Another body of critique argue that REDD, like the Clean Development Mechanism, draw attention away from the sources of emissions and shift the responsibility for reducing emissions to people in developing countries that already struggle to survive. Further, they point out that climate change as a phenomenon is caused by market-oriented economy, therefore this cannot be utilized in the solutions to climate change without careful consideration. (See Böhm and Dabhi (eds), 2009; Cabello and Gilbertson (eds); Lohman, 2006; Rights and Resources Group 2009-2010) A number of studies have criticized the Clean Development Mechanism as an ethical and suitable way to mitigate climate change (Lohmann 2006; Gilbertson and Reyes 2009; Böhm and Dabhi 2009 etc.). The critique highlights the fundamental dilemma of climate change mitigation through a market-based mechanism that does not question carbon-based energy economics and consumerism, while at the same time, it has largely been this kind of capitalism that has contributed to the severe occurrence of the climatic changes. Also, there have been some serious concerns raised about the role of the communities in the developing world and about the extent that these mechanisms work to their benefit. It has even been implied that carbon offsetting creates a new kind of colonialism (Bachram 2004). These critical reflections should not be short-circuited in REDD analysis.

According to Funder, *et al*. (2009: 44), "REDD is a double-edged sword: while it has significant potential for supporting poverty alleviation, it also carries with it the distinct possibility of worsening poverty". *At its best*, it can provide payments for ecosystem services against individual and community investment if the carbon credits are devolved. It can also provide additional funding for forest management policies and programmes, which can contribute to improved local livelihoods and adaptation to climate change. Finally, it can enhance forest governance and recognition of forest rights by local communities through governance mechanism negotiations.

By contrast, the *"worst case scenario"* is that REDD can undermine the rights that forest-dependent communities have to forest and bring rival legitimacy to the claim for the forest rights or 'appropriation' of forest utilization by public or private entities. It can increase the prices of land and commodities, making basic living and livelihood necessities unaffordable and inaccessible for local people. This can further reduce the local communities' access to subsistence resources that further support adaptation and survival. Moreover, adaptation options that are based on forest become limited. According to Funder *et al*., "livelihoods may become subject to a 'double squeeze' whereby both agricultural production and options for

supplementing livelihoods with forest resources are reduced at the same time". (Ibid, 44-45, emphasis in the original text, also Peskett, *et al*., 2006: 2)

Shackleton, *et al*. also note that in community-based natural resources management, people living in poverty are most affected by the effects of "trade-offs". Despite benefiting in one respect, other sides of the livelihood base may be negatively affected, leaving the means of living unbalanced. (Shackleton, *et al*., 2002: 2, see also Ribot, 2011: 14) Some see the marginalized groups to have a role in REDD only if their subsistence activities contribute to deforestation, and therefore, this source of GHG emissions needs to be avoided. They further argue that inequality within respective countries is an internal matter and it "is not something to be solved in the international negotiations arena". (Skutsch, *et al*., 2007: 331)

Furthermore, forest-dependent people in many areas of the world are already negatively affected by deforestation and degradation of forestlands, which causes stress to local livelihoods and survival, thus increasing climate change vulnerability. Climate change mitigation may bring about negative environmental and social impacts if not well managed. (Canadell and Raupach, 2008: 1457) With climate change, these conditions are expected to worsen leading to a further increase in poverty, conflict and social deprivation. All this has a gender dimension to it as well: the recent gender discourse has emphasized the gender-distinct effects of climate change and noted that the women's sphere will be most severely affected. There have also been calls for integrating adaptation and mitigation together for beneficial synergies of both strategies (Guarinuata, *et al*., 2007: 794-801).

To conclude, considering the high levels of poverty in forest communities and the importance that forest has in the survival and livelihoods of the households, the moral imperative of REDD+ is to contribute positively towards the wellbeing of the communities, also including the most vulnerable members. Lund and Treue (2008: 2780) suggest evaluating PFM through three objectives: 1) forest conservation, 2) improved rural livelihoods, and 3) enhancement of good governance. Peskett, *et al*. (2008: 11) provide six arguments for why REDD should work for people living in poverty. Firstly, there is a *moral obligation* to ensure that they get an equitable share of the benefits because of their condition and their legitimate rights to forest. Secondly, this *improves REDD's sustainability* as a mitigation intervention, as long experience in development cooperation has taught. Thirdly, it can attract investors as a *risk mitigation* measure. Fourthly, social inclusion can *increase business returns* by creating "niche markets". Fifthly, pro-poor approach can also *enhance political acceptability* of

REDD, particularly in relation to other international (UN-led) policies, such as the Millennium Development Goals. Lastly, it can be a *contractual condition* to mitigate negative social impacts.

The potential negative impacts can jeopardize efforts done towards global development. If the negative results will be substantial, "for the poorest they would be catastrophic. The option of simply dismissing any form of REDD is therefore tempting." However, Funder *et al*. consider the potential opportunities of REDD to weigh more, as "the risks of *not* engaging in REDD seem high, given the possibly complete disregard for poverty and rights issues that might develop from such an approach." Considering the likelihood of the majority of REDD outcomes being something between the two ultimate cases, and there being so many variables affecting these outcomes, it is worth going along and influencing from within. (Ibid, 44-45)

Funder, *et al*. emphasize that pro-poor REDD would need to go beyond minor adjustments and to integrate these interests into the policies. Firstly, this includes securing access rights of forest-dependent communities, and developing carbon rights concepts to benefit poor communities. Secondly, it is vital to put in place accountable and transparent payment mechanisms that reach local level beneficiaries, particularly the poor. Forest governance needs to be developed towards inclusiveness in terms of representation and stronger agency in decision-making. Finally, the actual drivers of deforestation need to be addressed – without that REDD is merely a hollow funding mechanism. (Ibid, 50-51)

1.3 The case study – Angai Villages Land Forest Reserve

South-eastern Tanzania is one of those corners of the world that have become almost mythical in their isolation, underdevelopment and abundant resources, and a region where no development intervention seems to be quite successful. Some researchers see that this is a result of tradition and local culture (Johansson, 2008; Seppälä, 1998a), some due to political and geographical isolation (Wembah-Rashid, 1996; Seppälä, 1998a), others because of inappropriate definitions of poverty (Voipio, 2011; Swantz, 1998), and the attitudes of development workers and other 'outsiders' towards the area (Seppälä, 1998a). The case study of this research was carried out in Lindi Region, Liwale District, in a district that is partly situated inside the Selous National Park at a distance of several hours from the regional capital on the coast, Lindi. Liwale is one of the least populated and poorest areas in Tanzania.

The area has vast forest resources with valuable timber species, and the tradition of the local tribes, particularly Wangindo and Wandonde, has been based on hunting of wildlife and gathering other forest products rather than cultivation and livestock keeping. The tradition in the area is matrilineal but due to the mixing of culture and religions (Christianity and Islam) with the coastal areas, the matrilineal characteristic of the culture and tradition has diminished. (Johansson, 2008: 24-42, Mustalahti, 2007; Swantz, 1998: 172)

The Tanzania-Mozambique border has brought regular migration to the area, and according to Swantz (1998: 172), this has affected women's entitlement to land negatively. This is because migration has made them lose their lineage to land, and they have had difficulties to acquire new land through "male-dominated land management and adjudication institutions at national and village levels" (Tsikata, 2003: 149) The traditional communities used to live in a scattered manner, often nearby the forest, as the traditional family economy was much dependent on the forest resources. Living in remote locations remained the case also after the adoption of agriculture until the Ujamaa villagesation policy implementation in the early 1970s when households were transferred from the remote locations to a central place where water and social services were provided. (Seppälä, 1998a; Johansson, 2008) Land was allocated to heads of households, and women were only able to hold land if there "was no man who could be considered to be a head of the household." (Swantz, 1998: 173) and this increased the decision-making power of husband in the family (Johansson, 2008: 31) The fields often remained far away from the settlements, which may have had an impact on their maintenance, and therefore, low productivity. The main crops grown in the area are cashew, cassava, maize, millet, sorghum and rice. Shifting cultivation is still predominant in the area. (Seppälä, 1998a; Johansson, 2008)

The most prominant economical activity in the area is cashew nut production which was introduced to East Africa by the Portuguese. In the 1920s, the British established the Groundnut Scheme which was not a successful intervention. However, cashew nut trees grow throughout the area, and the production environment is fairly suitable for the crop. Yet, the extension, marketing and input structures have been ineffective both under state and private sector control, which has hindered the production volumes from reaching their true potential. (Jonsson, 2008; Seppälä, 1998a; Berry, 2009) Tanzania is globally a rather significant cashew raw producer and the country's agricultural sector has had a history of an export bias. (Tsikata, 2005: 151) Development interventions promoting cashew production have often failed to bring in easily adoptable technologies, and on the other hand, to grasp that cashew is

part of an intercropped production system with food crops and not a stand-alone line of production. (Johansson, 2008; Seppälä, 1998a; Berry, 2009.)

Table 2: Some statistical information about Liwale District and Tanzania.

	Tanzania	**Liwale District**
Population (2002 census)*	34,569,232 (women 17,658,911)	75,546 (women 38,742)
Number of households*	6,996,036	14,561
Average household size (persons)*	4.9	5.2
Population density (persons per square km)*	39	2.09
Total fertility rate (children per woman, 2006)	5.3	
Under-5 mortality rate (per 1,000 live births, 2006)	118	
HIV/AIDS (% of persons aged 15-49, 2007)	6.2	
Physicians (per 1,000 head, 2004)	0.02	
Access to water (% of persons, 2006)	55	
Access to sanitation (% of persons, 2006)	33	
Carbon dioxide emissions per head (‘000 metric tons, 2005)	0.1	
Human Development Index (2006) ranking	152	

Source: Berry, 2009. Except for *, source: URT 2002.

1.3.1 Lessons from participatory forest management in Tanzania

In Tanzania, the Forest Policy acknowledges two types of PFM: firstly, there is Joint Forest Management (JFM), where the government and local communities together manage forest, and secondly, there is Community-Based Forest Management (CBFM), where the communities are owners and managers of forest. The Forest Policy in Tanzania has been described to be a rather advanced one in terms of providing a legal framework to facilitate participatory forest management. It has been particularly successful in areas where forest resources are less valuable[2], and processes have progressed there swiftly. By contrast, the processes of handing over the rights to forest to the communities have been less successful in

[2] This refers to the commercial value of timber species with high demand, not to the value and relevance of the forest as a subsistence resource.

areas where forests consist of valuable timber species – like the case of Angai Forest. This implies that there are problems of genuine political will to hand over valuable forest resources to communities. (Mustalahti, 2007: 169) Mustalahti and Lund (2010: 40) have further stated that this reflects the extent of the central government's dependency on forest revenue.

Lessons learnt from the implementation of PFM in Tanzania since 1993 show that the policy and division of responsibilities between different actors throughout the country is far ahead of other countries in Africa implementing PFM. However, an advanced policy network alone does not guarantee successful PFM. Blomley and Ramadhani (2004: 9) note that there has been a challenge to develop low-cost models that could be sustained without donor funding. PFM also has a wide national coverage around the country (mainland), covering 4 million hectares of forest and woodlands. CBFM has been shown to be successful in improving the condition of and reducing the disturbance on forest; JFM's performance is more ambiguous. Its success in livelihood, household income and other developments varies from place to another, and the timber harvesting activities that would have otherwise happened in the area under PFM have usually merely changed their location to a non-PFM site. Furthermore, the benefit-sharing status of different sites varies, the most valuable sites being less able to access direct benefits. (Blomley and Ramadhani, 2006: 93-100.) Also, elite capture has been common and a lack of resources has at times been an obstacle for engagement in PFM activities by people living in poverty. (Vyamana, 2009: 246-250; Blomley and Iddi, 2009: 39-40). Blomley, *et al*. (2008) further suggests that elite capture may explain the limited extent to which PFM has been able to bring about "tangible benefits". (Blomley, *et al*., 2008: 389)

> […I]n spite of the inconsistencies in the interpretations between different parties about the goals and means of conservation, and continued use of exclusive strategies of control by some of the actors representing the government, opportunities have emerged through the interventions for some of the local actors to enhance their own, and sometimes wider interest in the negotiations over resource control. Yet the benefits tend to accrue unevenly between different groups at the local level e.g. due to unequal access to information and the differences in the initial resources available. In addition, the local actors' experiences of and involvement in the previous government and other interventions strongly affect how they position themselves in relation to conservation projects and activities, and their responses and strategies in relation to them. (Heinimäki, 2009: 2)

Gould and Ojanen (2003), while studying the consultative Poverty Reduction Strategy (PRS) process in Tanzania, note that "the analysis of *political opportunity* structures offers a

perspective on how various actors have been able to cash in on the political space opened up by the consultative imperative" and that "it is germane to consider how changes in the political environment affect the strategic choices of the various players, as well as the way the individuals within corporate entities modify their aims and behaviour in response to rapidly transmuting opportunities." (Gould and Ojanen, 2003: 25, emphasis in original text) As valuable as participation is for profound development processes, it is good to bear in mind how the already powerful groups can utilize 'new inclusive windows' for their own gain.

Picture 1: Men and children posing in front of a timber stock, which the family was guarding for a businesswoman from Dar es Salaam.

According to a FAO assessment on gender mainstreaming in Tanzanian forestry, there is still much to be done. The institutions are mainly male-dominated and the majority of women in government forest institutions have considerably lower education compared to the men. The community-level Natural Resources Committees follow the same gender representation pattern. The policies related to PFM also have poor acknowledgement of gender – some of them have no mention of gender issues. Within forest programmes, there is very limited

funding for gender activities. Dodo recommends documentation of and putting into action the existing gender strategies in forest policy and related documents to define women's roles and stakes in forest management. This includes the development of gender-sensitive techniques in forestry to enable women's increased involvement. Gender mainstreaming in all forest-related sectors to address gender concerns should be operationalized. For institutional development towards gender sensitivity, she recommends actions towards mainstreaming through staff capacity building, assigning gender focal point persons, and documentation of institutional mainstreaming strategies. At the local level, communities should be supported to develop their own gender strategies that address the local inequalities and mainstream gender (Dodo, 2007). According to Geller and McConnel (2006: 19), more research is required "on the social, ecological, institutional and economic conditions" where PFM can contribute towards forest conservation, livelihoods and good governance.

1.3.2 REDD+ in Tanzania

During the period of carrying out my research, the REDD+ strategy in Tanzania has been developed. While conducting my fieldwork in 2010, the National REDD+ Strategy draft had just been published for comments and consultations. The atmosphere amongst forest actor circles was full of hope for the (economic) potential of REDD+ in Tanzania, although many crucial issues, such as benefit-sharing mechanisms, compensation principles, and fund governance, still remained open (TFWG, 2010: 1-8). For many, this was about seizing the "political opportunity of consultative imperative" (Gould and Ojanen 2003: 24-25), where government representatives, (I)NGOs and donors as well as consultants specialized in issues of climate change and REDD+, in particular, were developing strategies with a weak connection to the affected, forest-dependent communities. With so many 'ifs' in the air, it was difficult to have confidence in the process and its outcomes.

While writing this in 2013, the National REDD+ Strategy (URT, 2013a) and Action Plan[3] (URT, 2013b) have been finalized. The strategy development has been informed by studies, research and pilot projects that have been conducted in various parts of the country. From the point of view of this thesis, very important outputs include Zonal Consultations Synthesis Report (IRA, 2009), Lessons Learnt from REDD+ Pilot Projects (URT, 2012), and the work of Jessica Campese (2009a, 2009b) on REDD+, gender and social and environmental safety

[3] The Action Plan for Implementation of National REDD+ Strategy is discussed in detail in Chapter 6.

nets. The REDD+ SES[4] standards have been developed partly using Tanzanian experience and consultations, and currently the Tanzanian Social and Environmental Standards and Safeguards draft (URT 2013c) is under a consultation process. The Action Plan for Implementation of the Strategy specifies in detail the approaches that REDD+ projects should undertake.

The REDD+ Strategy states as its main aim

> to facilitate well coordinated and effective implementation of REDD+ related policies, processes and activities so as to contribute to climate change agenda and overall sustainable human development, enabling Tanzania to benefit from a system based on results-based payments for demonstrated emissions reductions from deforestation and forest degradation. (URT, 2013a:3)

REDD+ in Tanzania is based on the practices and experiences gained in the implementation of Participatory Forest Management and aims to guide Tanzania's involvement in the systems that will be agreed internationally after the Kyoto Protocol. The issues that the strategy addresses are a) carbon baseline and Monitoring, Reporting and Verification (MRV) systems for Tanzania, b) setting up financial mechanisms and incentive schemes that are equitable and transparent, c) stakeholder participation and enhancing the national coordination and governance, d) capacity building in skills and systems, as well as e) research, communication and information. Furthermore, it aims to enhance the means of addressing the drivers of deforestation and forest degradation as well as mainstreaming gender in implementation and Action Plan. (Ibid, 3)

The strategy identifies some risks and limitations that may prevent communities, particularly the vulnerable groups, from participating in PFM. These are

> unfair benefit sharing or fears of this, lack of availability of forest land, lack of community interest in forest management (which may itself relate to opportunity cost involved in foregoing other activities, or to the availability of alternative income sources), an unfavourable legal and policy environment, lack of facilitation capacity, and lack of availability of up-font internal and external financing. (Ibid, 10)

The main governance concerns at the community level are corruption, marginalization from access to resources, weak accountability and transparency as well as low participation and law enforcement. (Ibid, 19) The strategy also acknowledges the problem of elite capture in

[4] The REDD+ SES standards are discussed later in chapter 2.3.3.

participation and gained benefits, and forecasts that the situation is likely to get worse with REDD+ funding becoming available at the community level. This poses a risk to the success of REDD+: if the majority of community members see no benefit in REDD+ to them, they may "withdraw their cooperation from the communal effort for increasing carbon stock." (Ibid, 10) At the national and sub-national level, the governance concerns are corruption, accountability and law enforcement. The strategy sees Central and Local Government to have a crucial role in building capacity to address these governance insufficiencies. (Ibid, 19)

Similarly to PFM, REDD+ has been seen as having great potential for positive social and ecosystem co-benefits. Opening a new financing mechanism that will channel funds to forest management activities and provide community revenue may have a positive impact on the social and environmental status of the communities involved in REDD+. However, the benefit-sharing systems are not working as promised: reports from Cameroon and Tanzania, for instance, indicate that the forest revenue sharing mechanisms are not able to bring benefits – at least to the extent promised – to the local communities. (Morrison *et al*, 2009; Blomley and Ramadhani, 2006: 93-100) In the Tanzanian case, Participatory Forest Management (PFM) has had a positive impact on forest, but the benefits to poverty reduction have been limited. Therefore, it is relevant to question to what extent REDD+ that will be built on PFM as legal foundation will be able to change this?

1.3.3 Angai Villages Land Forest Reserve in a nutshell

The history of the case study forest, Angai Villages Land Forest Reserve (AVLFR, also referred in this study as Angai Forest), and interventions there have been strongly influenced by donors and the local government. In 1993, Liwale District Council aimed to reserve Angai Forest as a Local Government Forest, as the district's main resources were forest and wildlife. The District negotiated assistance for establishing the reserve from Rural Integrated Project Support (RIPS), a cooperation programme between the Government of Tanzania and Finland operating in the area, to establish the reserve. RIPS, however, emphasized local participatory and democratic initiatives, and therefore, funds were made available for Angai to become a Villages Land Forest Reserve, governed by the surrounding 13 communities. (Mustalahti 2007b).

In 2001, RIPS facilitated the establishment of MUHIMA (Muungano wa hifadhi ya msitu wa Angai – a conservation union of the Angai Forest), the villages' advocacy union to support the interests of the 13 surrounding villages. Angai Villages Forest Land Reserve is a Miombo forest reserve nearly 14,000 hectares in size. The reserve covers only part of the forest that surrounds the communities; vast open access forest lands support the everyday forest needs, as many of the communities lie at a distance of up to 10 kilometres from the reserve (Dondeyne, 1998: 186). The politics of the Angai process are discussed further in Chapter 5.

Table 3: Villages with Angai Forest ownership and their population. (By University of Helsinki, 1)

Village name	Forest area (ha)	Population
Nahoro	40,939	1,623
Nangano	2,601	712
Kibutuka	5,402	1,800
Kiangara	2,296	1,825
Kitongoro	7,425	1,103
Mtawatawa	11,761	1,077
Mikunya	1,628	1,683
Liwale B	7,135	5,759
Likombora	19,855	1,463
Mihumo	11,792	3,015
Ngongowele	8,285	2,320
Ngunja	6,626	1,186
Lilombe	13,675	3,390
Total	139, 420	26,956

The previous research carried out as part of the project has so far come to the following conclusions. Sundström (2010) questions some of the basic assumptions of REDD+ instrument design for a low-cost and swift carbon sequestration method on the basis of the experiences in the local reality. The forest management agency is highly dependent on external support and the agency is driven from the outside.

The two main issues that need to be strengthened in PFM are governance and benefit sharing (Taku Tassa, 2010; Bolin, 2010). Taku Tassa notes that the governance structures in place are fairly promising for REDD+ benefit sharing, although they cannot be described as equitable. According to Bolin, REDD+ is not very strong in finding suitable presence in the local context and in addressing community needs, since it is not primarily designed to address local livelihoods. Bolin also recognized that the communities have not reached a sufficient level in terms of adaptation capacity and that large-scale training and capacity building should take place for the communities to be able to participate effectively in REDD+/PFM. This should

be particularly aimed at those who are currently not very active in forest management and for the communities' collaboration union of Angai (MUHIMA).

To ensure the sustainable development of livelihoods, there should be close collaboration with institutions in other fields that can support the efforts of finding alternatives to the forest and land consuming options as now. Bolin also raises concerns about the allowance dependency of the local forest agency and about the limited focus on the good land management of open and village lands which are vital in managing leakage. Taku Tassa and Bolin recommend that capacity building should be extended to cover the 'non-obvious' participants in order to broaden the ownership of local forest agency and reduce elite capture.

According to Mukama (2010), Participatory Forest Carbon Assessment is a suitable method for carbon monitoring in Angai, but needs a lot of prior training and not every participant is capable of delivering the required technical input. People in Angai communities appreciate REDD+ as a source of revenue and as a form of participating in climate change mitigation efforts. The compensation method makes a difference in the participation levels of communities in REDD+, while it being performance-based will probably reduce participation (Sundström, 2010). It is yet to see whether and to what extent REDD+ will limit forest utilization, which also poses a risk for community benefit and participation in REDD+ (Ibid.)

1.4 About This Research

This is a gender study. It aims at providing gender-distinctive knowledge about Reduced Emissions from Deforestation and Forest Degradation plus (REDD+) through observations made during the case study in Tanzania. This study does not concentrate on women only, neither does it merely discuss the roles of men and women. Instead, it strives to draw as a comprehensive picture as possible, with regard to the limited scope of this study, on the socially motivated interests and agencies over forest resources at the local level. This study aims at discovering how power is used and resources controlled in interventions that are to 'benefit communities'. It tries to reveal who do we actually mean when we talk about the community that is involved, who are these 'participatory' interventions like REDD+ likely to

benefit, and whose interests need to be compromised in the context of national and international climate policies.

As Van den Breemer and Venema (1995: 6) remind, local communities are not homogeneous units, but often a social context in which the interests of different groups vary and clash, making participatory processes challenging. Agrawal and Gibson (1999) suggest that 'community' as a concept should therefore be approached through a political lens.

> Community, we argue, must be examined in the context of conservation by focusing on the multiple interests and actors in communities, on how these actors influence decision making, and on the internal and external institutions that shape the decision-making process. […] …community based conservation initiatives must be founded on images of community that recognize their internal differences and processes, their relations with external actors, and the institutions that affect both. (Ibid, 630)

Barrow, *et al*. (2002), by contrast, adopt the concept of the "ideal-type model" of community that is characterized by coherence, but note that "the model is static, giving little hint of the heterogeneity and changing membership composition of rural locales". (Ibid, 25)

This thesis explores the linkage between gendered resource economics and politics at the household and community levels, and the extra-local impacts of forest policies and climate change on the local context. The study utilizes gender lenses to assess the political ecology of the negotiation for and economy of resource control, access, and use. Due to existing inequalities, much of this is 'invisible' or left without attention in the mainstream knowledge on forestry and climate change. Making the 'invisible', 'informal', 'domestic', 'reproductive', and 'marginal' visible is a political project that gender discourse aims to achieve.

According to Nelson and Stathers (2009: 57-58), more gender and power analysis is needed in order to understand the impacts of climate change on the livelihoods of people living in poverty. "Gender relations are fundamental to the understanding of 'local people', 'villagers', 'rural people' or whatever label employed", because gender is an integral part of the way their communities and families are organized, act and perform solidarity. Yet, systematic gender analysis is lacking from many projects (Working Group for Gender and Forestry 1995: 13), including REDD+.

In order to comprehend the links between gender and sustainable development, it is necessary to analyze "patterns of use, knowledge and skills related to managing, using and conserving

natural resources." According to Aguilar *et al*. (2009a), by analyzing people's relationship with ecosystems from a gender perspective, it is possible to obtain a comprehensive picture, since each gender has different social, economic and environmental realities in which they participate in different ways. However, gender is not the only characteristic determining behaviour, but it is also linked to social status, age and culture. (Aguilar *et al.* 2009a: 120.) Generally, one can say that the women in Tanzania are the primary users of the forest for family subsistence (as a source of fuel, food, fodder, fencing, medicines, and materials for home crafts), whereas for men, forests carry more commercial value in the form of income generation from timber and non-timber products. Therefore, it is important to recognize the different needs and motivations related to forest resources. It is also vital that the aspect of power is acknowledged in terms of who has "access to, control over and knowledge of forest resources." (Aguilar, *et al*., 2009b: 155.)

This research explores the relationship between the dimensions of poverty reduction and participatory forest management, from a gender perspective. As explained above, it is important to distinguish between mitigation/prevention of poverty and elimination of poverty. These two dimensions of forest-poverty relationship are utilized to examine PFM and REDD+ and their assumed ability to enhance and uphold a positive relationship between forest (dependency) and people living in poverty.

This study is part of an action research project of the University of Helsinki titled "The Role of Participatory Forest Management in Mitigation and Adaptation to Climate Change: Opportunities and Constraints".

The data was collected in three communities in Liwale District, Lindi Region in Southern Tanzania, as regards their *gendered resources system*. This concept is used here to cover the gendered nature of ownership, benefits and use of, access to, control, power and decision-making over as well as management of resources in the community. Despite the fact that this study concentrates on a climate change policy addressing deforestation, the scope of the study in the data collection was broader than merely forest resources, covering a variety of natural resources and also money. The aim of this phase was to discover in as great detail as possible in what ways resources are controlled, accessed and used, and what kind of motivations and interests different groups of people in the community have over these resources, but also how these resources would be utilized for development of various kinds.

The data collection was carried out within two months in August-September 2010, using Participatory Learning and Action methods. The study concentrated mainly on one community, Kiangara, but participant observations were conducted in two other communities during forest management plan development. The resource process and methods used are explained in detail in Chapter 4 and the Appendix 1. In addition, various stakeholders were interviewed at local and national levels to increase understanding of Participatory Forest Management and REDD in Tanzania. I studied the potential impact of REDD+ on local resources systems, because during the time of data collection, REDD+ was in policy formulation/piloting phase in Tanzania, and not implemented in Angai. Therefore, the questions posed for REDD+ in Angai in this thesis are: if REDD+ was implemented in Angai, what impact would that have on community and household level resource economics and politics? And to what extent REDD+ could contribute towards poverty reduction in the area or would it only have capacity to contribute towards climate change mitigation if successful?

The research project focuses on assessing the potential of REDD+ to bring additional forest benefits for the Angai communities in PFM. During the three-year project, several Master-level studies have been conducted in the communities on land-use planning (Sundström, 2010), participatory carbon monitoring (Mukama, 2010), benefit sharing and forest governance (Taku Tassa, 2010), and vulnerability to climate change (Bolin, 2010). All these theses and more information on the action research project can be accessed online at http://blogs.helsinki.fi/tzredd-actionresearch/.

In addition, in 2010, Brown conducted Master's research in an Angai village on the management of open forestlands. (Brown, 2010). Other interesting studies on the forest are Mustalahti's work on Participatory Forest Management (see the list of references for some of her work), Jonsson's (2008) Doctoral Thesis on human wildlife conflicts in Liwale, and Mteleka's (2008) Master's Thesis on the role of Non-Timber Forest Products (NTFP) for the rural livelihoods.

Picture 2: Women writing history of water development in the community during the PLA session.

The introduction chapter has laid down the general policy and livelihood context of the study and introduced the aim of the research. Chapter 2 will look into gendered natural resources economy and politics in Africa, and draw closer attention to gender and climate change and REDD+. It will also discuss how division of labour, gender roles and interests influence vulnerability to climate change as well as agency in climate change adaptation and mitigation.

Chapter 3 examines household-level roles of men and women in rural African communities, and how these and external forces influence gendered presence in forest management, decision-making and survival strategies. Chapter 4 specifies the research process and methodology, provides my self-reflection as a researcher, and describes my interaction with the communities I was researching (with) and my topic.

Chapter 5 presents the results from the participatory research sessions with the Kiangara community, and a more detailed history of Angai forest that will help us understand the local realities on the ground. Chapter 6 discusses the results in relation to the theory presented earlier, and finally, Chapter 7 presents my concluding ideas about REDD+ and gender in the light of the case study of Angai Forest.

2 Gendered Dimension of Climate Change

> *Climate change exacerbates existing inequalities and slows progress toward gender equality. Gender equality is a prerequisite for sustainable development and poverty reduction. But inequalities are magnified by climate change.* - Lorena Aguilar

In 2007, the United Nations Development Programme (UNDP), the International Union for Conservation of Nature (IUCN), the United Nations Environmental Programme (UNEP) and the Women's Environment and Development Organization (WEDO) met in Tepoztlán, Mexico, to explore the linkages between gender and climate change. As a result, the Global Gender and Climate Alliance (GGCA) for gender-responsive policies, decision-making and interventions was launched at the UN climate change conference in Bali on the same year. (Aguilar 2009: 5)

The basis for the initiative was that the United Nations Framework Convention on Climate Change (UNFCCC), the main policy framework for climate change, is the only one of the Rio Conventions that does not acknowledge gender at all (Aguilar 2009: 43; Raczek, Blomstrom and Owren, 2010: 203). However, there is no *one* policy that covers all aspects of climate change but various agreements define a synthesis of principles. Concurrently, while the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) has been considered to be the key policy on women's rights, it falls short in addresing all the necessary aspects of climate change without the support of wider human rights policy instruments. (Raczek, *et al*., 2010: 194.) Raczek *et al*. (2010: 199) divide the gender focus levels of policies into four categories: 1) strong perspective where mainstreaming is part and parcel throughout the implementation or there is emphasis on women's participation in governance; 2) moderate gender perspective where women's participation is encouraged; 3) limited gender perspective where there are only some or inefficient gender goals or mechanisms; and 4) absence of gender perspective where women or gender has not been mentioned. The following table by Raczek, Blomstrom and Owren (2010) provides an overview of the climate change and gender-related policy instruments and their levels of gender focus.

Table 4: The most important policy instruments that express the key principles for climate change and gender agenda according to Raczek, Blomstrom and Owren (2010: 200).

