

## REDD Realities: Lessons Learned from REDD+ Pilot Projects in Kondoa and Rungwe Districts, Tanzania'

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### Abstract

*Tanzania has embarked upon a national REDD+ program to meet its obligations of managing her forests sustainably while responding to poverty reduction initiatives. In the phase of REDD+ readiness, there are nine pilots and a number of research projects being carried out across the country to provide lessons for the future. The research documented here was conducted in 2011 to draw early lessons from two REDD+ pilot projects in Kondoa and Rungwe districts in Dodoma and Mbeya regions respectively. Specifically it explores the practical challenges of the REDD architecture in addressing climate change mitigation and improving local communities livelihoods. Preliminary analysis revealed that land and forests are the main livelihood assets in the pilot project areas. However, lack of clear land tenure and land-use plans have been a critical barrier for the REDD+ initiatives despite the fact that about half of the studied communities were aware of the initiatives. It was further found that Joint and community based forest management regimes seemed to be good models for REDD+ in addressing climate change mitigation and livelihood security as opposed to the ordinary state forest management regime. Generally, REDD+ is facing challenges in most of its important aspects with regards to climate change mitigation and securing community livelihoods. It is recommended that for successful implementation of REDD+ non-forestry livelihood pathways should be explored and enhanced. Secure resource tenure should be ensured as well as provision of appropriate incentives and stakeholders' consultation.*

**Key words:** *Climate change, REDD+ architecture, Livelihoods, Tanzania.*

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### 1.0 Introduction

Climate change is the global threat leading into increased temperatures, unreliable rain fall, unpredictable synchromes and storms, rise in sea level which all have adverse effect on the living organisms and the environment. Forests play an important role for mitigation and adaptation to climate change through carbon sequestration (URT, 2002; 2009). Moreover, they contribute to the Tanzanian economy and local communities livelihoods. In 2006, it was estimated to contribute 1.9 per cent of Gross Domestic Product (GDP) (FAO, 2009). The sector also provides employment to about 3 million Tanzanians through forest industries, government

forest administration and self-employment in forest related activities (MNRT, 2008).

Notwithstanding their contribution to the economy, Tanzania's forests face enormous challenges, including deforestation and degradation. It is reported to be 12<sup>th</sup> among the countries with the largest forest loss per year in Africa (Murray and Olander, 2008; Vatn *et al.*, 2009). Deforestation takes place in both reserved (which are under the jurisdiction of the central and local governments) and unreserved (General Land forests). However, the effect is severe in the General Land forests (Mwakalobo *et al.*, 2011). The main reason for this situation is that forests in the General Land are rather under an 'open

access' regime, characterized by insecure land tenure and lack of land use plans. Typically, shifting cultivation, annual wild fires, uncontrolled harvesting of fuel wood, poles and timber, and heavy pressure for conversion to other competing land uses, including agriculture, livestock grazing, settlements, industrial development characterize these areas (Blomley and Iddi, 2009; Zahabu, 2008). The rate of deforestation in Tanzania is estimated to be between 130,000 and 500,000 hectares per annum (Zahabu, 2008). Deforestation has been magnified by limited human and financial incentives and government inability to institute effective management plans to implement active and sustainable forest management in the country (URT, 2009; Mwakalobo *et al.*, 2011).

As one of the countries with a higher rate of deforestation and forest degradation, Tanzania also contributes high CO<sub>2</sub> emissions per annum through deforestation estimated to be in the order of 78,000,000 tons and forest degradation of about 48,000,000 tons, amounting to a total of 126,000,000 tons CO<sub>2</sub> emissions per year (Zahabu, 2008). Recognizing its significant contribution to global carbon emissions, Tanzania with support from the Norwegian government, has developed a REDD framework in 2009 (URT, 2009) and a draft REDD strategy was published in 2011. However, it is not clear how Tanzania will participate in REDD initiatives in terms of what options the country will offer and how much these options will cost.

