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The adaptation of REDD+ initiatives in forest management regimes in two pilot projects of Kondoa and Kilosa Districts, Tanzania.

By: George C. Kajembe, Dos Santos A. Silayo and Arild Vatn



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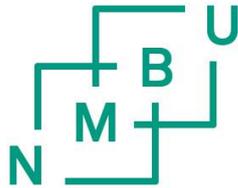
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**Department of International Environment and Development Studies,
Noragric
Faculty of Social Sciences
Norwegian University of Life Sciences**

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The adaptation of REDD+ initiatives in forest management regimes in two pilot projects of Kondoa and Kilosa Districts, Tanzania.

Report No. 75 (September, 2015)

Department of International Environment and Development Studies, Noragric

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Photo (cover): Part of savannah vegetation 'dotted' with some acacia trees in Mikumi National Park in Kilosa District, Morogoro, Tanzania. Photo by Mrs Janeth Patrick.

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ACRONYMS

ARKFor	Advancing REDD in the Kolo Hills Forests
AWF	African Wildlife Foundation
CBFM	Community Based Forest Management
CCIAM	Climate Change Impacts, Adaptation and Mitigation
CO ₂	Carbon dioxide
CoP	Conference of Parties
DCFO	District Council Forest Office
DED	District Executive Director
DFO	District Forest Officer
ECOPRC	Empowering Communities through Training on Participatory Forest Management, REDD+ and Climate Change Initiatives
FAO	Food and Agriculture Organization of the United Nations
FBD	Forestry and Beekeeping Division
GOT	Government of Tanzania
HADO	Hifadhi Ardhi Dodoma
IRA	Institute of Resources Assessment
IUCN	International Union for Conservation of Nature
JFM	Joint Forest Management
LEAT	Lawyers' Environmental Action Team
MJUMITA	Tanzania Community Forest Conservation Network
MNRT	Ministry of Natural Resources and Tourism
NAFORMA	National Forest Resource Monitoring Assessment
NGOs	Non-Governmental Organizations
REDD	Reducing Emissions from Deforestation and Forest Degradation
RNE	Royal Norwegian Embassy
SARI	Selian Agricultural Research Institute
TANAPA	Tanzania National Parks
TFCG	Tanzania Forest Conservation Group
TFS	Tanzania Forest Services Agency
TNP	Tarangire National Park
TZS	Tanzania Shillings
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNREDD	United Nations Reducing Emissions from Deforestation and Forest Degradation
USA	United States of America
VECs	Village Environmental Committees
VFMA	Village Forest Management Areas
VFS	Village Forest Scouts
VNRCs	Village Natural resources Committees

EXECUTIVE SUMMARY

As one of the countries with a high rate of deforestation and forest degradation, Tanzania contributes to CO₂ emissions from deforestation approximating 78 million tons and forest degradation of about 48 million tons amounting to a total of 126 million tons CO₂ emissions per year. The country was earmarked for piloting REDD+ activities in order to inform the UNFCCC global process on designing and implementing REDD+. Therefore, since April 2009, Tanzania has been piloting REDD+ after signing a Letter of Intent with the Government of Norway on a Climate Change Partnership with a focus on reduced emission from deforestation and forest degradation.

This report is one of the outputs of the project initiated in 2014 titled “Man and Forests – an evaluation of management strategies for reduced deforestation, led by the Norwegian University of Life Sciences, Norway in partnership with Fundação Amazonas Sustentável, Brazil; Makerere University, Uganda; Sokoine University of Agriculture, Tanzania; University of Oslo, Norway and Woods Hole Research Centre, USA. The aim of the project is to evaluate different management strategies undertaken to reduce deforestation and forest degradation and hence maintain various ecosystem services delivered. In Tanzania the project was conducted in Kilosa and Kondoa districts where REDD+ is being piloted by Tanzania Forest Conservation Group (TFCG) and African Wildlife Foundation (AWF) respectively.

The aim of the Kilosa REDD+ pilot project was to conserve forest resources through CBFM and ensuring that forests serve as a spring board for carbon storage and local communities’ livelihood as well as revitalizing local level governance structures. Moreover, the project intended to link local communities to the international carbon markets. The REDD+ pilot in Kondoa district has been aimed at mitigating climate change by conserving Kolo Hills Forests as well as reducing poverty among the targeted communities in the project area. The project also planned to prepare local stakeholders to enter the carbon trading successfully. Furthermore, the project intended to revitalize local level governance structures and recreating the trust lost as a result of a top down conservation model used by HADO (Hifadhi Ardhi Dodoma – A land rehabilitation programme).

The CBFM regime in Kilosa demanded the establishment of titled village forest reserves; forest resource management plans; village land-use plans; and bylaws defining rules for forest resource use. The project also worked towards establishing a system for validation, monitoring, reporting and verification of carbon stored. As part of this process, by-laws were established that defined rules regarding the use and protection of the resources. Before the introduction of REDD in the district, the key organizations existing included Village Councils and Village General Assemblies as well as the Village Natural Resources Committees (VNRCs). However, VNRCs were vitalized by REDD+.

The REDD+ Piloting in Kondoa adapted JFM and CBFM management options for the state and village forests respectively. Under the JFM arrangement, the state has absolute property rights while local communities are given some specified user rights. Under CBFM, local communities are owners and have absolute user rights. AWF in Kondoa opted to establish a special committee for REDD+ implementation in the villages. While

this approach aimed at increasing efficiency and effectiveness, it was later learned to have been a source of intra-village conflicts.

Both projects instituted REDD+ payment systems and undertook test or 'trial' payments. TFCG/MJUMITA paid each village according to an estimate of extra carbon stored compared to a base line at the present international carbon price. Villages distributed these resources to each individual – i.e., according to an "equality" principle rather than basing it on opportunity costs. Villagers opposed payments based on individual opportunity costs (equity). Instead, they advocated for the cultural practices of equal payment. The strong emphasis on equality regarding distribution of payments is interesting, while challenging for the losers (specifically charcoal makers). AWF based their payments on the size of the forest set aside under REDD+, how well rules regarding forest were followed as well as the levels of participation in REDD+ activities. All the money was used for village projects. Payments are considered low in both pilot areas. This is also a challenge for the wider legitimacy of REDD+ in the study area, nationally and internationally.

Institutionally, the quality of adaptation in both Kilosa and Kondoa districts was rather similar as both pilots worked through the existing local (village government) and sub national (district council) governance structures. Strictly speaking, the districts were not active actors. In short, they were rather "onlookers". Similarly, both projects tried to revitalize the local governance structures through supporting them financially. Ecologically, both pilots worked essentially with the Miombo woodlands which make over 90% of the vegetation in Tanzania, but most of this resource is on general land (*de facto* open access regime). Miombo woodlands are the mainstay of the local community in the country.

The following are pertinent recommendations:

- i. The importance of fulfilling promises*
Local communities participating in the REDD+ initiative have high expectations that they will be compensated by conserving their forests through carbon credits. If not fulfilled, this promise may undermine the concept of REDD+ and forest conservation at large.
- ii. District governments as "onlookers"*
Currently, district governments in the REDD+ pilot areas are "onlookers" and not full and active participants. This may compromise the sustainability of REDD+ in the long run as NGOs are non-state actors and may not be fully committed to REDD+ and forest conservation, but just currently motivated by the donor funding attached to the REDD+.
- iii. Revitalization of local governance structures*
REDD+ pilot projects have revitalized local governance structures specifically the village natural resource committees (VNRCs) which were rather "dormant" before the advent of REDD+. This was a critical and important endeavour and needs to be maintained in order to ensure project success and sustainability.

iv. The importance of securing property rights and defining by-laws

It is worth noting the importance of securing property rights and defining by-laws. Furthermore, institutional change in itself is important. However, this process is costly and may result in both inter- and intra-village disputes. Proper conflict resolution mechanism is important to ensure continuity and sustainability of any REDD+project.

1. INTRODUCTION

This report is one of the outputs of the project initiated in 2014 titled “Man and Forests – an evaluation of management strategies for reduced deforestation”, led by the Norwegian University of Life Sciences, Norway, in partnership with Fundação Amazonas Sustentável, Brazil; Makerere University, Uganda; Sokoine University of Agriculture, Tanzania; University of Oslo, Norway, and Woods Hole Research Center, USA.

The aim of the project is to evaluate different management strategies undertaken to reduce deforestation and forest degradation and hence maintain various ecosystem services delivered. A part of that assessment is to characterize the management regimes established in the REDD+ pilot projects and evaluate how well the REDD+ regime is adapted to the local situations regarding institutional and ecological conditions.

This report covers an analysis of these aspects in Kilosa and Kondoa REDD+ pilot projects in Tanzania. The report first describes the status of forests and forest governance in Tanzania followed by the discussion of how REDD+ was introduced and piloted in the country. Thereafter, the report discusses the introduction of REDD+ in both pilot projects with specific discussions regarding the state of the forests; governance and governance structures before the introduction of REDD+ and changes that were undertaken after the introduction. An attempt has also been made to compare the two cases in terms of strategies used as well as the quality of adaptations. The report finally gives a conclusion and recommendations.