Instrument	Forum and date	Assessment of gender perspective
Human rights and gender equality		
• UN Universal Declaration of Human Rights (UN-UDHR)	• UN General Assembly 1948	• Limited gender perspective
• Mexico Declaration and Plans of Action	• 1st World Conference on Women 1975	• Strong gender perspective
• Convention on the Elimination of All Forms of Discrimination against Women (CEDAW)	• Adopted by the UN General Assembly 1979	• Strong gender perspective
• Beijing Declaration and Platform for Action	• 4th World Conference on Women 1995	• Strong gender perspective
• United Nations Economic and Social Council (ECOSOC) Resolution E/1997/66	• Adopted by ECOSOC 1997; numerous subsequent resolutions including 2005/31 on gender mainstreaming in the UN	• Strong gender perspective
• United Nations Declaration on the Rights of Indigenous People (DECRIPS) A/RES/61/295	• Adopted by the UN General Assembly 2007	• Limited gender perspective
Environment		
• Declaration of the UN Conference on the Human Environment	• UN Conference on the Human Environment (Stockholm) 1972	• Absence of gender perspective
• Agenda 21 and the Rio Declaration on Environment and Development	• UN Conference on Environment and Development (UNCED) 1992	• Strong gender perspective
• UN Convention on Biological Diversity (UNCBD)	• UNCED 1992	• Moderate gender perspective
• UN Convention to Combat Desertification (UNCCD) and related General Assembly Resolution 47/188	• UNCED 1992 and General Assembly	• Moderate gender perspective
Sustainable development and disaster risk reduction		
• Millennium Declaration and Millennium Development Goals (MDGs)	• Adopted by the UN General Assembly 2000 and 2001	• Moderate gender perspective
• Hyogo Framework for Action (HFA)	• World Conference on Disaster Reduction 2005	• Strong gender perspective
Climate change		
• United Nations Framework Convention on Climate Change (UNFCCC)	• UNCED 1992	• Absence of gender perspective
• Human Rights and Climate Change Resolution 7/23 and 10/4	• Adopted by the Human Rights Council 2008 and 2009 respectively	• Moderate gender perspective

It is a strategic choice to base the arguments of gender and climate change on universal human rights, such as decent living conditions, freedom from discrimination as well as right to food, shelter and the highest attainable health status, that are some of the human rights that climate change threatens. This brings along the principles of universality, equality, equity,

non-discrimination and participation that are key in addressing gender and climate change. Furthermore, the adoption of the gender perspective in climate change 'makes sense' economically, socially and environmentally. (UNREDD 2011:12) UNREDD calls this the "business case, namely the argument that mainstreaming gender into REDD+ can help improve the efficiency, efficacy and long-term sustainability of REDD+." (Ibid, 12)

2.1 Gender and Natural Resources Economy

Injustice anywhere is a threat to justice everywhere. - Martin Luther King Jr.

2.1.1 Conceptualization of women and gender in development

The roots of gender thought in development are in Ester Boserup's work on *Women's Role in Economic Development* (first published in 1970), a Western analysis on women's contribution to economies. Its main argument was that development regime and research had ignored women's significant role in the economy and society, making them an invisible force that kept things running behind the scenes of male-dominated representation. (Boserup, 2007)

Boserup's thinking influenced the development thought broadly, also outside the Western context, and was the birthing mother for the Women in Development (WID) approach. The argument of WID was that the welfare approach where development interventions were targeting the household head and where the positive impacts were supposed to 'trickle down' to benefit other family members was not successful, and therefore the demand for development interventions targeting women in particular was growing. WID focused mainly on income-generating projects for women, which were, however, only successful in some cases, as they relied on women having 'extra time' to participate in these projects. They also made women's projects marginal in the mainstream development regime and generally failed to make a significant difference in the women's lives. In many cases, the WID discourse remained as a shared agenda between donors and a more or less imposed consideration on how to to exploit women's resources. (Vuorela, 1999: 23-25; Momsen, 2004: 13; Working Group for Gender and Forestry, 1995: 15). This serves as an example of how power dynamics and politics within the gender discourses are often strong and how they need to be acknowledged and defined throughout the analysis. However, the legacy of WID was that it

generated research and literature on gender in the context of rural development in the South, in areas such as agriculture, forestry, and land tenure. It also produced analysis on women's role in production and reproduction. Much of this information is in many ways still useful today.

The transition from WID towards a more comprehensive approach to gender took place through Gender and Development (GAD). This approach included both men and women and acknowledged the differences between the sex groups based on other social characteristics as well, such as age, class, ethnicity, marital status and religion. It looks at the gender system analytically and aims to transform it towards equity. In addition, it makes a distinction between practical gender needs and strategic gender needs. The former are needed to maintain the situation, such as the need to access fuel wood and need for markets for cash crops, while the latter establish new power dynamics and statuses, such as the need for increased influence in local decision-making arenas or for improved income levels. (Momsen 2004: 13) According to Momsen (2004), in order for gender equality to be attained, it is not necessary to have equal numbers of both sexes in every action, or for them to receive the same treatment. Instead, it is about granting equal opportunity in a society that enables both men and women to live fulfilling lives (Momsen 2004: 8). This study utilizes GAD as a theoretical approach, since it provides comprehensive and broad enough tools for analyzing a gendered resources system within the context of Participatory Forest Management and REDD+.

Nevertheless, Vuorela (1999: 25-27) reminds that although the discourse of *gender* has displaced the discourse of *women alone* and new entry points have been introduced for men and others doubting the gender agenda, the gender regime has in many cases stayed as what she calls "surface fashion". She and Else Skojoensjberg, among others, have noted that in the public arena, rhetoric may often ruin concepts by absorbing only the terminology but not the analysis, politics and theoretical discourse that has been the basis of it. This results in a situation where the evolution of discourse does not really have an impact on the development practice, but the mainstream discourse gets a new "make-up". (Vuorela 1999: 36) There is also a danger that "like *women issues*, which were seen as an isolated, separate sector in development cooperation, there is a risk that *gender issues* will be treated as a separate dimension of analysis." (Working Group for Gender and Forestry, 1995: 12, emphasis in the original text) They further note that making distinctions for analytical purposes does not mean an absolute difference (Working Group for Gender and Forestry, 1995).

As regards the inclusion of gender in forestry and agroforestry interventions, it was first introduced in the mid-1970s and 1980s, as participatory approaches emerged in the natural resources management scene. The initiatives were overwhelmed by complex societal and social linkages to the resources, and needed gender analysis to understand and appropriately address the issues of community-based forest management that also had strong cross-sectoral linkages to agriculture. The relationship of various social groups with forest resources was characterized by complex combinations of common and private rights to land as well as by access to, power over, and management of the resources. Gender analysis provided a useful tool to address this complexity, and as a result, the approach challenged and transformed the entire development procedures related to new technology, ownership and social organization in forest management. (Rocheleau and Edmunds, 1997: 1351-1353; Working Group for Gender and Forestry, 1995: 13; Ribot and Peluso, 2003: 156). According to Rocheleau and Edmunds (1997: 1351), natural resources tenure is two-dimensional in nature: firstly, it is a tangled combination of rights and uses of various resources, and secondly, it concerns the aspect of inequity among resource users. Furthermore:

> The combination of gender and resource tenure concerns has stretched the tenure question beyond two dimensional maps of land ownership to address multidimensional realities, characterized by social and ecological diversity and complex webs of connection between various groups of people and the resources that sustain them. (Ibid., 1351)

2.1.2 Gendered division of labour

In rural areas, gender defines the relationship that men and women have towards natural resources that are utilized to perform and reproduce the socially constructed roles of masculinity and femininity. In the words of Dankelman and Jansen (2010: 21): “It is in their lives and livelihoods that the eco-sphere and socio-sphere interact with each other. These interactions are gender-specific.” Therefore,

> [m]en and women face their social, economic, and environmental reality in different ways: how they participate is also different and is closely related to age, socio-economic class and culture. (UNDP 2009: 25)

Work in rural communities can be grouped in several ways. Meade divides the tasks into three groups: i) food procurement (production and gathering), ii) protection of life, property and territory (security, household tasks, water and fuel management), and iii) childbearing and care (Dankelman and Jansen 2010: 22). I think that this type of division may work as a

basis of analysis for subsistence economies, but it does not prove to be very useful in capturing economies where harvest surplus is sold or particular cash crops are produced solely or alongside food crops. Therefore, it provides little space for the role of men.

Momsen (2004) only makes a distinction between production and reproduction, which I find interesting and useful for the purposes of this study. She notes that the difference between production and reproduction, especially with regard to women's role in them, is not clear-cut but often inter-tangled or shifting. As a theoretical division, this is, however, a useful tool of categorization to assist in the analysis. The greatest difference between production and reproduction can be said to be that production generates "exchange value", while reproduction has "user-value and furnishes family subsistence needs" (Momsen 2004: 48).

Momsen further divides reproduction into two categories: i) biological reproduction and ii) social reproduction. The biological reproduction means bearing and early care of children. Social reproduction, on the other hand, consists of all kinds of household chores, such as taking care of family members (children, elderly and the sick), food processing and preparation, washing and cleaning, household water and fuel management, and early education of children. Social reproduction also includes social management – frequently ignored tasks of maintaining relationships with the kin and community networks as well as performing social and religious responsibilities. (Momsen 2004: 47-48, 67)

A majority of the reproduction tasks are women's responsibilities in sub-Saharan Africa. They are mainly carried out at the homestead or close-by, with the usual exception of water and fuel wood collection which may be a time-consuming task if the resources are scarce near the community and women need to travel long distances to collect them. Children, particularly girls, assist mothers in these tasks, and therefore, women often prefer to have a big family to ease their work burden in rural areas. Residing members of extended family also play a key role in both reproduction and production. Because reproductive work is bound to the homestead and its surroundings, women have limited freedom to take up employment outside, and in some cases, to travel for business or to take up leadership positions that require staying away from home. During intensive seasons in production, such as planting and harvesting, women use less time for reproductive work. In addition, long distances to water and fuel wood sources have been shown to cause rationing of cooked food and have negative effects on children's nutritional status (Momsen 2004; Kapunda, 1998: 94). In a

polygynous family system, the majority of the cost of taking care of children falls on to the mother, while in the monogynous system if falls on to the father.

The role of the (male) head of household is to provide income and security as well as to manage the household resources and production. (Momsen 2004: 47-73) However, men spend less hours and energy on production than women (Dankelman and Janssen 2010: 32) In many cases, women's participation in employment does not change the situation as regards the reproduction responsibilities and therefore women fulfil dual roles and work loads. However, this may vary greatly among different households, and gender relations and power have an influence on the realisation of the roles and responsibilities within the family in terms of reproduction and production. (Momsen 2004: 47-73, Gurung and Quesada, 2009: 3; see also Swarup *et al*. 2011; Dankelman and Janssen, 2010: 42). It is also important to note that when resources shift in the household economy from reproductive to productive, the gender roles usually follow along. An example of this is charcoal making or firewood preparation for sale: even though household energy is a woman's responsibility, the commercial value of this activity changes the gender nature of the work. (Dankelman and Jansen, 2010: 28) In addition, the outputs of production, labour and business are distributed and consumed differently according to the gender of household members. (Mbilinyi, 1997: 322)

The gender roles in agricultural production in sub-Saharan Africa are often simplified. Boserup acclaimed that manual, extensive shifting agriculture in sub-Saharan Africa was a female system. This was seen as controversial, since men also have specific, important roles in the system despite the statistical clear majority of women in agricultural labour. Men are usually in charge of work that requires a lot of physical strength such as preparation of fields, or requires travel to far-away locations from the homestead. Women, in turn, tend to carry out agricultural work that is repetitious and tedious, such as maintaining the fields, or that involves tasks that are situated close to the household. Agricultural development interventions have primarily targeted men with training and resources. In addition, both traditional and modern legal tenure systems have favoured men. Based on the gender roles and the interventions historically targeted to men, they have specialized in cash crop production or farming for surplus production. Women have often maintained main responsibility for food crop production but provide labour for all production systems on farm. Female-headed households are often small farms situated on non-optimal farming areas, tend to focus on subsistence production rather than selling, and often meet the needs of "male" agricultural work by hiring external labour. (Momsen 2004: 136-146)

Similarly to agriculture, forests also have a gendered nature in terms of needs and interests. Forests are sources of various resources that households can utilize for subsistence and income generation purposes. Timber harvesting that has increased alongside population growth and urbanization puts a lot of pressure on forests. Usually timber harvesting, as well as other income-generating activities that require hard labour like charcoal making or hunting, are men's work. Women's usual role is to perform reproductive tasks of providing needed forest resources to household subsistence, such as firewood, wild food, fodder and medicines. (Momsen 2004: 121-122)

Much of the forestry literature focuses on male interests in forest. As the Working Group for Gender and Forestry note, the majority of the documentation on forest enterprises focuses merely on the

> processing, manufacturing and retail and there is little on the gathering, an activity which often is the responsibility of women, children and poor people. Changes in their enterprise is often linked to a change in access and rights, but because of the small scale and the dynamic and seasonal nature of the activities, they are not easily included in tenure and access debate. (p.14)

My own observation from Tanzania has been that subsistence resources often appear in the introductions of literature and debates, but are thereafter forgotten, while the topic proceeds to 'the issue', i.e. timber or other forest resources with commercial value. This also sidelines gender and narrows down forest agenda and thus its agency.

Rocheleau and Edmunds (1997) argue that women's space in forest tenure regime is often almost invisible[5], as women take spaces "in-between" where they have significant control over and benefit from resources that help them to fulfil their roles in the household and the community. Scarcity of resources (in other spaces) has entered women's space in what was seen as less significant "bush", decreasing their control over important subsistence resources and hindering their capacity to fulfil their roles. (Ibid, 1355) Researchers suggest that the political struggle over forest spaces takes place in the "moral economy" much more than in the legal system of tenure. (Ibid, 1356)

Another important issue to note is that investment in the technological development of natural resources management that is under women's control and leads to increased

[5] Also *Women & Plants – Gender Relations in Biodiversity Management & Conservation* (Howard (ed), 2003) gives a rich account on the knowledge and plant utilization culture that women all over the world possess, which is often not visible.

commercial value and growth usually changes the gender dynamics of the enterprise, as men take it over from women. (Working Group for Gender and Forestry 1995: 15).

The theoretical aspects of gender and forest resources management will be discussed further in Chapter 3.

2.2 Gender and Climate Change

> In many ways climate change acts as a magnifying glass which exposes and risks exacerbating pre-existing gender inequalities in women's access to and control of resources and decision-making power, making poor women in particular more vulnerable to its effects and preventing them from participating equally in its solutions. - Skinner (2011: 8)

As described in this chapter above, the position of women is special because they are, due to historical, cultural, social, economic and political reasons, disadvantaged and living in inequality. This status of inequality makes women, especially poor women, vulnerable to environmental and economic changes and shocks, because they have fewer safety nets, skills and resources to recover from and adapt to them. They are in a special way dependent on natural resources and yet they have limited access to resources. Usually it is the gendered division of labour and limited mobility that prevent women from having a variety of coping strategies. They are also disadvantaged in terms of access to education and information, and have little space in decision-making arenas. The vulnerability, therefore, is not attached to the female sex, but to the gendered circumstances that women live in. (Vincent, *et al*., 2010: 9-19; UNDP, 2009: 23-28; Aguilar, 2009: 79-83; World Bank, 2009: 439-440) Nevertheless, vulnerability is often intersectional, where layered social identities[6] cause the "exclusions of multiply marginalized subjects" (Nash, 2998: 3)

On the other hand, women have very important role in economic, social, and cultural processes, although this has, in many cases, been made invisible and 'free' labour contribution. Therefore, it is important that women are not seen as victims, but that climate change mitigation and adaptation are built on the gendered realities and that different capacities are harnessed. (Vincent, *et al*., 2010: 9-19; UNDP, 2009: 23-28; Aguilar, 2009: 79-83; World Bank, 2009: 439-440)

[6] E.g. gender, sexuality, race, ethnicity and class.

2.2.1 Gendered impacts of climate change

The basis for having a gender dimension in the impacts of climate change arises from the nature of the climate-sensitive sectors[7] – women have a major role in them. Climate change will cause resource shortages that directly affect women's role in households and communities. Climate change will negatively affect food production, particularly in areas where production is already limited by rainfall. (Skinner, 2011: 25-30, Darkoh, *et al.*, 2013: 112)

According to estimates, the world's food requirement will grow by 40%, energy requirement by 50% and water requirement by 30% for the 9.5 billion people by 2050. When resources are not adequate, they tend to be distributed unequally, making the most vulnerable groups more vulnerable to the negative impacts of climate change. Resource scarcity is also likely to reduce women's possibilities to participate in decision-making and income generation, as resource collection and production will become more labour-intensive. Alongside reduced agricultural production and productivity, income from agriculture and food security will be threatened. Malnutrition and under-nutrition will increase, particularly amongst children and women due to cultural and social hierarchies in intra-family food distribution. (Skinner, 2011: 25-30; Haigh and Vallely, 2010: 20-22; UNDP, 2009: 28-36)

According to Nelson and Stathers (2009: 61-63), there prevails a grassroots consensus that the local climate is changing. This affects weather patterns and crop performance, which leads to increasing workload. They also call for an intergenerational assessment of poverty and resilience, with the view of how poverty may be passed from a generation to another and what are the possible means to break this vicious cycle.

One quarter of the world's population is dependent on biomass for energy consumption. The number will increase in the future and poor households are often entirely dependent on firewood-based energy. Biomass energy is strongly linked to women in many cultures, and therefore, energy poverty increases required input from women to secure energy needed for the household. In practice this means longer hours and distances of collecting firewood or other biomass energy sources. Water scarcity poses similar challenges. Droughts, floods and lack of sanitation threaten the availability of safe water for household consumption.

[7] Skinner (2011: 34) notes that more information is needed on gender and climate change impacts in the 'less obvious' sectors, such as infrastructure, technology, transport, employment, housing and energy.

Particularly poor women are relying on 'common' water sources, making them more dependent on communal agency for water conservation. (Skinner, 2011: 25-30, Dankelman and Jansen, 2010: 27-29, 41-43; Haigh and Vallely, 2010: 15-17; World Bank *et al*., 2009: 443-444)

Furthermore, climate change has broader impacts that affect women directly and indirectly. According to an estimate by the World Health Organization (WHO, 2010), there are 140,000 deaths more per annum as a result of climate change. The numbers for illnesses caused by climate change are much higher. Women are the primary care givers of family members who take care of the sick, and therefore, increased cases of illness further increase women's workload and reduce hours spent on productive activities, education or decision-making. In addition, women are often negatively affected by deaths in the family, particularly the spouse, because women are dependent on male kin as regards productive resources. In many countries in Africa, widows' status in the society is particularly vulnerable. Due to inequality in access to healthcare, resources, education, and proper nutrition, women are also more prone to sicknesses. (Skinner, 2011: 25-30, SOWP, 2009: 29-38, Darkoh, *et al*., 2013: 112; Haigh and Vallely, 2010: 22-23; World Bank *et al*., 2009: 439)

Climate change will also result in more frequent natural disasters and conflicts over resources. Past experiences have shown that women and children are 14 times more likely to die in natural disasters than men[8], mainly due to limited access to information and cultural norms that restrict women's mobility and skills crucial for survival, such as running or swimming. Women's asset base, which helps to recover from shocks, is also limited. Scarcity of resources, in turn, increases the risk of conflicts, both internally and between countries. In addition to the depletion of resources, conflicts may rise from climate change mitigation or other development interventions that increase inequalities in access to resources. Women and children are particularly vulnerable in conflict situations that deepen existing and create new types of inequality and often give rise to gender-based violence. Because climate change makes livelihoods less viable, many are forced to migrate to other areas to look for alternatives. According to estimates, there will be approximately 200-250 million people that will be permanently displaced because of the impacts of climate change by 2050. The patterns and impacts of the migration are gender-specific. (Dankelman, 2010a: 55-63;

[8] In some cases, men are more vulnerable to natural disasters due to the 'risk taking' culture that is considered to be masculine. This was the case in Hurricane Mitch in Central America in 2000, for example. (UNDP, 2009: 57)

Skinner, 2011: 25-36, Aguilar, 2010: 174-176, Haigh and Vallely, 2010: 10-15, 23-24; Vincent, *et al.*, 2010: 17; World Bank *et al*., 2009: 448-453)

Nevertheless, it is important to bear in mind that women are not passive or helpless victims, but possess abilities to change and to be empowered. (UNDP 2009: 27, Nelson and Shathers, 2009) Currently, women's representation in the climate change decision-making arenas is very limited. Their participation is, however, critical to successful climate change policy-making and implementation – not because they are vulnerable – but because of the gender-specific knowledge and expertise they possess. (UNDP, 2009: 27)

For adaptation to be successful, it is also important to note that as women and men have different roles and responsibilities in families and communities, their adaptation interests also vary. This research highlights these gendered differences by prioritizing development by different focus groups.

2.2.2 Blind policies, after-thoughts and attempts for more inclusive agency

The policy context of climate change, as described at the beginning of this chapter, remains in many ways gender-blind, and has "almost entirely focused on the environmental, economic and scientific-technical aspects", while the "social and gender dimensions of climate change have had little attention in policy forums" (Skinner, 2011: 25). The focus has been on the global-level environmental change, particularly on "the geophysical and anthropogenic causes and effects of climate change", and our knowledge accumulated so far about local-level climate change is limited (Rodenberg, 2009: 13)

Adaptation was the first area where socio-economic aspects of climate change at the local level were discussed. Besides that, the entire climate change regime has been dominated by market-based mitigation mechanisms on the basis of the Kyoto Protocol. The political emphasis has been on building consensus around these mechanism agreements, and the fundamental issue of climate justice has been limited to debates on the political responsibility of governments for climate change: who and to what extent should carry the economic burden. (Rodenberg, 2009: 13-14). Since climate policies guiding the interventions are gender-'neutral', they end up being very misinformed about the realities on the ground that they are supposed to be addressing. (Skinner, 2011: 35) Scientists and economists in the climate change regime have been looking for 'quick fixes' that would enable us to avoid

changing the unsustainable economy resulting in climate change. It has even been suggested that controlling population could be used as a means of reducing emissions, which could potentially result in challenging women's lives even further. (Skinner, 2011: 49-50)

Ultimately, climate change is a local challenge, as individuals who need to cope with it experience the phenomenon in their personal lives. Skinner calls for

> reframing of climate change and its responses that is focused on people and that is gender aware, capturing the complex, multiple gender dimensions of climate change rather than 'adding' gender concerns as an afterthought." (Skinner, 2011: 15)

Porter *et al*, (1999: 7) further describes this "a fundamental misconception" that work on gender equality "is seen as an optional 'add-on' perspective" which can be brushed off at times of resource scarcity or lack of political consensus. On the contrary, it is a prerequisite to good-quality work. According to Campese (2011b: 4)

> Ensuring gender equality and women's empowerment often requires going beyond adding women to existing governance structures, or providing for superficial opportunities to 'participate'. It requires, rather, the more difficult task of transforming social structures and institutions.

In this light, Röhr (2006) has done interesting analysis on women's participation in climate change negotiations. She has been observing the numbers of women in the delegations as well as how their presence has influenced the negotiation agenda. The proportion of women in the delegations between 1996-2005 ranged from 15-28%[9]. Despite the small numbers of women present, Röhr quotes female testimonies from summits, where women urged the participants to "cut the rhetoric" and to move forward with the climate agenda without segregating side-events and shadow meetings. Although women were few, they were able to build alliances across country delegation borders and outside the main meetings with civil society and other advocates. (Röhr, 2006: 6) Women delegates from Germany, Peru, Switzerland, and Zimbabwe have also been seen as key actors in consensus building. (see Women's Environmental Network, 2010: 36-38) On the other hand, some testimonies state that due to the focus on economics that gave little space to issues of survival, "women felt they could not penetrate this masculine perspective – and stayed at home" (Sargent quoted in Röhr, 2006: 8) This is a good example how gender-'neutral' agenda efficiently deters

[9] This corresponds with percentages of women in politics, underlining that there is a wider problem of poor representation of women in decision-making. (Röhr, 2006: 8) Women's Environmental Network also notes that more women are needed in leadership outside the political sphere, e.g. in executive boards of companies, to push the gender-sensitive climate agenda forward. (WEN, 2010: 39-40)

women's agency. Röhr further narrates, that "when negotiations are bogged down, or when they are prolonged and boring, space opens for 'gender' or 'female participation' topics." (Röhr, 2006: 8)

For engendering climate change policy, it is crucial to pay attention to the spaces in which participation occurs. Gaventa[10] (2004: 13-14) divides spaces of participation into three categories: firstly, there are formal *closed spaces*, where certain actors make decisions. For example, climate change negotiations are this kind of spaces where official delegates make decisions. Only a few women have the opportunity to participate in these closed spaces as members of delegations. Popular movements can try to influence these spaces from the outside, through demonstrations, advocacy and campaigning.

The second category is *invited spaces* which are usually created by authorities or service providers for temporal consultations and/or legitimacy creation among the 'targets' or 'users' of the matter that decisions are made upon. These kinds of spaces are to some extent more open, but serve purposes of the closed spaces and people can participate by following the laid-down procedures of the space. In the context of climate change, invited spaces are used for national-level policies and planning of interventions. A recent good example of this is the Post-2015 consultations, spearheaded by the UN. Invited spaces may be created specifically for less powerful groups, such as women, youth and poor people, but this is not a requisite.

The third category is *claimed spaces*. These spaces are created autonomously or claimed from those holding power by less powerful actors who create their own independent decision-making process. In the context of climate change, organizations and networks of women, indigenous peoples, and other civil society actors represent this kind of spaces. Their primary role is to provide evidence from local contexts and advocate towards the closed and in the invited spaces for better policies.

Gaventa notes that "these spaces exist in dynamic relationship to one another, and are constantly opening and closing through struggles for legitimacy and resistance, co-optation and transformation." (Ibid, 14) This is the process in which engendering climate change is taking place. He further observes that

[10] Gaventa (2004: 12-16) provides interesting analysis on four fundamental questions about participation: 1) whose voices are heard? 2) in whose space does the participation occur? 3) for what purpose does participation happen? 4) and whose power is affected by participation?

> [i]n situations of highly unequal power relations, simply creating public spaces for more participation to occur, without addressing the other forms of power, may do little to affect pro-poor or more democratic change. New public spaces will simply be filled by the already powerful. (Ibid, 15)

2.2.3 Engendered climate agenda

Currently, a certain consensus prevails that climate change policies and mechanisms cannot work in isolation from gender systems. The extent to which gender can be integrated into already existing agenda, policies, and mechanisms is limited and requires strong presence and negotiation. Currently, the Kyoto Protocol period has expired and the international climate negotiations seem to have lost much of their earlier political momentum and political consensus. Although this is a dangerous delay to global climate responses, it can open a window for new approaches to the crisis, with a possibility for a more inclusive agenda. According to Raczek *et al.* (2010), gender equality and climate change are *the* two defining development objectives of the century. (Raczek, *et al.*, 2010: 209).

Where should the policy-level priorities in climate change lie? The policies should be based on two principles. Firstly, they should acknowledge the gender differences in experiences, practical needs, and therefore, different kinds of capacities and knowledge. These differences are characterized by inequality. Secondly, the policies should strive to transform inequality into just and equal status by addressing the relationships and strategic needs between men and women. They should also take into account class and other social characteristics that play a role in gender structures. (UNDP, 2009:25) In all gender-responsive strategies, focus should be on the most vulnerable groups (Raczek, *et al.*, 2010: 207)

> Climate change and gender inequalities are inextricably linked. By exacerbating inequality overall, climate change slows progress toward gender equality and this impedes efforts to achieve wider goals like poverty reduction and sustainable development. Gender inequality can worsen the impacts of climate change; meanwhile, taking steps to narrow the gender gap and empower women can help reduce these impacts. (Aguilar, 2009c: 80)

Mainstreaming gender in policies and programmes. Mainstreaming gender in climate change policies and programmes is vital. The lessons learnt from development cooperation show that this way the sustainability and efficacy of interventions can be achieved. Gender equality is vital for the development of sustainable solutions to climate change.

> Responses to climate change need to be grounded in an understanding of the relationship *between* men and women at the household level and at the wider community level – and often these relationships are affected by, and influence, responses to climate change. (Skinner, 2011: 16, emphasis in the original text)

Mainstreaming is a process of bringing issues that would normally be left with little attention into all stages of assessment, decision-making, activities, monitoring and evaluation. (Aguilar, 2009d: 16) It also involves setting gender-specific targets and allocating sufficient funding for affirmative action to address gender disparities and to build capacity in institutions to mainstream gender. (Aguilar and Rathgeber, 2009e: 183) According to Kabeer (2003), gender mainstreaming in poverty reduction falls short in many institutions that would have adequate competence for mainstreaming but do not sufficiently involve the stakeholder communities in the projects. (in Aguilar, 2009d:16-17) Otzelberger (2011: 33) also note that many agencies suffer from "mainstreaming fatigue", which can be addressed by providing space for learning, reflecting the work in a new light through interdisciplinary interaction, and investing adequate funds for mainstreaming activities. For gender mainstreaming to be successful, it requires strong political commitment towards gender equality (Skinner, 2011: 76)

Gendered knowledge and meaningful participation. For climate change responses to be successful and sustainable, it is necessary to harness the knowledge and skills of men and women of all social classes to combat climate change. Participatory approaches which offer different social groups of people opportunities to share their knowledge and priorities are very important. The compositions of the decision-making forums also need to be transformed to accommodate more diverse views and knowledge about climate change than what we see currently. This way the climate change regime can become more gender-sensitive and potentially provide socially sustainable solutions. (UNREDD, 2011: 21-22)

Participation needs to be functional in the sense that participants give the process an active contribution that is not only driven by incentives. (Pretty *et al*., 1995: 54-71) Similarly, the participation of women and other vulnerable groups in development is vital. On one hand, women are more often associated with adaptation, since they are primarily seen as victims and not as actors in climate change mitigation. (Aguilar 2009b: 152). On the other hand, the gender and climate change discourse emphasizes that women possess valuable traditional knowledge, and their closeness to nature in their everyday chores makes them the key actors in climate change mitigation and adaptation in relation to natural resources (e.g. Aguilar

2009). It is also important to focus actions on women's traditional roles and responsibilities (UNDP, 2010: 44) and to acknowledge the vital role that women have as household decision-makers and managers, therefore enhancing sustainability (WEN, 2010: 42). Meaningful participation is also an empowering process that can enhance the status of vulnerable groups.

Representation and decision-making. According to UNREDD (2011: 22), there is a distinct difference between participation and decision-making. Participation, as a form of stakeholder engagement, addresses practical needs, such as food, water and health. Decision-making is about strategic needs that potentially transform existing gender inequalities and break structural barriers. Although there is no definite assurance that women or other underrepresented groups would bring a more inclusive agenda to the decision-making arenas or represent the interests of other less powerful groups, a more inclusive presence is a starting point for more diverse and inclusive representation and agency. (Brody, *et al*., 2008:16) Skinner calls for "a twin-track approach" in enhancing equitable participation in decision-making that consists of opening more opportunities within decision-making structures for taking up positions, and simultaneously, building capacity in local communities, particularly among marginalized groups, in order to make their voices heard in formal decision-making structures at all levels. (2011:59, see also Nhantumbo and Chiwona-Karltun, 2012: 3-4)

Skills development and capacity building. For the currently marginal groups in the climate regime to come on board, capacity building and skills development are vital. These can ensure people to be efficiently part of the processes and to use their built capacity to produce sustainable solutions. (Dankelman, 2010b: 258-259; IUCN: 4) It is, however, worth noting that because the climate change regime has been for long dominated by scientific and economic agency and interests, the terminology and solutions developed are unnecessarily complicated. An important part of the capacity development is to domesticate the terminology and to make it user-friendlier to make it relevant for everyone. Capacity building should not be seen as a cost, but as a pre-condition to sustainable solutions to climate change.