Despite of the fact that most of the pilot REDD initiatives are still in preliminary stages, they can provide valuable insights into many of the issues that will likely be encountered by the government as it operationalizes REDD. REDD pilot projects serve as valuable test cases for REDD systems at a national scale, as many of the activities that have to be designed

and implemented at the local level are similar to those that will be implemented at a national scale such as clarifying legal aspects, engaging stakeholders and developing benefit-sharing mechanisms (Jagger *et al.*, 2009; Sills *et al.*, 2009; Van Bodegom *et al.*, 2009). Learning from how these early REDD initiatives are operationalized at the local level can provide valuable information on both the suitability of the approaches and challenges (pitfalls), thereby helping to guide the designing of a more effective and equitable future REDD mechanisms.

This paper seeks to provide a preliminary analysis of initial field experiences to assist different actor in making rational decisions and to guide effective REDD+ implementation. Moreover, the lessons learned will help to provide policy makers with valuable information for the future designing and implementation of national REDD+ policies and processes, and ensure that these efforts not only effectively achieve emissions reduction, but also deliver environmental and social benefits.

## **2.0 Materials and Methods**

### **2.1 Location of case study sites**

The study was conducted in two REDD+ pilot sites namely Rungwe, in Rungwe District Mbeya Region and Kolo Hills Forest Reserve in Kondoa District, Dodoma Region (Figure 1). The sites were selected on the basis of their differences in ecology, forest management regimes and cultural behavior.

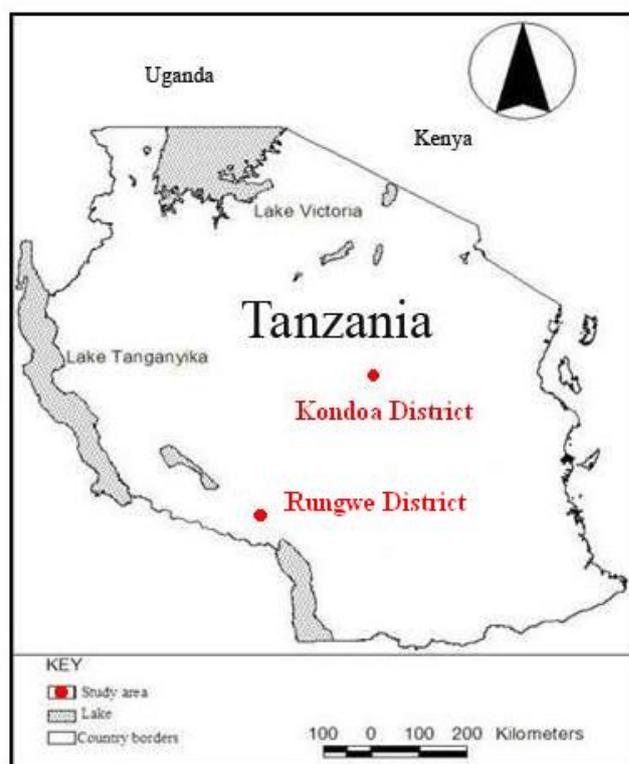
Rungwe district lies between 8<sup>0</sup>30' and 9<sup>0</sup>30' S and 33<sup>0</sup> and 34<sup>0</sup> E, it consists of 30 villages and has a total population of 307,270 people. The pilot project covers four areas – Mt. Rungwe Nature Reserve, Livingstone Nature Reserve, Kitulo National Park and Mbizi Forest Reserve and is focusing at 4 outputs: a) baseline estimates for carbon; b) participatory monitoring and capacity building; c) development of a leakage remediation and

monitoring framework; d) improved livelihood including fuel wood availability for people living around Mount Rungwe Nature Reserve.

Kondoa District lies between 5° 0' S and 35° 45' 0 E, and consists of 34 villages with a total population of 4103 people (URT, 2002). REDD+ is being tested at Salanka, Isabe and Kome Forest Reserves on the Irangi Hills and Irangi Escarpment which together make the so called Kolo hills forest reserves. The African wild life foundation project which is responsible for

REDD+ implementation works closely with the local government and communities, with the main goal of climate change mitigation and improvement of the local communities livelihoods.