2. FOREST MANAGEMENT AND REDD+ IN TANZANIA

2.1 The state of forests in Tanzania

Tanzania has about 33–35 million hectares of forests and woodlands (URT 2013a). About 40% of the country’s total land and up to 90% of its forestland is miombo woodlands. These woodlands are found in the southeastern part of the country and contain as many as 300 different species of trees, dominated by the oak-like subfamily *Caesalpinioideae*, shrubs and grasses. North of the miombo woodlands are the Eastern Arc Mountains and the central savanna bushland and thickets. Savanna grasslands extend from East of Mount Kilimanjaro to the coast and along the Kenyan border. Coastal forests and about 110,000 hectares of mangrove forest are found along the coast of the Indian Ocean. There are two general categories of mangroves: those found in fringe communities along the open coastline, and creek mangroves, which are found at river mouths (Spalding *et al.*, 1997). The mangrove forest at the mouth of the Rufiji River in southwestern Tanzania is one of the largest in the world (Bregnballe *et al.*, 1990; Semesi, 1993). The country has two global biodiversity hot spots: (1) the Eastern Afromontane Hotspot, which includes the Eastern Arc forests, Albertine Rift forests and Kenya/Tanzania highlands; and (2) the Coastal Forest Hotspot, which is part of the Eastern Africa Coastal Forests Ecoregion.

Tanzania's forests provide a range of benefits to the human population – not least fuelwood, charcoal, poles and timber (Silayo *et al.*, 2008; Augustino *et al.*, 2014). Forests also provide game meat, fodder, medicinal plants, dyes, fibers, gums, resins, oils, beeswax and honey. The Miombo woodlands have 83 different species of trees and bushes that provide nuts and fruits. Ninety percent of the population relies on fuelwood and charcoal for cooking and heating (Kaale, 2005; Malimbwi *et al.*, 2007). A substantial amount of forest products are harvested both legally and illegally. The study by MNRT and Indufor (2011) indicated that one of the ways to estimate the difference between licensed harvesting and actual harvesting has been to compare the transit passes given to transport timber versus the felling licenses. The study further suggests that the actual harvesting level could be five times larger in certain areas than officially recorded. Several non-timber forest products of economic value provide nutrition to rural consumers. Ecosystem services also include watershed functions, maintenance of soil fertility, conservation of biodiversity, carbon dioxide sequestration and ecotourism (URT, 2010; Abdallah and Monela, 2007).

During the colonial period and early years following independence, beekeeping was a significant non-timber forest resource, generating about 1% of export earnings (Mkamba, 2006). The creation of the Forestry and Beekeeping Division (FBD) of the Ministry of Natural Resources and Tourism (MNRT) reflected the importance of the industry to the sector. However, the beekeeping industry is currently only utilizing about 3.5% of its potential, and, despite significant demand, product exports are negligible. Constraints to development include poor product quality, low levels of production, loss of beekeeping habitat and inadequate marketing (Mwakatobe and Mlingwa, 2006).

All types of forest are increasingly under pressure of conversion to other competing land uses such as agriculture, livestock grazing, settlement, and industrial development. Shifting cultivation accounts for at least half the forest loss (Kilawe *et al.*, *forthcoming*), with charcoal production the second-most common cause of deforestation and forest degradation (Lusambo *et al.*, 2007). Other threats are hunting, timber harvesting, mining and road construction. Forestland and catchment areas have suffered from erosion, increased sedimentation and loss of soil productivity. Particularly in forest areas near urban areas, forests have been overharvested and overgrazed, leading to shortages of forest products. Between 1990 and 2000, Tanzania lost an average of 412,300 hectares of forest per year, a deforestation rate of 0.99%. Between 2000 and 2005, the annual rate of deforestation increased to 1.1% per year (Abdallah and Monela, 2007; URT, 2009; URT, 2006; URT, 2010; LEAT 2009; IUCN, 2008).

The southeastern miombo woodlands generally have poor soils and low nutrient vegetation. The tsetse fly, which thrives on wild game, is prevalent in the area and carries trypanosome, a parasite that causes sleeping sickness in humans and domestic livestock. The tsetse fly has kept the human population low in the miombo woodlands, and this has put pressure on other lands for cultivation and livestock grazing. The tsetse fly has not, however, protected the miombo woodlands from deforestation and degradation. Fires are set to force wildlife into hunting areas and to clear the woodlands for agriculture. The area has also been degraded as a result of mining operations and harvesting of

valuable species, such as the African black wood tree, which is used to make musical instruments and traditional carvings (Pollack, 1996; WWF, 2001; URT, 2009).

2.2 Governance and governance structures with respect to Tanzanian forests

Tanzania's Forest Act (2002) classifies the country's forests; establishes forest governance bodies; outlines requirements for the creation and conversion of forest reserves and granting of forest concessions and licenses; and sets the foundation for Participatory Forest Management (PFM) by local communities. Communities living in or adjacent to forests work with local forest officials to create agreements regarding sustainable management of forestland. PFM can be applied to forests under full protection, production or mixed purpose forests. Village governance bodies (e.g., village councils and natural resource committees) are responsible for establishing plans to manage village forest reserves in a sustainable manner. The Forest Act does neither define sustainability nor provide for external monitoring and review of forest management plans or joint forest management agreements (URT, 2002; URT, 2009).

The Forest Act provides that all biological resources of the forest and their intangible products, including all genetic material, are the property of the government and shall be preserved and used for the benefit of the people of Tanzania. The Forest Act grants the government the authority to enforce the provisions of the Act and assess fines and penalties for noncompliance (URT, 2002). The Local Government Act (1982) and Local Government Finance Act (1982) empower Local Councils to enact bylaws to collect taxes from forested areas and assess taxes on forest produce in their jurisdictions (Dallu, n.d.).

The Tanzania Forest Act (2002) explicitly provides for five types of forests in Tanzania: National Forest Reserves under the central government; Local Authority Forest Reserves under the local government; Village Forests Reserves managed and owned by villagers; Private Forests that are owned and managed by one or more individuals under traditional rights of tenure; and forests located on general land of which the rights are given to individuals, groups, or corporations. Forest reserves include: (1) national parks and game reserves and central government forest reserves which account for about 16 million hectares; (2) local government authority forest reserves (about 11 million hectares); and (3) Village Land Forest Reserves (about 20 million hectares of village forestland, of which about 3.6 million hectares are presently formally gazetted) (URT, 2013a).

Forest reserves have varying restrictions on the use of forestland and resources. National parks permit no extractive use and require parliamentary authority to de-gazette. Also in the case of nature reserves, no human consumptive activities are allowed, but the government and communities may enter into joint agreements for special purposes (e.g., traditional or sacred uses). Other categories of national and local authority reserves include protective and productive forest reserves and can be the subject of participatory forest management arrangements between the government and local communities. Central Government Forest Reserves are the largest category of land used as production forests. Private forests are under lease and management by private individuals or entities, often used for plantations or game farms. During 2004– 2009, the

government leased an estimated 28,000 hectares of forestland to private investor for teak plantation development (URT, 2009; FAO, 2005; World Bank, 2010).

The government can grant concessions in forest reserves (subject to their restrictions) and on general land. Forest concessions are granted subject to exploitation and management plans, and larger concessions require an environmental impact assessment. Local government authorities can grant forest concessions for parcels of 200 hectares and under; concessions over 200 hectares are subject to approval by the minister responsible for forest resources (URT, 2002).

Licenses and permits govern the legal harvest, transport, sale and export of timber and timber products in Tanzania. Licenses for harvesting and transporting forest products are normally issued by authorized forest officers stationed in the districts. To control legal trade on flora and fauna, checkpoints are normally established at strategic administrative boundaries for monitoring timber trade and collecting revenue. Checkpoint workers are supposed to ensure that the transported products match the accompanying license, and that fees are paid for any product exceeding the license. In practice, the license system is often ignored, and by some estimates the majority of logging undertaken in the reserves are illegal. Poachers, responding to the demands of urbanization and tourism development, engage in illegal extraction of timber, and illegal trade of firewood and charcoal is a significant problem. The primary causes of the continued illegal activities are insufficient human capacity to enforce the laws, lack of knowledge of the laws among enforcement officers, and corruption. Local entrepreneurs can obtain substantially higher profits by avoiding formal marketing channels (Dallu, n.d.; FAO, 2005).

Tanzania's legal framework supports Participatory Forest Management (PFM). PFM began in Tanzania in the mid-1990s with a small number of pilot projects and has grown to hundreds of projects in 53 districts and covering 4.1 million hectares to-date. The law recognizes two types of PFM: Joint Forest-Management (JFM) and Community-Based Forest Management (CBFM). In JFM arrangements, the community enters into an agreement to undertake some management functions of a preexisting local or central government forest reserve. The parties to the agreement share the responsibilities and the benefits accruing from the forest activities. JFM is the mechanism used when the government seeks to maintain the highest level of control over forest management and attendant forest benefits. CBFM arrangements operate on community land. Local communities declare an area of village land to be a forest reserve and set rules for the protection and use of forest resources under the approval of local government authorities (URT, 2009; IUCN, 2008; Abdallah and Monela, 2007). Some studies in Tanzania have found that PFM forests tend to be healthier and more sustainably used and managed than forests governed solely by the forest department (Blomley *et al.*, 2008). Nonetheless, only about 1% of Tanzania's forest reserves are under registered PFM agreements. According to DANIDA (2002) and Blomley and Iddi (2009) a number of reasons have been pointed as to the lack of PFM expansion including:

- *Time and cost:* The time to develop the required PFM management plans and obtain approval of the plans can take up to four years, and the process of conducting

- necessary inventories, obtaining technical advice and establishing community governance bodies can cost US \$50,000–100,000 per village.
- *Loss of village council revenue:* One main source of revenue for village councils in Tanzania is fines levied against illegal forest users. PFM plans require some measure of forest protection, which can reduce illegal forest use and thus reduce village council revenues – a disincentive for local communities to take up PFM. Increased forest protection measures will equally affect district council revenues.
 - *Erosion of local institutional authority to manage forests:* Over time, local governance bodies created to manage forests in PFM programs (such as forest committees) often lose authority. Local bodies are created to support goals of decentralization and participatory management of forest resources, but if the local communities and governance bodies lack legal rights (e.g. failure to institute PFM) over the forest resources, their authority may be lost to reassertion of control by the central government.
 - *Elite capture and lack of representation:* Local forest management bodies often tend to mirror existing social hierarchies. Although groups that are politically, economically and socially marginalized are often among the highest users of forest resources (e.g., women, landless and migrants), such groups often lack representation in the forest management bodies. Significant support from local NGOs and donors is often necessary to ensure that local governance bodies are well designed and representative structures are sustained.
 - *Inadequate benefits to local communities:* In some areas, PFM programs have not provided local communities with benefits sufficient to offset those lost under the program.