Skills development is also key to climate change adaptation. Sustainable technologies and practices are necessary for ensuring viable natural resources as a basis for livelihoods and as a safety net. In adaptation, alternative livelihoods or techniques can also be required. (Bägthe, 2010: 8) In addition, capacity building is needed for women and other less powerful groups to know their rights to resources and to access justice. (Campese, 2011b: 23)

Tenure rights and productive assets. Affirmative action towards extending and formalizing the right to resources and tenure is important. The "special condition" of women, consisting of social, economic, cultural and structural mechanisms and factors that disadvantage women and make them subordinate to men, hinders development (Aguilar, 2009: 17-18) Without rights and power, women and other less powerful groups cannot participate in climate change solutions and gain benefits from related financing. (Nhantumbo and Chiwona-Karltun, 2012: 3-4) Furthermore, building women's asset base is key to improving the adaptation capacity of families to climate change. The more assets women have, the less vulnerable they are. (Aguilar, 2009c: 80-83)

Acknowledgement of reproduction. As described above, reproductive tasks play a key role in the lives of women. Childbearing and caring, early education, taking care of the sick, cooking, catering for the household water and fuel needs, cleaning, etc. form a basis that all productive work and availability to decision-making lie on. Because much of this work is done in the 'domestic sphere' and women's work is considered 'free', this important work is left unacknowledged. In the face of climate change hardening living conditions and possibilities to meet the basic needs of families, it is important to strengthen support for this area of life and to encourage men to share responsibilities to improve resilience. (UNDP, 2009: 65; SOWP, 2009; Bägthe, 2010: 8-9)

Protection and risk management. The management of (social) risks in women's lives increases their opportunities for development, thus increasing their adaptive capacity. Focus areas for development are building women's skills and knowledge base by providing access to education; by improving disaster preparedness and management; by empowering women to take part in decision-making and to demand for interventions that meet their needs; and lastly, by developing policies that provide safety nets for households' consumption stabilization, including productive assets, access to markets and social protection. (Aguilar, 2009c: 80-83) In addition, it is vital to develop policy mechanisms beyond adaptation, for those to whom adaptation is not possible and who need alternative safety nets and rehabilitation, in order to protect vulnerable groups from climate hazards. (Sharman, *et al*.: 1)

Benefit sharing and accountable governance. Many developing countries, in particular, have resources, but suffer from poor governance and lack of accountability. Considering the magnitude of climate financing, there is a risk that it can be affected by similar patterns. Another challenge is the establishment of an equitable benefit-sharing mechanism that also

acknowledges and rewards women's contribution and is able to avoid elite capture (UNREDD, 2011: 27-29; REDDNet, 2011: 8) Moreover, it is important to address the male bias in the finance sector that limits women's access to financial services, hence hindering production and productivity, recovery from shocks, and diversification of livelihoods. (Aguilar, *et al.,* 2009e: 206-207)

2.2.4 Mindful of Discursive Pitfalls: Some Critical Notions on Gender and Climate Change Discourse

> The woman carrying firewood on her head across a barren landscape has become an […] icon. Reproduced in policy reports, NGO glossies and academic books alike, her image encapsulates powerful and appealing messages […] that women have a special relationship with the environment. They are deeply reliant on land and trees in their day-to-day work; they are so purely as 'women' (the image is uncomplicated by men, kin, differences or relationships); this is a timeless, perhaps even natural role; subsistence, domesticity and environmentare entwined as a female domain; women are victims of environmental degradation (walking ever further for that wood) but also environmental carers, and key fixers of environmental problems. (Leach, 2007: 67-68)

This is a simplified image of the gender and climate change discourse in the 21st century. In other words, due to their gender roles and special relationship with nature as caretakers and managers, women are vulnerable to climate change but also the actors that can solve the dilemma of climate change adaptation and mitigation with their vast gendered knowledge on sustainable natural resources management and resilience.

No, but wait a minute… Leach is not describing the climate change and gender discourse but one of the discourses of 1980s: Ecofeminism. Her article *Earth Mother Myths and Other Ecofeminist Fables: How a Strategic Notion Rose and Fell* makes a strong statement on the limited usefulness of mysticism as regards the women and nature relationship in development discourse. She also suggests that after its rise and popularity in the development paradigm for a while in the 1980s, it then proved not to be very useful in understanding the principles and causalities of gender and the environment in general.

Why should we be aware of ecofeminist generalizations? The theory is based on the idea that women, due to their bodies as life-givers and carers, also have a similar kind of a connection to the nature as harmonious resource collectors and growers that possess knowledge on sustainable management of natural resources. It also builds up a parallelism between the

oppression of women by men and the degradation of nature by masculine-dominated world order. The most influential theorist in this area, Vandana Shiva, based her theories on Hindu female cosmology and her work with indigenous people in India, which then spread like bush fire to the majority of development agencies and dominated the environment and development paradigm. As useful as it is for us to understand the culture, livelihoods and way of living of the indigenous people – particularly because forests and other precious biodiversity hubs are often situated near and managed by them – we should be careful not to draw general conclusions from them about people in general. They apply to a certain kind of women in a certain kind of a cultural and environmental context.

According to Agarwal, even women who possess the knowledge about local environment become alienated from it, if they do not use it for daily sustenance, and their connection to the environment changes. (Agarwal 1998: 198.) For example, demanding more active participation of women in the climate change decision-making is without a doubt an important issue to be promoted. However, doing this on the basis that women are more knowledgeable about sustainable natural resources management usually leads to the involvement of urban middle-class or elite women who 'are not in touch with nature' or who are not necessarily very knowledgeable about sustainability as regards natural resources management. The aim of bringing in the valuable knowledge of some rural women to the climate negotiations therefore often relies merely on the credibility and functionality of the representation of the rural women by the urban women. In other words, climate change discussion does not necessarily lack the participation of the women who are most likely to participate, the educated elite and middle-class, but of those women who directly face the effects of climate change in their livelihoods, i.e. the rural, forest-dependent, often marginalized women. Their participation in all arenas of negotiations and governance, I think, might be an answer to our global crisis. Therefore, we should bear in mind the risks of assuming the existence of something of a 'universal woman' or even 'loyal sisterhood', and to acknowledge that women are often part of controversial and unequal political and power structures alongside with men.

There is also a certain kind of image of 'a woman victim' visible in the climate change and gender discourse. In her classic article *Under Western Eyes: Feminist Scholarships and Colonial Discourses,* Mohanty criticizes researchers for often choosing certain kinds of research subjects in order for us to 'maintain' the image that we want to see. This leads to the "production of the 'Third World Woman' as a singular monolithic subject" where a

"homogenous notion of the oppression of women as a group is assumed". (Mohanty, 1984: 333, 337). She further argues that the

> focus is not on uncovering the material and ideological specificities that constitute a particular group of women as "powerless" in a particular context. It is rather on finding a variety of cases of "powerless" groups of women to prove the general point that women as a group are powerless. (Mohanty, 1984: 338)

This is not dangerous only because of producing one-sided or limited information, but also because researchers, according to Mohanty, "appropriate and 'colonize' the fundamental complexities and conflicts which characterize the lives of women of different classes, religions, cultures, races and castes". (Mohanty 1984: 335) In Leach's words, we should "interpret these as particular to certain times, places and social relations, and interrogate the power relations which may produce them." (Leach 2007: 77). Therefore, it is important to bear in mind that despite certain similar experiences and existences that women as a large group share, making generalizations based on womanhood alone can lead astray. As the Working Group on Gender and Forestry (1995: 13) note, gender "issues are contextual to different cultures and settings, and should be taken as examples rather than generalizations."

Another critical notion to consider concerns men and their role in climate change. With the affirmative purpose of almost exclusively focusing on women in climate change and gender discourse, men are easily left out of the discourse (e.g. Dankelman, 2010c: 11). This characteristic was also predominant in ecofeminism and "[a]s a result, an image of women and men operating in parallel worlds appeared, with any connections men might have with the environment invisibilized" (Leach 2007: 70). I believe that, firstly, leaving men out of the analysis of natural resources also takes women out of the social reality context where they play their role and puts them into a vacuum where the meanings of their input are difficult to understand, as Leach and Mohanty argued above. Such a limited, out-of-context understanding of the realities of women in their household and community economies also makes it difficult to design suitable development interventions (see also Seppälä, 1998). Secondly, we often draw the rather daring conclusions that because the mainstream climate change discourse is gender-blind and mainly male-dominated, it represents (all) men; and that providing information about women and climate change serves 'all gender-specific needs' of knowledge, as *men are what women are not* and the rest that can be left unmentioned. I think that this line of thought is inadequate to provide an understanding of men and climate change, and therefore the discourse and research should urgently include a specific focus on men and

masculinities in relation to climate change. Climate change will also affect men negatively and may have disempowering effects on them as well (see Silberschmidt, 2005). In gender studies, this gap in the knowledge has been filled by the field of critical men's studies.

Finally, we should be mindful of making similar kind of generalizations about men as a monogenous group as we make about women. Statistically, it is possible to say that men have a larger carbon footprint than women and therefore can be seen to contribute more towards climate change (e.g. Johnsson-Latham, 2010: 213-215). According to ecofeminism, environmental degradation results from patriarchy in a similar way as the oppression of women. It is true to an extent that the roles of men as managers of natural and household resources are consumerist in nature compared to women's roles. Yet, it is necessary to question a few assumptions within this notion: firstly, to what extent is the fulfilment of men's roles necessary for household and community resources economy? Secondly, do men have women's support in the fulfilment of these roles? Thirdly, are there alternative ways that are more sustainable and available to fulfil these roles? Lastly, are there any differences, based on class or other social characterization, in the ways that these roles are fulfilled and their successfulness? This study will not provide answers to these questions, but I hope that they can guide the reader in assessing the role of men in relation to climate change without simplistic generalizations and too rapid judgements. More research is definitely needed to understand masculinities and climate change in order for us to be able to see what the true impact of inequalities is (such as differences in available resources, decision-making power, and capacity) as regards climate change. If the world was dominated by women with similar biases, resources, and capacities as men have today, would the world still battle with climate change? Or is the environmental disaster an embedded effect of freedom of opportunities and power? It is equally important to understand the impact of social characteristics (e.g. class, socio-economic status, age, and ethnicity) among men on their position in and towards climate change.

2.3 Gender Issues in REDD+

> […A] space was provided for women participants to share their concerns with policy makers and discuss fundamental questions such as, 'How can women benefit from REDD+?' This opportunity was received positively by women participants to further enhance their understanding on climate change and REDD+ and also strongly justified women's active role as a part of policy and

> decision making process on climate change and REDD+ in the country[…](Askin *et al*., 2012: 9).

The body of literature on REDD+ and gender is still rather modest because of its novelty and because the policy itself has not yet found an exact form. The first pieces of information were statements from gender advocacy organizations to climate change summits aimed at bringing forward important gender aspects to inform the decision-makers. Thereafter, forest management and development organizations involved in REDD+ have produced brochures and policy analysis reports, though still numbering few. In addition, some case projects have been presented as examples of REDD+ implementation.

2.3.1 Perceived threats in REDD+

The gender challenges in REDD+ – as in the broader climate change context – relate to the existing inequalities and gender differences that are not well addressed in the policy. Another concern is that such a carbon-based mitigation instrument can further strengthen the inequalities (Aguilar, 2010: 181; Campese, 2009: 4-5). The structural concerns pertain to legal security and governance. REDD+ is based on legal tenure rights to either land or carbon, and historically women have been, and still are, disadvantaged in this way. They may also suffer losing access to open forest areas as a result of direct or indirect 'land grab' or women being pushed to marginal lands. (Gurung and Quesada, 2009; Position on Women and REDD, 2010; Filippini; Nhantumbo and Chiwona-Karltun, 2012: 3)

Forest governance bodies have been male-dominated, have excluded women from decision-making, and have not performed efficiently in including women's concerns as forest users on their agenda. (Gurung and Quesada, 2009: 4-6) Nhantumbo and Chiwona-Karltun (2012: 3) call for redefining the concept of participation, as women already participate in forest management, but their influence in decision-making is very limited. "Without rights and power" they cannot claim their "fair share of the benefits". (Ibid, 4) GenderCC argues that REDD+ will further enhance elite capture in forest management and other land-based benefits and that it is unable to acknowledge the multiple and diverse values forest has for men and women. (Gender CCa, GenderCCb, also Nhantumbo and Chiwona-Karltun, 2012: 3). Furthermore, women are disadvantaged in market-based mechanisms, because they have limited access to finance and markets. (Ahonen, *et al*., 2010: 17)

The majority of the REDD+ readiness plans do not acknowledge gender or treat it as "box ticking exercise, using phrases such as 'gender balance', 'gender issues' or 'minimizing negative impacts' without elaborating on what that means in practice." (Nhantumbo and Chiwona-Karltun, 2012: 1.) Ahonen *et al*. (2010), after auditing Clean Development Mechanism (CDM) projects from a gender perspective, noted that these projects do target women, particularly those that focus on household energy, agriculture, forestry or food processing, but the appropriateness of the technologies, as the planning of the interventions, had not been done with women. (Ahonen, *et al*., 2010: 17) According to them, some CDM projects "promote gender equality without explicitly recognizing it", nor documenting women's participation in the process. (Ibid, 38) They also noted that "the extent to which CDM's gender-positive potential is realized varies across project activities, local context, and stakeholders." (Ibid, 38) Since the climate policies do not give guidance on promoting gender equality, the success of these interventions relies on the capacity and interest of the implementers and participants to promote gender equality.

From a gendered point of view, REDD+ has a biased logic for compensations: it only compensates for restraining from major deforestation and does not acknowledge those groups, like women or indigenous peoples, who have not engaged themselves in major deforestation in the first place, and therefore, do not have equal access to compensation benefits. Concurrently, other development and environmental programmes do not have similar kind of financial capacity as REDD+ to support these groups in their forest conservation. (Gurung and Quesada, 2009: 6, GenderCCa). REDD+ also creates an offset mechanism that enables transferring the responsibility for climate change from the North to the South, without actually addressing the phenomenon (Position on Women and REDD, 2010).

Gurung (2011) calls for a binding REDD+ framework to the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW, 1979) in the same way that it is linked to the Declaration on the Rights of Indigenous People (UNDRIP) and the International Labour Organization (ILO) Decision 169 that protect the rights of indigenous peoples. CEDAW demands for gender equality in all legal systems, measures to ensure protection of women against discrimination, and in ensuring the elimination of discrimination against women. (Gurung, 2011: 3)

In addition, REDD+ is designed in a manner that requires vast technical know-how in order to meet the requirements to qualify for compensations. In most cases, this means expensive consultants and technology which women are less in the position of to afford. (Gurung and Quesada, 2009). Furthermore, it may restrict women's access to previously free, common forest resources. (Skinner, 2011: 48)

2.3.2 REDD+ as a vehicle for gender equality?

By contrast to the challenges identified above, views have been expressed that see opportunities in women's participation in REDD+. Many point out the necessity of women's involvement in REDD+ in order for it to be successful in fulfilling its purpose, noting the importance of women's role in the mitigation efforts. Women are, however, rarely compensated for their environmental services. (Bäthge, 2010: 6, 10). Haigh and Vallely (2010) reward the "extraordinary women" for successful climate projects that have despite the odds promoted gender equality. (Haigh and Vallely 2010: 51) If implemented in a gender-sensitive manner, the agency of and benefits to women may lead to improved status of women. Women's participation may also initiate a broader process of empowerment by strengthening self-confidence and knowledge, for example. (e.g. IUCN; b, 2011b; Gurung and Quesada, 2009; Campese, 2009: 6-7) Vulnerable groups could also open new perspectives on our responses to climate change. (Haigh and Vallely, 2010: 51)

> The benefits from carbon financing need to be targeted at socially excluded groups including women, through an effective social mobilization process that empowers them and raises their awareness and capacity to engage in decision-making processes that affect them. Jeanette Gurung

Bäthge states that for women to benefit from climate change adaptation and mitigation mechanisms, a simultaneous reform needs to take place: on one hand, the policies need to work for women, and on the other, women need to be empowered to take up the opportunities that the policies provide. (Bäthge, 2010: 15-16)

According to Campese (2011b), there are several reasons to adopt a gender approach to REDD+. Firstly, there are obligations based on the law on and ethics of women's rights. Secondly, gender approach will improve the sustainability and effectiveness of REDD+, while assisting in achieving the requirements and expected results of the REDD+ donors and investors. Thirdly, it provides a safeguard for managing various impacts and risks of REDD+ and contributes to people's wellbeing in communities and families. (Ibid, 4). In addition,

harnessing women's knowledge and agency in REDD+ activities is vital for it to work (IUCN: 2). Campese sees potential challenges in the implementation of a gender approach, which should, however, not discourage us from taking a genuine commitment, but rather we should acknowledge that "understanding, and dedicated on-going actions and resources" are required (Ibid, 4).

REDD+ is a mechanism that has been developed externally and has the characteristic of being implemented top-down. This may result in the local realities not being adequately understood for adopting an effective gender approach and it can become "surface fashion" without required substance. Gender mainstreaming should always work – beyond mere gender quotas and other 'easy' ways for women's participation – towards empowerment and transforming the status quo towards equality. Challenging the status quo may, nevertheless, if not well handled, pose a risk to women in the form of violence or increased workload (Nhantumbo and Chiwona-Karltun, 2012: 3; Campese, 2011b: 4-5). Another challenge is the lack of appreciation, capacity and knowledge related to gender mainstreaming that still exists. An understanding of the time and space contexts that have shaped gender relations is also necessary, as REDD+ and gender do not exist in a vacuum. Last, the notion of gender diversities within sex groups, families and communities is also very important – building homogenous models of an 'average' woman or a man may lead astray. (Campese, 2011b: 4-5)

Nhantumbo and Chiwona-Karltun (2012) suggest adopting a value chain analysis for REDD+ and gender. According to them, this would help understand the gender-specific dimensions of deforestation. (Nhantumbo and Chiwona-Karltun, 2012: 2). The value chain analysis is useful for analysing the process that commodities undergo from raw materials to used end products. However, in my view, value chain is designed to analyse commodities of commercial value, but may not be applicable or useful in the analysis of subsistence resources, unless we broaden the concept of 'value' to cover reproduction.

Mwangi and Mai (2011) note that women are not only bound to the traditional or 'obvious' roles in forest management, but are taking up new roles in what has conventionally been seen as men's sphere. However, they cannot avoid facing the existing inequalities in resources tenure and power distribution. (Ibid, 119) From a short-term personal emancipatory point of view, it can be useful for women to take up new roles. Yet, on a larger societal scale, there is a risk that what is considered as 'female' and 'women's sphere' or 'women's roles' continue

to be subordinate and excluded, while the performance of masculine or male roles become a prerequisite for women's inclusion in the processes.

According to Aguilar (2009), for the successful implementation of Payments for Ecosystem Services (PES) that takes gender into account, four issues need to be considered. Firstly, cultural, legal, social, economic and political context defines the rights to access and control forest resources. Critical questions are who has the right to land ownership, who possesses the right to access forest resources (and to what extent, non-timber resources or also timber?), and who makes the decisions on and controls the resources. Secondly, it is vital to identify the gendered knowledge that varies according to the socio-economic context in order to design policies that are efficient and serve their purpose. Thirdly, it is necessary to examine the decision-making structures and to ensure gender balance which may require building capacity to attain the required skills for participation. Lastly, the distribution of benefits should be based on equal access, and the distribution of budget funds to men and women should be documented. (Aguilar 2009b: 158.)

2.3.3 Standards for 'good' REDD+

During the preparation process for REDD+, several international standards have emerged. According to Campese (2011a), the most acknowledged[11] are 1) United Nations Framework Convention on Climate Change (UNFCCC), 2) the World Bank's Forest Carbon Partnership Facility (FCPF), 3) the UN REDD Programme, 4) and the REDD+ Social and Environmental Standards (REDD+ SES). These standards are described in more detail in Table 5 below.

The UNFCCC is a broad framework based on international climate negotiations. It does not give much guidance on the principles and criteria for operationalization. The World Bank's FCPF and UNREDD are pilot programmes based on the UNFCCC that have further developed principles which reflect the principles of the respective organisations. REDD+ SES is a standard that has been facilitated in a consultative manner by Climate, Community, Biodiversity Alliance (CCBA) and CARE International. It has the most developed principles on biodiversity conservation and community benefits. According to Social and Environmental Standards (REDD+ SES, 2012), they

> can be used by governments, NGOs, financing agencies and other stakeholders to design and implement REDD+ programs that respect the rights of Indigenous

[11] See UNREDD 2011: 16-17 for additional information about other standards.

> Peoples and local communities and generate significant social and biodiversity co-benefits. These standards are designed to work for the new global REDD+ regime expected to emerge out of on-going UNFCCC and related negotiations [...]. (Ibid, 3)

These standards aim to provide policy-making guidance from country-level and project-scale experiences of the implementation of REDD+.

Table 5: Comparison between REDD social and environmental safeguards and standards. Source: Apart from the 'extent of gender sensitivity' assessment, by from Campese, 2011a: 14

Safeguard/Standard	UNFCCC	FCPF (WB)	UN-REDD	REDD+ SES
Key components	Guidance and safeguards directed to State Parties to the UNFCCC	World Bank operational policies (OPs), draft guidance on SESA and ESMF, including stakeholder engagement	Draft overall principles and criteria, draft guidance on free, prior and informed consent, draft guidance on complaints mechanisms, further tools forthcoming	Programme principles: process, impact, and policy criteria, compliance indicators Includes draft indicators developed specifically by Tanzanian stakeholders
Level of specificity	General/high level	OPs vary in specificity, most detailed guidance regarding displacement and indigenous peoples SESA and ESMF guidance still developing	Principles and criteria are general, most detailed on free, prior, informed consent and complaints mechanism	Most detailed, including principles and criteria as well as detailed framework and country-specific indicators
Completeness/ Coverage of issues	Mostly focusing on mitigating/avoiding negative impacts Some weaker focus on benefits generation	Mostly focusing on mitigating/avoiding negative impacts Some weaker focus on benefits generation	Mostly focusing on mitigating/avoiding negative impacts Currently relatively weak focus on benefits generation though this may be strengthened in further drafts Also aims for compliance with international human rights instruments like UNDRIP	Strongest focus on social benefits and enhancements, in addition to 'do no harm'
Motivation/ Compliance	Eventually to become part of legally binding agreement Current Parties' agreement to "support and promote" may be weak in terms of ensuring compliance	Condition for receipt of funding from FCPF Readiness and in due course Carbon Fund Utilizes widely recognized minimum standards in World Bank OPs	Expected in relation to UNREDD preparedness funding Helps ensure compliance with other international instruments Helps operationalize some broader principles like free, prior, informed consent	Completely voluntary May be most attractive for investment (least risk to investor of being associated with adverse impacts) but not yet verified
Additional considerations	Safeguards are general, may be difficult to operationalize without further guidance	Not REDD-specific Lack of clarity regarding if/how OPs for indigenous peoples would be applied in Tanzania Some concerns with strength of safeguards	Currently draft guidance only	Most stakeholder-driven set of standards May be difficult in practice to equally weight provisions for avoiding adverse impacts and seeking benefits
Extent of gender sensitivity	*Acknowledges only UNDRIP, no gender considerations*	*Can be covered in the SESA process but no guidance for it, considers indigenous peoples' livelihoods*	*Gender equality and special attention to vulnerable groups one of the criteria but no specific guidance for operationalization*	*Principles make reference to Indigenous Peoples and vulnerable groups and protection of human rights*

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The REDD+ SES standards define concepts broadly and comprehensively, and at many levels, refer to programme-specific assessment and identification of rights-holders and stakeholders as well as to local and context-specific positive and negative social, cultural, human rights, environmental and economic impacts. Policy coherence and just governance and benefit sharing at all levels are also highlighted. (REDD+ SES, 2012)

The challenge with standards for social benefits is that the 'elite' status of carbon investor may not be attractive enough for investments. Social benefits are not a requirement in carbon markets, and according to experience, certified carbon is more expensive than the 'regular' one. (von Sheliha, *et al.*, 2009: 28) For this reason, the standards may not provide sufficient enough safeguards to protect communities, and particularly their most vulnerable groups, within the forces of carbon markets.

'The social' in the standards is defined with terms, such as "Indigenous Peoples", "marginalized and vulnerable groups", "local communities", "human rights", and "gender-specific". The standards also bring up the social aspect of biodiversity and ecosystem services, including local cultural management systems and gender divisions. (REDD+ SES, 2012) In many ways the standards are ambitious, yet, at the same time portraying necessities for social and environmental sustainability. They tend to put the 'marginalized/vulnerable label' on all kinds of social aspects in REDD+, which may be useful for affirmative purposes, but from the point of view of social understanding, this is rather simplistic and may neglect the embedded and diverse community agency in REDD+. It may also limit the depth of analysis, as focusing on indigenous people often lacks gender dimensions, for example (Working Group for Gender and Forestry, 1995: 14)

The standards also leave much to be done at the national and programme level – which has both positive and negative sides. On one hand, it allows designing REDD+ in local contexts to answer to the needs of the local people and various groups in the communities. On the other hand, it demands a great deal of expertise at the programme level to understand the stakeholder identification and the interrelated and complex gender/environment nexus to meet the standards' criteria and principles in a genuine way. Therefore, more 'how to' guidance and capacity building is needed at the programme level in order to effectively implement and monitor the standards (Campese 2011: 34 suggests that Tanzania should develop monitoring and implementation tools for SES). This is a major concern, since REDD+ agency often tends to focus on the technical-economic aspects of the instrument, and

moreover, the gender agency and critical voices have so far been more or less marginal. Furthermore, in my opinion, the standards also fall short in acknowledging the massive capacity building and empowerment needs for the marginalized groups to take part in these processes. They usually lack skills required for participatory management and decision-making and may even be reluctant to participate in the processes (the question about marginal groups is often also highly political) which nevertheless define their living space and possibilities as resource users and agents. Despite some shortcomings, the standards are a useful initiative to support the social and environmental sustainability of the REDD+ implementation at the policy level. It is also hoped that they will become widely adopted, and through experience, lead to 'best practices' that can further guide sustainable implementation.

Campese (2011a) suggests that as a result, integrating Social and Environmental Standards and Safeguards could also guide the strategy development to cover some of the existing gaps and to provide clarity in social and benefit definitions, for instance. Furthermore, she suggests that there is need to develop a social and environmental standards policy for REDD+ in Tanzania "as a matter of urgency". (Ibid, 32-33)

After Campese's report was published, many of her recommendations have been integrated in the National REDD+ Strategy (2013), Action Plan for Implementation (2013) and draft National REDD+ Safeguards for Tanzania (2013). In the process, the principles, criteria and indicators have been domesticated to suit the Tanzanian context. The table below presents a comparison of the principles of the international REDD+ SES standards and the Tanzanian draft safeguards as well as strategy-level integration of the safeguard principles into Tanzania's Action Plan for Implementation of National REDD+ Strategy.

Table 6: Tanzanian example on operationalization of REDD+ SES Standards and Safeguards.

REDD+ SES (2012)	**Draft National REDD+ Safeguards for Tanzania (URT, 2013: 6-19)**	**Action Plan for Implementation of National REDD+ Strategy (URT 2013: 9)**
		Strategic Objective 2.3: An inclusive National REDD+ Safeguard System established
Principle 1: The REDD+ programme recognizes and respects rights to lands, territories and resources.	Principle 1: The REDD+ initiative contributes to good governance and sustainable natural resources management such as land, forest, water, wildlife and minerals.	Strategy 1: Build national and local-levels capacities to address Social and Environmental Safeguards
Principle 2: The benefits of the REDD+ programme are shared	Principle 2: The REDD+ initiative recognizes, guarantees and respects	

equitably among all relevant rights holders and stakeholders.	forest-dependent communities and marginalized groups' rights to land and natural resources.	
Principle 3: The REDD+ programme improves long-term livelihood security and well-being of Indigenous Peoples and local communities with special attention to women and the most marginalized and/or vulnerable people.	Principle 3: The REDD+ initiative improves livelihoods and well-being of forest dependent communities especially the marginalized and vulnerable groups.	
Principle 4: The REDD+ programme contributes to good governance, to broader sustainable development and to social justice.	Principle 4: Key stakeholders participate fully and effectively in the design, planning, implementation, measurement, reporting and verification (MRV), monitoring and evaluation of REDD+ initiative.	
Principle 5: The REDD+ programme maintains and enhances biodiversity and ecosystem services.	Principle 5: All key stakeholders, particularly the forest-dependent communities and marginalized groups, have timely access to appropriate and accurate information about the REDD+ programme, including MRV data to enable them to make informed decisions	
Principle 6: All relevant rights-holders and stakeholders participate fully and effectively in the REDD+ programme.	Principle 6: The benefits generated by the REDD+ programme are shared in a timely, transparent and equitable manner among all relevant stakeholders.	
Principle 7: The REDD+ programme complies with applicable local and national laws and international treaties, conventions and other instruments.	Principle 7: The REDD+ Programme maintains, promotes and enhances the conservation of the country's natural forests for their biodiversity and other ecosystem services (co-benefits), while meeting the needs of forest-dependent communities.	
	Principle 8: REDD+ Programmes recognize, respect and utilize existing complaint and dispute resolution mechanisms at both local and national levels for REDD+ related claims	Strategy 2: Support functioning of conflict resolution mechanisms

The Tanzanian REDD+ Standards draft states as its goal "ensur[ing] that implementation of REDD+ activities respect the rights of forest dependent communities, avoid social and environmental harm and generate significant benefits for the present and future generations." (Ibid, 4) This goal will be attained by upholding principles of a) justice and environmental sustainability, b) forest-dependent peoples' sovereignty in natural resources management and

governance, c) contributing to sustainable natural resources management and good governance, d) effective participation of stakeholders to make informed decisions, benefit sharing that improves local livelihoods and wellbeing, e) and appropriate complaints and conflict resolution mechanism. (Ibid, 4-5)

What is important is that the Safeguards are acknowledged as an integral part of the national Action Plan. The main activities identified in the Action Plan are capacity building, policy and social safeguard development as well as development of the conflict resolution mechanisms that address predictable conflicts arising from REDD+ implementation. (URT 2013b: 9) In addition, it is worth noting that many of the principles of the Safeguards are similar to the ones in the National Strategy, and therefore, covered in other sections of the Action Plan. Furthermore, the Action Plan includes a strategic objective on gender-sensitive approaches to addressing deforestation and forest degradation that is covered in detail (Ibid, 24-65).

3 Political Ecology of Forest, Family and Community[12]

What we call Man's power over Nature turns out to be a power exercised by some men over other men with Nature as its instrument. - C.S. Lewis

Forests carry multiple values and meanings to communities living adjacent to them. Forests are sources of subsistence, commercial resources and revenue, places for healing and worship as well as providers of ecosystem services. Due to the division of labour within the community, the values of forests vary significantly between different groups of people. Generally, women primarily use forests for family subsistence (as a source of fuel, food, fodder, fencing, medicines and materials for home crafts), whereas for men forests carry more commercial value in the form of income generation from timber and non-timber products. Despite the fact that there are gender differences in our interests, experiences and responsibilities, mere biology is not sufficient to determine them: we reproduce these differences in our societies (Rocheleau, *et al*., 1996). According to the Gender and Development (GAD) approach other social characteristics, such as socio-economic status, communal roles and age, also contribute to the gendered differences (Momsen, 2004: 13).