The study was conducted in a total of ten villages – five in each District. In Rungwe district villages under intervention included Ndala, Kibisi, Kabale Ikama and Katumba while in Kondoa district the villagers involved were, Mnenia, Bereko, Kikore, Gwandi and Haubi



**Figure 1:** Map of Tanzania showing the study sites

## 2.2 Data collection

Structured questionnaires for households with both closed and open ended questions were used to collect socio-economic, institutional and livelihoods data. Two hundred households were involved in kondoa district while one hundred eighty eight respondents were interviewed in Rungwe district. Participatory Rural Appraisal (PRA) techniques, participant observation and focused group discussions

were also employed. According to Mikkelsen (1995) and Luoga *et al.* (2006) the combination of these techniques is necessary for data triangulation purposes aimed at facilitating validation of data through cross verification from more than two sources.

## 2.3 Data analysis

Statistical Package for Social Sciences (SPSS) was used to analyze quantitative

livelihood data. Data collected through PRA techniques were analyzed with the help of the communities and the results were communicated back to them for verification and retention. Content analysis technique was employed to analyze qualitative information captured through participant observation, semi structured and unstructured interviews. In this analysis, the components of verbal discussion held with key informants was analyzed in detail, whereby recorded dialogue with respondents was broken down into smallest meaningful units of information (Kajembe, 1994; Mbeyale, 2009).

### **3.0 Results and Discussion**

#### **3.1 Rural Livelihoods, Land Tenure and Land Use Plans in the Study Areas**

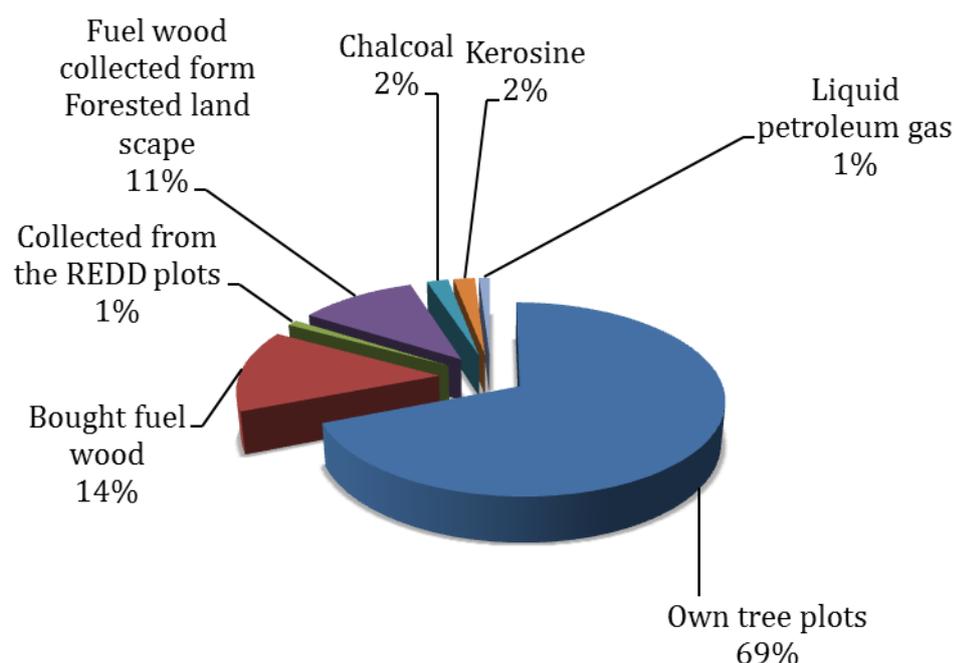
Forests were observed to be major livelihood assets in the pilot project areas. Lacks of clear land tenure and land use plans are observed as critical barriers for REDD initiatives.