2.3 The introduction of REDD+ in Tanzania

Since the thirteenth UNFCCC Conference of Parties (Cop 13) and the third Meeting of the Parties to the Kyoto Protocol of the UNFCCC in Bali in 2007, REDD+, in all its facets, has been embraced with flavour rarely witnessed in environmental circles. Currently, there appears to be a consensus that the issue of deforestation and forest degradation must be addressed as a low cost option to reduce greenhouse gas emissions and avoid an increase in temperature beyond acceptable levels.

As one of the countries with a higher rate of deforestation and forest degradation, Tanzania also contributes high CO₂ emissions per annum through deforestation estimated to be in the order of 78 million tons and forest degradation of about 48 million tons amounting to a total of 126 million tons CO₂ emissions per year (Zahabu, 2008). The country has therefore decided to embark upon a national REDD+ program to manage its forests sustainably while responding to poverty reduction and sustainable development needs. Similarly, REDD+ issues are being mainstreamed into national development planning through the National REDD+ strategy.

Tanzania was privileged to be among the countries earmarked for piloting REDD+ activities in order to inform the UNFCCC global process on designing and implementing REDD+. Therefore, since April 2009, the country has been piloting REDD+ after signing a

Letter of Intent with the Government of Norway on a Climate Change Partnership with a focus on reduced emission from deforestation and forest degradation. This includes a 500 million NOK (US\$ 100 million) commitment to support the National REDD+ Strategy development; REDD+ Piloting; Research and Capacity Building (including the Program on Climate Change Impacts, Adaptation and Mitigation (CCIAM)); Investments in National Forest Monitoring and Assessment (NAFORMA); Empowering Communities through Training on Participatory Forest Management, REDD+ and Climate Change Initiatives (ECOPRC); Private Sector Engagement; and Establishment of a National REDD+ Trust Fund and Carbon Monitoring Centre.

The Country also received US\$ 4.28 million from UN-REDD Program, which is largely funded by the Norwegian Government. This is a collaborative partnership between three UN Agencies namely Food and Agriculture Organization of the United Nations (FAO); the United Nations Development Program (UNDP); and the United Nations Environment Program (UNEP) (UN-REDD, 2009). Another support of about US\$ 5 million came from the Government of Finland; whilst US\$ 3.5 million came from the German Climate Change Initiative (Burgess *et al.*, 2010).

National REDD+ piloting is taking place in village land forests, government forest reserves (both local and central governments) and forests in the general land distributed in different parts of Tanzania (Figure 1)

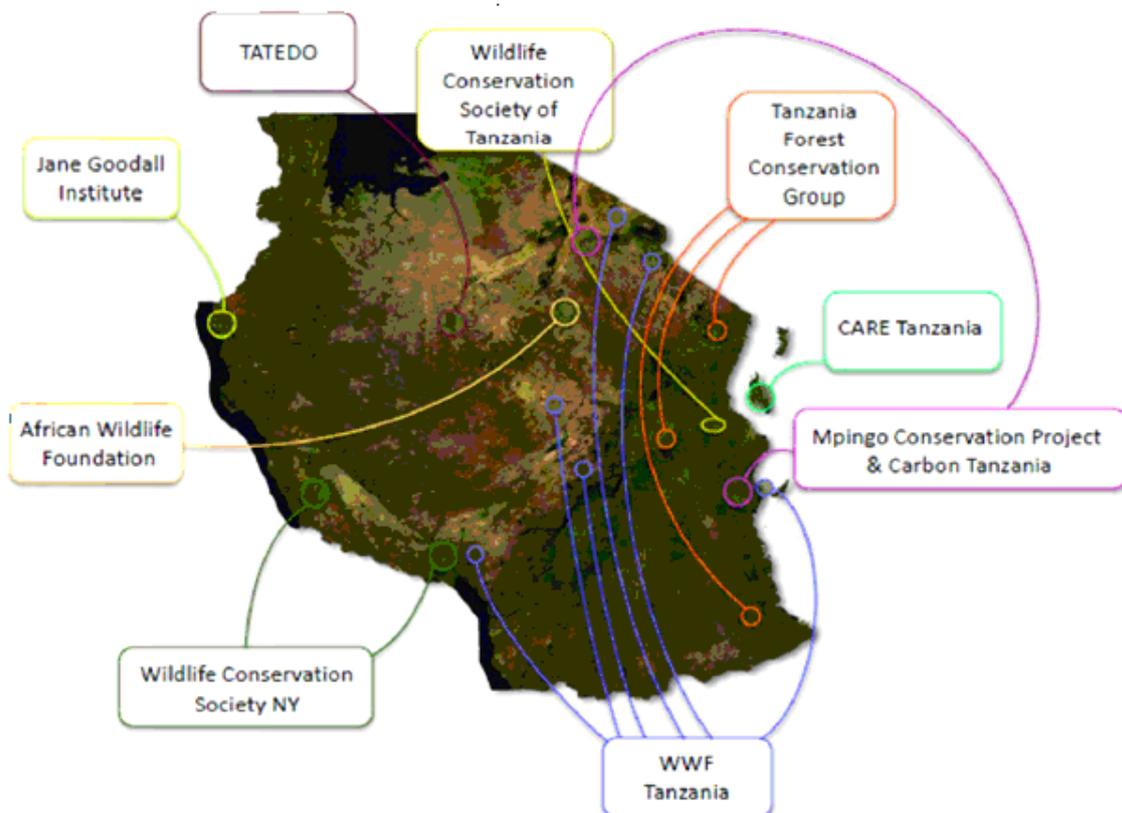


Figure 1: Map of Tanzania showing Distribution of the National REDD+ Pilot Projects and the implementing NGOs.

Source: UN-REDD Tanzania, (2010a)

3. INTRODUCING REDD+ IN THE KILOSA DISTRICT

3.1 Location

Kilosa District (Figure 2) is one of the six districts of Morogoro Region of Tanzania. Its administrative seat is Kilosa town. The district covers 14,918 square kilometres. It is bordered to the north by Manyara Region, to the northeast by Tanga Region, to the east by Mvomero District, to the southeast by Morogoro Rural District, to the south by Kilombero District, to the southwest by the Iringa Region and to the west by Dodoma Region. The district lies between 6°S and 8°S, and 36°30'E and 38°E. Kilosa District comprises mostly flat lowland that covers the whole of the eastern part called Mkata Plains. Kilosa district is inhabited by Wakaguru, Wasagara and Wavidunda as the main ethnic groups. The district was purposely selected for the study because it is one of the nine areas involved in the REDD+ piloting in Tanzania.

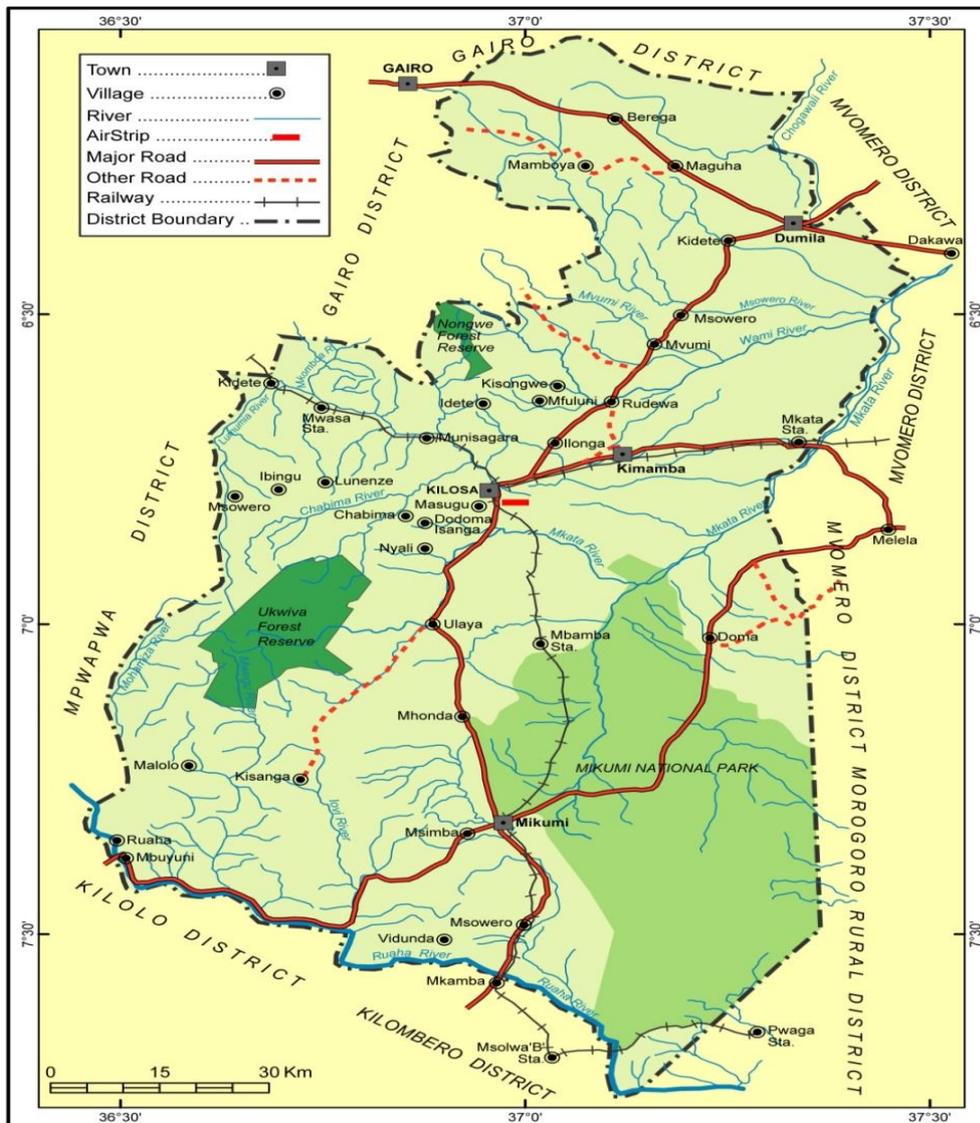


Figure 2: Map of Kilosa district.