3.1 Intra-Family Dynamics over Forest

The discourse about women's role in production has been shifting between the view of women-as-dependents – where "women are passive and secondary to production" (Ekejiuba 1995: 49) – and the feminist literature approach with its long descriptions of women's tasks with no reference to how these activities are linked to those of men. Both of these fail to cover the complexities of the relations between men and women in production in rural African families. Ekejiuba argues that the commonly used definitions of the household as a capitalist family unit, particularly those developed in West and East Asia, often fail to capture the social context of African families. She also claims that colonialism and Christianity have

[12] Parts of this chapter have been published in Akatama, Leena and Mustalahti, Irmeli, 2013. Reducing emissions from deforestation and forest degradation (REDD+): gendered resource systems and livelihood diversification, Tanzania. In Salih, M. A. Mohamed (ed.). *Local Climate Change and Society*. Routledge Advances in Climate Change Research. Pp.125-146. Routledge: Oxon and New York.

had an impact on the way that households intra-relate within themselves and among others. (Ibid.: 49-51, 57)

In order to understand why women use natural resources primarily for household subsistence, while for men they are primarily sources of monetary value, Ekejiuba (1995) describes two kinds of social units in African families – male-headed households and female-headed hearth-holds[13]– that co-exist and complement each other: The hearth-holds are centred in the kitchen and connect all members that are dependent on it in an extended mother-child relationship, including the head of the household. The relationship between the household head and hearth-hold is characterized by interaction and both of the units have their own dependents and clearly defined responsibilities. Hearth-holds are woman-directed social units that have their distinctive role in production (to meet the nutritional needs), social interaction and communal life. Increased income ensures hearth-holds' independence as regards reproduction, as they become less dependent on the success of the household's production. (Ibid.: 51-60) The household is responsible for ensuring its hearth-hold's access to assets, such as land, cattle and support, necessary for the hearth-hold's productive activities. It also covers the expenses that require money, such as schooling and health care costs, and provides each hearth-hold with meat. (Ibid.: 53)

According to Seppälä (1998b), the feminist studies on African households overlook the aspect of cooperation within a household. He claims that good cooperation is vital for the success of a household in economic activities. However, good cooperation does not necessarily ensure equality but is 'a domestic contract', where both resources and decision-making are divided democratically or consent is given by other members of the household for the authoritarian leadership of the head of the household. (Seppälä 1998: 98-99)

The gendered roles of the family unit are not stagnant but in constant interaction with the trends of societal changes. Since the household is responsible for bringing income to the family, the economic situation has a direct impact on its ability to perform its duties. As livelihood opportunities of the household head decrease as a result of an economic decline or policy changes, the importance of a woman's hearth-hold as a productive unit increases,

[13] Hearth is a stone- or brick-lined fireplace which has over generations been considered to be an essential part of a home, even central and the most important. Therefore, the concept has often been generalized "to refer to a homeplace or household". (Wikipedia, referred 7th May 2012.)

putting pressure on women's workload and time. This also applies to environmental degradation: "as the eco-sphere cannot supply enough and the natural cycles that sustain life are disturbed, this task becomes more difficult and sometimes even impossible" (Dankelman and Jansen, 2010: 35). Women need to work longer hours on the fields, find income-generating activities to subsidize the lost income from the household, and strive to maintain access to the often reducing assets in times of crisis (Ekejiuba, 1995; see also Annecke). Researchers also note that coping strategies are not necessarily sustainable or ideal ways to address the problems, but often tend to be short-term means of surviving, which further contributes to environmental degradation (Dankelman, 2010c: 14; Kapunda, 1998: 84-85). Children often work as an "extension to their mother's work" and they are therefore also directly affected by changes in the family dynamics in production (Dankelman and Jansen, 2010: 29 Mangoma and Bourdillon, 2001: 12-16). Cornwall points out that in many cases in the everyday lives of African women, the key relationships are often not between sexes but with other women. Therefore the real family and community dynamics are not always covered under the male-female division. (Cornwall 2007: 155) She criticizes that the ideas of empowerment, solidarity and autonomy that GAD is based on are myths that have value in bringing people together to promote equity, while leaving out much of the realities of women that does not support these notions. It also puts less emphasis on relationships between women that in many cases in Africa are more important to the lives of women than the relationships to men. (Cornwall, 2007: 164-165)

González de la Rocha (2007) argues in her article *The Construction of the Myth of Survival* that in order for us to understand how economic and social changes – framed in this study within the context of climate change – transform the lives of men and women, we need to abandon the myth of survival. The development paradigm that concentrates on the resilience and resources related to poverty creates an illusion that the poor have an infinite capacity to adapt to dramatic societal and economic changes. According to her, this is used as "a useful tool" to justify policy changes that require most severe adjustments by the poor. The myth consists of two aspects: firstly, we tend to believe that the capacity of the poor to find survival strategies, help each other and to go by with less is endless. Secondly, we assume that the poor have a lot of resources (material, social and human) to help them survive or even overcome poverty. Therefore, according to González de la Rocha "[i]t does not matter how aggressive and violent economic shocks are: the poor will keep on working, reciprocating and relying on their own safety nets." (2007: 46-47.) Interestingly, Sumaya

Zakieldeen, notes on adaptation to climate change that "adaptation is more than a destination; it is a journey, dynamic and continuous, and non-linear. In many countries, populations are coping with climate change, but they are not adapting." (Quoted in SOWP 2009: 39)

González de la Rocha and Zakieldeen are thus making similar kind of observations about the adaptation or resilience capacities of households to shocks, may they be economic or environmental, for example. The study of González de la Rocha in urban Mexico, in the context of Structural Adjustment Programmes, revealed that the main means of survival for families was to increase the work input of women, youth and elderly "to meet the ends". She also criticized the idea that household members are equal beneficiaries of the livelihood efforts by arguing that households are "social settings in which daily confrontations and negotiations are developed in the context of internal inequality and differential distribution of burdens and rewards." (Ibid, 54) Due to this, she argues, there are intra-family differences in impacts of poverty. Social and economic stress affects the family unity by forcing early separation, degrading solidarity and collaboration among the family members, escalating gender conflicts and intra-family violence that are fuelled by scarce resources, as well as by increasing male suicide rates and social marginalization. (González de la Rocha, 2007: 54, 47.)

3.2 Gendered Presence in Participatory Forest Management

The analysis of women's participation in decision-making and agency in Africa requires a historical and cultural context. Jean-François Bayart (1993) has argued that subordinate gender categories 'women' and 'youth' in the pre-colonial Africa were rather constructs of "economic production, legal relations and, of course, cultural particularities" than biological characteristics. Because of the social construction of these roles, he argues, African elite women were able to take up positions of power and privilege. He also notes that the use of feared magic gave the inferior women subtle domination in their communities. (In Geisler, 2004: 18) In the African traditional context, gender is a shifting categorization and based more on the functional roles than on the sex differences. (e.g. Cornwall, 2005: 5) Being part of certain kinship units afforded access to a political domain which did not exclude women. Geisler (2004: 19) has noted that

> Whatever the level and incidence amongst African women in pre-colonial societies of autonomy, power, or authority with an economic basis or a political presence, the colonial state and the capitalist penetration of kin based modes of production changed what was there. Colonialism is held to have deepened, entrenched, re-enforced, and created public/private dichotomies. This effectively removed African women from the public domain and reified them in a Western inspired domestic or private sphere.

Concurrently, the colonial regime focused on building up male spheres of leadership, work and production, which worked in favour of African men. The Western ideals of women as housewives who devote themselves fully to their families and men as breadwinners, and the simultaneous introduction of taxation policies forced men into wage employment or cash crop production, while women's role in production was made invisible in policies and governance. Mies (1986) calls this mystification of women as housewives who are supported by men an ideal that is beyond reach for the majority of women. Moreover, it also justifies women's low earnings and invisibility in the world market, prevents them from organizing themselves, and upholds "a sexist and patriarchal image of women" that women strive towards. (in Ibid, 19-22) Mvududu and McFadden (2001) also note that women's political agency is constrained by "the dilemma of being a good woman". Being resource-dependent on others, particularly male kin, "keeping the relationship warm" is a survival strategy where women prioritize "peace and quiet" over their rights. (Mvududu and McFadden, 2001: 220-222)

According to feminist Marxism, this setting of women's exploited productive and reproductive labour was a precondition for wealth accumulation from the colonies. According to Geisler, it was in the colonial administration's interest to control African women by reducing costs of urbanisation by keeping them in rural areas, but African elders too (men who were also oppressed by colonialism) found this to serve their interests and influence, as young men would bring their income back to the village.

During this same time, what was considered as customary law was codified to serve a partly biased and partly real version of the tradition. Particularly matrimonial laws [14] reduced women's autonomy to decide about their lives by increasing marriage payments, supporting

[14] Unlike the usual dual matrimonial laws elsewhere in Africa, Tanzania has only one, Law of Marriage Act (LMA 1971). Although women have an equal right to own and inherit property, the LMA does not determine division of family property (e.g. in case of divorce), but gives courts permission to determine whether customary or Islam law is applied, where women have a less advantaged status as a property-holder. Another problem is the gender bias of household economy in relation to acquiring property: women's reproductive work is not seen as a contribution towards family wealth creation. (Maulidi, 2005: 232-238)

heritage systems favouring patrilineal systems over matrilineal ones, and by making marriages and divorces registered. In urban areas, women supported themselves by brewing beer and prostitution. From 1930s onwards, colonial administration tried to take control over the income from beer brewing by banning home-made beer, which led to women's protests. There are also examples of rural women withdrawing their labour from male-dominated cash crop production as a protest. However, these contestations were mostly not successful. Women's workload increased "while at the same time their control over means of production and products decreased" and in the process their dependency on a man increased. (Geisler, 2004: 19-22)

The public/private dichotomy gave men public power and higher economic position, while women were subordinates to this system and depoliticized in the private sphere. The few female political figures "tended to pursue the interests of their own class only, or advocated a depoliticised, male determined version of women's concerns and aims within formal politics." (Geisler, 2004: 22) During the freedom fight that swept over Africa, mainly between 1950s to 1980s, women were given a role as auxiliaries to the men's struggle. Thereafter, women's political agency has been mainly confided to the women's leagues of political parties that work with minimal resources and often with male-determined agenda in the margins of the political sphere. (Geisler, 2004: 22-30)

But why is women's participation and representation in decision-making important? This question can be approached from two different points of view. On one hand, we can argue that women have specific interests that rise from their experience and "life world" as women that men cannot represent on their behalf. This argument focuses on "the political relevance of gender differences". (Geisler, 2004: 33-34) The other viewpoint relies on parity, the political legitimacy of women. The parity argument rejects the idea of common interests of a social group, and demands for 50/50 equal representation, while stating, "in order for women to become equal, they need to admit they are not equal." (Ibid, 35) There are varying views about whether women, once in a decision-making position, (have the freedom to) represent the interests or agenda of women and whether the proportion of women is of relevance. However, it is worth noting that when women form 'a critical mass' in decision-making bodies, their voices and views are more vocal and may diversify the political environment.

Geisler's "political relevance of gender differences" is very present in forest economy in developing countries. Agarwal (2010) argues that our relationship towards forest, its

conservation and agency in forest management are gender-distinct and that there are also differences between the interests among the gender groups. She notes that there are gender differences in the *nature* and *extent* of dependency on forest resources. *The nature* of dependency refers to the various ways forest resources are used by men and women; *the extent* to how large a role forest resources play in men and women's survival and livelihoods. Because of unevenly distributed property and income generation opportunities, women have a greater dependency on these resources. (Agarwal, 2010:31-33). Rocheleau and Edmunds (1997: 1355) provide one way of looking at the relationship between gender and forest, characterising it as "the separation of women's and men's activity and authority in space."

According to Agarwal (2010: 31), there are three "interrelated dualities" that are present in the relationships to forest that are constantly negotiated. These are presented in the table below. However, I argue that this duality is present in all political agency. On one hand, there are political (conservation) interests that are negotiated between personal interests and collaboration with the interests of others. On the other hand, one needs to survive with conflicting interests with other social groupings and one's freedom to actually have full agency to pursue personal interests.

Table 8: Agarwal's interrelated dualities.

Conservation interests	Survival needs
Collaboration between different social groups	Conflict between different social groups
Person's interests in conservation	Person's freedom to pursue conservation interests

Agarwal (2010) has studied the *potential of presence*: how would women's involvement in forest management make a difference in how forests are managed, going beyond the idea of women's presence being 'the equitable thing to do'. According to her, development interventions and mechanisms designed to be participatory often tend to leave some groups of people outside the processes, creating something she calls *participatory exclusions.* The benefits of Participatory Forest Management (PFM), in the form of fees and fines collected by the local committees in charge of forest management, leadership or agency, may contribute to elitism in the forest agency and the rise of new elite in the community. (Oyono, 2005: 9) Several researchers have raised the issue of elites benefiting from participatory forest management, which both provides useful critique towards the "community benefits" discourse, but also reveals a moral and justice dilemma in forest management.

Agarwal also notes that forest management is always to a certain extent influenced by the extra-local dimensions of external events and policy trends. Van den Breemer and Venema (1995: 10-12) call these supralocal factors, differentiating between direct (e.g. policy development or interventions that influence communities' relationship with the natural resources) and indirect supralocal factors (e.g. economic and political factors). The supralocal factors act in conjunction with the local level dynamics through power structures.

Agarwal's theory deals with women alone, but in this study, I have applied it to cover both men and women's gendered presence. Men and women take part in leadership and representative positions differently: women participate more effectively in all-women groups, whereas men are more active when they are a minority in the group[15]. Further, she emphasizes that it is not enough to only pay attention to the number of women in a group, but also to the efficiency of their presence, the decision-making process itself, i.e. the Western assumption that when women are involved in committees, they will actively participate and automatically promote their interests as women. Available research indicates that women's concern about the environment is often not reflected in their political participation concerning these issues, which is to a great extent related to the nature of their presence in decision-making. However, when women do effectively participate in decision-making, they tend to focus more on the development of social services and the maintenance of subsistence resources that are related to their communal and family roles. (Agarwal 2010, see also Geisler, 2004).

To conclude, climate change and related policies have more severe effects on women than men due to the gendered roles and division of labour. Often policies and structural changes decrease women's access to the resources, weakening the hearth-holds' capabilities to meet their welfare needs, while the households become increasingly dependent on the hearth-holds as providers (Ekejiuba, 1995). On the other hand, due to their male roles as income providers, men may be more likely to grasp opportunities for climate compensations. REDD+ may lead to restraining forest use, while women are poorly represented in the decision-making arenas,

[15] [15] See also Hambly Odame's study (2002) on male members in women groups in Western Kenya. According to her, men tend to take the role of "shadow executives" that sometimes spearhead the groups in negotiations with authorities and offer the group male work force and resources, and at times, use the group as their labour force or misuse their influence to politicize the group's internal affairs. Another interesting account on male/female participation is South African water management committees that are often dominated by authoritian leadership and (male) dynamic individuals who control the outcomes, even though women "have a keen interest in being able to allocate fewer hours daily to the burdensome task of carrying water". (Hemson, 2002: 5-7)

and although in return, there will be payments for environmental services (PES), these may end up in men's possession, as men often have a primary role as regards monetary livelihoods.

4 METHODS AND RESEARCHER SELF

Kupotea njia ndiyo kujuwa njia. To loose the way is to find it. - Swahili proverb

Gender studies argue that claims of objective knowledge are problematic, because who we are and what we have experienced have a great influence on what we study, how we approach it and what kind of conclusions we draw from our findings. (e.g. Sachs, 1996: 11-28; Järviluoma, *et al*., 2003: 107-114) My research process has been a very personal journey of pondering over questions and finding answers to them, and therefore, I feel that I need to reveal the research process to the reader in order for them to follow my line of thinking and to make their own conclusions on them. From my point of view, the research process greatly resembled the Swahili proverb above: allowing the process to drift away from the main focus (REDD+) and being open to the unexpected brought the most significant findings of this research.

My background for approaching this topic was very practical. I had been involved in community-based projects that aimed to improve natural resources management and environmental health, thus enhancing the situation the communities were facing, mainly in Zambia and Swaziland. During these projects, I had lived several periods of time in rural families, which has had a great influence on how I see development, reflected through the everyday life of small-scale farmer families.

Whilst involved in implementation at the community level, I became interested in the policy level that from the perspective of the remote communities seemed so distant and inapproachable, but still had a notable impact on the enabling and/or disabling context within which the communities strive to make a living. In my Master's thesis, I wanted to take a closer look at the contact ground where policy and grassroots meet, and on the other hand, also at the social realities that occur in the context of environment, natural resources in particular.

The current debate on climate change and gender made me interested in it as a research topic. I was granted an opportunity to join a research project of the University of Helsinki, funded by the Academy of Finland, which studies Angai Forest in Tanzania and the potential of Participatory Forest Management in climate change mitigation and adaptation. This became my case study for my research. However, before going further with explaining the research

process, we need to take a step back and reflect. Who is allowed and able to speak on behalf of the women or men in the South? Or is that even an appropriate question?

Post-colonial feminists emphasize the significance of paying attention to how, to whom and about what is talked and who determines what is important. Accordingly, the construction of identity and subject is very important in post-colonial and feminist theories on determining representativeness. (Mattila *et al*., 2007, 243.) Spivak (1999) emphasizes that being privileged is a loss, as it narrows the perspective and excludes the possibility for a different kind of information. According to her

> it is central to all movement towards decolonialization to perceive identities and relations differently and in a new way: not as narcissist, stagnant being who expects mirror kind of reflections of herself from all over the world, but as need to respect and to accept through impossible differences and distances. (Airaksinen & Ripatti 1999, 10)

Mohanty argues that it is a colonialist practice when "hegemonic white feminists adopt the struggle and experience of the coloured" (Mohanty 1999, 231). Spivak points out that it is not possible to speak "on behalf of the other but one needs to learn to 'speak to other' or 'earn the right to speak to other' in a way that 'the other' can take it seriously". She sees that it is possible to assimilate to 'the other' without being 'the other', because the knowledge is not connected to the identity but to the difference. That way, in Vuorela's words, Spivak "liberates us to speak about the third world women as long as we do it in a way that our words can be taken seriously." (Vuorela 1999, 27-28.)

However, Mohanty emphasizes that the research that Western feminism produces on "third world women" needs to be considered with the acknowledgement of the existing power and struggle dimensions that the researchers are involved in. She does not deny the descriptive and informative value of the research, but wants to point out that while feminist research in the West continues to be marginal, in the South it is part of the hegemonic research on a global scale. She also notes that the Western feminist research 'seeks' to study the powerless women in order to maintain the monolithic picture of the third world women and simultaneously offer the Western woman as a norm. (Mohanty 1999, 233-234, 238, 249.) Edwin reveals that amongst the African feminists, the Western 'sisters' are seen as "safari scholarship" pointing out the incapability of the Western researchers to capture the life of African women (Edwin 2006, 141).

Where does this leave me? Born and raised in Finland in a family with a strong mother model, I have still found myself detached from the mainstream Scandinavian feminist discourse. This feeling has become stronger, while getting exposed to other ways of being men and women through work, friendships and family ties that I grew into. Being uneasy and sceptical about the mainstream ideas of feminism, I developed an interest to study what gender studies were actually about and was happy to find the diversity of truths and complex understandings of the 'difference' within the discipline. I found a haven in the post-colonial feminism, as I was thrilled with its critique of the mainstream ideas of gender equality which look at women and needed interventions without acknowledging the distinctive cultural contexts where these issues occur or embedded politics. Furthermore, I also felt inspired by the analysis tools that it provided for sheding light on the gendered realities in the South.

During my field work, I tried to restrain myself from exposing the cultural context I grew up in to areas where it is foreign. Instead, I to tried to reflect on and stay loyal to post-colonial and African feminism as well as to sensitize myself to learn and understand in order to reduce the gap of "impossible differences and distances". But did I manage to do that? Andrea Cornwall (2007) reveals interesting self-reflection of a Western feminist researcher approaching African gender. Her work with a Yoruba community challenged her to – as she calls it – "reconsider" the 'core values' of GAD, i.e. women's solidarity, autonomy and empowerment. Her research showed that the most critical relationships in the lives of Yoruba women were those with other women in the community and that they were often characterized with competition and hostility rather than elements of mutual solidarity or trust. Furthermore, the ideal of women's empowerment and autonomy leading towards the wellbeing of families or communities seemed to be a myth rather than reality in the Yoruba society. But the most interesting point in Cornwall's article is how she still finds herself bound to the myths on a deep personal level:

> Female solidarity and female autonomy represent two ideals that I would not wish to live without. They have such a powerful grip on me that it is difficult to even countenance questioning them. Even as I recognize that they are fragile and flawed, and that the category 'woman' that they are premised upon is deeply problematic, they are still ideals in which I have considerable personal investment. Feminist fables, didactic tales that deploy and resignify elements of gender myths, embed particular readings of gender relations and women's agency in injunctions to act. (Cornwall 2007: 152)

It may be that as an individual it is impossible to completely let go of the gender ideals absorbed from our upbringing. Yet, I would like to believe that as a professional and a researcher it is possible on an intellectual level to question them, to embrace 'difference' and 'liberate ourselves to speak', while being rooted in our own ideals and aspirations.

4.1 Research approaches and methods

> I do not separate my scientific inquiry from my life. For me it is really a quest for life, to understand life and to create what I call living knowledge – knowledge which is valid for the people with whom I work and for myself. (Marja-Liisa Swantz on action research in Reason and Bradbury, 2006: 1)

A lot of aspirations are attached to REDD+ as a policy to address poverty in communities through a new kind of development financing. Communities have a central role in the discourse about REDD+, but I was interested to bring the analysis down *into* the community, to study *who within the community would benefit and who would have to compromise* in the context of REDD+.

To find an answer to this question, I first needed to comprehend how resources were distributed and controlled locally. I examined the concept of 'resources' broadly, not restricted to forest resources alone, but generally looking at natural resources (forest, agricultural, water, etc.), finances, and also social resources (spiritual, social and cultural) in order to fully understand the local context and its gendered realities.

My study was a part of an action research project of the University of Helsinki implemented in collaboration with the local government and non-governmental organizations that have long-term development objectives in the area. Action research is a research orientation that provides knowledge for developing 'the practice'. (Heikkinen, 2007: 16) Therefore, it aims to create practical and useful information that is used as a basis for development. Reason and Bradbury (2006) define action research as

> […] a participatory, democratic process concerned with developing practical knowing in the pursuit of worthwhile human purposes, grounded in a participatory worldview which we believe is emerging at this historical moment. It seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people, and more generally the flourishing of individual persons and their communities. (Reason and Bradbury 2006: 1)

Action research includes an element of 'intervention'. The process of action research consists of planning, implementation, observation and reflection, and the experience of the researcher is part of the data. According to Heikkinen (2007: 20), by using the observations and experiences as research data, the understanding and knowledge of the researcher slowly develops through interpretation and reflection. Furthermore, action research goes beyond focusing on causality, also reflecting on the intentions of the actors in the social setting. An imperative that is very much built into action research is that the process moves beyond the generation of knowledge to changing the world for the better and to building the capacity of the participants through the research experience. (Kindon *et al*. 2007: 13)

Although my study is not *an* action research study, it was part of this process, and therefore, involved elements of it as a wider research approach. I saw my contribution as "researching social reality in order for it to be changed", providing practical and useful information that can be utilized in the project and amongst the different actors in the Angai process (free translation from Heikkinen, 2007: 27).

As a methodological approach, I used ethnography. Ethnography is a method of inquiry in anthropology, designed to study the local cultures of "others". It is based on intensive fieldwork carried out through participant observation within the culture under study. While the traditional ethnography has focused on traditional cultures of 'exotic others', the modern inquiry may "apply ethnographic methods to the study of contemporary society and its social problems". (Patton 2002: 81) Atkinson and Hammersley (1994: 248) remind that ethnography is a controversial concept, as it refers to a vast diversity of approaches to ethnographic work: "For some it refers to a philosophical paradigm to which one makes a total commitment, for others it designates a method that one uses as and when appropriate." (Atkinson and Hammersley, 1994: 248) They, however, point out a few basic elements that are present in all ethnography. Firstly, the focus is on discovering "the nature of particular social phenomena", not on testing a hypothesis. Secondly, the data collected is primarily unstructured. Thirdly, the inquiry focuses on one or a few cases to provide comprehensive understanding. Fourthly, the data analysis consists of descriptive interpretation of social meanings in human behaviour and action.

In both action research and ethnography, the element of participation is usually essential. For me, it was a political and natural choice to utilize participatory methods in my study, as I had seen their benefits as a method of social inquiry and their empowering nature in my prior

work with communities. Participatory methodology, or Participatory Learning and Action (PLA) that I chose as a concept, is a collection and combination of various tools and methods that evolve as they are utilized, and it is often difficult to define in detail. However, Pretty *et al*. (1995: 56-57) define six common principles of Participatory Learning and Action (PLA) approaches. Firstly, PLA has a defined methodology that is based on a systematic cumulative learning process – and a joint analysis and interaction – by all participants, including the facilitators and local participants. Secondly, it acknowledges the importance of social diversity of individuals and groups as regards the views, biases and prejudices that form "reality". It does not aim to narrow the diversity down but appreciates the importance and differences among the participants. Thirdly, PLA is based on group learning that is accomplished through analysis in groups and interaction, while acknowledging the imperative of diversity. Fourthly, each process is tied to its context and enables creativity in terms of methodology, thereby creating ownership specific to the involved actors in the prevailing conditions. Fifthly, the role of the facilitator is to enable and support the participants' process of learning and to "achieve something". Lastly,

> [t]he participatory process leads to debate about change, and debate changes the perceptions of the actors and their readiness to contemplate action. The process of joint analysis and dialogue helps to define changes, which would bring about improvement and seeks to motivate people to take action to implement the defined changes. This action includes local institution capacity building or strengthening, so increasing the capacity of people to initiate action on their own in the future. (Ibid: 57)

According to Pretty *et al*. (1995: 66), there is a danger that facilitators often "get carried away with the use of methods, while neglecting the importance of analysis". They remind that analysis is a vital but challenging aspect of change that participatory learning and actions are aiming to achieve. PLA highlights the importance of local analysis, as it guides the fieldwork to bring about "action" rather than producing a random collection of data that has less importance to change. Another vital aspect of analysis is that it does not only focus on the data, but also on the process through which the data has come about. After all, community empowerment does not rise from the data "but from the process around the generation and analysis of information." (Ibid: 67)

Using these frameworks and principles as guidance in approaching my case study, I utilized three main methods in my data collection: 1) participant observation and journal writing, 2) PLA tools and analysis discussions, and 3) semi-structured interviews as background

information. In my work, I used Social Impact Assessment Manual for Carbon Land Projects (Richards and Panfil 2010a and b) as a guide for designing the steps and specific methods of data collection. However, the study did not adopt any complete method from the manual, but rather the process. The stages of the data collection were designed together with the Research Assistant in Liwale upon arrival. The table below presents a comparison between the stages of the social impact assessment (SIA) and the way my data collection was conducted.

Table 9: A comparison of SIA stages and data collection stages in this research.

SIA stage	Description	Proposed Tools	My data collection stage	Description	Used Tools
Stage 1	Socio-economic conditions before project start-up and identification of affected stakeholder groups	PRA methods, household surveys, community maps, secondary data, wealth ranking, stakeholder analysis	Stage 1	Basic information about the socio-economic status, resources, and local context of the community	Transect walk, resource mapping, resource analysis, seasonal calendar, daily activities chart, wealth ranking, water transects, historical timeline of water and water mapping, family interviews on resource management
Stage 2	Projection of social conditions and impacts without the project, with the focus on the variables presumed to be most affected	Stakeholder focus group discussions, problem trees, scenario analysis, expert analysis, etc.	Stage 2	Information on the gender-distinctive perceptions and prioritizations of development according to the GAD approach	Focus groups with leaders, women, men and youth: Identification of needs, preference ranking, problem tree analysis
Stage 3	Formulating with the stakeholders the assumptions about social objectives and identifying the assumptions about outputs, outcomes and impacts	Causal model or theory of change developed by multiple stakeholder groups			
Stage 4	Analysis of potential negative social impacts and mitigation measures	Stakeholder focus groups, community stakeholder dialogue, participatory impact assessment			
Stage 5	Identification of monitoring indicators for measuring progress towards desired outcomes and objectives	May be based on causal model, sustainability frameworks or defined by beneficiaries	Stage 3	Identification of community objectives to address the current challenges and designing monitoring indicators for measuring progress	Community development plan: Compilation of focus groups, defining development objectives for the community, monitoring plan
Stage 6	Designing of community or social monitoring plan with data collection methods and indicators	PRA, surveys, key informants, Basic Needs Surveys (BNS), Participatory Impact Assessment (PIA), etc.			
Stage 7	Analysis, reporting and verification of the SIA results with stakeholders	Stakeholder meetings and feedback workshops			

In addition, background information was collected with semi-structured interviews with village leaders and government workers in Kiangara, practitioners of different forest livelihoods (beekeeping, traditional healing, carpentry, and timber storage were accessed; hunting, timber logging and saw pit were not accessed despite persistent efforts). Participant observation was carried out during the Forest Management Plan development at the district level preparatory meetings and in three communities, Kiangara, Mihumo and Ngongowele.

At the district level, Natural Resources Officers, Game Officers, Agriculture Officers and Water Engineers were interviewed to obtain information about the development interventions in the community and about the policy-level guidance that the district was involved in. In Dar es Salaam, semi-structured interviews were conducted at the Ministry of Natural Resources, Ministry of Agriculture, Embassy of Norway, and with consultants that are active in the area of forestry and REDD+. The interviews were recorded as notes and afterwards written as a summary description to capture the key points.

4.2 Research Process

My data collection was carried out within two months in August-September 2010, primarily in Kiangara community, Liwale. The research was conducted with the help of a research assistant who acted as a facilitator and translator during the PLA sessions and interviews. My role was to design the sessions to bring about answers to the research questions, and to make observations about the process and the discussion that I was able to follow to some extent with my limited kiSwahili skills. During the process, the contents of the discussions were translated to me, and I made notes that I later on wrote into a short description in my journal. When necessary, I guided the process through my assistant during the exercises and asked additional questions to clarify certain aspects of underlying issues, but otherwise my role was to observe and to record information.

The person, I believe, who learnt the most from the research process was my assistant, as being the middleman between me, the researcher, and the information and experience coming from the participants, he was able to stay present in both of these spheres of reality. He was also a useful source of information about the underlying power relationships within the community, as he was able to observe – not necessarily *what* was said but *how* it was said and *to whom* – the power discourse that had an influence on understanding the community dynamics.

The relationship between the researcher and the assistant was crucial for the data collection. In many ways, I felt that even though I had learnt some basic kiSwahili prior to the data collection, I was more or less isolated from the community by a glass wall of language: I was present and able to observe and communicate in simple ways, but more comprehensive communication was only possible through the assistant. This limited my participation in the process in many ways and was a limitation to my study. Still, the research assistant and I shared, to a great extent, similar interests in community development processes, and therefore, it was easy for us to operate as a 'researcher unit'. I also appreciated our open relationship where communication was free and problems were well discussed.

The PLA sessions were planned in advance, and the further the data collection proceeded, the more time we spent planning the sessions beforehand, as we learnt that it made it very easy to facilitate the exercises. The data collection was not tightly tied to a pre-arranged plan. The main framework of methods was outlined prior to data collection, but it was complemented by various additional methods, mainly interviews and transect walks, that became relevant due to some findings produced by the other methods. The data collection was guided by questions that the gathered data had raised, and the methods were selected to find answers to these questions. For instance, the question about water received special attention, which was not planned in advance. The interviews with the District Game Officers and Water Engineer were also conducted to obtain more background information about issues that were not easy to gain an understanding of in the field – hunting because of its illegality and water because of its complexity. Here time was a good limitation, forcing the process not to wander too far away from the research questions.

The data analysis consisted of two phases. The first phase took place in the field and it was a synergic process between the researcher and the participants, the research assistant acting as a mediator. I was able to provide the process with tools to analyze the local reality, while the participants provided meanings and causalities. The process was further clarified through questions, when necessary, which made it easier to understand the causalities of certain issues.

The second phase was carried out after the fieldwork period by closely reading the data, mostly during the tedious translation period from kiSwahili to English. During that time, the final process of "connecting the dots" happened and enabled to form a comprehensive gendered resources system out of the data.

In addition, engaging district staff in the research was hoped to contribute to the action element of it: the information gained through the data collection was directly available for the district for

planning development interventions. In many occasions, the assistant also took the opportunity to disseminate information about the issue in question, and therefore, the research had positive side effects in terms of capacity building. In some occasions, however, this had an influence on the subjectivity of the study; the information gained by the interviewees in these situations also affected the information that they brought forward. Therefore, in some situations the 'true' state of things might have not been discovered in the responses, but in these cases, I tried to note this down and take the context into consideration in the way that I recorded the information.

I also did participant observation in two other communities, Ngongowele and Muhima. The initial idea was to be part of a participatory carbon monitoring activity, but it was postponed until the following year, so instead, I took part in the development of Forest Management Plans that took place during my time in Liwale. My role there was to observe to get a broader spectrum of views on the issues of Angai Forest, and to write notes about the process – I did not have an active role in these activities.

In Kiangara, there had been no researchers from our project before, and therefore, my presence raised a lot of interest among the community members. People were very enthusiastic to participate, and the benefits of participation also motivated them. Normally, the project policy was to provide some food and drinks for the participants, when the activity took the whole day. However, the data collection took place during Ramadan and everyone in the community was fasting, so instead, a small meal allowance (THS 2000, equals to 1 euro) was paid to the participants. At the beginning of the data collection, there were some internal conflicts within the community about who could participate. Kiangara community had been divided into two villages (Kiangara and Litou) in the previous year, and the stronger Kiangara dominated in representation, and at first, tried to represent Litou too despite the requirements for representation from both villages. These internal politics over participation posed small challenges to the research, but they also provided live evidence of how participation and representation in the community 'organizes itself': community processes were often not for the entire community, and the 'active' community members easily found their space in any activity organized and formed the 'community agency'.

As regards action research – out of respect for the cultural differences in understanding gendered issues and the power embedded within these relations – I knowingly wanted to be careful not to manipulate the status quo. I was curious to know how things were in the community – not as they should be. However, it would be naïve to say that my presence had no impact on the community: even in the participatory exercises, the participants with whom I had been working with for some

time started to easily catch what kind of knowledge I was interested in and were able to provide it to me efficiently. My way of thinking had influenced their way of looking at their reality through the questions I asked and the methods I had designed. Yet, I tried to stray away from leading questions and accepted, in some matters, not to reach a full understanding about the gendered state of things, because the information did not come naturally from the participants without leading them to it. For instance, information about the distribution of farmland between the food and cash crops was very interesting to me, but I was not able to gain enough information from the participants to obtain a full understanding of this matter in order to draw sufficiently strong conclusions. The research participants were also very interested to hear about the Finnish culture in the context of gender issues, as in their eyes, I was not able to 'escape' from being a representative of a different worldview. When questions arose, I tried to respond to them with an emphasis on the Finnish cultural context.