##### **3.1.1 Forests and rural Livelihoods**

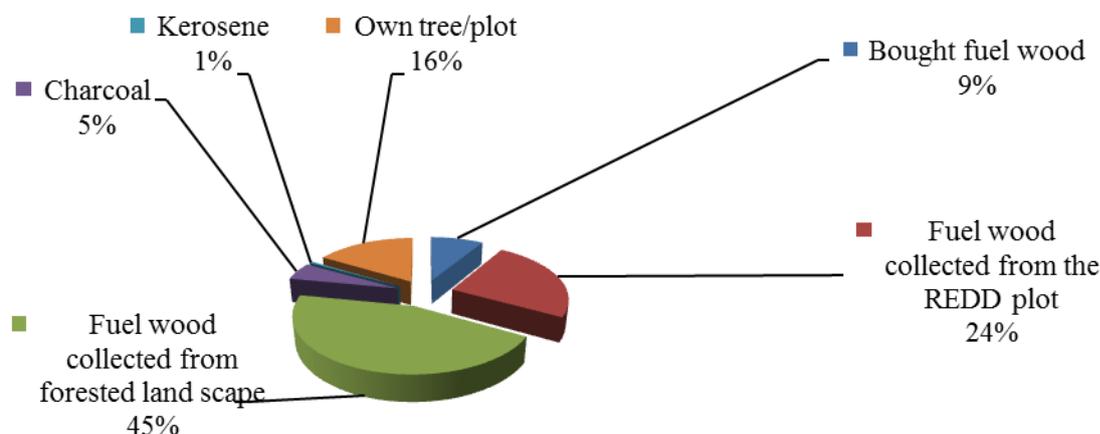
As is the case in many parts of Tanzania, forests have a significant role in securing rural livelihoods. It plays three roles namely safety netting, support current consumption and being an out of poverty pathway (Luoga *et al.*, 2006). It was observed that fuel wood is the main source of energy in both study sites. In Rungwe district, 98% of the households use wood as source of energy. It was learned that about 14% of the households buy fuel wood while 11% collect from forests around the household landscapes and only

1% said to collect from REDD pilot forests (Figure 2). However, it was further learned that the REDD Pilot forests in this area were upgraded into Nature reserves. This change of legal status plausibly could be the factor attributing to low level of fuel wood collection. Gosalamang, *et al.*, (2004) reported that change in legal status of the Mount Elgon in Kenya has preempted local communities from forest resource use, hence contributed to the improvement of forest condition

In Kondoa district, 97% of the households use wood as a main source of energy for cooking and lighting. Results show that wood was collected from different sources. The results showed that 9% of the respondents buy firewood for cooking while 45% collect firewood from the forests around the household landscapes while 24% depend on REDD pilot forests (Figure 3). This is the major challenge in mitigating climate change and implementation of REDD program in view of the fact that the majority of the households still depend on the forests for fuel wood. The findings from this study are in-line with that of Kaale (1998) who observed that fuel wood is a major source of energy for cooking for the majority of Tanzanians. Therefore, unless energy sources are well addressed, sustainability of REDD+ initiatives are questionable. Mwakalobo *et al.* (2011) advocates for adoption of alternative sources of energy especially in rural areas as a means of reducing pressure in the forests.



**Figure 2: Source of cooking energy in Rungwe district, Mbeya, Tanzania**



**Figure 3: Source of cooking energy in Kondoa district, Dodoma Tanzania**

### 3.1.2 Land Tenure

Land tenure is one of the principal factors affecting the ways in which forest resources are managed and the manner in which benefits are shared (Mwase *et al.*, 2007). The legal basis for land tenure in Tanzania is derived from two basic laws that were passed in 1999 namely the Land Act No. 4 of 1999 and the Village Land

Act No. 5 of 1999 which state that all land in Tanzania is public which the President holds in trust for all the citizens. The President delegates the power to designate, adjudicate and modify land tenure status to the Commissioner for Lands (URT, 1999). Results showed that land is the major asset in the study areas. According to land act No 5 of 1999 land is defined as the surface

of the earth and the earth below surface and all things naturally growing on the land, buildings and other structures permanently affixed on and under and land covered by water. Trees are regarded by law as fixtures on land surface (URT 2009). The interconnection makes carbon property rights to correspond closely with land tenure.

It was learned that individuals acquire land mainly through inheritance, buying or through allocation by village governments. Furthermore, the study revealed that in both sites most of the land is seen as privately owned through ‘traditional’ arrangements (Table 1). However, substantial part of the land is on general land whereby resource tenure is not clear and therefore creating land tenure insecurity. Studies have shown that land tenure insecurity results in a number of environmental problems including forest degradation and deforestation. Broegaard, (2005) argued that tenure security is vital in determining people’s investment

behavior. Lack of clear land tenure and land use rights have been a critical barrier for REDD initiatives and success (Harvey, 2010). This is also a challenge in Tanzania on who will own the carbon credits under different management regimes. Ellis and Freeman, (2007) argued that, different tenure systems are characterized by different interest towards forest resources use which complicates management and benefits allocation despite being well-defined and enforceable in a formal court of law or through customary structures in a community because they constitute a web of intersecting interests.