Source: Ministry of Lands and Housing (2013)

3.2 The state of forests in Kilosa

The natural vegetation is categorized into four types (Kilawe *et. al.*, forthcoming): (1) Dry miombo woodland dominated by *Brachystegia bussei*, *Brachystegia bohmi*, *Brachystegia microphylla* and *Pterocarpus angolensis*, (2) Sub-montane dominated by *Parkia filicoidea*, *Bridelia micrantha* *Diospyros squarrosa*, *Albizia gummifera*, *Ficus capensis* (3) Riverrhine vegetation dominated by *Khaya anthotheca*, *Milicia excels*, *Ficus stuhlmannii*, *Pseudolachnostylis glauca*, *Vitex amaniensis*, *Rhus natalensis* and *Ficus sycomorus* and (4) grassland dominated by grass. Most of the forests are found on the western part of the district, particularly around the Eastern Arc mountain range, and include forest reserves, public forests and community forests (Shishira *et al.*, 1997). According to Dyngeland and Erikson (2011), the District has ten Forest Reserves⁴ covering an area of 106,983 ha and are all managed centrally by the Tanzania Forest Service (TFS) Agency⁵. Most of them are located on steep slopes around the catchment area for the Wami river system, while the rest are found on gentle sloping terrain within and around Mikumi National Park.

Besides these forest reserves there are governmental and privately owned soft wood plantations, comprising mainly of pines, cyprus and eucalyptus meant for the production of timber and poles (Shishira *et al.*, 1997). Community forests are found within villages while public forests are all forest outside the forest reserves, which are not controlled by villagers or the village. Meaning that all forest not demarcated to a village will be seen as public forest and managed by the state. Kilosa also hosts the Mikumi National Park, One of the 16 National Parks of the country. The park lies just on the north of the famous Selous Game Reserve, gazetted in 1964 covering an area of 1070 km and it is the fifth largest National park in Tanzania, after Ruaha (20,226km), Serengeti (14763 km), Katavi (4 471km) and Mkomazi (3 245 km). It is one ecosystem with Selous making the animals (Elephants, Buffalos and Zebras) migrate to and from the northern part of the reserve into the park (Vedeld *et al.*, 2012).

The forests in Kilosa, as in other areas, are exploited for various purposes such as poles, timber, firewood and charcoal, but are also used for hunting wild animals and beekeeping. For long, concern has been raised in relation to the long-term sustainability of Kilosa forest resources, and in the Rubeho Mountains along where the pilot villages are located, the total loss of forest cover have been estimated to be 82%, of which 10.3% has happened between 1975 and 2000 (Hall *et al.* 2009). Most of the forest was cleared before 1955 during the colonial era, and can be connected with the establishment of the many commercial farms and their production of sisal.

Since 1975, however, rates of loss have actually decreased along three of the mountain zones; the lowland mountains (200-800m), the mountains (1200-1800m) and the upper mountains (>1800m). In contrast, however, the rate of loss of forest cover has increased

⁴ Ikwamba, Kihilihili, Mamboya, Mamboto, Mamiwa Kisara N, Mamiwa Kisara S, Palaulanga, Italagwe, Ukwiva and Uponera.

⁵ TFS mandate to manage and own the national forest and bee resources is given under the Executive Agencies Act, Cap. 245 R.E. 2009 through the Establishment Order published in the Government Notice No. 269 dated 30th July, 2010.

in the sub mountain zone (800-1200m). This tendency can be explained by people moving upwards from the lowland mountains that suffered the highest rate of forest loss before 1975, towards the sub mountain zone where the forest is more intact. The two major forces of deforestation within Kilosa District are forest clearing for agriculture and plantations and biomass for energy consumption. This is mainly a result of increasing urbanisation and population (Shishira *et al.*, 1997; Hall *et al.*, 2009). In addition, timber production and bush fires are also seen as two other important and corresponding drivers of deforestation.

3.3 Natural resources governance

Governance structures comprise actors and institutions defining access to resources and rules defining interactions between actors (Vatn, 2015). Before we describe the specific systems prior to REDD+ in Kilosa, we will briefly give an account of the basic concepts namely 'actors' and 'institutions'.

3.3.1 Actors

According to Frooman (1999), the term *actors* refer to individuals, organizations and networks that participate in decision-making. Actors are persons who interact with each other with their own interests. In addition, sometimes the term 'actors' are also used interchangeably to imply 'stakeholders'. Actors can be categorized based on their powers, influence and legitimacy. According to Vatn and Vedeld, (2011) actors in natural resource governance process can be divided into two – namely economic and political actors. Economic actors are those having access to productive resources. In the case of the REDD+ pilot project in Kilosa these include farmers, charcoal makers and pastoralists. Political actors are those with powers to influence access and interaction rules. In the case of the Kilosa REDD+ pilot project, these include village leaders, TFCG/MJUMITA and Kilosa district officials. REDD+ may demand the creation of new actors.

3.3.2 Institutions

Institutions are social constructs and may be understood as rules as described by North (1990) and Ostrom (1990). Operational rules/resource regimes define who has access to which resource – e.g., property and use rights. They protect different interests and values as they can also create winners and losers among actors. In the case of common property, internal rules regarding who may use which resource when, are typically of great importance to make the system work well. Institutions also structure the policy making process – defining how political power is distributed – i.e., who have rights and responsibilities regarding political decisions. Such decisions regard not least what operational rules should look like. Some scholars argue that institutions are a by-product of conflict between actors competing for limited political and economic resources (Knight, 1992; Moe, 2005). In this power-centric perspective, powerful actors influence institutional design to produce outcomes that they prefer.

3.4 Governance structures before the introduction of REDD in Kilosa District

Before the introduction of REDD in the district, communities had acquired substantial responsibilities in natural resources management following major reforms that took place in the government three decades ago in Tanzania. In 1982, the Local Government Act was passed and led to reintroduction of elected District Councils and strengthening the corporate powers of elected Village Councils. The Act also empowered Village Councils to propagate their own legally binding by-laws, subject to approval by the District Council. The Forest Act No. 14 of 2002 (URT 2002) makes explicit reference to the development of forest management by-laws by village councils, through the legal provisions provided for under the Local Government Act No. 7 of 1982 (URT 1982). The Forest Act reinforces the role of the Village Councils through the formation of Village Forest Committees (which are generally now known as either Village Environmental Committees (VECs), or VNRCs. These elected bodies are supposed to be accountable sub-committees of the overall Village Council and wider Village Assembly.

The importance of village government organizations for managing natural resources is enhanced through their legal responsibility for management of village lands according to the Land Act No. 4 of 1999 and Village Land Act No. 5 of 1999 (URT 1999a and 2009b). Village Councils manage land on behalf of the Village Assembly, and this includes demarcating land that is to be allocated to individuals and land which will remain under communal management, use and conservation. These structures existed in both districts as were operating countrywide. However, there could be some variations from place to place depending on the ability of the government and development partners to implementing it in various areas across the country.

The key political actors were the Village government officials namely the Village Chairpersons who are being voted in office by the villagers and the village Executive Officers who are the employees of the District council. On the other hand farmers, pastoralists and charcoal makers were the key economic actors. Before the introduction of REDD+, there were no village forests (i.e., no CBFM) in the pilot areas, though there were areas within the district that managed their forest resources under such arrangements. However, the village councils/governments had rules regarding charcoal making but they were not strictly enforced. In short, the village forests were under an open access regime.

3.5 Changes in governance and governance structures following REDD+ piloting in Kilosa District

3.5.1 The Kilosa REDD+ pilot project

The aim of in the Kilosa REDD+ pilot project was to conserve forest resources through CBFM and ensuring that forests serve as a springboard for carbon storage and local communities' livelihood as well as revitalizing local level governance structures. Moreover, TFCG intended to link local communities to the international carbon markets (TFCG and MJUMITA, 2012). In order to ensure that poverty is re-addressed, a number of income generating activities have been initiated. These include beekeeping, sustainable charcoal making and conservation agriculture.

3.5.2 The process of introducing REDD+ in Kilosa

TFCG/MJUMITA applied for funds from the Royal Norwegian Embassy (RNE) before the project was endorsed by the Kilosa District Council as it had lounded the application before the official call by RNE in Dar es Salaam. Furthermore, TFCG/MJUMITA decided to use CBFM only as a REDD+ management regime. The idea was to optimize benefits as the community had both ownership and user rights of the village land. This way, decisions could be made regarding products and benefits without objections from the government provided procedures were properly followed.