The question of land – by far the most popular topic in the gender literature in the rural context – I left intentionally with little attention. This is because after the initial steps of approaching the topic, it seemed like such a complex mixture of national policy, local traditions, and power-granting opportunities that this research would not be able to formulate a comprehensive view on the issue, as it was not the main focus of the study. And furthermore, the main principle on the ground was that all assets, including land, were in the hands of household heads. The issue of private land access also had only secondary importance to the case of REDD+ in Angai, as the intervention would be implemented within the community-owned forest reserve that has different policy requirements from the land accessible for households for production and settlement.

Another intentional decision, which may be seen as a limitation for this study, is that while collecting the data, I did not talk much about REDD+ with the community. This had an ethical reason: Kiangara, like other Angai communities, have not seen any legal benefits from the reserve for 15 years through PFM. Considering how many uncertainties REDD+ has as an intervention of the future, I felt that I could easily raise too high expectations within the community, while not being able to give them assurance whether REDD+ will even be implemented in Angai and under which conditions. However, some community members were aware of REDD+ from other Angai meetings, and I introduced the policy idea to them briefly as a potential option for gaining more forest revenue. Due to this, I have decided to analyse REDD+ and its potential impact on Kiangara in the discussion section of my thesis, where I reflect on my research findings in relation to the national policy development and implementation.

Concentrating on gender in everything we did had a political influence: towards the end of the data collection, women approached me after sessions, asking what I could do to help them change some of the problems arising from gender inequality (e.g. women's working hours being much longer than those of other family members). The sessions had made them analyze their lives in a different way, and the male participants had also realized the existing inequalities. My response to them was that the analysis methods and knowledge were within them and the change is in their hands, if they want to start working on it. My presence as a temporary outsider visitor was not sufficient to contribute more than the capacity built during the participatory sessions and the information provided through the study to the development actors in the area.

It is debatable whether I left the community better or worse off with a more comprehensive understanding of the gendered inequality that exists in the community. On one hand, with the capacity that they gained through participating in the research, they are better equipped to strive for changing matters in the community. On the other hand, not having sufficient capacity, resources and courage to start to question the status quo, the increased understanding about the inequality may bring more discontentment in their lives and have a discouraging impact. Nevertheless, being part of an action research project that is closely linked with the development interventions in the area, I hope that the results of this research can contribute to a wider understanding of the dynamics in Angai, and therefore, the gendered dimensions of the resources systems can be acknowledged as part of the overall process.

5 Gendered Resources System in Kiangara[16]

Asiyejuwa maana haambiwi maana. (S)he who doesn't recognise will be told no reason.
- Swahili proverb

The livelihoods of people in Kiangara are in stress caused by inadequate rains, soil degradation, poor land planning as well as lack of agricultural inputs and sustainable technologies. The agricultural production has specific gender roles, although all family members participate in the activities. Since Kiangara is part of the area where cashew production is dominant, agriculture is divided into cash crops and food crops. In addition to cashew produced on permanent farms, the production of sesame using mainly shifting cultivation techniques has become common, and due to the favourable price development, it has become the most popular cash crop, and therefore, a potential driver for deforestation. The main food crops cultivated in the community are maize, millet, cassava, sorghum and different kinds of beans. Some families also have small-scale rice production on wetlands. The food crops are often intercropped with premature cashew trees or grown on temporary fields. The food crops are primarily produced for household subsistence, but some surplus production of millet and cassava are also sold to buyers.

Men control the cash-crop production, while women are in charge of food crops. The men own the land, but planning of cultivation is done together, and planting and harvesting needs the input of the whole family. Men clear the forest into fields, whereas women have a significant role in the maintenance of the fields, including weeding. There is a serious problem of wild animals destroying the harvest on the fields, and because of women's role in the maintenance, it is them that often have to protect the family livelihood from monkeys, bush pigs and elephants in dangerous situations. The destructions of the fields naturally have an impact on food insecurity and also the local economy. Between planting and harvesting, men are usually engaged in income-generating activities or employment, and therefore, do not participate in the work on the fields. The areas close to the forest are favourable for shifting cultivation, since the land is usually virgin, and therefore, contains nutrients and also has good micro-climatic conditions for having enough rain. Access to fertilizers or other modes of support would probably decrease the community-wildlife conflict on the fields, as

[16] Parts of this chapter have been published in Akatama, Leena and Mustalahti, Irmeli, 2013. Reducing emissions from deforestation and forest degradation (REDD+): gendered resource systems and livelihood diversification, Tanzania. In Salih, M. A. Mohamed (ed.). *Local Climate Change and Society*. Routledge Advances in Climate Change Research. Pp.125-146. Routledge: Oxon and New York

cultivation could be done in a more permanent manner closer to the village. In Kiangara, cash crops are more commonly cultivated than food crops. The District Agriculture Officer noted that the climatic conditions of the community are better suited for cash crops, and therefore, these should be further emphasized in the future as regards climate change. Currently, not enough food is produced, and the community faces annual food shortages. This study was not able to find solid enough evidence for whether the unfavourable climatic conditions are exacerbated because of the uneven allocation of land to food production within the household and because the income from cash crops is insufficiently used for the purchase of additional food. This is, however, possible because of these underlying reasons in the gendered resources system in Kiangara. Nevertheless, it is worth noting that the Tanzanian agricultural sector is strongly export-oriented (see e.g. Tsikata 2003: 151), and the Government's support to agricultural production in Southern Tanzania only consists of chemicals for spraying cashew trees, may the extension messages like this be affected by the same (male-oriented economic) bias.

Women are responsible for taking care of the chicken, ducks and goats, but men are in charge of selling them. The families use wild animals that are abundant in the forests as a source of protein, and I commonly witnessed signs of fire resulting from improving visibility for hunting in the forest. Hunting is strictly men's sphere, and it is believed that women's presence or men's involvement with women at the time of the hunting would bring bad luck and the hunter would not return home.

Both men and women engage themselves in small business and employment, when they are not preoccupied with agricultural activities. Men sell cattle, sugar cane, and bananas, while some women engage in selling cooked food and tea. Selling of tomatoes and dry fish is not gender-specific. Women are in charge of selling surplus food crops and any business that is not considered to produce 'much profit'. The household head who owns all assets and resources has control over them, although some interviewed families said that the decisions concerning resource use and production are made together. In the absence of the household head, the hearth-hold takes over the control of assets. Even income gained through selling food crops or women's engagement in employment is managed by the household head in the family. During the PRA exercises and interviews, it was recognized that women and girl children are working longer hours throughout the year than men and boy children who had some seasonal variation in their workload but constantly worked less than women.

Table x presents the results of the community resource analysis carried out during the participatory exercises. The participants named resources and analyzed them according to gendered accessibility,

control and benefits, and these were discussed as a group. The exercise is adopted and modified from FAO's gender analysis (Vainio-Mattila 2001).

In the discussions that followed the presentation of the resource analysis, it became clear that the gender roles and divisions are more complex than the table shows. This is to say that although many of the resources are accessible to both men and women, their relationship to that resource is gender-specific. This was not covered in enough detail by this tool, but was compensated fairly well with the debriefing discussion. Similar pattern was visible in the seasonal calendar, where many seasonal activities require the participation of the entire family, but the family members are, in fact, involved in the process in very different ways.

Table 10. Community resource analysis in Kiangara and Litou

Resource	**Access (male/female)**	**Control**	**Benefits**
Cash crops (cashew, sesame and bananas)	M/F	Men	Income for family assets, clothes, food, school fees and house construction
Food crops (millet, maize, sorghum, rice)	M/F	Women	Food, preparation of local beer, income, payment for piece workers on the fields
Water wells	M/F	Men and women	Water for the community, domestic animals, brick making
Beekeeping	M	Men	Food, income from sales, medicine
Timber	M	Men	Building materials, income from sales, carpentry
Game hunting	M/F	Men (and village government)	Food, income from sales
Mosque and church	M/F	Men and women	Religious services, moral
Sports field	M/F	Men and women	Fitness, social relationships and friendship
Dispensary	M/F	Men and women	Health treatments
Crop storage	M/F	Men and women	Storing and selling harvest
School	M/F	Men and women	Education
Ritual areas	M/F	Men and women	Worship and treatment
Pottery	M/F	Men and women	Income from sales, water storage
Mat making	F	Women	Income from sales, household use
Rope making	M	Men	Income from sales, traditional bed making
Basket making	M	Men	Income from sales, household use
Cell phone network towers	M/F	Village government	Communication, employment for youth, revenue to the village government

Forest	M/F	Village government	Revenue to the village government, beekeeping
Shops	M/F	Men and women	Revenue to the village government, services near to the community, entrepreneurship
Litou Mountain	M/F	Men and women	Water source, gravel for construction
Rice valley	M/F	Women	Food, income from sales
Sand	M/F	Village government	Revenue to the village government, employment to young men

Despite the fact that the commercial use of the Angai Villages Forest Land Reserve (AVFLR) is not legally allowed yet, the gendered interests in forest were found to follow the general theoretical presumptions on forest resource use. Women utilize forest resources in their daily lives. The main tasks are household water management, and collection of firewood and wild food, such as mushrooms, plants and fruits. The women mainly access the day-to-day forest resources in the open forestlands that are surrounding their homes. As long as the resources are available nearby, they do not have to enter the AVLFR to collect them. Women also collected grass for thatching roofs (or for selling in a bundle as an income-generating activity) and for weaving prayer mats. One very important aspect of women's role in collecting forest resources is 'hangadi', a poisonous root gathered from the forest in times of food insecurity and used as a substitute for maize, millet and cassava. The roots are dug from the ground, washed in a river for a few days to reduce the poison in them, then dried and pounded into flour for preparing the local porridge. The word hangadi is the origin of the name Angai Forest, which is a sign of the importance of this root as a survival strategy for the communities around the forest.

The forest activities of men are dominated by either livelihoods or construction. Men collect bamboo and suitable timber for construction. Men clear forest into fields and hunt wild animals, both of which takes place by using fire as a means of clearing. Beekeeping, which is one of the traditional survival strategies, is men's responsibility. In the local custom, beehives are made by removing the bark from a tree and wrapping it into a round tube that is then tied up in the highest branches of the tree. This is done to ensure that the honey would be harvested only at a time of food insecurity. Because collecting the honey is an effort, it is not done while other food is still available. Nowadays, however, honey is harvested regularly and sold within the community or to visitors. Despite the tradition of beekeeping in the village, all families do not practice it. Improving markets for honey and beeswax could encourage more men to take up beekeeping as an additional livelihood option, as the prices of honey in Liwale District or farther away are much higher.

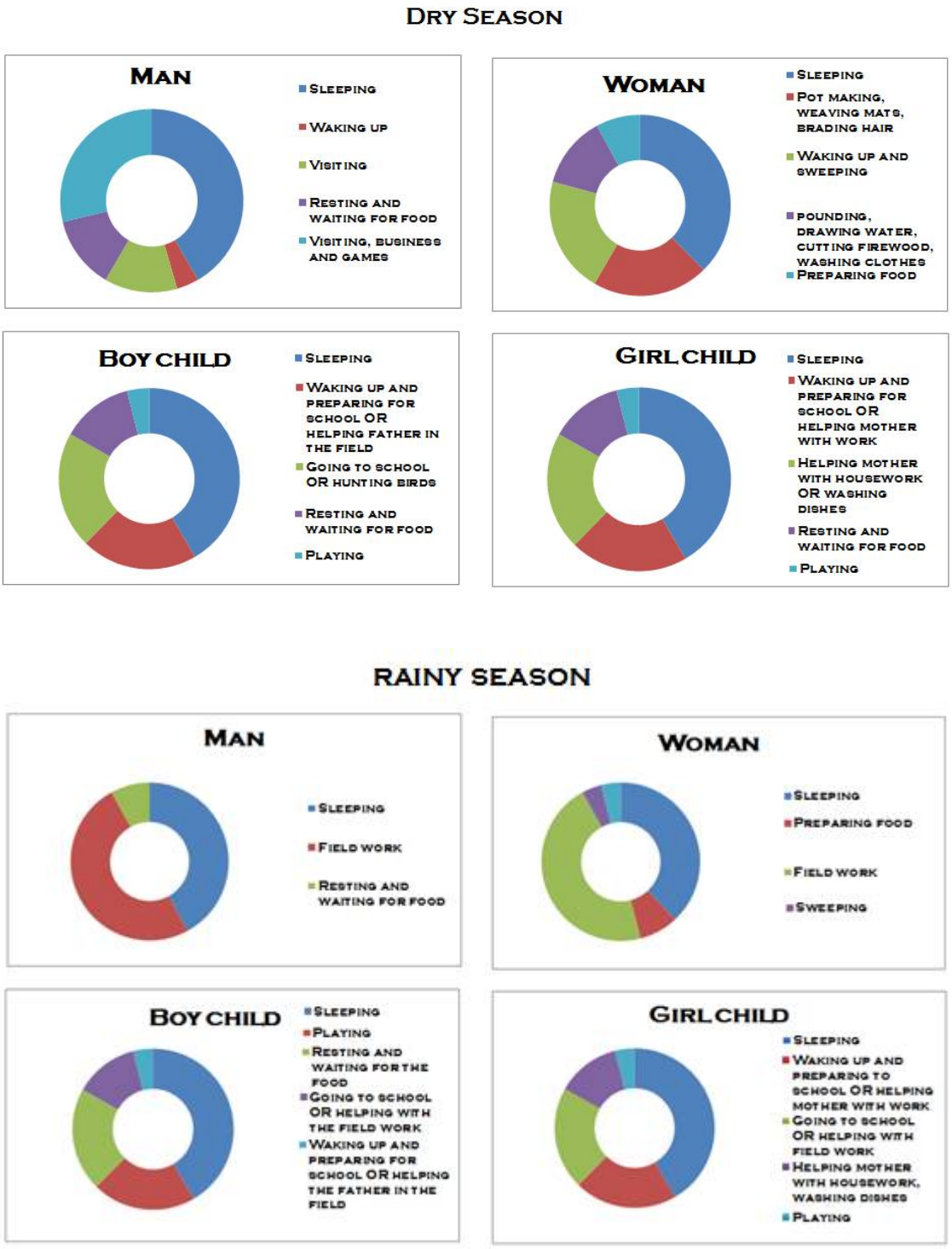

Figure 1: A proportional presentation of hours of the day used for different activites by men, women, boy and girl children during the dry and rainy season. More detailed presentation is available in Annex 1.

The water situation in the community is challenging. The problem was on everyone's lips. At first, this seemed contradictory, as there are several wells in central places in the community and people were busy with carrying water to their homes. The water issue, however, proved to be more

complex than was first thought. Firstly, the majority of the wells in the community have salty water that is used in cooking as well, but had a distinctive taste and possibly also health implications. Secondly, the community members complained about the unreliability of the wells, as there had been many technical problems partly due to the high salt content in the water, but also for other reasons, such as lack of adequate maintenance. The community had organized occasional water payments to cover the costs of repairing the wells, but they did not have any regular payment system.

During the transect walk, we met women at Ndindindi who had been waiting at a self-dug borehole for the water to rise and collecting it bit by bit into their containers since the early hours of morning until late afternoon, spending nights and most of their days at the sites.

Interestingly, when asking the community members about their most important water sources, they referred to two remote places that have a natural water source: a river and a spring. These places are situated about 8 kilometres away from the village centre and are not used as water sources on a daily basis, as long as there is still water in the nearby wells. However, in the minds of the community, these were the sources of water of the most importance to them.

One of the sources is Mihumo River that cuts across the Angai Forest. The water source is situated right at the edge of the forest reserve border. Yet, what was supposed to look like a river was actually a wet area, where water was found at the depth of 1-1.5 metres in a dug hole. At the time of the visit, there were a few holes on the ground with some water that had risen from underneath. The women who accompanied us to the site explained that wildlife, such as elephants and lions, often drink at the same place. They said that the river still used to flow only a few years ago. It was not confirmed what was the cause of the river drying up, droughts or the rice cultivation along the river on the other side of Angai Forest Reserve.

The other important water source for the community is a traditional site next to Litou Mountain. It has a vivid story behind it, and the community believes that sacrificing to the site regularly ensures water from the source. When entering the site, all visitors needed to call “hodi, hodi, hodi” – a Swahili custom of asking permission to enter a place – to show respect to the holy site. The story of the place tells about a girl who came to a borehole at that place and found two old women drawing water there. One of the women asked the girl to assist her, and when the girl bent down to get water from the borehole, she fell in and drowned. They never discovered her body, but the place started to fill up with water, marking the satisfaction of the ancestors to the sacrifice. The community members say that the source of the water is not a river or a spring, but that the water comes up from

the ground and forms like a river that soon after disappears underground. They say that the more people were dependent on the source, the more water it would provide. They also believe that the girl has turned into a big snake that dwells at the site, and therefore, it is prohibited to attack any snake that they come across there. The community is supposed to sacrifice some food on a stone for the girl. The stone is large and rectangular in shape and has carved “cups” on the surface where the food can be placed. We were told that the water levels were not high at the time, because the community had started to neglect old traditions and the importance of sacrificing to the ancestors. They also said that the site was not to be visited at night, because it was a home of the ancestors and it was not polite to intrude in their home after dark. There was also a story about how the community had thought of pleasing the ancestors by hiring a guard to the site who had kept the place neat by clearing the bush and removing dead leaves and branches. Soon after, the guard had died, which was seen as a signal that the ancestors did not like the place to be cleaned.

Due to the water shortage and the large amount of time required for household water management, some young men had assumed part of the responsibility for drawing water. They load several containers on their bicycles and cycle to the water sources. Women from the same households prefer to carry water on their heads one container at a time. (Young) men, however, only participated in drawing water if they had access to a bicycle; carrying water was a women’s task.

Picture 3: A map of water sources in Kiangara.
1 Duniani, 0.5 km, hand-pump, salty water, the most frequently used water source
2 Water tank, 1 km, not in use
3 Ndindindi, 2 km, wetland, seasonal freshwater source, site for a World Bank drilling project
4 Naundumbi, 5 km, hand-pump, valley area
5 Mitalula, 5 km, hand-pump
6 Mihumo River, 8 km, permanent freshwater source at the edge of Angai Reserve, drying up
7 Litou Mountain, 8 km, cultural site, permanent fresh water source, drying up
8 Settlements

The current water situation in Kiangara was not adequate – both in the minds of the people and statistically. According to the District statistics, the existing water sources are only able to cater for about a half of the community population. Initial steps had been taken by the World Bank towards drilling more wells and establishing water pipes for distribution. At the time of this field work, the drilling was taking place close to the site, where the women had spent their night waiting for water.

5.1 Community, Intercommunity and Extra-Local Politics Over Angai

The history of Angai Villages Forest Land Reserve has been dominated by struggles for power and resources, which has made the process of the communities gaining legal rights over the reserve very

long. Since the early 1990s, there have been a number of actors facilitating the process of PFM, and there have also been many stakeholders that have had an interest in the resource in question within the communities, intercommunity and on extra-local dimensions.

Activities related to PFM are externally driven, and usually the only opportunity to practice forest management is to participate in any activity that is offered to the communities. The activities have had a tendency to occur infrequently and re-do past activities due to poor coordination, and the changing situations or priorities of various actors. This has a demoralizing effect on the community members and raises suspicions about the actors and their intentions over Angai, since the communities have not seen any of the long-talked benefits of PFM. Within the prolonged process of achieving PFM, the communities have no option but to conserve the forest in order to maintain the ownership, while simultaneously, the forest is 'set aside' from their legal access. (Bolin and Mustalahti 2010).

Although the communities as a whole are not benefiting, forest management activities bring training and resources to local actors. Natural Resources Committees are considered to be the "elite" committees among the village-level structures, and occasional claims for high shares in future forest revenue for the committees rather than for the community are expressed. The committees manage the forest on behalf of the community, patrol the area, and collect revenue and fines. Village Governments are also involved in or aware of the illegal timber logging, which poses a challenge to the enforcement of forest management plans and by-laws.

Some men are specialized in timber-related work, such as timber logging, sawing planks and carpentry. Obtaining data on the livelihoods related to timber logging and hunting was difficult due to their illegal nature. The community protected those involved in these activities despite assurances that interviews would not lead to any legal consequences. The origin of the timber was also covered up, and the timber storages emptied when District Officers made visits to the community. A few families were guarding planks of timber in their yards for outsider business(wo)men who came from as far as Dar es Salaam. The families said that the timber business requires such a large amount of capital that they are not able to get involved themselves. Therefore, the forest livelihoods for the community members involve working for timber extractors rather than handling the business themselves. In the current situation, where any timber extraction is illegal due to the delayed finalization of the PFM process, the Village Government does not collect revenue from timber extraction, and thus, the wider community does not benefit at all from the activity.

Interviews conducted at households indicated that the dependency on forest resources is strongly

correlated with the sosio-economic status of the family, and therefore, there existed class differences. Families that are wealthier or have more diverse livelihoods in addition to agriculture were found less dependent on forest resources (use fewer resources) and often hired people to collect the resources for them instead of gathering them by themselves. Forest as a resource has commercial potential for these families, and its role in family subsistence is less significant due to the diverse livelihoods. For the poorer households, forest is a more important source of wild food (roots, vegetables, mushrooms, meat and honey) that is used to substitute or complement agricultural production in the households. Families primarily use the forest resources of the open forestland and not of the Angai Reserve because of the distance (10km). Also notably, many interviewees (who were not acting in the Natural Resources Committee) were not familiar with the legal practices concerning the Angai Reserve.

To further assess the class differences, wealth ranking was used to discover local definitions and scales of wealth and its division between households in the community. During the exercise, it became clear that the qualities listed are for men, and that women only access wealth through their family or marital ties. The participants estimated that there are approximately 740+ households in the community, which they then divided into the wealth categories. The main characteristics of wealth were the size of farm area under cultivation of different crops, the number of livestock and assets, the type of house, the number of children, and marital and extramarital relationships with women. The work of the two groups produced partly identical but also contradictory results. Men and women had defined the number of wives to show a person's wealth in opposite ways: women defined a poor man as the one having many wives, whereas in men's definition, a rich man had this quality. After a discussion, the men acknowledged that the women's qualification was right, as their definition was to do with the number of girlfriends of which rich men tend to have many.

The men also noted that some of the estimates that the women had made for the qualities of the rich, especially on the proportion of sesame fields, were overestimated as regards the people in Kiangara, but could apply to outsiders, such as town residents, who access land for cultivation in the community for business purposes. It was interesting to notice that there exists a class of people in the community that does not farm their own fields but serve as workers in the fields of others. However, I think that the proportion of these households among all the households (320/740+) is overestimated.

5.2 Extra-Local Driving the Process

The question over Angai has always been dominated by its valuable timber resources. The initiation of the reserve and the conflict over its ownership were based on a policy that emphasized the income generation of the districts, but also on forest policy development in relation to community involvement in forestry. As a result, in 1993, the Liwale District Council decided to establish the Angai Local Government Forest Reserve to gain revenue from forest and wildlife. The District negotiated assistance for establishing the reserve from a Finnish development programme, the Rural Integrated Project Support (RIPS), to establish the reserve. RIPS, however, preferred local participatory and democratic initiatives, and therefore, funds were made available for Angai to become a Villages Land Forest Reserve, governed by the surrounding 13 communities. (Mustalahti 2007b; Dondeyne, et al., 1998: 183)

This conflict of interests characterized the years 1994 to 2000, hindering PFM activities that would urge the process forward. The main reason for the dispute was the benefit sharing of tax revenue. The District and the communities could not agree on the reserve ownership, and therefore, forest management plans were not approved for pilot communities. In 2000, RIPS re-initiated discussions about Angai with the stakeholders, which led to the agreement on the establishment of Angai Villages Land Forest Reserve (AVLFR), and the demarcation of boundaries could start. (Mustalahti, 2007b)

In 2001, RIPS facilitated the establishment of MUHIMA (Muungano wa hifadhi ya msitu wa Angai), the villages' advocacy union to support the interests of the 13 surrounding villages. A process was started to form a constitution for the union, with the intention of registering the organization, but for a long time, MUHIMA has remained as an informal entity that only convenes when external actors call for a meeting and cover the attendance costs (ibid.) For it to act as an advocacy and cooperation union, it lacks the capacity and resources. There are also conflicting views among the Angai actors about the role and necessity of the union, and at the community level, it is not widely known, mainly due to the inexistent activities on the ground and information staying with those participating in the meetings. This being said, most actors still acknowledge that MUHIMA does play a major role in uniting the Angai communities for cooperation in terms of forest management.

The history of Angai and the problems of governance make the District's role controversial. On one hand, it performs its legal duties as a supervisor, monitor and manager of natural resources in the district, being present in all activities related to forest management in the communities by the different actors. The district has a good knowledge of the area and its forests due to its permanent

presence, but it has limited resources to operate and is not involved in the decision-making of the Angai process to the extent that would make it able to fully take up the assumed role as a PFM facilitator in the area.

The Angai Reserve's limited size compared to the total forest cover of the area may be seen as a sign of distrust of the local people towards the process, as they have secured vast forest areas outside the reserve to support the forest needs at the household and community levels (see also Dondeyne, et al., 1998: 186).

The district's role in the process is also rather unclear. The other actors see the district in the forefront of the process facilitation, but the district does not have sufficient resources to facilitate the process and it has a weak supervision capacity. The district, despite its involvement in the activities in the communities, feels that too little information is shared with them by the other actors (e.g. about contracts or activity budgets) and that the decisions concerning the management processes are made without their involvement. They feel that this poses challenges to their responsibility to supervise the activities.

From the point of view of the villages, it is difficult to see the big picture of the process. The variety of actors and infrequently occurring activities can easily seem disconnected from each other and create confusion in the communities. The villages are in a position where their only opportunity to practice forest management is to participate in any activity that is offered to them. A process of this kind may be community-based, but cannot be community-driven. During the long process, there has also been a tendency to re-do many activities, which has a demotivating effect on people's attitudes towards PFM. The villagers are suspicious about the interests of the different actors in their forest. For a villager, the presence of national and international actors just for the sake of facilitating benefits for the communities seems irrational, and there are occasional rumours about different actors aiming to take away the forest from them.

Having said this, local agency in forest management also has its challenges. Natural Resources Committees and Village Governments operate at the village level in the management of the forest. Due to the various forest-related activities and resources involved, the Natural Resources Committees are the "elite" committees among the village-level structures (see also Dondeyne et al., 1998: 184). The committees are responsible for managing the forest on behalf of the community, patrolling the area, and collecting revenue and fines. During the drafting of the forest management plans, the committees defended their right to large shares of the forest revenues and direct benefits

to the committee members (e.g. housing and vehicles). The facilitators led them to ponder whether the forest indeed belonged to the committee or the community. As the Village Governments are involved in or aware of the illegal timber logging, it is difficult to enforce forest management plan and by-laws. In addition, in leadership positions, the occurrence of "*amekula* - he has eaten" and "*amefunga macho* – he has closed his eyes" situations are common, i.e. leaders benefit from the resources as much as possible and allow some illegal activities to happen due to the local resource politics. (Akatama and Mustalahti, 2013).

The University of Helsinki has been operating in Angai since 2009 in the form of an action research project that looks at the potential of REDD+ in generating forest income. The project has conducted participatory carbon monitoring activities in the forest and studied local land use, vulnerability, benefit sharing, gender, and management of open forestlands in relation to REDD+. Due to the action nature of the research and the lead researcher's long-term involvement in the Angai process, the project has taken a coordinating role in planning and information-sharing between the actors, making the efforts towards improved forest management more coherent. Despite the necessity of this role in the process, it is not sustainable and may hinder the other actors from taking this role.

The Clinton Climate Initiative (CCI), a part of the Clinton Foundation, is an international actor that operates in Tanzania in close cooperation with the government in emission measurement and verification systems. In Liwale, it facilitates community forestry initiatives that can help decrease deforestation through improved forest management. The organization has, according to the requests from the District, supported the MUHIMA Memorandum of Understanding process and the initiation phase of Forest Management Plans by using consultants. It has also conducted a REDD feasibility study within the context of the Angai Forest.

In August-September 2010, CCI hired the Mpingo Conservation and Development Initiative (MCDI) to draft forest management plans for Angai communities. The consultants had two-day meetings in each of the 13 villages to collect basic data about the communities and their forest areas, and worked closely with the District. During the process, MCDI, CCI, and the District had conflicting views about the organizational models and interventions for the local implementation of PFM. The main issues of disagreement were the role of MUHIMA in the management of Angai Forest, and whether to promote sustainable timber harvesting or REDD+ as means of accessing forest benefits, as well as harvesting plans. MCDI saw MUHIMA as an informal and inefficient actor that would have little relevance in the proper management of the forest, whereas CCI had

funded MoU activity that aimed to strengthen it as a community agency. MCDI was also against the plans of the potential involvement of the Angai Forest in REDD+, whereas the other actors saw the combination of REDD+ and sustainable timber harvesting as a working solution for the communities that all had forest areas of different sizes, and different quantities of valuable timber species. The actors did not agree on whether all the communities would be able to harvest timber from their forest areas and keep their own revenue income within the community, or whether the forest would be divided into four coupons that would be harvested one after another and the revenue shared between the communities (possibly through MUHIMA).

The Government of Finland still continues to be present in Liwale. In 2010, Lindi & Mtwara Agri-Business Support (LIMAS) commenced in the area, aiming to improve production and income generation from agriculture, climate change adaptation, commercial forestry and beekeeping. The programme will operate for four years. The programme has given a lot of hope to the different actors as regards changing the stagnated state of the Angai process – and the sooner the better. However, a four-year programme where forestry is only a sub-component has a limited capacity to make a significant change in the process.

MCDI is likely to take over the forestry component in LIMAS, to finalize the PFM process, and to aim for forest certification. The organization has been successful in implementing PFM and certification in Kilwa, but some actors in Angai have felt that it is not possible to transfer the entirely same approach from Kilwa to Liwale, since the Angai Forest is such a large area with a number of communities involved, not to mention the baggage of controversies from the slowly progressing process in the past. There were also concerns that MCDI's style of working is rather non-accommodating for other stakeholders, which could create complications in an area where many stakeholders are needed for enabling a functional PFM system in the entire large forest.

5.3 Gendered Stakes on Forest

What Agarwal (2010) calls 'gendered stakes on forest' was seen clearly when involving focus groups in data collection. Quinn, *et al.*, (2003: 112, 115) highlight the importance of understanding people's perceptions about their problems in order to be able to design development interventions that work. The aim of the focus groups was to detect gendered differences in the way that community members perceive development priorities. Four groups were involved: men, women, leaders, and youth. Each group gathered separately and went through the same exercise. Firstly, the

group was asked to mention problems that they saw challenging in the community. Secondly, each individual ranked the problems using 10 beans, the number of beans indicating the criticality of the problem. Thirdly, the problem rankings were calculated and the two highest ranked ones were selected for problem tree analyses that were discussed afterwards. Due to the division of labour in the community, the issues emphasized by different groups varied: the issues prioritized on the development agenda of their community were those things that they were dealing with day-to-day in their communal or gender roles. During the field research, it was, for example, discovered that women saw addressing water shortage as the most crucial issue, while for men creating employment and supporting agriculture through loans were the issues that they saw important. For youth, improving education and creating income-generating activities for young people were the priorities, whereas leaders ranked the provision of housing to community workers high. (cf. the similar results by Quinn, *et al*., 2003: 115-118)

Table 11. A summary of the results from priority ranking and problem tree analysis by four focus groups.