Moreover, given present tenure situation, REDD+ initiatives may increase tenure insecurity making local people vulnerable to dispossession as land values may increase as a result of carbon market. Securing communal land rights may offer local people more leverage in relations with government and the private sector in the light of REDD+

**Table 1: Status of land ownership in Rungwe and Kondoa districts**

Tenure regimes	Pilot areas	
	Rungwe district	Kondoa district
Private ownership ( most on general land)	82%	89%
Common ownership	16%	7%
State ownership	2%	4%

### 3.1.3 Development of land-use plans

Experience shows that development of land use plans for the participating villages is critical approach for sustainability of any intervention in these areas. However, results show that land use planning is going rather slowly due to the rigorous process involved in the preparation and approvals at different levels. This has delayed implementation of consequent activities including introduction of Participatory Forest Management (PFM) initiatives. Harvey *et al.*, (2009) commented that good land use planning

has facilitated execution of preliminary REDD+ initiatives in Virginia. In Kondoa district land use plans are developed only in a few villages and these are at different levels of approval.

However, there are concerns among different social groups that pastoralists have not been well consulted in these exercises. The development of land use plan in one village may not necessarily accommodate requirements of nearby village inhabitants. These rather scattered land use plans may result into resource use

conflicts as they may not fully consider ecological connectivity which is essential for the coexistence of different socio economic activities such as pastoralism. The study conducted by Kajembe *et al.*, (2009) observed that exclusion of pastoral communities on allocation of grazing land has resulted into land use conflicts in Kilosa district.

Turning to Mt. Rungwe pilot area, land use planning has not yet started. Land use planning is very important for execution of any new development intervention within the village. Village Councils and Assemblies are given powers to manage this under the Village Land Act No 5 of 1999 (URT, 1999) allows village governments to enter into agreements with enterprises that provide wellbeing for the villagers. Village Councils are required to divide village lands into three categories: communal land, which is shared by a large number of individuals within the village and may include pastures, forests or other areas with natural resources; occupied land, which is used for housing, cultivation and businesses, and managed by individuals or families; and future land, which is set aside for future use by individuals of the community. Therefore, lack of land use plans may limit implementation and extension REDD+ mechanisms to large areas of the villages.

### **3.2 Forest user rights under different tenure regimes**

#### **3.2.1. Type of tenure regimes**

User rights on forest resources depend on tenure regimes governing access to the resources (Bruce, 1986). In Tanzania, there are three main forestland tenure regimes that REDD initiatives may be implemented including private, state and communal. In

Rungwe district, private, state and communal tenure regimes were all observed while in Kondoa district there were only state and communal regimes.

#### **3.2.2 Forests under private tenure regime**

Forests under private tenure regime are owned by either individuals or groups with user rights of occupancy that exclude others from forest resource use (URT, 1998). The study in Rungwe district showed that only 38 percent of the households own woodlots/forests privately. In Kondoa it was even lower occupied only 9% of the households. The low number in Kondoa could be attributed by little awareness and reluctance of the local community concerning adopting environmental conservation technologies due the so called 'bad experience' from the HADO (Hifadhi Ardhi Dodoma) project interventions in 1980/90s which pushed people out of the land in the name of conservation. Gosalamang, *et al.*, (2004) reported that the introduction of conservation activities in Mount Elgon which was associated with the extension of the forest area by taking local communities land had demoralized the nearby villages to get involved in conservation activities. However, the majority of the private forest owners decried to have user rights for all resources in their own forests (In spite of the forest policy of Tanzania restricting extraction of forest resource in private forest including timber and poles without legal permit from the government for conservation purposes (Figures 4 and 5) . This is a challenge in Tanzania, affirmation of tenure security is very important for REDD+ implementation which requires long term involvement in production.