3.5.3 Changes in actor structures

Experience shows that before REDD+ was introduced in the district, charcoal makers were key economic actors with strategic power brought about by their strong financial power and they were able to manipulate political actors such as village leaders and natural resources managers by corrupting them. However, in the advent of REDD+ project, charcoal makers' power was compromised as they were being seen as "bad people" by their fellow villagers. Before the introduction of REDD+ in the district, key organizations existed including Village Councils and the General Assemblies as well as the Village Natural Resources Committees (VNRCs). However, VNRCs were typically not active, while vitalized by REDD+. A land use committee was established under the VNRC to facilitate land use planning.

While these committees were established in accordance with the standard rules for PFM in Tanzania, TFCG/MJUMITA went further in establishing a so-called Community Carbon Enterprise (Kimbowa *et al.*, 2011). The idea was to build an organization having the competence to trade carbon credits at international markets including establishing a structure that could aggregate emission reductions across villages to increase volumes and reduce transaction costs (TFCG and MJUMITA, 2012). It also includes validating, monitoring, reporting and verification components (Meshack, pers. comm.). According to Pima (pers. comm.) "It can be said that carbon enterprises are probably the most 'novel' governance structures among those advocated by the project". The carbon enterprise has not so far been able to enter the international market and trade carbon credits from Kilosa. Creating it seems to have been demanding, an observation also supported by NIRAS (2015).

3.5.4 Changes in institutions

The REDD+ pilot project in Kilosa was based on CBFM. According to the guidelines (MNRT-FBD, 2007), the CBFM regime demands the establishment of titled village forest reserves; forest resource management plans; village land-use plans, and bylaws defining rules for forest resource use. The project also worked towards establishing a system for validation, monitoring, reporting and verification. As part of this process, by-laws were established that defined rules regarding use and protection of the resources. Table 1 presents an extract of such set of by-laws obtained from Chabima village participatory forest management programme.

Table 1: Village forest reserve by- laws. Example from Chabima village

Item	Guiding conditions
<p>By-laws protecting Chabima Village Forest Reserve</p>	<p>Chabima Village, through it Natural Resources Committee, has prepared By-laws that will ensure that this participatory forest programme is legally empowered to implement activities within and outside the forest reserve. These By-laws have been enacted in accordance to the District Council Act No. 7 of 1982 Section 163-167 with amendment of 1998 Section 38. All defaulters who will go against conditions in this programme, will be dealt with in accordance to the By-laws enacted to oversee forest management.</p>
<p>Conditions for Forest Use.</p>	<ul style="list-style-type: none"> ❖ Only residents of Chabima Village are entitled to enter the village forest reserve for various management activities according to the laid down regulations concerning this programme. ❖ Any forest expert is allowed to enter the forest reserve for any activity but without taking away anything from it as long as he/she gives prior notice to Chabima Village Government before entering the forest reserve. ❖ Other people from outside Chabima Village will be allowed to enter Village forest reserve with special permission from Chabima Village Government. ❖ Activities allowed within the forest reserve but outside the utility zone are only those that do not affect the forest, for example collecting fruits, mushroom, offering sacrifice, research, tourism, bee keeping, training, fetching water and recommended pathways. ❖ Activities allowed within the forest utility zone include collecting dry firewood, timber, collecting medicine (from medicinal plants), cutting poles, cutting twigs, burning charcoal, cutting bamboo with a view of sustainable programme.
<p>Procedure for utilizing forest reserve and forest products</p>	<p>(a) Utilization of the forest and forest products without prior permission (applicable to the whole forest reserve)</p> <ul style="list-style-type: none"> ❖ Using the pathway from one village to another; fetching water; collecting mushrooms; collecting fruits and cutting grass for thatching. ❖ Offering sacrifice (given the relevant feature exists (tree, stone, cave etc.) <p>(b) Utilization of the forest with special permit without payment (applicable only to the utility zone)</p> <ul style="list-style-type: none"> ❖ Collect firewood, cutting poles, bamboo for building purpose and twigs from the utility zone by residents from the village. <p>(c) Forest utilization after paying fee/licence (applicable only to the utility zone)</p> <ul style="list-style-type: none"> ❖ Research within the forest. ❖ Tourism and training for visitors from outside Chabima Village. ❖ Timber harvesting. ❖ Burning charcoal. ❖ Cutting bamboo, poles by people from outside Chabima village. ❖ Bee keeping by people from outside Chabima village. <p>(d) Activities not allowed within the forest reserve</p> <ul style="list-style-type: none"> ❖ Farming or human settlement within the forest reserve. ❖ Grazing animals within the forest. ❖ Collecting honey from dead logs. ❖ Trapping or hunting wild animals or birds within or outside the forest reserve. ❖ Mining within the forest reserve. ❖ Making ropes from tree barks. ❖ Making timber without permit and consent from the natural resources committee and the village council. ❖ Illegal fishing in the rivers within the forest reserve.

Item	Guiding conditions
Other forest regulations	<ul style="list-style-type: none"> ❖ Any person entering forest reserve with a paid permit must be accompanied by a guide from the Village Natural Resources Committee. ❖ Regulations for payment of permits/fees for entering the forest and resources from the forest will change according to the economic conditions prevailing ❖ Fees and prices of forest trees for timber will be arranged by the Village Natural Resources Committee and the Village Council after deliberations. ❖ In order to minimize incidences of bush fires, all farms bordering the village reserve forest should not be cleared by using fire or fire breaker paths should be made before setting fire to the farmland. ❖ All villagers are required to report law defaulters and any villager failing to do so is committing a crime and shall pay a fine according to the laid down by-laws protecting village forest reserve.

Source: Extracted from Chabima Village Council (2011).

Delimitation of village forest reserves and by-laws demands public approval to become formally binding. This process has shown to be slow and TFCG decided to go on marking forests without such approval being offered. In some villages the establishment of village forests necessitated re-locating some people to leave space for the establishment of the village forest. Re-location happened specifically in the upland areas which resulted in some conflicts between TFCG/MJUMITA and the re-located villagers. Also some conflicts were observed between upland and lowland villagers as the lowland villagers insisted that their fellow villagers in the upland should be re-located to the lowlands so as to give space for the creation of village land forests which can serve as catchment areas.

It is worth noting that Kilosa is well known area for recurrent resource use conflicts. Farmer-pastoralist conflicts have led to fatalities in some villages while in some villages the levels have been reported to be low. According to Movik *et al.* (2012) villages that had experienced fatal conflicts were between the pastoralists from Mabwegere against farmers in Mfuru and between pastoralist in Twatwatwa and Mkwajuni village farmers. These conflicts are not connected to introduction of REDD, though.

There were also conflicts between charcoal makers and other villagers. This materialized both regarding land use planning – where charcoal makers typically were among those opting for smaller areas of protected/REDD+ forests – and regarding payments. Concerning the latter, there were conflicts regarding if opportunity costs should decide internal distributions within villages. TFCG/MJUMITA made payments per village based on ‘mimicking’ a performance based system including estimated amounts of reduced CO₂ emissions per ha for each type of forest. This reduction was next valued at the present market price for CO₂⁶, which was quite low at the time. Regarding internal distribution, villagers opposed compensation with respect to payment based on individual opportunity costs (equity), which would imply largest compensation to charcoal makers. Instead, the majority advocated for the cultural practices which would ensure equal payment (equality) to all village members. Generally, the charcoal makers were being seen as “bad people” by their fellow villagers. It should be mentioned that each village decided on a fraction of the individual payment to be allocated to village projects. Some villages asked for these resources to be kept with TFCG. This was so in

⁶ The money still came from the payment issued to the pilot by the Norwegian government.

cases where they needed to ‘sort out’ internal governance issues/low trust in own leadership.

The strong emphasis on equality regarding distribution of payments is interesting, while challenging for the losers (specifically charcoal makers). Also the payments are considered low and this is also a challenge for the wider legitimacy of REDD+ in the study area, nationally and internationally (Vatn *et al.*, unpubl.). The analysis of the community expectations from REDD+ (Dyngeland and Waized, 2013) showed that the expected amount of individual payments exceeded the received amount in all pilot villages. For example, the expected individual payment in one of the village (Mfuluni) was up to 112 times higher than the actual received amount (Dyngeland and Waized, 2013). These observations imply that the villagers might have higher expectations to payments in the future. Observations show that many communities now connect the payments with REDD+. Ali *et al.* (2014) has made a survey on perceptions of communities on trial payments in Kilosa. When asked about what they knew about REDD+, many of the interviewees responded that “the more we conserve, the more money we will get”. This implies that there are expectations connected to future payments. Table 2 indicates payments instituted in a selected number of REDD+ villages in Kilosa district in 2013.

Table 2: Amount of money (TZS) distributed to Villages in Kilosa District REDD+ Pilot project

S/N	Village	TZS	USD
1	Nyali	29,415,100.00	18,384.43
2	Chabima	23,216,778.00	14,510.48
3	Kisongwe	16,788,750.00	10,493.00
4	Dodoma-Isanga	13,291,922.00	8,307.45
5	Ibingu	10,030,750.00	6,269.22
6	Lunenzi	6,905,650.00	4,316.03
Total		99,648,950.00	62,280.60

Note: 1 USD= TZS 1,600.00

Pastoralists were not factored into the REDD+ equation. This is because CBFM does not consider pastoralism as a viable land use system. Consequently, there was an escalation of resource use conflicts between the farmers and the pastoralists in the area. Overall, in the case of the Kilosa REDD+ pilot project, charcoal makers and pastoralists can be considered as losers as the operational rules created under the REDD+ regime restrict their access to forest land for charcoal making and grazing respectively, while other members of the community are winners specifically by getting some REDD+ payments (Kajembe *et al.*, 2013). At the same time, it is clear that the REDD+ project in Kilosa has revitalized the governance structures existing before REDD+ was introduced – specifically the VNRCs – and has increased transparency and accountability at the sub-village and village levels.