	Women	**Men**	**Leaders**	**Youth**
Rank 1	Inadequate water situation	Lack of employment	Wildlife destroying fields	Lack of teachers and teaching equipment/ facilities
Root causes	Miscellaneous forest clearing and burning Low rainfall Lack of modern equipment for digging deep wells	Lack of loan facilities Laziness to gain experience Lack of vocational training opportunities Lack of modern infrastructure	Wildlife follow livestock and crops Cultivation close to the forest Living close to the forest	Inadequately funded staff and equipment at school Need to upgrade the school Low teachers' salaries School located far from the village Theft of teaching equipment
Effects	Increased occurrence of diseases Poor community development Long time spent for water collection Children miss school Poor nutrition for the children Risk of encountering wildlife Breaking of marriages	Increased income poverty Increased number of divorces Children discontinue education	Food insecurity Endangering people's lives Diminishing the numbers of livestock Decline in livelihoods	Poor quality of education Low student attendance due to inadequately equipped school Teachers' poor performance due to lack of books Lack of awareness of the importance of education Lack of education leads youth groups to getting involved in stealing
Rank 2	Large number of divorces	Lack of capital for agricultural development	Inadequate housing and other infrastructure for government workers in the community	Lack of employment opportunities for the youth

Root causes	Lack of moral in marriage Desire for romance Increase in income Hardships in life Masculine hegemony	Hardships Lack of credit facilities Lack of skills and experience in agriculture Government ignorant of people's problems	Construction work hindered by shortage of water Inadequate village revenue funds Lack of District Council work plans for infrastructure development Unavailability of construction equipment	Lack of education Corruption Laziness Lack of teachers Lack of commitment
Effects	Piecework becomes a source of livelihood for women Woman stops bearing children Children discontinue school Early pregnancies amongst girl children	Increased poverty Poor harvests Poor living conditions Shifting cultivation	Community criticizing their government Low motivation of government workers because of poor conditions Low development supervision by government workers Shortage of civil servants to fill positions	Increased poverty Increased food insecurity Increased thefts and robberies Increased prostitution Increased corruption

The issue of forest was completely absent. However, when discussing the possible interventions to these challenges that people are facing, forest was, in fact, in the centre of everything – as a water catchment area, as a source of agricultural land, as a context for job creation, and as a means of increasing village revenue. Therefore, when addressing development needs in the local context, forest management needs to be taken on a legalized and sustainable basis.

Water was ranked as the number one challenge for the community, particularly by women. The problem of water is more complex than actual access to water. The most important community water sources, Mihumo River and Litou cultural site, are situated far from the village centre. Along the main road, there are several pump wells that people use every day, but these are not considered to be reliable because of technical problems with the pumps and because the water in most of the wells is salty. The best fresh water sources are those that are situated far (8km away from the village), and they are drying up. There is one fresh water source close to the village centre which some families use, but there is not enough water during the dry season, and women have to come to the source at night and stay there until late afternoon to collect water into their containers bit by bit. It did not seem uncommon for women to spend long hours on water management chores, which kept them away from their families. Women, girls and young men have to spend a great deal of their time on household water management, travelling up to 15km away from their homes. The

coping strategies that the communities have had for the water crisis include paying a monthly fee towards the maintenance of the wells, and at the family level, households owning a bicycle. Young men have also started to participate in fetching water, breaking the traditional gender roles.

The women reported that water was, among other things, related to the high number of divorces (about four cases every month), as women cannot spend time with their husbands. Because women do not own anything, but can access land and assets through their husbands or male relatives, divorces are a major source of insecurity for women. Divorced women are often forced to move back to their family and to seek sources of livelihood from piecework on the fields of others. It was also reported that the children from broken marriages are frequently left without the financial or other support from their fathers, which has an influence on their education, health and marriage age. Women noted that even though the success of a marriage was more or less about "luck", it was common that women's absence from home due to their household water management responsibilities put pressure on family unity. Women also claimed that one cause for divorces is men's increased income, as they tend to use the surplus resources for another marriage, creating disagreements between the spouses. Swantz (1998) notes, on the basis of her long experience in the area, that a large number of female-headed households were "a direct result of women's rebellion against the subjugation into which they have been forced". She also notes that single mothers were not always poor and had the potential of being in "control over their produce and income", when they were not under man's leadership. (Ibid, 191)

For men and youth who are not able to attend school, the greatest challenge was the lack of employment opportunities that would enable them to provide income for their families. They acknowledged that the root causes for unemployment were circumstances (poor infrastructure, and lack of loans and vocational education opportunities), but also personal capacities, including knowledge, experience and willingness to work. The men saw that unemployment makes them fail in their roles as family providers, leading to the prevalence of poverty, divorces, and desperate situations for their children. The lack of capital for agricultural development also hinders men from earning adequately from agriculture and leads to poor farming practices (such as shifting cultivation) and small harvests.

The low levels of village government revenue and the high costs of construction were seen to cause the villages to fail in providing housing for the government workers. This leads to both low working moral of the officers, but also to challenges in attracting government workers to the community, hence hindering efficient implementation and monitoring of many development initiatives. For the

youth, another severe problem was the poor quality of the education resulting from inadequate resources available for the operation of the schools. Consequently, especially young men with low education levels and without work were trying to get access to any type of income source. In most illegal logging cases, young men together with local officers are involved in forest harvesting or getting direct income through illegal logging operations. This income source makes it difficult to promote forest protection in the local communities.

During the problem and priority ranking exercises, people did not talk about the importance of forest management, conservation, or emission mitigation, but about the challenges that they face in their communal roles and livelihoods. However, it became evident that improved forest management could be used as a tool for addressing all of the challenges that people had reported as drivers of deforestation and degradation. The dependencies on forest resources are simultaneously affected and driven by harmful practices, such as shifting cultivation or game hunting using fire. By creating opportunities for sustainable livelihoods around the forest and by promoting sustainable utilization of the forest, deforestation can be addressed.

Table 12: After the priority ranking in focus groups, they set common objectives to address the highlighted development challenges and made a monitoring plan. Although deforestation is not one of the challenges highlighted in the problem ranking, the objectives and activities identified by the community to solve these problems had the element of forest present.

#	Objectives	Activities	Indicators	Assumptions
1	To reduce the distance of accessing water and to increase the number of reliable sources of water	To set water by-laws with the purpose of restoring water catchment areas To educate and discourage unplanned tree felling and forest burning To seek external assistance to spread the service of water pipes along the village roads	Visits to water catchment areas Reports of village by- laws Visits to forest areas Reduced reported deforestation Existing water pipe lines along the roads	Village government is willing to supervise the water by-laws Community is willing to adopt forest conservation
2	To control wildlife destruction in the fields	To sensitize the community to cultivate far from the forest To discourage shifting cultivation To educate and to prepare community towards proper land use	Increase of population in the villages Number of sensitization meetings Decreased number of new farms Existing land use plan	Officers of natural resources, land and community development are willing to contribute to proper land use Decreasing conflicts between humans and wildlife
3	To improve extension services and accessibility of agricultural inputs	To increase the number of community agriculture extension officers To supervise that the community sells their crops through the crop storage To set by-laws for fire management	Increased number of community agricultural officers Increase of village revenues from the crop storage Existing by-laws for crop selling	Community will utilize the knowledge provided by the experts
4	To develop workshops and vocational courses in order to increase employment opportunities in the villages	To provide extra curriculums for the existing local artisan teachers in order to assist novice artisans	Number of training sessions to artisans	Community is willing to form groups
5	To emphasize the importance of forest conservation to the community and their related responsibilities	To set water by-laws with the purpose of restoring water catchment areas To educate and discourage unplanned tree felling and forest burning To seek external assistance to spread the service of water pipes along the village roads	Visits to water catchment areas Reports of village by-laws Visits to forest areas Reduced reported deforestation Existing water pipe lines along the roads Increase of population in the villages Number of sensitization meetings Decreased number of new farms Existing land use plan	Village government is willing to supervise the water by-laws Community is willing to adopt forest conservation Officers of natural resources, land and community development are willing to contribute to proper land use

		To sensitize the community to cultivate far from the forest		Decreasing conflicts between humans and wildlife Community will utilize the knowledge provided by the experts
		To discourage shifting cultivation		
		To educate and to prepare community towards proper land use		
6	To build capacity in the community in entrepreneur skills and accessing initial capital	To initiate artisan groups	Number of artisan groups Training and attendance reports	Artisans are willing to participate
		To disseminate entrepreneur skills to livelihood groups		
7	To improve village revenue collection and to encourage the community to volunteer in development activities	To establish a road block	Number of road blocks The realized wealth generated under REDD	Village government is willing to supervise the roadblocks Community will be able to recognize REDD benefits
		To identify potential livelihoods		
		To link the forest with the REDD process		

Agriculture as the main source of livelihood and the main driver of forest degradation and deforestation plays a critical role in REDD+. In a community, where the agricultural production is currently unable to ensure food security throughout the year due to the shortage of rain and inaccessibility of inputs, the negative effects of climate change pose increasing stress on the importance of addressing this issue. Particularly food production plays a critical role in adaptation to climate change, because at the moment only cash crop production is supported by government subsidies. Putting the emphasis on cash crop production, despite its better performance in the local climatic conditions, can create further imbalances in family resource management, as household food security (traditionally women's sphere) becomes more dependent on a source of livelihood under men's control.

Despite the aim of avoiding ecofeminist generalizations about gender and nature relationships, it was to some extent noticeable that the male roles in natural resources management were "clearers" and "controllers", while women were "collectors". Men's role in the production is to clear forest into fields for cultivation, to use fire in the forests for hunting wildlife and for traditional honey harvesting, to burn charcoal as well as to cut timber and other construction materials. Men as heads of the households are the owners and controllers of the land and resources. Women's roles are related to collecting forest resources, such as firewood, food and water. However, it would be too simplistic to say that this is a complete picture of the gendered resource system. Men do also collect resources, such as honey by using improved techniques and grass for rope making, without necessarily clearing forest for these resources. On the other hand, as men and women act in their socially constructed roles, women generally rely on and support men's role in production, and decisions on forest utilization are often made together as a family. Therefore, while the activities associated with the roles have this kind of nature, it does not transfer all responsibility to one side, but both genders act in their expected roles.

6 Discussion – REDD+ Encounters with Kiangara Resources System

Despite the vast forest and wildlife resources in Kiangara, the community was found to be under constant stress due to natural resources scarcity. The inadequate availability of ideal land for cultivation, shortage of rains, drying surface water sources, and the lack of fresh water has led the community to have shortage of food every year and to be dependent on forest foods, particularly hangadi. During the discussions in the PLA process, it became clear that all of the focus groups involved were not content with the way that they were able to fulfil their roles. Men felt insecure about not being able to provide for their families and their wives leaving them because of that. Youth saw that they should be kept busy with either school or employment to keep them out of trouble and to develop their skills. Women spent long hours and travelled long distances to carry out their daily chores, and were worried about not being able to be there for their families and losing their marriages because of their absence. It became evident that when women are struggling with "making the ends meet", children are also affected. They often have to compromise their needs as children and assist in the daily tasks, or then end up getting distracted and engaging themselves in risk behaviour (e.g. early pregnancies, thefts, and prostitution). The large number of divorces in the community is a sign of to what extent the limits of their resilience have been reached and how this not only affects people's workload and abilities to act and make decisions, but how this 'living at the edge of resilience' also very easily worsens their social status and situation. For example, in the case of divorces, women lose access to family possessions and often end up working as pieceworkers on other people's fields, while their children usually stop going to school, hence further increasing poverty and vulnerability.

This social reality may at first seem to be a side issue in relation to forest management, but as mentioned before, forest is a social context for the people to produce and reproduce, to act and govern – and poverty, inequality and unsustainable utilization for survival strategies are the major causes of deforestation. The burden of survival does not only result in backache, as environmental degradation also leads to inefficiency in production and household chores: more time and energy needs to be invested into the activities and the outputs are lower. These human capacity resources are limited, and despite stretching can be done occasionally, as a permanent arrangement, it usually bears negative social effects. Less rest, less time to take care of children, less time to spend together as a family, less time to plan farm management and investments together, less energy to put into production, and accumulating stress on the health and wellbeing of the people. These impacts are

not evenly distributed in the households, like González de la Rocha (2007: 62) among others has remarked, and the least powerful members of the household will be the most affected. According to her, “the much-heralded resilience of the poor has its limits”.

As both previous literature and this research indicate, the role of children becomes more significant when livelihoods are at stress, which also affects negatively the care, nutrition and education that they would need. The ill-being of families tends to accumulate and lead to a vicious circle of existing social problems leading to others, making the situation of the families more and more difficult. It is also good to bear in mind that this is the situation today – and with the increasing impacts of climate change, it will get even worse. This way climate change will magnify inequality (Skinner, 2011).

6.1 Forest dependencies and agencies

There is a contradiction between the forest dependency and participation or interest in (‘formal’) forest agency: the poorest and marginalized groups were found the most dependent on forest resources, yet the better-off members of the community dominated forest agency. These people were experienced ‘committee goers’ who often eagerly represented the community in many different arenas (developmental and political), and had been successful in acquiring their positions in the community. They were not living in the margins. On the other hand, when interviewing the poorer families about their forest use, they seemed to be million miles away from (what I called) the Angai process, the formal forest management under PFM. Therefore, I think it is important to understand that despite the fact that PFM or community-based forest management aims at engaging (entire?) communities in forest management and conservation, in reality, the formal forest agency is often in the hands of the community leaders and other active and capacitated people.

The dependency on forest resources by the less powerful groups of people was found significant both in terms of its nature and extent (cf. Agarwal, 2010). A greater dependency on the daily access to subsistence resources to fulfil their gender roles (nature) and the limited access to private resources (extent) were linked to gender and class differences in the community. The wealthier groups and men (in comparison to women) needed the forest for their subsistence only occasionally. Therefore, their economic interest in forest resources was more political and more directly linked to the benefits of participating in the forest management activities and committees than related to their survival.

The nature and extent of the dependency on forest resources do not directly define the agencies in forest management. This is because of the existing inequalities: people are not necessarily able to pursue their practical and strategic needs. Agarwal (2010) describes this relationship as interrelated dualities, where conflict and collaboration, survival needs and conservation interests, and personal conservation interests and freedom to pursue them interplay with one another. This continuous process takes place within the social, cultural, economic and political hierarchies that, to a large extent, define the power and potential that different people have to promote their interests. It is also important to note that due to gender inequality in resource control and distribution, there are also gatekeepers who regulate access to resources. Because of this dependency on gatekeepers for resource access, Mvududu and McFadden (2001) note that women often value continuous access to resources that fulfil their practical needs higher than promoting their strategic needs as resource-holders and decision-makers, due to the risk of potentially losing access while challenging the gatekeeper.

This research showed that the formal forest agency under PFM is but a small part of the community's relationship with forest – the informal agency utilizes, conserves and makes decisions on the forest every day through acts of production and reproduction at the household level. The main driver for women's participation in PFM is a women's quota in natural resources committees. This type of 'add-women-and-stir' approach to gender mainstreaming alienates women's genuine interests and strategic needs as regards forest and climate change agency. The PFM practices in Tanzania are timber-dominated, and therefore, they do not touch on the women's roles as forest users and managers who provide family subsistence, although the subsistence resources are the most important safety net in poverty alleviation. Women are dependent on forest resources to a greater extent than men who rely more on cash crop agriculture and business. Since the PFM discourse in Angai has been about timber and carbon, which do not represent women's interests in forest, they do not have the same ownership in the agency as men. Because the PFM agenda is defined around the male interests of forest management, which women are then invited to be part of, women's presence does not mean that women are represented, but that they are supporting the male agenda. This is in line with Gaventa's theory (2004) that opening avenues for participation without addressing the existing power imbalances will result in the already powerful taking up the space. Being mindful of the elite capture and capacitating marginal groups to be part of the management process can improve the democratization of forest governance and to contribute towards poverty alleviation more effectively. In addition to capacity building, it is also important to acknowledge the gendered division of labour and to make necessary arrangements to release

women from reproductive tasks to enable their participation. Furthermore, as Campese notes (2011b), women's agency in forest management needs to go beyond quota and therefore transform social structures and institutions to be more inclusive and to respond to the needs of women in forest management.

The promotion of gender equality needs deliberate affirmative action. The Kiangara women had a fairly strong public presence compared to other villages in Angai, but it is not likely that they would start to vocalize and advocate their forest agency and needs in order to make the forest agenda more balanced. It is also worth noting that the male bias in PFM is not only a result of the community-level imbalances in power and representation. The timber orientation is fixed in the concept of PFM. As an example, during the information gathering meetings for the Angai Forest Management Plans, the consultations directly followed the format laid out in the management plan templates. These address non-timber forest products and other resources, like water, only in the introduction. Thus, it is relevant to ask whether REDD+ would be able to include women's existing agency in forest use and management if PFM has not?

6.2 Addressing deforestation in Angai

The major drivers of deforestation in Angai are shifting cultivation, illegal logging, hunting, sesame production, and household fuel wood needs. Angai has in many ways been 'saved' thanks to its remoteness, but through the improvement of roads and the scarcity of forest resources closer to large centres (e.g. Dar es Salaam), the pressure of demand for forest products, such as timber and charcoal, will probably reach Angai sooner or later. This will probably have greater deforestation impacts than the current local drivers of deforestation. However, even now, outsiders who have the required capital to engage in this business do the majority of the timber harvesting.

The root causes of deforestation are, however, different. There is very limited agricultural support available to the area, merely chemicals to treat cashew trees, and therefore the use of expensive fertilizers is replaced with shifting cultivation. Particularly the increasing sesame production in the area poses a significant threat to the forest, as the market prices have risen and increasingly large areas of the forest land is cleared for temporary cash crop cultivation. Also the LIMAS programme, funded by the Ministry for Foreign Affairs of Finland, is promoting sesame production. Generally, there is too little collaboration between the Ministry of Agriculture and Ministry of Natural Resources, although their close collaboration would benefit the mandate of both ministries.

Tradition but also the lack of livestock rearing make the community dependent on wildlife as a source of protein, and the fire used in hunting prevents forest regeneration. Fuel wood and charcoal as the only sources of energy (unless one can afford to buy a generator) leave their mark on the forest, although the currently abundant resources can still bear this. As Angai Forest lies 10 km away from the community centre and there is still open forestland with various resources, the forest reserve itself is not much affected. This situation may, however, change due to population growth, pressure from the urban areas and environmental degradation.

Many of the development interventions in Kiangara have focused on forest management. Forest is very much present in the everyday lives of the people – albeit mostly indirectly. This was noticed while making the community monitoring plan. In the problems prioritized by the different focus groups, forest was absent. But as the time came to plan the community development objectives and activities to respond to the problems, forest appeared in everything. For me, this was almost like a magical moment when all the pieces of the community development puzzle came together and were pointing at sustainable forest management. Choosing a broad research perspective had paid off.

For this same reason, we should walk back: in order to reduce deforestation and to strengthen forest management, we should take a step away from the forest and to address the issues around the forest that are jeopardizing the sustainability. Sustainable agricultural practices, access to inputs and credit, environmentally and socially conscious farm management and land-use planning, livestock rearing, alternative livelihoods, and capacity building – all with a focus of increasing both food and income security – would serve as efficient tools to address deforestation.

6.3 Participatory forest management and REDD+

Using Gaventa's theory (2004) on the spaces of participation to assess the community agency in PFM in Angai, it resembles more of an invited or provided space than a claimed one. Since the beginning, the process has been championed by external actors – donors, consultants, NGOs, and the Government structures at different levels – who have engaged communities to participate in the forest management activities. Similarly, MUHIMA was established as part of external efforts to empower the Angai communities rather than as a result of the desire of the communities to advocate their interests through a joint mouthpiece. In my study, it became evident that to the community members, PFM is more of an event that takes place when projects bring external stakeholders to the Angai area to hold meetings, training sessions or other kinds of activities than a process involving constant, on-going management of the forest.

However, it would be naïve to think that no other kinds of spaces of participation have emerged in the Angai process. In my view, at the community level, the natural resources committees were in many ways closed spaces whose composition was very much restricted by the local hierarchies. This enforces the elite capture of the process and alienates the majority of the community members from being part of forest management agency. This is a model example of Agarwal's (2010) participatory exclusions, where models that are meant to be empowering and inclusive end up excluding many. Furthermore, I see that the usual cases of illegal extraction of timber from Angai can be considered to be a form of claimed space, where entitlement to forest resource exploitation is claimed despite the powers of the law and controlling agencies (who are often involved in a way or another). These are good examples on how local 'pioneer' groups can be resourceful in using political opportunities (Gould and Ojanen, 2003) that emerge in a prolonged process that for the overall community is stagnant and even disempowering.

Bearing this in mind, to what extent could REDD+ contribute towards gender equality and the improvement of forest-dependent households' wellbeing? The Action Plan for Implementation of the National Strategy for REDD+ from 2013 (here in short Action Plan) provides a comprehensive logical framework for the operationalization of REDD+ Strategy. The Action Plan defines strategies, activities, outputs and outcomes as well as key performance indicators for each strategic objective of the strategy. At first glance, the Action Plan seems to encompass the required institutional and instrumental aspects of REDD+ mechanisms, the role of forest in the national economy for different sectors, and the nature of forest dependency, including matters of interest for women, such as water, fuel wood and non-timber forest products. The document includes some sex-disaggregated indicators for training participants and some decision-making fora. From the gender-blind international REDD+ instrument to the Tanzanian REDD+ Action Plan, much progress has been made.

Nevertheless, a closer analysis reveals that the Action Plan does not include adequate requirements and guidance for affirmative action for gender equality. Addressing inequality has not been set as an objective, although some strategies aim towards that direction, for instance, as regards land tenure in settlements and household economy.

Where the Action Plan falls short is in making gender distinctions in strategies and their target groups. For example, with regard to the aim of addressing one of the drivers of deforestation, demand for charcoal and firewood, the Action Plan identifies the improvement of household economy as one of the key strategies that would also have potential to tackle household-level

inequality. However, the activities do not separate between men and women as target groups and have a very market-oriented (male) approach to improving the economic situation, even when it comes to non-timber forest products that are usually used for subsistence by women. Furthermore, by leaving the very important aspect of 'how to' open, the Action Plan does not provide much guidance on gender mainstreaming and the promotion of gender equality in REDD+. As Ahonen, *et al.* (2010) note, this way the success of promoting gender equality relies entirely on the capacities and interests of the implementers and participants of the process, and the likelihood that any extra efforts will be invested in 'voluntary' gender mainstreaming is low. It is also important to note the poor status of and commitment towards gender mainstreaming in development institutions, which has been highlighted by Kabeer (2003 in Aguilar 2009) and Ötzelberger (2011). Furthermore, the objectives and strategies identified in the Action Plan have more to do with basic survival and practical needs than strategic needs.

The benefit of REDD+ for the communities would be the co-benefits, particularly in relation to the enhancement of biodiversity, if REDD+ would be implemented in a manner that will compensate for the loss of revenue and other income from alternative commercial uses of forest, and if the benefits are shared equitably. However, there are significant concerns as to what extent the non-timber forest use would be restricted, as this affects the safety nets of forest-dependent families. These resources often play an irreplaceable role in the subsistence of families through invaluable ecosystem services, and therefore, in my opinion, losing access to these resources cannot be compensated.

In the policy formulation of REDD+ in Tanzania, benefit sharing at the different levels of governance is still the trickiest question, and so far, no model has yet been decided upon. As REDD+ as a policy has – despite the efforts of finding national strategies, involving stakeholders and carrying out pilot projects – a rather top-down nature on the global scale, building ownership is crucial for the successful implementation and sustainability. Due to the nature and relevance of forests as service providers and resources to the communities, any interventions related to them have social impacts that need to be managed. Acknowledging and ensuring women's decision-making rights and benefits as forest-resource users and managers, women's agency in PFM could be strengthened to show its full potential in climate change mitigation and adaptation. Gender-sensitive REDD+ implementation could act as a vehicle for gender equity in community resources management, but the realization of this remains unlikely, as PFM has not shown to be strong in women's agency in Tanzania either. However, the most crucial point as regards the potential impact of REDD+ on forest communities is that the poor consideration of the needs and interests of various

stakeholders is likely to lead to either marginalization and further poverty or inefficiency in reducing environmental degradation and emissions – or both. Therefore, REDD+ cannot be effective without women's presence.

In Tanzania, where the government structures reach village level and revenue is also collected towards village-level development, benefit sharing through already existing communal structures and carbon financing can strengthen the decentralized governance system. This way the carbon financing can also be utilized towards the common good of the whole community, as the forest is, in the first place, also a communal resource. Compensations being part of the village revenue has a potential to enhance community social services or social ecosystem benefits, therefore enhancing women's living conditions as producers of care to their families. This, however, is only the case if the village leadership is representational and women effectively promote their interests in it.

In the case of private compensations, it is most likely that REDD+ will be seen as another income-generating activity, an area where in Kiangara men were found the most active, and even if women participate in them, the salary compensations were handed over to their spouses. Depending on the family, women may have some negotiation power to participate in decision-making over the compensations, but the results of this study indicate that the increase of household income does not directly improve the wellbeing of the hearth-holds. This type of compensation distribution would also not include the enhancement of communal services, and thereby, have secondary impacts on the wider community. The individual benefits mechanism for benefit sharing can only have a trickle-down effect to the wider community, but it may be a more motivating benefit-sharing mechanism than the communal revenue, as those involved in forest conservation can see a direct benefit from their inputs.

The benefit distribution can be organized in two ways. One method is to create a national system for carbon trading, where a national body sells measured carbon stocks globally and the accounting is performed by another limb of the body. This allows a centralized mechanism that easily corresponds with the policy frameworks of PFM and enables state control over the carbon financing. This can, however, be seen as negative as well, and there is a significant risk of benefits not trickling down to the communities because of heavy governance structures and corruption. The other option is the so-called nested system, where companies and other actors wanting to compensate their carbon emissions would make direct linkages with the communities that sequestrate carbon. This could create 'lighter' benefit distribution systems that would be easier to

manage, but there is a risk that this kind of situation would allow such a great number of different distribution systems that policy monitoring and accountability would become problematic.

The funding mechanism, in turn, defines the nature of the financing that would be used for carbon sequestration. The fund-based mechanism greatly resembles development aid: it consists of financing that has been donated towards carbon sequestration and forest conservation of developing countries. This type of mechanism would allow the utilization of development aid for a new purpose: carbon sequestration. The downside is that it would also bring along some of the problems of development aid which are to a great extent still unsolved. The other type of mechanism is a market-based one, where carbon financing would come from carbon markets, where actors seeking to compensate their carbon emissions would purchase the carbon at a market-determined value. It has been speculatd that this way the carbon stocks could have better compensation, as a 'common pool resource', such as carbon, would be traded on markets at a competitive price rather than be seen as under-valued natural resource. On the other hand, market fluctuations, and at least at the beginning, the low price of the commodity may discourage setting aside forest areas due to the returns from other ways of utilizing forest resources.

The compensation principle is perhaps the most crucial policy option that needs to be decided upon. The effort-based principle compensates for the work done towards forest conservation and management that leads to carbon sequestration. Using this principle, areas with high and low carbon sequestration potential can be compensated equally, if they both show efforts of the same level. This principle is particularly suitable for areas where forests are vital for the wellbeing of the communities, but where the forests do not have high carbon sequestration capacity. The other principle that can be applied is an output-based system, where the actual carbon sequestrated is measured and the payments are based on those figures. This principle naturally favours those communities that have forests with high carbon sequestration capacity. In terms of climate change mitigation, this method is also more efficient. Since the payments are strongly linked to the amounts of carbon, the measurement part becomes much more relevant, which can bring additional costs to sequestration, as the carbon measurements are costly operations carried out by consultants with access to advanced technology.

7 Concluding Ideas about REDD+

Failing to incorporate half of the population in forest management has significant implication for food security, poverty alleviation and ultimately the well-being of forests.
- Regan Suzuki

The aim of this research was to discover what kind of potential impacts REDD+ would have on Angai Forest and the surrounding communities in terms of social and economic benefits. The study particularly focused on who in the communities would benefit, and who would need to compromise. This is a critical question for the design and implementation of equitable solutions to mitigate climate change by addressing deforestation and forest degradation.

REDD+ has brought new and needed attention to the forest sector, and there has been a significant increase in funding from global and new sources. The strong link with climate change mitigation has provided a unique window of opportunity that is likely to provide a long-term flow of funds to the sector, which has potential to take forestry, particularly community-based forestry, to a different level. While many details in the REDD+ implementation are still open, it is only possible to make an ex-ante assessment of its potential impacts at the community level.

Within the context of high poverty levels in forest-dependent communities and the gendered nature of forest interests and control, this study concludes with an assessment of the potential of REDD+ to contribute towards poverty alleviation and to enhance gender equality, respectively. This study has used these two goals as conditions for equitable REDD+.

7.1 Potential to contribute to poverty alleviation

Tacconi (2007) has utilized the dual dimensions concept to assess the role of forest in poverty alleviation. The first dimension of this relationship is the forest's role to act as a safety net that provides buffers against poverty during seasonal shortages or shocks. This can occur as prevention of people falling into poverty or as mitigation of the effects of poverty for those who already live in poverty. In this type of relationship, the function of PFM and REDD+ is to ensure the continuity of the resources that have little commercial value, but are relevant for household subsistence. The minimum condition for this relationship to fulfil its function as a safety net is adequate and continuous access to these resources. In this case, adequacy does not only refer to access but also to the resource base that should be sufficient and able to cater for the number of households dependent on the resources. With REDD+, it is likely that restraining from deforestation and forest

degradation improves the biodiversity of the forest, and thus, it is able to better cater for the safety net needs of the households.

In the light of climate change adaptation and women, the conservation and enhancement of social biodiversity benefits is central. Continuous access to firewood, wild vegetables, fruits and mushrooms, medicines, water as well as rainfall catchment may act as buffer against the negative effects of climate change on women, and enhance adaptation at the local level. As long as REDD+ is implemented as a conservation intervention preserving natural forest that enables women to continue accessing the subsistence resources within REDD+ designated areas, it may have a positive impact on ensuring the availability of the resources in comparison to other land-use options. However, it is not yet sure whether REDD+ will include restrictions and what would be their relationship with subsistence forest use. In the case of restrictions, women may not have an access – or may only have a limited access – to benefit from the conserved subsistence resources. This can be a threat to women if their roles in the family and community welfare are not acknowledged in the global and national REDD+ frameworks.

Furthermore, critics note that dependency on common resource pools, like forest subsistence resources, are also poverty traps, as it is difficult to utilize these resources for commercial activities, such as forest livelihoods, because their communal nature and therefore insecurity of the entitlement to them pose a risk to venturing into business.

As the first dimension of poverty alleviation was about mitigating poverty, the second dimension is about elimination of poverty. This is linked with forest livelihoods that are based on commercial resources. The poverty reduction function is about enhancing the opportunities to take up or expand forest livelihoods in order to increase household incomes and ultimately get out of 'the poor category'. The minimum condition for this type of relationship is to have control over the resources (as an individual or as part of a collective). The control can be based on formal (law) or informal (tradition, culture) legitimacy, and it enables households to invest into livelihoods and to take risks. However, as a short-term solution, commercial forest resources can also be accessed uncontrollably and illegitimately for private gain, which can damage the safety net as a side effect.

Table 13: Conditions in which REDD+ can contribute to poverty alleviation.

Dimension of poverty alleviation	Sustainability factor	Minimum condition	Potential

REDD+ enables forest to fulfil the safety net function that prevents or mitigates poverty during times of emergency or seasonal shortage of food or income?	Maintain or enhance *subsistence* resources	Access to resources	Possible through enhancement of biodiversity and social co-benefits if integrated well in the governance design and implementation
REDD+ eliminates poverty and lifts people out of poverty through forest livelihood opportunities?	Enhance (socio-economic) opportunities through *commercial* resource utilization	Control over resources (long-term) OR uncontrolled (illegitimate) access to resources (short-term)	Possible for a number of people through involvement in forest governance and REDD+ activities. No significant wider community impact.

In an ideal situation, the safety net and livelihood dimensions co-exist in a balance way, and do not conflict but complement each other. In the case of REDD+, it is possible that these can be combined. Avoided deforestation and forest degradation has potential to enhance subsistence resources in forests, and additional funding for REDD+ and PFM activities and sustainable livelihoods can enhance forest-based livelihoods. However, with regard to the elite capture that has been evident in PFM, it is likely that this will continue with REDD+. This would mean that active and capacitated people, the majority of them men, would be able to take up these opportunities. Nevertheless, if elite capture is appropriately addressed in the design and implementation, and the vulnerable forest-dependent groups receive adequate capacity building, the poverty reduction dimension can be more inclusive.