3.6 Adaptation of the REDD+ regime to existing institutional and ecological conditions in Kilosa District

3.6.1 Adaptation to institutional conditions

REDD+ operations in Kilosa district were based on CBFM. The shift to this management regime was initiated by TFCG/MJUMITA. It was based on the existing organizational structures in the villages. This structure was revitalized and expanded following the demands of PFM as defined in national legislation and guidelines. Next, there were several changes in the institutional structure, following again national practices defined for PFM. Before REDD+, there were no formalized village borders and forest resources were dominantly under *de facto* open access – i.e., village councils/governments had rules regarding charcoal making, but they were not strictly enforced. Out of REDD+ came a system where access is better controlled. Village by-laws are set up to control withdrawal of resources. Management capacities have expanded.

3.6.2 Adaptation to ecological conditions

The REDD+ management regime in Kilosa is established mainly in miombo woodlands, which are widespread in the district. Miombo woodlands are subject to shifting cultivation, specifically through *simsim* cultivation, charcoal making and wildfires. Through CBFM, the REDD Pilot project has created a management regime more sensitive to the issues of forest resource use and conservation. In order to conserve the resources, to ensure increased carbon storage, but also other ecosystem services like catchment and biodiversity services, village land forest reserves were created strategically in mountainous areas and as a result some villagers had to be re-located downhill.

4. INTRODUCING REDD+ IN THE KONDOA DISTRICT

4.1 Location

The Kondoa District lies between 5° 0' S and 35° 45' 0 E. The district consists of 34 villages with a total population of 269,704 according to the 2012 National Population Census (URT, 2013b). The Rangi and the Sandawe constitute the major ethnic groups of the Kondoa District. Other groups include the Alagwa (also known as Aasi), the Burunge, the Gorowa (or Fyome), the Nyaturu and the Barabaig. REDD+ is being piloted at Salanka, Isabe and Kome Forest Reserves on the Irangi Hills and Irangi Escarpment which together make the so-called Kolo Hills Forest Reserves (Figure 3).

The Kolo Hills forests in Kondoa District, north-central Tanzania, hold the headwaters of the Tarangire River. They have an important value for the ecosystem services to both people and wildlife. Kondoa District is a semi-arid area, typified originally by miombo forests, largely destroyed and degraded in the 20th century to develop economic activities such as livestock grazing, agriculture and by the need for wood energy. The African Wildlife Foundation (AWF) is responsible for the implementation of the REDD+ pilot (CAMCO, 2010).

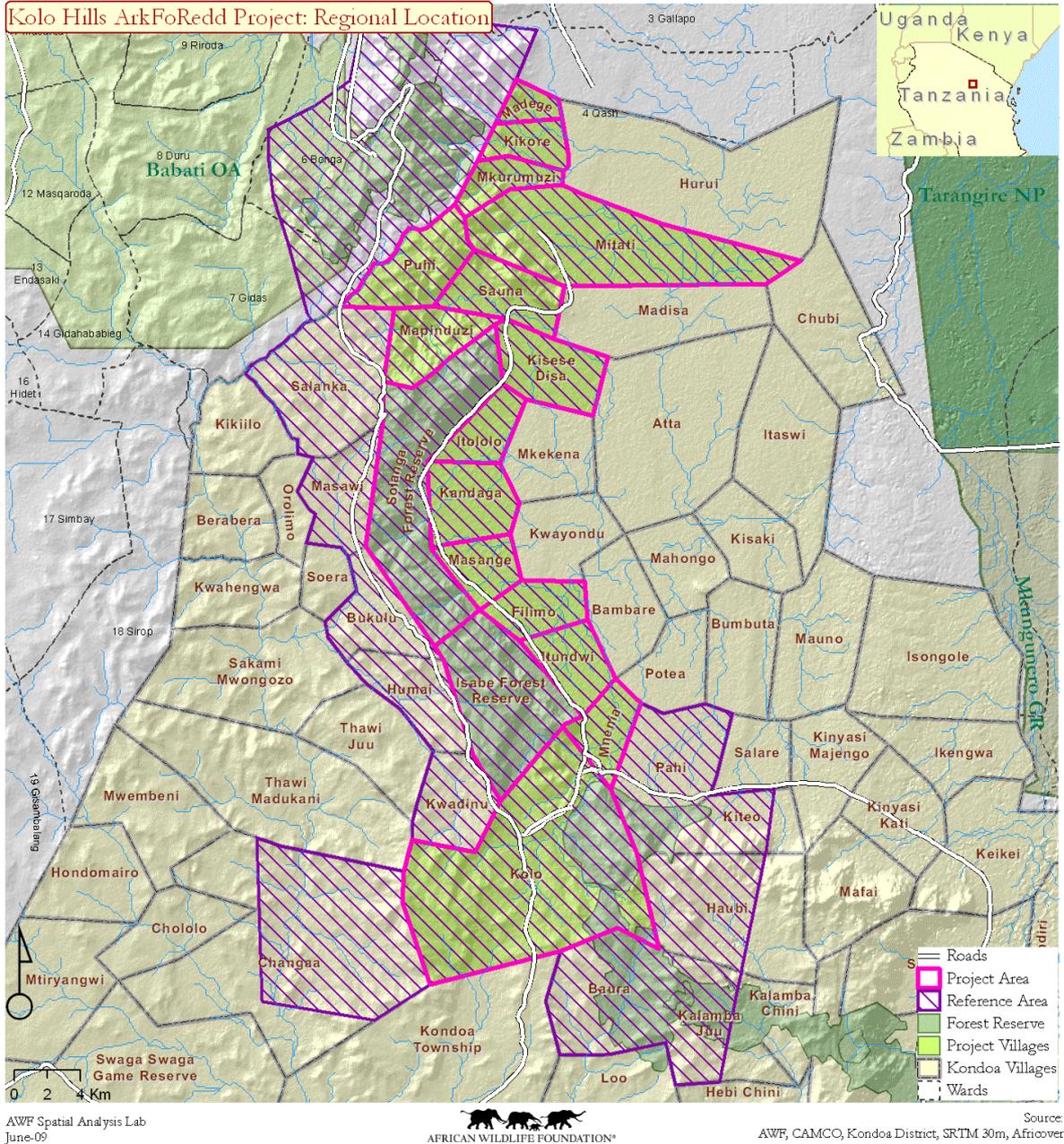


Figure 3: The ARKFor REDD+ Project area in Kondoia, Dodoma, Tanzania
Source: AWF

AWF has been working in the area since 1995 and the ARKFor project was embedded into AWF's integrated landscape-level conservation programme, known as the AWF African Heartlands programme. Originally, the AWF plan was to work in 15 villages surrounding the Salanga and Isabe Forest Reserves, managed by the Tanzania Forest Services Agency (TFS) and KDC, respectively. In 2010, the project identified an additional six villages that used the Kolo hills forests heavily and they were subsequently included in project activities. At the same time, the original project area of

18,000 ha increased to 52,000 ha because of the need to include the reference area and leakage belt. The USAID-funded Scaling up Conservation and Livelihood Efforts (SCALE) project had previously funded activities in 18 Kolo Hills Villages from 2009 and there had been additional USAID funding to develop JFM in four villages.

4.2 The state of the forests in Kondoa

Generally, contemporary vegetation cover in the study area consists of short seasonal grasses and scattered, stunted and usually heavily coppiced *Brachystegia* spp. These are probably relics of a formerly more extensive soil cover which supported denser miombo woodland. This is evidenced by the surviving 10-15 percent of miombo woodland in the highland forest reserves. These form some of the 346 km² of catchment forest reserves in Salanka and Isabe (in old literature also known as Bereku Ridge) in the north western and north eastern parts of the REDD+ Pilot project area, respectively (CAMCO, 2010).

The geographic focus of the REDD+ project was Kolo Hills. The Kolo Hills forest area, which includes the Salanka and Isabe Forest Reserves on the Irangi Hills and Irangi Escarpment in Kondoa District, is a semi-arid zone typified by miombo (*Brachystegia* spp.) woodland vegetation. These forest blocks hold the headwaters of the Tarangire River, and its watershed provides many ecological services to the region including water to livestock and irrigation to agricultural plots, the basis of rural residents' livelihoods, and nourishment to important wildlife populations and vegetation in Tarangire National Park. Tarangire National Park (TNP) has reported a recent drop in water discharge from 35 l/s to 28 l/s in the main Tarangire tributary in the Kolo Hills.

4.3 Governance structures in Kondoa District before REDD+

As explained earlier, governance is essentially about processes of decision-making – who makes the decisions and on what basis – and the processes by which decisions are implemented, or not. While it includes policies, institutions, processes and power, it is much more about the processes and politics than the actual content of policies and laws. Governance occurs at all scales (e.g. local through national to global) and can be associated with different entities (e.g. nations, communities, corporations, households). As such governance takes place in a context (e.g. physical, social, political, economic, historical etc). It also involves a large number of stakeholders, who can be separated into groups and individuals who are either influential in the decision-making processes or are affected by the decisions and their enactment, or both. It therefore comprise actors and the institutions defining access to resources and rules defining interactions between actors (Vatn, 2015). The actors and institutions in relation to resource management and use for Kondoa district are highlighted below.