7.2 Potential to enhance gender equality

Despite drawing conclusions on the potential of REDD+ for poverty alleviation and gender equality in separate sub-chapters, they are very much interlinked. Since gender and development (GAD) involves the consideration of differences in sex, class, ethnicity, age, socio-economic and marital status, and so on, any relevant gender approach will aim at lifting the less powerful groups up to a level where they can be included in the development interventions. Thus, the poverty dimensions serve as a context for the potential for enhancing gender equality.

On the basis of this research, I can conclude that the potential of REDD+ to enhance gender equality is equivalent to the gender equality enhancement potential of a fertilizer support

programme, information and communication technology project, or road construction. Firstly, the aim of REDD+ agreed at the international decision-making arenas has not encompassed gender equality. Due to pressure from gender advocates, it has later become a consideration at various levels. However, in many ways, it remains an after-thought that is not built into the mechanism in an imperative manner. Therefore, it is easy to see it as an add-on perspective that can be discarded when suitable.

Secondly, the Tanzanian REDD+ will be based on the PFM framework and practice which has not been able to significantly enhance gender equality. The PFM agenda in Tanzania has been dominated by the male interest in timber, although from a legal perspective, it could provide more space for conservation and sustainable use of subsistence resources. Therefore, it is relevant to ask, to what extent would REDD+ make a significant difference in this scenario?

Lastly, even though the ever-repeated lessons from development cooperation have, over the decades, kept reminding us how crucial gender mainstreaming is, the levels of actual political commitment to investing in practicing it and building capacity to do it well are still lacking. Therefore, it is questionable to what extent this would be different with REDD+?

However, if REDD+ policy-makers and implementers are committed to enhance gender equality through REDD+, certain issues need to be acknowledged. Firstly, the forest agency needs to be broadened and transformed to drive a more balanced and less biased agenda that encompasses male and female interests in forest and that acknowledges class differences. This will bring about meaningful participation of both men and women in forest management practices and climate change mitigation through REDD+. This will cater for the practical needs of men and women with regard to forest. Nevertheless, the project of gender equality enhancement should be more ambitious than to only cater for the strategic needs.

Secondly, the same applies to equitable benefit sharing in REDD+. For REDD+ to be effective, it needs to understand the multifaceted relationships and power structures that contribute to deforestation and forest degradation. Understanding how communities work will assist policy-makers and implementers to come up with ways that will motivate as many community members as possible to refrain from deforestation, because they have a meaningful incentive to contribute to the cause. The benefit sharing can take the role of contributing to the communal revenue, and that way, enhancing the local resource base for service provision and development coordination. Or it can take the form of individual compensations for people involved in the activities, thus becoming ‘a forest livelihood’ itself. How sustainable this would be is questionable.

Another aspect of benefit sharing is the issue of sharing of compromises. It is likely that setting the forest resources for a certain utility method will rule some others out. Therefore, it is important that along with benefits, also compromises are equitably shared between the forest interest groups. This means that some groups do not have to compromise proportionally much more than other groups in terms of their forest uses, and that they continue to be able to fulfil their roles and responsibilities as resource users, family and community members. In case this is not possible, attractive and motivating alternatives should be provided to enable people to live fulfilling lives and to avoid social problems, such as marginalization and failure in marriage and other family relations. Furthermore, getting the buy-in from the majority of the communities to see the value in carbon sequestration will require an inclusive approach to benefit sharing beyond rewarding the active committee members for their services. Otherwise, REDD+ is likely to fail and increase existing inequalities.

Lastly, another key aspect in REDD+ that enhances gender equality is representative and effective decision-making. For broadening the forest agenda and interventions addressing the various needs of different stakeholder groups, and for them to be able to benefit equitably from REDD+, it is necessary to address the power dynamics of the forest stakeholders, and to build the capacity of the less powerful groups to actively take part in decision-making and to define the forest agenda.

These three key issues of meaningful participation in an inclusive forest agenda, equitable benefit sharing and representative decision-making are crucial for REDD+ that aims to enhance gender equality. They are also vital for poverty reduction, as poverty is, in many ways, a gendered matter. If the issues mentioned above are successfully taken care of, REDD+ has potential to alleviate poverty and enhance gender equality. However, this is an ideal case which requires intentional and consistent efforts to transform gender norms and to empower less powerful groups. Based on the experience from development cooperation, the extent of meaningful and genuine gender considerations is limited. Therefore, the most likely scenario is that REDD+ is implemented with little attention to gender dimensions and power dynamics, and hence, it will further enforce the existing inequalities. Considering the extent to which the resilience of the local communities is already thinned out, this is worrying. It is important that REDD+ policy-makers and implementers understand that the resilience of poor communities has its limits to adapt and to absorb new orders that do not serve their needs for survival and poverty alleviation.

7.3 Conclusions about REDD+ and gender

Despite the large potential of REDD+ to channel resources to forest management in developing countries, it includes many risks that may make the mechanism unsustainable and the lives of forest-dependent communities more difficult. These communities are already strained by the challenges of survival and stressed livelihoods, and with climate change, this situation is likely to exacerbate. Due to the complexity of REDD+ as a political instrument and its intersectoral and multilayered nature, it poses a lot of social, economic, environmental, governance, human rights, security, and cultural risks that need to be mitigated. Therefore, it is important to utilise interdisciplinary expertise and approaches in the processes, and to proceed in a mindful way in order to avoid negative impacts. It is also vital that REDD+ will enhance the living standards of forest-dependent communities and their livelihoods as well as conserve the valuable safety nets that particularly poor families depend on during seasonal shortages.

As this study has indicated, the potential of REDD+ to have a positive impact on biodiversity, social sustainability and improved economic status of communities depends on the way it would be implemented as well as on the expertise and skills of the implementers and participants in the processes. Due to the vast range of risks that REDD+ may realize, the implementation strategy plays a vital role in mitigating negative impacts. This needs interdisciplinary capacity building to REDD+ actors at all levels, but also political will and sense of justice. The likelihood of REDD+ to deliver these positive impacts is weak, because the mechanism has not been aimed to do so in the first place. Since the social and environmental sustainability factors are an after-thought, they are likely not to receive sufficient attention. Utilising the broad understanding gained from the lessons learnt from development cooperation is vital for climate change policies and interventions, including REDD+. Although climate change of this magnitude is a new phenomenon in our time, the same principles of best practices in development cooperation will provide guidance on how to design, implement and monitor policies and actions.

The majority of literature on the social and governance aspects of REDD+ fall short in explaining and understanding the intra-community aspect of the policy. For REDD+ to be a successful instrument in mitigating GHG emissions and to bring social and biodiversity co-benefits, it is necessary to understand more about the social stance of the various stakeholders. Gender analysis as an approach is a useful tool, as it may also cover aspects of class, marginal groups and other social characteristics.

Another issue worth noting is that REDD+ faces a moral dilemma by addressing climate change mitigation with a market-based mechanism, which has been said to be the world's biggest market

failure. Instead of reducing emissions in the developed countries which are responsible for climate change to a large extent, REDD+ transfers the responsibility to countries that are the most affected by climate change. Therefore, it is questionable if it is possible to make REDD+ equitable.

This study concludes that REDD+ may not be an efficient way to mitigate climate change. It requires extensive and expensive technology, verification mechanisms and expertise, while also involving major economic risks. The aspect of adaptation has also received less emphasis in the climate change arenas, although in people's lives, it is the most vital issue. Many communities are already struggling to survive and climate change will further exacerbate this. By focussing more on sustainable adaptation strategies at the community and household levels, adaptation efforts could be harnessed to do part of the climate change mitigation, for example in tackling deforestation. This is particularly the case in Africa. Therefore, a more effective and just way to address emissions from deforestation and forest degradation would be to target climate change adaptation. This would include sustainable and diversified local livelihoods, addressing drivers of deforestation and social and economical inequality, as well as enhancing the safety nets in the rural areas. This way, through investing in local-level resilience to climate change, climate change emissions could be mitigated, while improving the lives of forest-dependent communities.

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Annex 1: Report from Field Work

INTRODUCTION

This is a report of research methods and results that were collected in Kiangara community, Liwale, during August-September 2010. The report is part of my Master's thesis research that studies forest resource use from gender perspective and the potential implications REDD+ climate change policy may have to the forest use of different groups of people in the community.

This report has two aims. Firstly it aims to share the information gathered in the community with the people in Kiangara and the various actors that are working in Kiangara and other Angai communities. Secondly it tries to guide through the process of data collection by explaining in detail about the methods used, the progress of the work and the results. The focus of the report is in participatory methods. However, the research also consisted of interviews with various stakeholders and participant observation, which are not covered in this report.

The original data is in Swahili language, this report uses English translations in order to have the information more comprehensive to more readers.

Process of Data Collection

The data collection was guided by Social Impact Assessment for Forest Carbon Projects Manual developed by Katoomba Group. More information about the manual can be found online at http://www.forestcarbonportal.com/resource/manual-social-impact-assessment-land-based-carbon-projects.

The work was divided into three phases of fieldwork. The report is arranged accordingly.

I Basic data about the community

- Transect walk
- Resource mapping
- Resource analysis
- Seasonal calendar
- Daily activities chart
- Wealth ranking
- Water transects
- Historical timeline of water and water mapping

II Focus groups with leaders, women, men and youth

- Identification of needs
- Preference ranking
- Problem tree analysis

III Community development plan

- Compilation of focus groups
- Defining development objectives for the community

- Monitoring plan
-

I BASIC DATA ABOUT THE COMMUNITY

Transect walk

The transect walk was conducted on the afternoon of 23rd of August. The aim of the transect walk was to get a general picture of the community and its resources and livelihoods. There were six people from the village government and natural resources committee that took part in the activity and two of them were women.

The activity started by introducing it to the participants and giving examples on the things that were of interest to the research, such as natural resources, social activities, livelihoods, and way of living. The transect walk was done following the Nachingwea road from the community centre towards southwest, wandering of the road to see some sites but eventually returning back. The late commencing and low energy levels of participants due to the fasting of Ramadan hindered the activity.

The main observations made during the activity are listed below:

- Majority of houses were made using mud-and-stick technique where a house frame is made from bamboo and the walls made from mud and the thatching from tall grass.
- Men practice traditional bed making by sowing grass rope around a wooden frame that can be sold locally at TSH5000, the grass is harvested from Angai Forest. Women weave mats also using the same grass.
- There are several cultural sites in the community where there is a tree that people leave offerings to during times of hardship and when needing guidance. There are also some annual events when special offerings are brought by families to the cultural sites.
- There is a damp area with tall grass along the road that has multiple functions. Women collect grass for thatching that they can sell with TSH500 per bunch. The area is a source of sand of which ten villages are dependent on and of which the village government taxes TSH5000 per lorry. Digging of sand also provides occasional employment for men. The place is also an important source of fresh water and there were both dry ring wells and self-dug holes for water harvesting (about water situation see below the water mapping and transect). It was also the site for a World Bank funded well project. There were also signs of rice cultivation in the locality.
- Cashew farms, both managed and unmanaged, surrounded the road.
- In many places the bush was burnt due to hunting allowing better view to detect the animals. The community has problems with fire management and they told that a woman had died trying to stop a fire. The community has requested the District to assist them with fire management equipment and skills.
- We observed sesame, maize and fields.
- Bamboo grows wildly in the forests and is used for housing, fencing, and basket making.
- Beekeeping was visible in the forest. Majority of the hives are made by removing the bark of a tree (nowadays removed partially to allow the tree to survive). The hives are placed high in a tree by climbing and using ropes. The explanation for this was that because it was difficult to access the hives, the honey would only be harvested when there was a serious food shortage.
- The community members showed many herbal medicines in the forest that are used for various diseases.
- There is a place that is a source of gravel and it is owned and taxed by the Central Government.
- We arrived to a valley that had a lot of wild and planted vegetation and a hand pump borehole. There were fields of millet, bananas and sweet potatoes. Young men were drawing water to their containers on bikes and women were washing clothes near the borehole.

Resource mapping

The resource mapping was done to get an overall picture of the community and its resources. Resources were defined broadly, including natural resources, livelihoods, social and spiritual activities etc. The work was done in two groups, one for Kiangara and one for Litou villages. There were ten people that took part in the exercise of which three were women. Before drawing the maps the groups planned and listed things on pieces of paper that were to be included in the maps. After the drawing each group presented their map and any questions arising were answered.


KIJIJI CHA KIANGAILA


KIJIJI CHA LITOU

Resource analysis

The resource analysis was conducted according to the drawn maps on the previous day. The resource analysis followed a part of FAO's gender analysis (Vainio-Mattila, 2001) where community resources are analyzed according to who has access to the resources, who controls them and what kind of benefits are there. The work was done in two groups that were same as in resource mapping.

Resource analysis (Litou)	**Access by gender**	**Control by gender**	**Benefit**
Cashew trees	M/F	M	Buying iron roofing, cloths, bicycles, radio, educating children etc.
Sesame	M/F	M	Building a house, buying bed and household utensils
Millet and maize	M/F	F	Food, beer brewing for initiation rituals, income from selling
Water wells	M/F	F	Drinking water, construction, bathing etc.
Mobile network towers	M/F	M/F	Communication, employment for youth, revenue to village government
Forest	M/F	Village government	Revenue income to village government, honey etc.
Shops	M/F	M/F	Revenue to village, basic services near, entrepreneurship
Litou Mountain	M/F	M/F	Drinking water, pebble for house construction
Orange trees	M/F	M/F	Income from selling, food
Sand	M/F	Village government	Revenue to village government, material for house construction
Rice valley	M/F	F	Food, business
Cassava field	M/F	M/F	Food, business
Hunting	M	Village government	Meat for food

Resources (Kiangara)	Access by gender	Control by gender	Benefit
Sand	M/F	Village government	Revenue for village government, employment for youth
Cashew trees, banana plants and sesame	F/M	M	Business, house construction, buying clothes, food, educating children
Millet, maize, sorghum and rice	F/M	F	Food, beer brewing, business etc., payment for piece-workers on the fields
Water wells	F/M	F/M	Water for community, cattle, construction and brick-making
Honey	M	M	Food, business, medicine etc.
Timber	M	M	Construction, business, carpentry
Wildlife hunting	F/M	M	Food, business
Mosque, church	F/M	F/M	Religious ceremonies, moral
Sports ground	M/F	M/F	Exercise, friendship, social relations
Dispensary	F/M	M/F	Health treatment etc.
Crop market	M/F	M/F	Storing and selling crops
School	M/F	M/F	Education
Ritual areas	M/F	M/F	Worship, treatment
Pottery	M/F	M/F	Business, water storage
Mat weawing	F	F	Business, home use
Rope making	M	M	Business, traditional bed-making
Basket making	M	M	Business, home use

There were only slight differences in the analysis of the groups. The discussion after presenting the analysis revealed that despite the fact that both men and women participated in most activities together, they both had their own distinctive gendered roles in these activities that is not seen in the analysis of the groups (same applies to seasonal calendar). Therefore the gendered social reality of the community proved to be more complex than the exercise shows.

Seasonal Calendar

The seasonal calendar was done with ten people in two groups divided by gender in order to increase women's participation in the task. Women's group had one man to assist them in drawing according to their request. The groups listed communal and economical activities and events that were meaningful to them, defined the seasonality and those affected by gender. In this exercise and from this on there were also five participants from the Litou village that in the beginning were mistakenly left out due to interpersonal conflicts and miscommunication.

Seasonal calender														
Men's group														
Activity	**J**	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**	**O**	**N**	**D**	**Male**	**Female**
Rainy season	x	x	x	x	x								x	x
Dry season						x	x	x	x	x	x	x	x	x
Agriculture														
Palizi korosho				x	x	x							x	x
Spraying cashews						x	x	x	x				x	
Harvesting cashews									x	x			x	x
Selling Cashews										x	x	x	x	x
Preparing sesame fields	x	x	x										x	x
Harvesting sesame			x	x	x	x	x						x	x
Selling sesame						x	x						x	x
Cultivating and harvesting maize	x	x	x	x	x								x	x
Cultivating and harvesting millet	x	x	x	x	x	x	x	x						x
Cultivating and harvesting cassava	x	x	x	x	x	x	x	x	x				x	x
Cultivating and harvesting pigeon peas	x	x	x	x	x	x	x	x					x	x

Selling pigeon peas								x	x				x	x
Selling 'kunde'	x	x	x	x	x								x	x
Groundnuts	x	x	x	x									x	x
Harvesting groundnuts					x	x							x	x
Selling groundnuts							x	x	x				x	x
Planting sweet potatoes	x	x	x	x									x	x
Harvesting sweet potatoes							x	x	x				x	x
Selling sweet potatoes							x	x	x				x	x
Animal keeping														
Chicken, duck, dhow, goat	x	x	x	x	x	x	x	x	x		x	x		x
Selling cattle	x	x	x	x	x	x	x	x	x	x	x	x	x	
Business														
Selling food							x	x	x	x	x	x		x
dry fish, tomatoes, onions							x	x	x	x	x	x	x	x
Bananas, sugar cane etc.							x	x	x	x	x	x	x	
Traditional beer							x	x	x	x	x	x		x
Initiation rituals and traditional worship							x	x	x	x	x	x	x	x
Constructing houses					x	x	x	x	x	x			x	
Wild animal destroying fields	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Apes, monkeys and pigs	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Forest burning							x	x						
Human diseases														
Malaria			x	x	x	x	x	x	x				x	x
Cholera											x	x	x	x
Goiter	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Diarrhea	x	x	x	x	x								x	x
Chicken disease								x	x	x			x	x
Goats suffering from worms			x	x	x	x							x	x

Water drying up						x	x	x	x	x	x	x	x

Women's group														
Activity	**J**	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**	**O**	**N**	**D**	**Male**	**Female**
Rainy season	x	x	x	x								x	x	x
Dry season						x	x	x	x	x	x		x	x
Clearing cashew fields			x	x	x					x	x		x	x
Spraying cashews					x	x	x	x					x	x
Harvesting cashews									x	x	x		x	x
Selling cashews											x	x	x	
Preparing fields and cultivating sesame	x	x											x	x
Harvesting sesame				x	x	x							x	x
Selling sesame						x	x	x					x	
Preparing fields for millet, maize, sorghum and rice										x	x	x	x	x
Harvesting millet, maize, sorghum and rice					x	x	x						x	x
Selling millet and sorghum								x	x	x				x
Harvesting rice					x	x								x
Business of selling tomatoes and fish						x	x	x	x	x			x	x
Business of selling food	x	x	x	x	x	x	x	x	x	x	x	x		x
Business in timber, bamboo, thaching grass and xxx	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Biashara ya ndizi na miwa				x	x	x	x	x	x	x			x	
Chicken, duck, dhow and goat keeping	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Selling chicken, ducks, dhows and goats	x	x	x	x	x	x	x	x	x	x	x	x	x	
Construction of houses				x	x	x	x	x	x				x	

Initiation rituals						x	x	x	x	x			x	x
Worshiping, traditional celebrations							x	x	x	x	x		x	x
Sicknesses	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Malaria				x	x	x	x	x	x				x	x
HIV	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Cholera	x										x	x	x	x
Chicken disease							x	x	x	x				
Wild animals destroying fields			x	x	x	x								
Forest burning							x	x	x	x			x	
Weddings							x	x	x	x	x	x	x	x
Dryness of water							x	x	x	x	x	x	x	x

Daily Activities Chart

The daily activities chart was done on the same day with the seasonal calendar in a large group together to save time. The activity raised a lot of discussion and almost everyone participated in some way to the exercise. The analysis was done in two categories, dividing every day activities according to rainy and dry seasons, because the farming activities varied greatly between these two seasons. In the end of the session the working hours of each category was calculated. I did the colored analysis of the activities later in order to emphasize the nature of the work; productive, reproductive, rest, and recreation. These categories are naturally indistinctive and subjective to some extent.

Hour	Man (dry season)	Man (rainy season)	Woman (dry season)	Woman (rainy season)	Girl child (dry season)	Girl child (rainy season)	Boy child (dry season)	Boy child (rainy season)
5 a.m.	Sleeping	Sleeping	Waking up sweeping	Waking up sweeping	Sleeping	Sleeping	Sleeping	Sleeping
6.a.m	Waking up	Going to the field		Preparing porriage for the field	Waking up, preparing herself to school or helping mother with work	Waking up, preparing herself to school or helping mother with work	Waking up, preparing himself to school or helping father on the field	Waking up, preparing himself to school or helping father on the field
7 a.m.	Visiting	On the field	Pounding, drawing water, cutting firewood, washing clothes	On the field	Going to school or helping mother with housework	School or field work/house work	School or hunting birds	School or field work
8 a.m.								
9 a.m.								
10 a.m.	Resting, waiting for the food		Preparing food		Helping mother to wash dishes		Waiting for the food	
11 a.m.								
12 a.m.								
1 p.m.	Visiting, business, games		Pot making		Playing		Playing	
2 p.m.			Weawing mats, brading hair					
3 p.m.								
4 p.m.								

5 p.m.								
6 p.m.		Waiting for the food	Preparing dinner	Preparing dinner		Helping mother	Waiting for the food	
7 p.m.								
8 p.m.	Sleeping	Sleeping	Sleeping	Sleeping	Sleeping	Sleeping	Sleeping	Sleeping
9 p.m.								
10 p.m.								
11 p.m.								
12 p.m.								
1 a.m.								
2 a.m.								
3 a.m.								
4 a.m.								
Working hours total	11	12	14	14	11	11	7	7
Productive	Reproductive	School	Resting	Leisure	Other			

The activity made the participants to reflect on their everyday lives and they wanted to discuss about the large differences between the working hours of men and women.

Wealth ranking

The aim of the wealth ranking was to identify local perceptions about wealth and its division between households in the community. During the exercise it became clear that the qualities listed were for men and that women accessed wealth through their family or marital ties. The participants estimated that there were approximately 740+ households in the community and they divided the households into the wealth categories. The groups were divided by gender and there were eleven participants.

Women's group			
Very rich 70	**Well to do 150**	**Poor 200**	**Very poor 320**
Cashew fields 30-50 hectares	hc 10-29	hc 1-9	hc 0
Sesame fields 20-60	hc 15-30	hc 5-10	hc 0

hectares			
Maize field 30-45 hectares	hc 10-20	hc 5-8	hc 0
Millet field 10-20 hectares	hc 5-7	hc 3-4	hc 0
Pigeon pea fields 20-30	hc 10-15	hc 5-9	hc 0
Cassava fields 10-15	hc 3-5	hc 1-2	hc 0
'kunde' fields hc 4-7	hc 2-5	hc 1-3	hc 0
Good houses 3-5	1 -2	0	0
Businessman of 1-2 shops	1	0	0
Poultry 50-70	10 -13	3 -7	0
Ducks 15-20	15 - 13	3 -7	0
Number of children 1-2	3 -5	6 -8	0
Number of wives 0-1	2 -3	4 -6	7 -8
Number of bags of cloths 5-10	3 -4	1 -2	0
Ownership of: motorbike, TV, radio, satellite dish	Bicycle and radio	Bicycle	0

Men's group			
Very rich 70	**Well to do 170**	**Poor 180**	**Very poor 320**
Cashew fields 30-50 hectares	hc 10-29	hc 1-9	0
Sesame fields 5-10 hectares	hc 2-9	hc 0-1	0
Maize fields 5-7 hectares	hc 2-4	hc 0-1	0

Millet fields 4-5 hectares	hc 2-3	hc 0-1	0
Pigeon pea fields 5-10 hectares	hc 4-9	hc 2-3	0
Cassava fields 3-5 hectares	hc 2-4	hc 1-3	0
Groundnut fields 3-5 hectares	hc 2-4	hc 1-3	0
'kunde' fields 3-5 hectares	hc 2-4	hc 1-3	0
Good houses 2-3	1 -2	0 -1	0
Businessman of 2-3 shops	1 -2	0 -1	0
Cattle (goats)10-25	9 - 24	3 - 5	0
Poultry 20-50	10 - 30	5 - 9	0
Government workers			
Great likelihood to be a leader	Likelihood to be a leader	Average possibility to be a leader	No chance to be a leader
Number of bicycles 2-3	1 -2	0-1	0
Number of wives 3-4	2 - 3	1 -2	0

The work of the two groups was partly identical but also consisted of controversies. These were discussed after the session together with the groups. For instance, men and women had defined the number of wives to show person's wealth in opposites: women defined a poor man having many wives whereas men defined rich man to have this quality. After discussion men corrected that the women were right about their qualification as their definition was to do with a number of girlfriends that rich men tend to have many. Also men noted that some estimations that the women had made for the qualities of the rich, especially on portion of sesame fields, was overestimated for the people in Kiangara but could apply to outsiders such as town residents that access land for cultivation in the community for business purposes.

It was interesting to notice that there exists a class of people in the community that does not farm their own fields but serve as workers to other's fields. However, I think that the portion of these households among all the households is overestimated.

Having gender distinct grouping for the exercise helped the women to become more active and relax even later on in mixed groups. Men also complimented them for doing better job than their group had done.

Water transects

Two water transects were conducted: one to Mihumo River and one to Litou Mountain. These were the most important water sources mentioned by the community. They are both situated about eight kilometers from the community centre.

The transect walk to Mihumo River was done in a group of four women. Mihumo River crosses through the Angai Forest to Kiangara and it is one of the main fresh water sources in the community. The objective of the exercise was to see the state of the water source, experience the distance to the source and make general observations on the way.

The distance to the river took about two hours on foot firstly along the road towards Nachingwea and later using smaller paths in the forest. The visited site was just at the edge of the Angai Forest Reserve. There was no longer a river but rather a damp place with green vegetation and waterholes that the community had dug to access water underground. Wildlife often comes to the source to drink water and that also poses a risk to the security of women.

The transect to Litou Mountain was done using bicycles because the schedules of fieldwork forced the exercise to take place during the day of Eid-ul-Fitr, ending celebration of Ramadan. The guides to the site were the Village Chairpersons from Kiangara and Litou.

The site is a valuable water source but also has cultural value. The story of the place narrates that there was a borehole where women used to draw water. One day there were two old women and they felt tired to climb down to the hole to get water. There was a young girl that came to get water as well and the old women asked for her help. When the girl climbed down she fell and disappeared into the water. At the same time the place filled with water as the ancestors that stayed at that place were satisfied of the sacrifice they had received. They never found her body. The story tells that on the site there is a big snake where the girl's spirit has moved. If one meets a snake at that place, it is not allowed to harm the snake. When entering the site, one must shout "hodi, hodi" as a way of asking for permission to enter the place. Community needs to prepare food as sacrifice to the site every year in order to maintain the water source. According to the chairpersons, when many households are dependent on the source, the more water there is. They also said that the water source is not a river but that the water comes up from the ground and passes a certain place and then disappears back underground.

On the site there was moist forest with tall trees, a small path that went down to the water source. Down at the source there were big round stones at the place where the water passes but at that moment there was water only in few holes that the community had dug. There was also a large flat stone where the community brings the sacrifice to the ancestors.

History of Water Sources and Water Mapping

Because the water situation in the community seemed to be both crucial and complex, more emphasis was put to the topic in the data collection. During the community transect walk we faced women that had been waiting at a self-dug borehole for water to rise and collect it bit by bit to their containers since the early hours of morning to late afternoon, spending nights and most of their days at the sites. People complained about the water situation. At the same time there were many water sources that people were using along the road and close to the community centre. For me to understand fully the most mentioned development challenge of the community we spent few days particularly looking at this theme.

I was interested in the development of the situation in the past as well as to have analysis of the existing water sources and their suitability to the water needs of households. There were ten participants of which one was a man that worked on the topic in two groups, one on the historical timeline of water and the other on the water source mapping and analysis.

The history of water was first discussed among the group and then written down in the format of the table below. The water mapping was first drawn on the ground of the village office and then the women drew the picture on a paper. They analyzed the distance of the source to the village centre, the seasonality of the source and the quality of the water.

The anaysis showed that there are only few and often distant sources of water that have fresh water. Majority of the water sources have salty water, which people however use in their households for everything but some seem to prefer fresh water despite the extra effort of accessing it from long distance or after waiting at the source for the water to rise. It seems, however, that investments to technical improvements are usually inadequate to meet the demand of the community since they fail to provide with fresh water. On the other hand the sources that the community considers to be the most important ones are natural damps or rivers and are drying up.

History of development of water sources after independence 1961 in the community of Kiangara

1973	1978	1995	1997	2008	2010
Much rain	**Naundumbi water pump was built**	**Hand pump well was dug**	**Pump replaced**	**Two wells were dug by TASAFU (Tanzania Social Action Fund)**	**World Bank dug us a well**
Everywhere in Kiagara there were a lot of standing water	Pumping machine was stolen which led to water shortage	The water was salty	After the pump machine was stolen in 1978, new hand pump was brought in that has been working until 2010	They had salty water	The digging process still continues
Wetness made houses to immerse	Outbreak of cholera	The pump broke down because of salty water			
	The whole water pump system failed because of this theft	Shortage of water increased			
	3 people died because of cholera	Conflicts rose between women at the water point			

Water sources of Kiangara, distance from the village centre and description:

Duniani, 0,5 km, hand pump, salty water, most frequently used water source

Water tank, 1 km, not in use

Ndindindi area, 2 km, wetland, seasonal fresh water source, site for World Bank drilling project

Naundumbi, 5 km, hand pump, valley area

Mitalula, 5 km, hand pump

Mihumo River, 8 km, permanent fresh water source at the edge of Angai Reserve, drying up

Litou Mountain, 8 km, cultural site, permanent fresh water source, drying up

II FOCUS GROUPS

The next stage of the data collection was focus group exercise. The aim of the activity was to identify interests of different groups of people in the community. The focus groups consisted of four categories of people: community leaders, men, women and youth. The participants represented both villages and in the leaders and youth group there were participants from both genders. With the youth group an aim was also to have both school attending and those who have left school to have broad and comprehensive representation.

All focus groups followed the same method of identifying the development interests. Firstly the group was asked to list problems they feel that the community is facing. After the listing the participants ranked the problems with beans and matrix using secret voting. Each participant had ten beans, the more beans one gave to a problem the more crucial it was for the participant. It was possible to rank 1-10 problems, but most commonly participants ranked about three problems. After the ranking exercise all votes were counted as a group and the two most ranked problems were analyzed using problem tree. After the activity the analysis were presented to everyone and alternatives were discussed.