4.3.1 The actors

Economic actors in Kondoa with relevance to forest management include farmers, charcoal makers and agro-pastoralists. As in Kilosa, key political actors are village leaders, district government officials. The NGO AWF also operated in the area before it

introduced REDD+. As a substantial part of the forests involved is a local government forest reserve (Isabe) the district play a role also as forest owner. Similarly, the Tanzania Forest Service (TFS) is involved as Isanga is a central government forest reserve. TFS is represented by a district forest manager who protects interests of the central government in the management of state forests and forests in the general land. Both the district and TFS have power to influence access and interaction rules, while the district has much less resources than TFS. AWF plays the role of a power broker between the state (Kondoa District Council and TFS) and local communities. Kajembe, *et al.* (2013) argues that this “triangle” of actors (i.e. Kondoa District Council, AWF and local communities) constitutes the social arena making out the actual *locale* of REDD+ implementation in the pilot project.

4.3.2 Institutions

Certainly, national legislation apply in the same way to Kondoa as to Kilosa – see Section 3.4. As opposed to Kilosa, the involved villages in Kondoa had actually managed to utilize the opportunity to define village land before REDD+ was introduced. Hence, by 2007 all villages had land certificates. A few of the villages had village forests within these bounds. AWF started introduction of PFM/CBFM in some of the villages before the start of the REDD+ project. Participatory Forest Management in Tanzania started in the late 1990s where state owned forests (under both central and local governments) such as those on the Mountain Ranges of Kolo Hills were put under Joint Management regime (JFM) with communities receiving some user rights.

As already emphasized, the main forest reserves are mainly situated on the Kolo Hills and, moreover, owned by the state – central and local government. According to CAMCO (2009) the use of these forests was not only restricted by law but they also can be accessed only by those communities that live adjacent to them.

It should be mentioned that between 1973 and 1996, SIDA in cooperation with Tanzanian authorities ran a project in the area called HADO (Hifadhi Ardhi Dodoma – A Land Rehabilitation Programme) focussing at reducing erosion through destocking. It was a controversial and quite top-down oriented project though. The HADO Programme is claimed to have pushed/re-located people out of their land in the name of conservation. As such a good number of people lost the land they traditionally owned and used for agriculture and grazing. This was especially the case for those that were placed on target areas for conservation. The government continues the project after SIDA stopped its engagement, while at a much reduced level.

4.4 Changes in governance and governance structures following REDD+ in Kondoa District

4.4.1 The aim of REDD+ piloting

The REDD+ pilot in Kondoa – under the name “*Advancing REDD in the Kolo Hills Forests (ARKFor)*” – started in January 2010 with funding from the Government of Norway. The project goal was to contribute to poverty reduction and climate change mitigation by enhancing Tanzania’s capacity to use REDD+ as a mechanism for rural communities to

reap tangible benefits from improved forest management and conservation. In this respect the project should “support targeted communities and district government partners in Kondoa District, Tanzania, to prepare for participation in voluntary and (when available) official REDD markets based on high-value, well conserved forest resources, and effective Joint Forestry Management” (AWF, 2009). The project also aimed at revitalizing local level governance structures and to recreate the trust lost as a result of top down conservation model used by HADO (Matilya, pers. comm.).

The project partners were the African Wildlife Foundation, Kondoa District Council, CAMCO⁷, Selian Agricultural Research Institute (SARI), Institute of Resources Assessment (IRA) at the University of Dar Es Salaam, and 17 local communities adjacent to the forest (Planet-action, 2010; CAMCO, 2010).

From the AWF perspective, the ARKFor Project was designed to address degradation through promotion of alternative sources of livelihood, to sell carbon for the purpose of serving communities and conservation, to encourage proper land use management, to build the capacity of REDD stakeholders at the local and national level and to share information and networking of improvement of conservation issues (AWF, 2012). From the AWF justifications, previous conservation projects in Kondoa such as HADO were centralized with inadequate citizens` participation and so there was less local ownership in these projects. REDD+ in the Kolo Hills is said to be participatory and involving local stakeholders in its activities and programs.

4.4.2 Changes in actor structures

In Kondoa district AWF opted to establish a special committee for REDD+ implementation in the village separate to the Village Natural Resources Committee which is considered a ‘legal’ entity⁸. While this approach aimed at increasing efficiency and effectiveness, it was later learned to have been a source of intra-village conflicts. This is because REDD+ committees were somehow strategically powerful due to the financial support that AWF provided to them in the process of implementing REDD+ such as establishment and support of Village Forest Scouts (VFS). In Kolo Village for example, the trial payments were delayed due to a misunderstanding between VNRC and the REDD+ Committee on which committee was to receive and administer the funds. It was until the village council decided that VNRC should handle the payments that funds were released and distributed.

In all participating villages, Land Use Committees – established under the VNRC – were established. This committee was responsible for developing Participatory Land Use Plans (PLUP) in collaboration with experts. In relation to that, a special association – JUHIBEKO (*Jumuija ya Hifadhi Mazingira Tarafa ya Bereko na Kolo*)⁹ – was formed with representatives from the 13 villages bordering the reserved forests and joining REDD+. This change was important to facilitate negotiations and dialogues between villagers and

⁷ CAMCO is a private company commercializing new climate change mitigation technologies, projects and services. CAMCO works in Carbon finance, Carbon project development services and energy and carbon advisory.

⁸ Established through the legal provisions provided for under the Local Government Act No. 7 of 1982

⁹ Inter Village Council organisation

the District/TFS as owners of the government forests. Apart from the forest-based institutions, a network of farmers known as MVIWAKO¹⁰ was established and registered to support sustainable agriculture through organic farming in the district.

It is worth noting that despite the few conflicts that occurred as a result of forming a specific committee for REDD+, the ARKFor impacted governance structures in the project area by strengthening existing village committees and establishing an inter village organization. The rights of local people have also been strengthened by including them in the management plans of nearby forests owned by the government and by assisting communities to obtain access and management rights of forests located on village land. In total, the project was able to provide training to 38 village organizations including 19 Village Land Use Management teams (VLUMs) and 18 Village Natural Resource Committees (VNRCs) and 1 JFM Association (JUHIBEKO).

4.4.3 Changes in institutions

The REDD+ Piloting in Kondoa adapted JFM and CBFM management options for the state and village forests respectively. Under the JFM arrangement, the state has absolute property rights while local communities are given some specified user rights. Under CBFM, local communities are owners and have absolute user rights as per guidelines (MNRT-FBD, 2007). Six villages (Kisese Sauna, Mitati, Mkurumuzi, Kikore, Madege and Kolo) out of 18 villages finally engaged in the REDD+ pilot have community forests under CBFM meaning that most communities still depend on the state owned forest only. As such, land use planning was received differently across villages depending on the ownership status of the forests found or bordered villages. The situation varies quite a lot across the villages, though. First, we note that while AWF tried to involve 21 villages in the pilot, two of these (Kisesedisa and Itololo) were quite negative at the onset and decided not to endorse REDD+. None of these have village forests – i.e., they depend on adjoining government forests for resources including pastures. The issue was also rather tense even in villages beyond these two especially those with community forests that could be entered into CBFM as it institutes a new management regime. As a result, Mitati village decided not to approve the land use plan. It objected against its forests being included under the REDD+ scheme and was therefore removed from the project as having land use plans was one of the criteria for participation.

While others approved the land use plan, there were still some contradicting views regarding the exercise and REDD+. For example in a meeting with village representatives in Bereko – including representatives from the village council, land use and environmental committees – quite distinct differences in views among the participants were observed.¹¹ While the secretary of the environmental committee strongly advocated conservation including destocking, others voiced that REDD+ would result in great problems not least regarding access to pastures. Again, it was notable that all the forests surrounding the village were government forests. Hence, many villagers emphasized the issue of land scarcity and the fact that they had no forests where they could control the use on their own. Despite these conflicts, the REDD+ project in Kondoa managed to establish a JFM arrangement including change the status of land in the Kolo

¹⁰ Mtandao wa wakulima wa vikundi Kondoa, Kondoa farmers' network

¹¹ For the evaluation of the text, note that this village was not among the 3 villages hesitating to endorse REDD+.

Hills from *de facto* open access to all lands coming under a legally recognised management regime.

The project also had an opportunity to test REDD+ payment schemes in the area. These payments were, according to Matilya (pers. comm.), based on the size of the forest set aside under REDD+ and how well rules regarding that forest were followed and as well as the level of participation in REDD+ activities. It is notable that in the case of the forest area under JFM, each involved village was allocated an area of the same size – 1/13 of the total – independent on previous use or length of borders etc. In formulating rules for payments, AWF distinguished between two categories of forest reserves (catchment and production). The guideline identified community responsibilities and benefits as itemized in Table 3 and 4 for catchment and production forests respectively. Regarding the REDD+ trial payments, these were made to villages only – not to individuals as in Kilosa.

Table 3: Proposed JFM responsibilities and benefit sharing on catchment forests based on the Kondo case

Community Responsibilities	Community Benefits
Patrolling and law enforcement	Free access to forest for beekeeping & fishing
Fire fighting and prevention	Free veggies, mushrooms, medicinal plants, fibres, grass, dead fuelwood and fruits.
Village meetings on forestry issues	Rotational harvesting from boundary strips
Reporting illegal activities to the District Forest Officer (DFO)	100% of fines retained in the village from offences committed in the Village Forest Areas
Vermin control and prevent loss of crops/lives	50% of research, entry, camping and filming (permits) fee goes to the Village Government and the remaining to FBD.
Removal of invasive exotics & gap management	50% of the net revenue from confiscated forest products goes to Village Government and the other 50% goes to FBD/District Council. The confiscated equipment and tools are remitted to DFO
Undertaking quarterly monitoring of JFM to FBD or District Council	Utilization of fallen timber trees outside core conservation zone and nature reserve. Water for local use and irrigation, Utilization of invasive exotics

Table 4: Proposed JFM responsibilities and benefit sharing on production forests based on the Kondo case

Community Responsibilities	Community Benefits
Patrolling and law enforcement	Free access to forest for beekeeping & fishing
Firefighting and prevention	Free veggies, mushrooms, medicinal plants, fibres, grass, dead fuelwood and fruits.
Village meetings on forestry issues	Rotational harvesting from boundary strips
Reporting illegal activities to the DFO	100% of fines retained in the village from offences committed in the VFMA
Vermin control and prevent loss of crops/lives	50% of research, entry, camping and filming (permits) fee goes to the Village Government and the remaining to FBD.
Removal of invasive exotics & gap Management	50% of the net revenue from confiscated forest products goes to Village Government and the other 50% goes to FBD/District Council. The confiscated equipment and tools are remitted to DFO
Undertaking quarterly monitoring of JFM to FBD or District Council	Utilization of fallen timber trees outside core conservation zone and nature reserve.
Strengthen forest boundaries	<ul style="list-style-type: none"> • Access to water for local use and irrigation. • Harvest and utilize invasive exotic species.