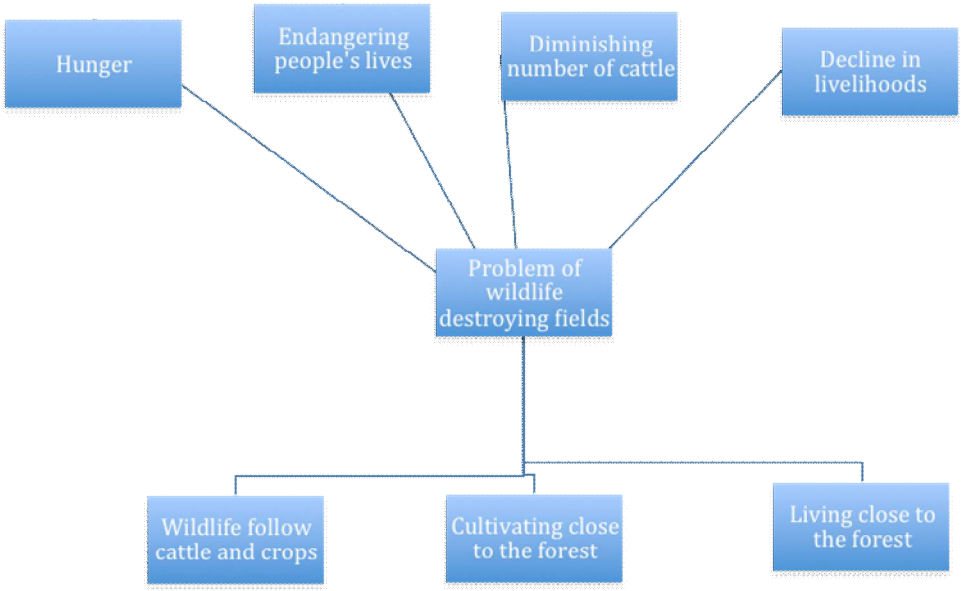
Leaders

Identified development priorities were:

1. Problem of water scarity
2. Problem on secondary and primary school education and housing for teachers and other workers
3. Housing for Ward Executive Officer (WAO), Village Executive Officer (VEO) and Agriculture Officer
4. Wild life destroying harvest
5. Problem of expensive agricultural inputs
6. Lack of mosque
7. Lack of market
8. Lack of village office for Litou
9. Increase of HIV in the villages
10. Lack of dispensary in Litou
11. Unplanned harvesting of forest resources
12. Boundary problems between the old and new villages
13. Shifting cultivation
14. Forest burning
15. Lack of school in Litou
16. Lack of vocational training in the village
17. Poor road

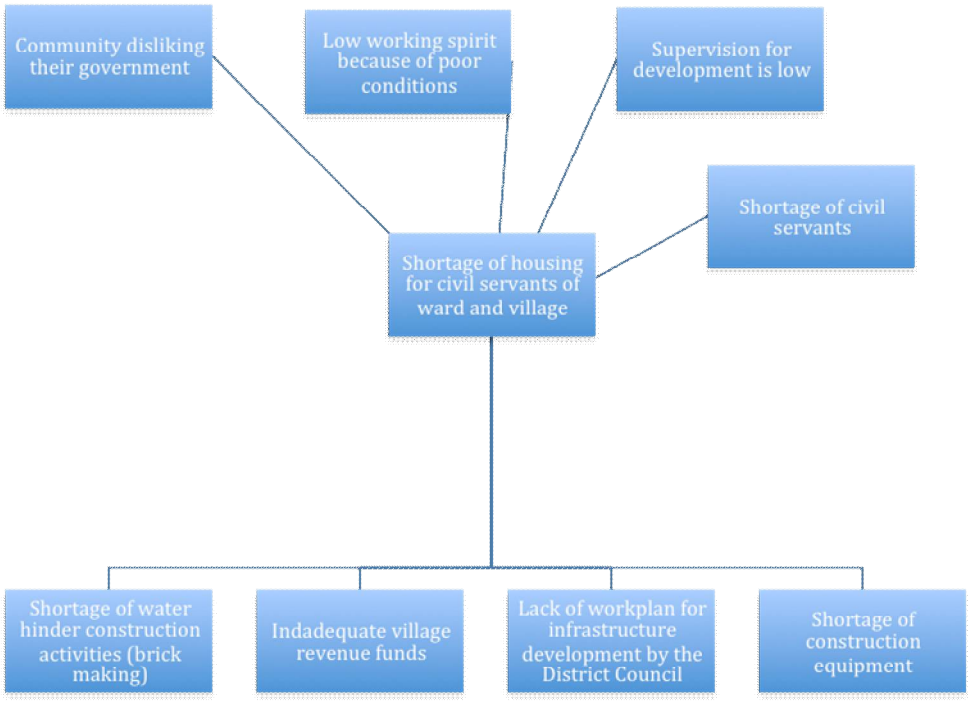
		M	M	M	M	F	F	M	M	F	M	M	Total	Ranking
1	Problem of water scarcity				4							2	6	
2	Problem on secondary and primary school education and housing for teachers and other workers	1	2		3				3				9	

3	Housing of WAO, VEO and agriculture officer		3		2					3	3	3	14	2
4	Wild life destroying harvest	3	1		1	1	2	3	3	3	2	2	21	1
5	Problem of expensive agricultural inputs			1				3					4	
6	Lack of mosque			1		2							3	
7	Lack of market												0	
8	Lack of village office for Litou			4		4	5						13	3
9	Increasement of HIV												0	
10	Lack of dispensary in Litou			2		3	3						8	
11	Miscellanous harvesting of forest resources									3	3		6	
12	Boundary problems between the new and old villages	4						1	3				8	
13	Shifting cultivation									1		1	2	
14	Forest burning								1		2		3	
15	Lack of school in Litou			2									2	
16	Lack of vocational training in the village	2	4					3				2	11	
17	Poor road												0	



Summary of the discussion:

- Reducing cultivation along the Forest Reserve could mitigate risk of wildlife on the fields. People prefer using the land near the forest because it is fertile, virgin and has more rainfall, making it therefore very suitable for shifting cultivation.
- The community has a land plan but every village should also have a game officer
- The wildlife that usually destroys the fields is elephants, small and big monkeys and bush pigs.
- The coping strategy for the situation is to patrol at the field from planting to harvest and scare the animals away. Animals have however learnt the ways of the community and use any available opportunity to return to the field or ignore the efforts of rattling them away. Since women are usually in charge of weeding and other maintenance of the fields before harvest, they often face dangerous situations in confrontations with the wildlife.



Summary of the discussion:

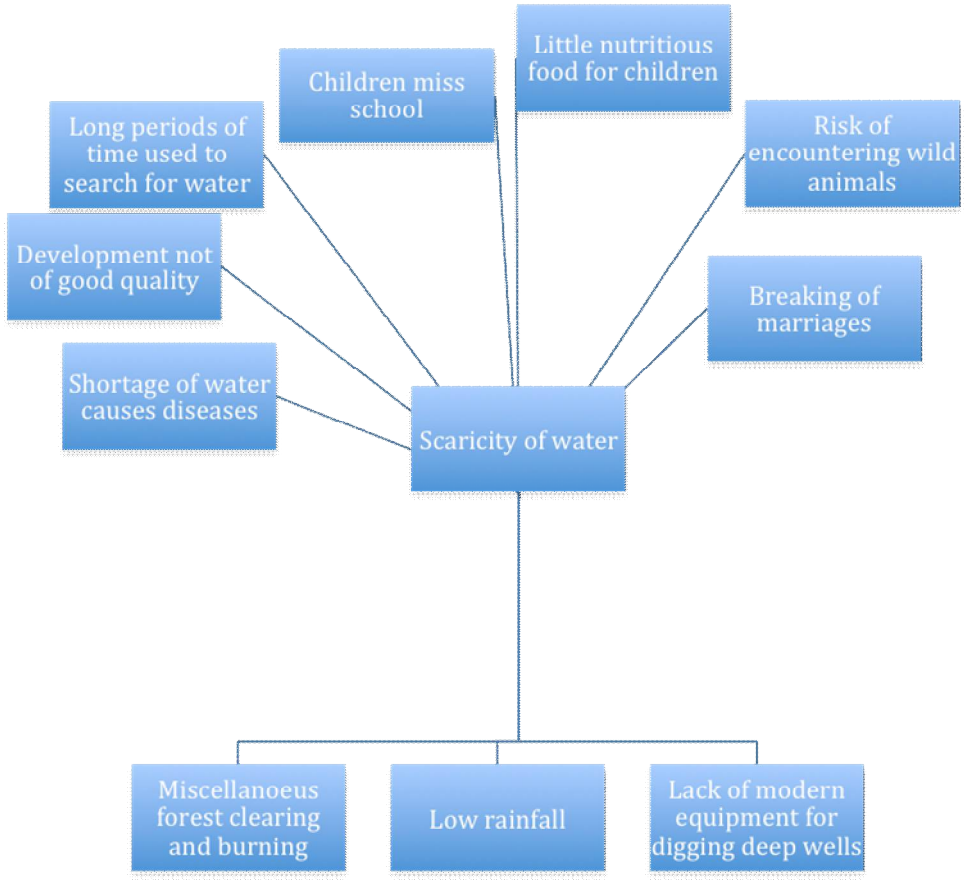
- Participants felt that there was not enough financial support from the District and the Central Government to meet these requirements. As alternative they saw that the District and donors should assist the community more. Also community should volunteer more in construction projects.
- Forest and other revenue sources were not mentioned

Women

1. Shortage of water
2. Few health officers
3. Wildlife destroying harvest
4. Problems of small-scale agriculture
5. Lack of vocational training in the village
6. Miscellanous harvesting of forest resources
7. Forest burning
8. Lack of capital
9. Boundary problems between the villages
10. Problem of increase of HIV
11. Shortage of housing for clinical staff and teachers
12. Lack of Village Executive Officer (VEO)
13. Divorces

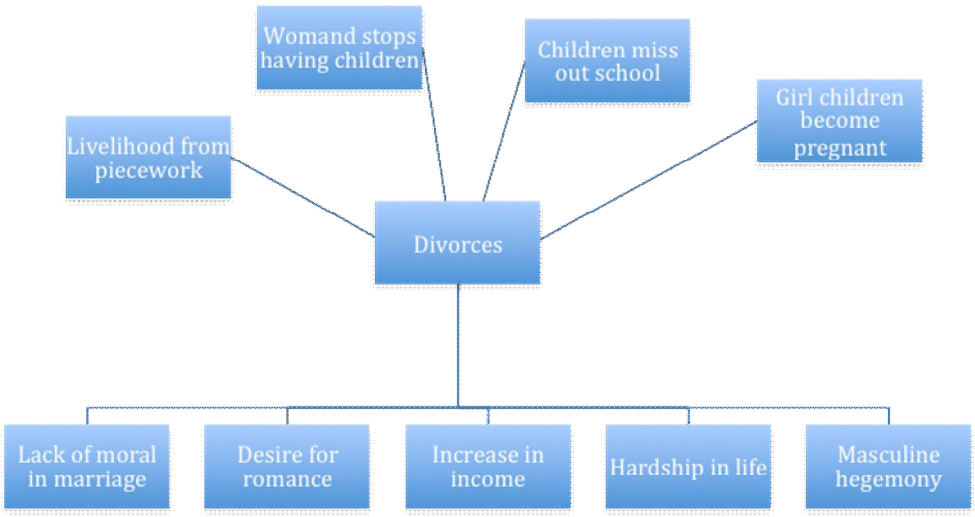
	Problem	F L	F K	F K	F L	F K	F L	F K	F K	F L	F L	Total	Ranking
1	Shortage of water	10		4	3	5	5	4	4	4	4	43	1
2	Few health officers					3	2		2			7	
3	Wild life destroying the harvest		10		3			4			2	19	3
4	Problems of small-scale agriculture											0	
5	Lack of vocational training in the village			3				2	2			7	
6	Miscellaneous harvesting of forest resources											0	
7	Forest burning											0	
8	Lack of capital											0	
9	Boundary problems between the villages											0	
10	Problem of increase of HIV in our village									2		2	
11	Shortage of housing for clinical officers and teachers										2	2	
12	Lack of VEOs											0	
13	Divorces			3	4	2	3		2	4	2	20	2

K= Kiangara
L= Litou



Summary of the discussion:

- The problem of water is worst during the months of April-January causing diseases like malaria (caused by sleeping by water sources in the night), diarrhea, cholera and other stomach diseases. Also security is a problem since there are confrontations with the wildlife. However there is no risk of sexual violence.
- Because women spend such a long time in household water management tasks it has a negative impact on family development (lost hours for productive work) and family unity. Women explained that when the wives are away from the homes, their husbands often find other women, which leads to disagreements between the spouses. Sometimes women can also meet other men by the water sources.
- Also children's education is hindered due to the need to participate in household water management.
- As alternatives to the situation women mentioned accessing donations to drill more boreholes and to conserve forests as water catchment areas.



Summary of the discussion:

- Divorces are common in the community, approximately four cases in a month (740+ households).
- Divorces lead women to move back to their families loosing all access to property and become employment on other people's fields (piece work) or practice prostitution to support children (note relation to wealth ranking and the large number of piece workers). Usually the father does not support his children, which leads to challenges in education and girl children often become pregnant at early age.
- Divorces are commonly caused by disagreements about decision-making, polygamy and hardship in life. Women told that increase of men's income often leads to a new marriage rather than improvement of family wellbeing.
- There has been a change in the community stance towards marriage, divorce and counseling by the elders in disagreements. Also women have started to resist polygamy and miscellaneous relationships and demand a say in family decision-making, which can lead to divorces.

Men

1. Lack of capital for agriculture
2. Lack of wells (water shortage)
3. Forest fires
4. Road
5. Wildlife destruction on fields
6. Shortage of teachers
7. Lack of market for honey and bee wax
8. Chicken diseases
9. Lack of employment

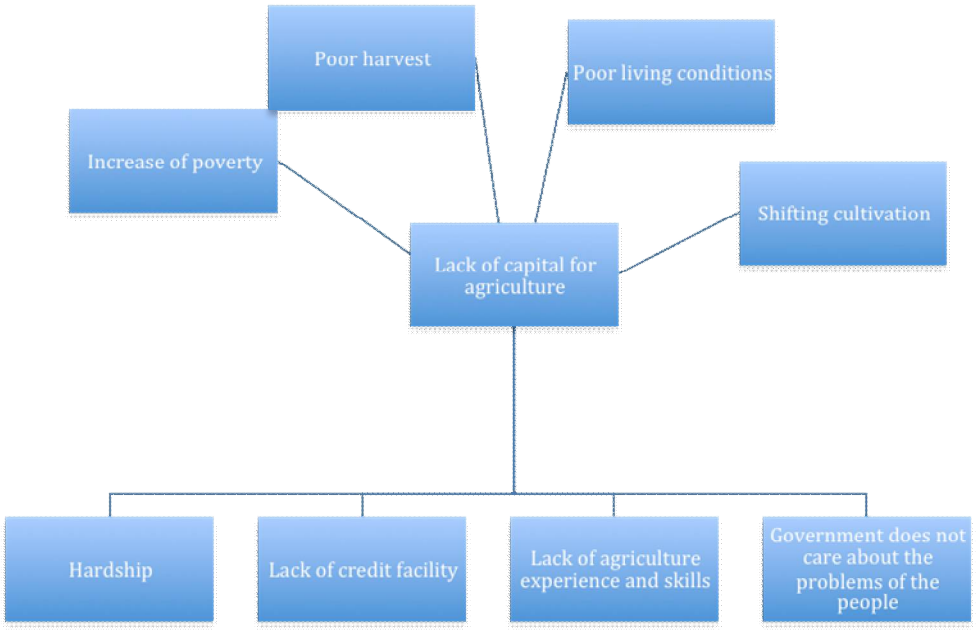
K= Kiangara

L= Litou

* = aged

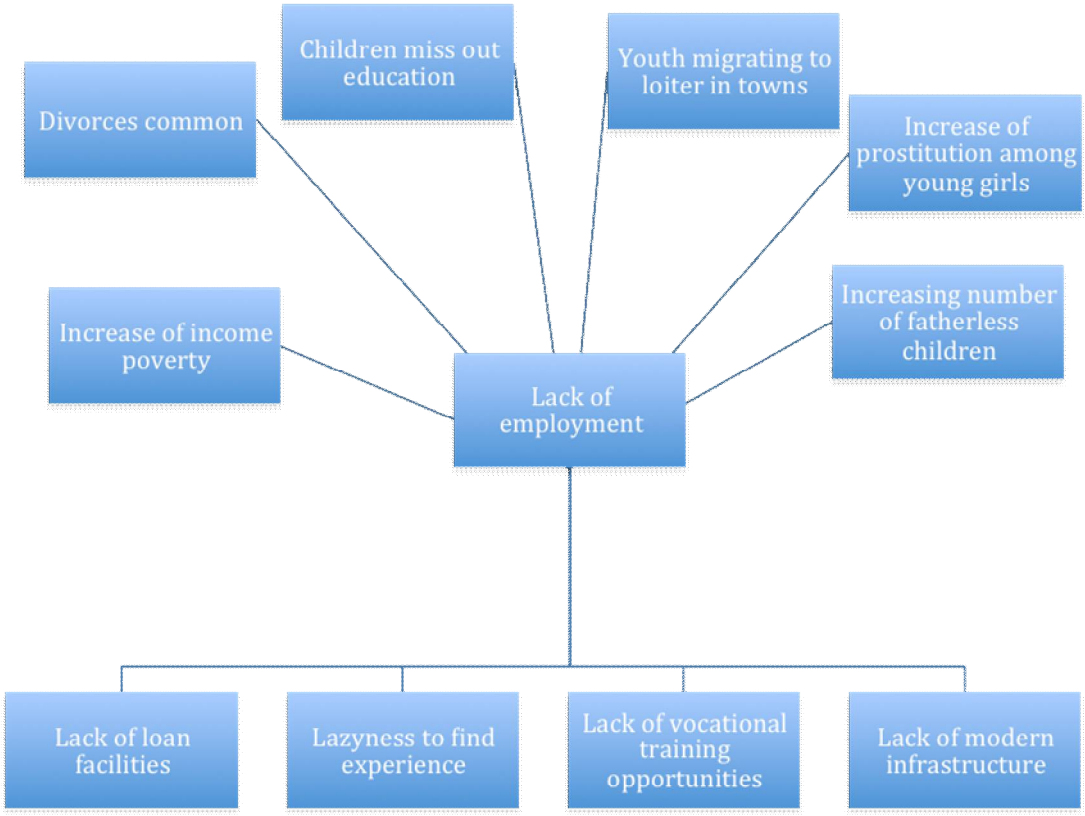
	Problem	MK*	MK*	MK*	ML	ML	MK	MK	MK	MK	ML	ML	Total	Ranking
1	Lack of capital for agriculture		6	5				5	4	3	4	2	29	1
2	Lack of wells (water shortage)	5			4	4		2	3			3	21	2
3	Forest fires						4						4	
4	Road					3	6						9	
5	Wild life destruction on fields		1	3						3			7	
6	Shortage of teachers				1						4	5	10	
7	Lack of market for honey and bee wax												0	
8	Chicken diseases									1			1	

9	Lack of employment	5	3	2	5	3		3	3	3	2		29	1



Summary of the discussion:

- There is a serious problem of food insecurity in the community between January and March.
- The Government subsidizes only inputs for cashew production and inexistence of loans for fertilizers the community practices shifting cultivation.
- New fields are cleared for cashew production but the land is used for maize, millet and sesame production while the cashew trees grow. Since sesame has currently best price among crops its production has expanded very much. If sesame is grow alone on the land, the field can be utilized only for couple of years and there is a need to open new fields to continue production using shifting cultivation. The discussion did not shed light to a question whether food production has adequate portion of farmland compared to cash crops.
- The problem of low productivity has deepened by poor rainfall and wildlife destruction.
- During food insecurity the community can access 4 kg of maize as Government food aid, of which households pay TSH50 per kilogram. Those households who fail to pay this amount the maize is given for free. Due to the limited amount of food aid, the main means of coping are hangadi (roots), upupu (leaves and seeds) and honey products.
- For some participants it was not clear how they would utilize funds if agricultural capital would be available. However, some said that availability of capital for inputs would assist farmers to cultivate on the same pieces of land longer and reduce the need for clearing forest into new fields.
- The men identified the relationship between poor rainfall and forest clearing and fires. They saw that shifting cultivation and forest burning should be discouraged in catchment areas. Forest fires were seen unavoidable as part of hunting and sometimes also for hangadi gathering. Dependency on wildlife as source of protein is a driver that maintains the need to use fire.



Summary of the discussion:

- Both women and men look for employment, but for married women it is more additional income. Single women look for employment for subsistence.
- The participants explained about migration that lead young people to move to Dar es Salaam, Liwale, Nachingwea and Masasi to look for employment. Young women mainly get employment as househelp and men in construction and piecework. The emigrants maintain ties to their home community but seldom send money to their families. Often they are forced to return to the community because of difficulties finding employment in towns and they tend to be worse off than those who stayed in the village.
- Men said that their incapability to meet the requirements of household income unemployment is a cause for divorces as women prefer a man that can support them and their children.
- Alternative to the unemployment was to address the root causes, improve skills and facilities and to address working moral of people.

Youth

With the youth identification of problems was done by dividing them into two groups (school attending and others to get possible differences in the groups' priorities) that discussed and listed problems. Then the two lists were combined. This was done to encourage the youth to participate more openly in the exercise. Despite efforts the youth did not discuss much after the presentations, therefore there are no summaries in this report.

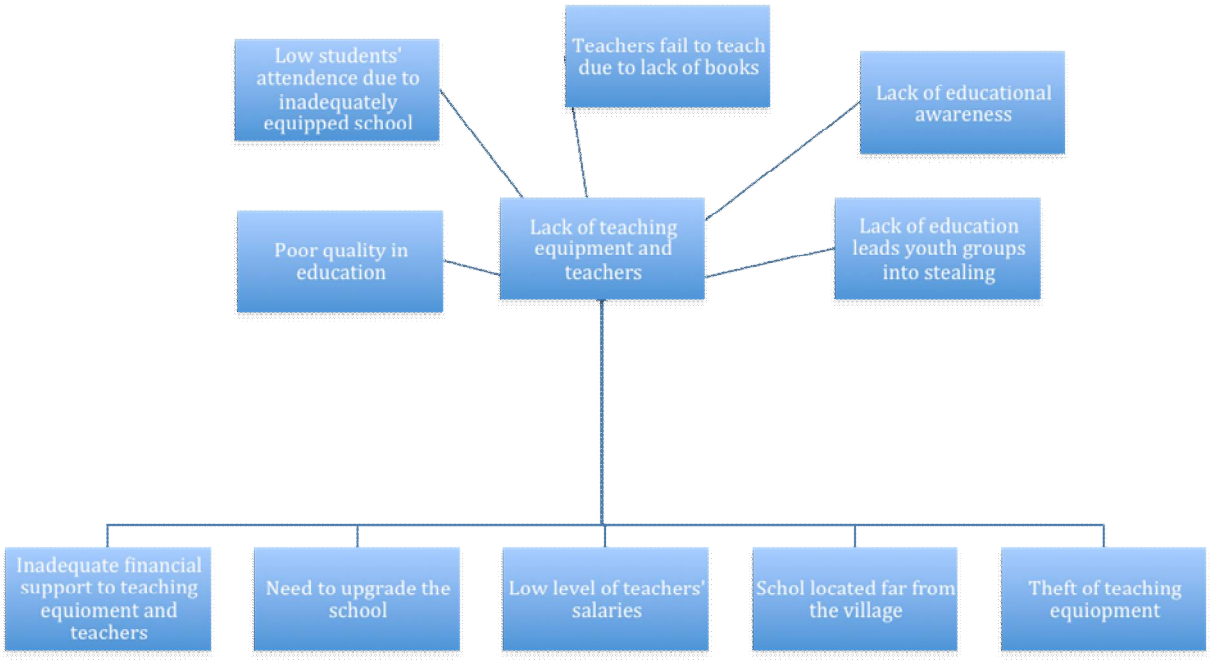
1. Lack of teaching equipment and adequate number of teachers
2. Lack of employment for youth
3. Water shortage
4. Lack of vocational skills and training

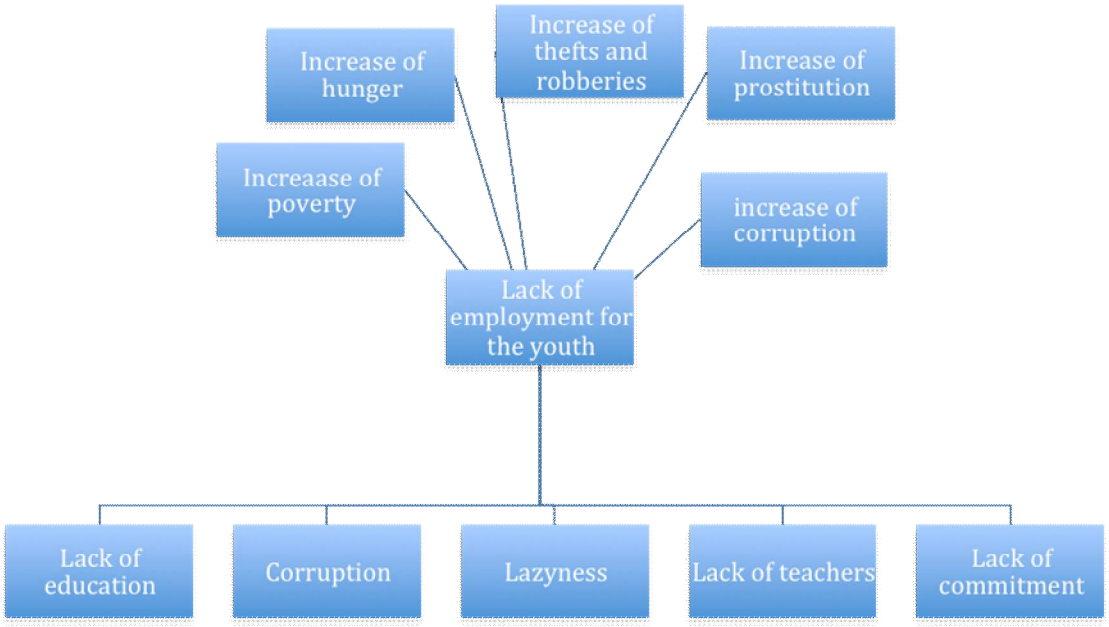
5. Lack of youth services
6. Lack of forest security
7. Increase of wildlife destruction to harvest
8. Lack of moral support to the youth to educate themselves
9. Low price of harvest
10. Chicken disease
11. Lack of improved sanitation

* = attending school

Problem	F *	F *	F	M *	M *	M *	M	M	M	Total	Ranking
Lack of teaching equipment and adequate number of teachers		5		5	4	3		3		20	1
Lack of employment for youth			5	5	4			4		18	2
Water shortage	4	3	2		2					11	
Lack of artisanal skills and training						2			4	6	
Lack of agriculture extension services for the youth									5	5	
Lack of forest protection										0	
Increase of wild life destruction to harvest	3	2						3		8	
Lack of moral support to the youth from their parents to educate							3			3	

themselves											
Low price of harvest							4			4	
Chicken disease	3									3	
Lack of improved sanitation			3			5	3		1	12	3





Summary of the focus groups

The research assistant and I gathered the results from the focus groups as a summary to serve as basis for further working with the development priorities of the community. Similar problems were combined and the variations were recorded on the "description" section. The percentage presents the ranking of different groups of the problem, where the percentage is zero, it means that the group mentioned the problem but it was left without votes in the ranking.

1-5/9/2010	**Evaluation of development needs analysis among community groups of Kiangara**	
Problem		**Short description of the problem**
Shortage of water	43 % Women 18 % Men 12 % Youth	Lack of reliable water source Access to sustainable access of water…Long time used for finding water

	5 % Leaders	
Wild life destruction on the fields	29 % Women 6 % Men 9 % Youth 19 % Leaders	Increase of wild life destruction to harvest on the fields
Agriculture	24 % Men 10 % Youth 6 % Leaders 0 % Women	Problem of shifting cultivation Lack of capital to practice modern agriculture Lack of extension services for the youth Low price of harvest High price of agriculture inputs
Health services	7 % Women 7 % Men	Inadequate number of health officers
Lack of employment	24 % Men 20 % Youth	Lack of employment for youth
Vocational training	11 % Women 7 % Youth 1 % Leaders	Lack of vocational training
Housing	17 % Leaders 2 % Women	Lack of housing for teachers, clinical officers and WAO
Infrastructure	17 % Leaders 8 % Men 0 % Women	Poor road 8 %, Lack of mosque and village office for Litou
Schools	8 % Men 22 % Youth 9 % Leaders	Lack of teachers Lack of teaching equipment No school in Litou Distance to the secondary school from the village
Forest	0 % Women 3 % Men 0 % Youth 8 % Leaders	Illegal hunting, forest fires and security
New villages	0 % Women 7 % Leaders	Boundary problems
Social problems	20 % Women 3 % Youth	Divorces Lack of moral support from parents
Chicken diseases	1 % Men 3 % Youth	Chicken diseases
Improved sanitation	13 % Youth	Lack of improved sanitation
VEOs	0 % Women	Lack of VEO for Kiangara and Litou
Lack of capital	0 % Women	No investment capital
Lack of market for honey and bee wax	0 % Men	Lack of market or place for selling honey and bee wax

III COMMUNITY MONITORING PLAN

The third phase of the process was making community monitoring plan. The plan was done in two days using the summary statistics of the focus groups as basis for discussion. The results from the focus groups were shared and thereafter community development objectives were formed. On the second day a monitoring plan was formed using applied Logical Framework.

8.9.2010 Objectives

1	To reduce the distance of accessing water and to increase reliable sources of water.
2	To control wild life destruction in the fields
3	To improve extension services and accessibility of agricultural inputs
4	To develop workshops and vocational courses in order to increase employment opportunities in the villages
5	To emphasise the importance and responsibilities of forest conservation to the community.
6	To build capacity in the community in entrepreneur skills and accessing initial capital
7	To improve village revenue collection as well as to emphasis community to volunteer in development activities

Monitoring plan for community development - Kiangara 9/9/2010

Objective	Activity	Indicator	Assumptions
1 & 5	To set water by-lawas purposely to restore water catchment areas	Visits water catchment areas	Village government is willing to supervise the water by laws
	To educate and discourage unplanned tree felling and forest burning	Reports of village by-laws	Community is willing to adopt forest conservation
	To seek external assistance to spread the service of water pipes along the village roads	Visits forest areas Reduced reported deforestation Existing water pipe lines along the roads	
2 & 5	To sensitize the	Increase of population	Officers in natural resources, land and

	community to cultivate far from the forest	in the villages	community developement are willing to contribute to proper land use
	To discourage shifting cultivation	Number of sensitization meetings	Decreasing conflicts between human and wildlife
	To educate and to prepare community towards proper land use	Decreased number of new farms	
		Existing land use plan	
3	To increase the number of community agriculture extension officers	Increased number of community agricultural officers	Community will utilize the knowledge provided by the experts
	To supervise that the community sells their crops through the crop storage	Icrease of village revenues from the crop storage	
	To set by-laws for fire management	Existing crop selling by-laws	
4	To provide extra curriculums for the existing local artisan teachers in order to assist novice artisans	Number of trainings to artisans	Community is willing to form groups
6	To initiate artisan groups	Number of artisan groups	Artisans are willing to participate
	To disseminate entrepreneur skills to livelihood groups	Training and attendance reports	
7	To establish a road block	Number of road blocks	Village government is willing to supervise the roadblocks
	To identify potential livelihoods	The realized wealth generated under the REDD	Community will be able to recognize REDD benefits
	To link your forest with the REDD process		

CONCLUSIONS

The preliminary analysis of results shows that gender does play a significant role in resource management at the community level in Kiangara. The general gender theories concerning natural resources management applied in the community. For men natural resources have potential for income generation as for women they are means for meeting the subsistence needs of the household. Both genders have their own distinct roles in resource management and livelihoods that support each other. Men have almost all control over monetary resources and assets (e.g. fields, cattle, and other property), including those that women have gained for the family through their work input. It was also seen that improvement of men's income levels does not necessarily enhance the state of living for the family but may lead to extension of the family through marriages. Divorces, that were common in the community and caused by stress from inability to meet the requirements in livelihoods or household roles and polygamy, made women and children vulnerable because of loosing access to resources through marriage and opportunity for education in many cases. This shows that the issues of natural resources management and livelihoods can have a far-reaching impact to social well-being in the community. Also because of the complex nature of resource management in families and communities, the gendered interests do not necessarily get represented in community arenas simply by adding women to the decision-making forum. Therefore more diverse and profound integration of gender is needed in development interventions and governance.

In the focus group sessions and the following community monitoring plan development the aspect of livelihoods rose as the major concern for the people. It is valuable to note, that poor forest management practices and lack of security in forests was mentioned in the focus groups but was not ranked by any of the four community groups. However, in the monitoring plan phase of the process improved forest management was seen as one of the key issues to tackle problems of water, food security, employment and increase of village revenue.

These issues are crucial for the future of the forest in the community. Pressure from the forest resources can be released by addressing the livelihoods in a sustainable manner. I think that in the case of Angai, too much emphasis has been put into forest management process alone, which has not been able to provide solutions to the drivers of deforestation and sources of poverty. On the other hand the livelihoods must be addressed in a coherent manner with the improved forest management in order to avoid controversies in interventions and therefore inefficient and unsustainable poverty reduction. Particularly, finding ways to support agricultural production in a sustainable manner (e.g. agroforestry as means of addressing the inaccessibility of fertilizers) is crucial for both food and income security The issue of water is vital for all development in the community. Inaccessibility of water forces families spend extra working hours in household water management, away from production, education and from their families. What makes the water scarcity such a fragile issue is that the basic interventions, like drilling more boreholes, do not necessarily offer good solutions in an area where water tends to be salty. Therefore more attention should be put to water source conservation and improvement of household water management in all activities.

Lastly, the research has suggested that community is not a united, harmonious, and necessarily striving for common good, but it is a group of people struggling from power, resources and self-realization. Therefore it is vital to acknowledge that there are significant differences between different community groups (and also within groups) in how resources are managed, what kind of development priorities they have and how they are able to benefit from development interventions. This is to say that decisions made concerning interventions need to be made with the awareness of these differences and with well-planned mitigation measures of negative impacts. Particularly attention should be made towards elite capture andthe importance of non-monetary resource management to community welfare.