4.5 Adaptation to the REDD+ regime to existing institutional and ecological conditions in Kondo District

The REDD+ Pilot Project in Kolo Hills builds upon participatory forest management (PFM) as its entry point. Both the Joint Forest Management (JFM) and Community Based Forest Management (CBFM) were adopted. As such, it is almost the same rules which were established previously under participatory forest management which are to be accomplished during REDD+ with some additions on issues of alternative livelihood, land management, carbon credit and payment issues. On understanding on the need to continue building skills of the communities in managing forest resources on the hybrid regimes of PFM and REDD+, AWF is currently implementing a separate EU-Funded project¹² to enhance business skills over a long time.

¹² Enhancing Livelihoods through PFM in Northern Tanzania. Grant Application, 10th European Development Fund.

5. COMPARISON OF THE TWO CASES

5.1 Differences and similarities

The REDD+ Pilot Project in Kilosa District under the TFCG and the Kolo Hills REDD+ Project in Kondoa district under AWF were initiated differently. TFCG/MJUMITA applied for funds from the Royal Norwegian Embassy (RNE) in Dar es Salaam before any endorsement by the Kilosa District Council as it had formulated the application before the official call by the RNE. On the other hand, AWF sought consent of the Kondoa District Council as it was then a criterion under the official call for proposals by RNE.

Before the introduction of REDD in Kilosa none of the villages had land certificates and there were no forests managed under the community based approach (i.e., no CBFM). However, the village councils had rules regarding charcoal making, but they were not strictly enforced. In short, the village forests were under an open access regime. Furthermore, TFCG/MJUMITA decided to include only villages with village forests/general land. AWF involved both government and village forest reserves, implying use of both CBFM and JFM. The decision by TFCG/MJUMITA was to only involve village forests/CBFM as that ensured a situation where communities had both ownership and user rights of the forests. Hence, decisions could be made regarding products and benefits without objections from the government provided procedures were properly followed. That was important to ensure the simplest basis possible for carbon trading. At the time, no decision with regard to carbon ownership in Tanzania was reached.

In that sense, AWF took on a more demanding task, while we note that villages around Kolo hills already had land certificates. We observe that AWF succeeded in establishing a system for benefit sharing under JFM. This is the first time such an arrangement has been established in Tanzania. While it may influence future decisions on JFM benefit sharing, also in the case of other Tanzanian government forests, it does not imply that the issue of carbon ownership is decided.

Otherwise, both projects in Kilosa and Kondoa revitalized local governance structures specifically the Village Natural Resources Committees (VNRCs). Similarly, both projects instituted village land use plans as a pre-requisite for the REDD+ initiative. In all participating villages, a Land Use Committee was established to carry out a Participatory Land Use Plan (PLUP). This committee was responsible for developing land use plans in collaboration with experts from the District Council together with staff members from the National Land Use Planning Commission (NLUPC).

Lastly, both projects instituted REDD+ payment systems. TFCG/MJUMITA established a system where payments were based on 'mimicking' a market trade – including an estimated change in carbon storage and scaling payments using the present international carbon market price. The total sum was next divided equally per village inhabitant, while villages decided to keep parts for village projects. AWF chose a different strategy. Payments were based on the size of land defined as REDD+ forest, rule compliance and the levels of participation in REDD+ activities. All REDD+ payments were used for village projects – i.e., no individual payment.

It is notable that in Kilosa, villagers opposed compensation with respect to payment based on individual opportunity costs (equity). Instead, the majority advocated for a cultural practices ensuring equal payment (equality) to all village members. The strong emphasis on equality regarding distribution of payments is interesting, while challenging for the losers (specifically charcoal makers). Also, the payments are considered to be low and this is also a challenge for the wider legitimacy of REDD+ in the study area, nationally and internationally (Vatn *et al.*, unpublished).

5.2 The quality of the adaptation made

Institutionally, the strategy chosen in both Kilosa and Kondoa districts was rather similar as both pilots worked through the existing local (village government) and sub national (district council) governance structures. Strictly speaking, the districts were not active actors. In short, they were rather “on lookers”. Similarly, both projects tried to revitalize the local governance structures through supporting them financially. Ecologically, both pilots worked essentially with the Miombo woodlands making over 90% of the vegetation in Tanzania). Miombo woodlands are the mainstay of the local community in the country.

6. CONCLUSION AND LESSONS LEARNED

6.1 Conclusion

Tanzania Forest Act (2002) classifies the country’s forests; establishes forest governance bodies; outline requirements for the creation and conservation of forest reserves and for grating forest concessions and licenses. The Forest Act also grants the government the authority to enforce the provisions of the Act and assess fines and penalties for non-compliance and local councils to enact bylaws enabling them to collect taxes from forested areas and assess taxes on forest produce in their jurisdiction.

As one of the countries with higher rates of deforestation and forest degradation, Tanzania also contributes high carbon dioxide emissions per annum measuring up to 126 million tons. The country therefore decided to embark upon a national REDD+ program since April 2009 to manage its forests sustainably while responding to poverty reduction and sustainable development needs.

REDD+ is being piloted in nine areas by non-governmental organizations (NGOs) under different institutional and ecological conditions. Tanzania’s legal framework supports participatory forest management (PFM). The law recognizes two types of PFM namely Joint Forest Management (JFM) and Community-Based Forest Management (CBFM). PFM is a backbone of REDD+ in Tanzania. All REDD+ pilots in the country builds upon it.

This report documents a study of management regimes established by REDD+ pilots in two districts – Kilosa and Kondoa. In that respect, we observe changes both in actor structures and institutions. As both pilots use PFM, there are clear similarities regarding these changes. There are also differences. The Kilosa pilot operates in villages with only

village/general land. Hence, PFM here means community based forest management. The Kondoa pilot is placed in an area with both state (central and local government) forests and forests in village/general lands. Here a large part of the changes, therefore, regarded the development also of joint forest management. It is moreover notable that the villages in Kondoa had land certificates from before REDD+ was introduced. That was not the case for Kilosa villages. To undertake PFM such certificates are needed.

The idea of the Kilosa pilot has been to develop a carbon enterprise, to enable participating communities to aggregate emission reductions and sell them to the international carbon market. This is probably the most “novel” change in governance structures advocated by the project. Experience shows that before REDD+ was introduced in the district, charcoal makers were key economic actors with strategic power brought about by their strong financial power. However, in the advent of REDD+ project, charcoal makers’ power was compromised as the majority did not support the practice of earning (substantial) individual income based on a common resource.

In the Kondoa District, AWF opted to establish a special committee for REDD+ implementation in the village aimed at increasing efficiency and effectiveness. However, it was later learned to have been a source of intra-village conflicts as it appears as a parallel structure with the VNRC, challenging its powers and legitimacy. As a result, REDD+ trial payments were delayed in some villages due to these conflicts, as it was vital to establish a right body to handle the funds.

The REDD+ pilots in Kilosa and Kondoa Districts were initiated differently, where by TFCG/MJUMITA initiated the project before consulting the local and sub-national governance structures while AWF in Kondoa consulted them prior to the project initiation. Similarly, TFCG/MJUMITA opted for carbon credit payments ‘mimicking’ a market trade and distributing the resources equally to each village inhabitant independent on their previous use of forest resources. AWF initiated a system where criteria regarding payment per village were based on the size of protected forests and rule compliance. Payments moreover went to village projects – i.e., no payments to individual villagers.

From institutional perspective, the quality of adaptation in both Kilosa and Kondoa districts was rather similar as both worked through the existing local and sub-national governance structures. Ecologically, both cases worked essentially in the miombo woodlands.

6.2 Lessons Learned

Based on the analyses, we have formulated the following key lessons:

1. The importance of fulfilling promises

Local communities participating in the REDD+ initiative have high expectations that they will be compensated by conserving their forests through carbon credits. The promise if not fulfilled may undermine the concept of REDD+ and forest conservation at large.

2. District governments as “onlookers”

Currently, district governments in the REDD+ pilot areas are “on lookers” and not full and active participants. This may compromise the sustainability of REDD+ in the long run, as NGOs are non-state actors and may not be fully committed to REDD+ and forest conservation but just currently motivated by the donor funding attached to the REDD+.

3. Revitalization of local governance structures

REDD+ in the pilot projects has revitalized local governance structures specifically the village natural resource committees (VNRCs) which were rather “dormant” before the advent of REDD+. This was a critical and important endeavour and needs to be maintained in order to ensure project success and sustainability.

4. The importance of securing property rights and defining by-laws

It is worth noting the importance of securing property rights and defining by-laws. Furthermore, institutional change in itself is important. However, this process is costly and may result in both inter- and intra-village disputes. Proper conflict resolution mechanism is important to ensure continuity and sustainability of any REDD+ projects.

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