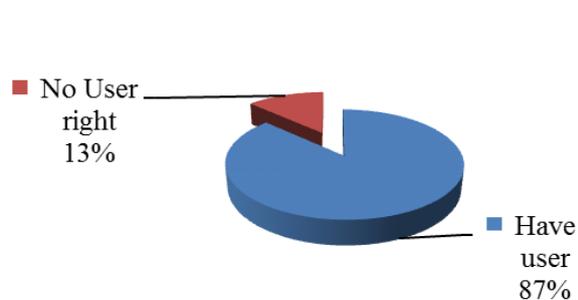


Figure 4: Household user right over forest resources in Kondoa district

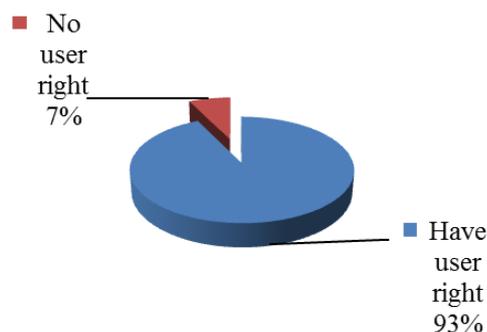


Figure 5: Household user right over forest resources in Kondoa district

### 3.2.3 State forests

Results show that in Rungwe Pilot Project area, 95% of the respondents had no user rights over the resources in the state forest (i.e. Rungwe Nature Reserve). While in Kondoa districts (50%) of the respondents were reported to have user rights to forest resources under JFM system. The user rights are however, restricted to some particular forest products. This is due to the fact that in state forests under the Joint Forest Management (JFM) regime the government retains most of the management responsibilities either through exclusive control, or by granting limited user rights over the forests. Monela, *et al.*, (2000) reported that lack of property rights by the local communities residing around forest reserves in Tanzania is major obstacle in extraction of forest resources hence discouraging them to get involved in forest conservation in the long run. The rights include noncommercial user rights, customary rights, and permits to hunt or gather dead wood and Non-Wood Forest Products (NWFPs).

From the study, it was learned that, the contribution of the Rungwe Nature Reserve to local communities' livelihoods is constrained by the prevailing state tenure regime (exclusive state management). Discussion with forest officers revealed that extraction of forest resources is restricted to particular forest products including gathering dead wood and Non-Wood Forest Products (NWFPs)

and performing traditional rituals. This has led to communities' negative attitude towards conservation. Studies have shown that JFM offers improvement in forest management as compared with exclusive state management. Kajembe *et al.* (2003) argued that JFM is likely to improve livelihoods of forest adjacent communities through introduction of alternative income generating activities. A comparative study carried out in six forests under JFM and six under exclusive state management found that JFM forests had better forest condition compared to the state managed forests (Blomley *et al.*, 2008). Because of the positive impacts that are now being seen both on livelihoods as well as in emission reduction, there is growing interest in using participatory approaches as institutional framework for REDD+ in Tanzania (Kajembe *et al.*, 2011; Zahabu 2008)

### 3.2.3 Forests under Community Based Management (CBFM)

Forests under CBFM have been observed in both study areas. Analysis of user rights under this management regime showed that nearly every member in the villages studied had access to these types of forests. Luoga *et al.*, (2006) reported that recognizing local communities autonomy in the management of forest resources has increased accessibility to resource and improved forest condition. With regards to the rules that govern the use and management of the community forests, the

majority of the households in both Rungwe and Kondoa districts were satisfied (Table 2). This could be attributed to the fact that the local communities are involved in

making rules that govern and manage the forests and due to appropriateness of conflict resolution mechanisms.

**Table 2: Local community satisfaction on the rules governing the use and management of state forest under CBFM**

Satisfaction options	Pilot areas	
	Rungwe District	Kondoa District
Very satisfied	76%	81%
Somewhat satisfied	7%	13%
Either same what dissatisfied or very dissatisfied	17%	7%

It has been further observed that greater tenure security and institutional autonomy of forests under CBFM contribute to more effective management. A study by Persha *et al.* (2009) in the forests of Usambara mountains in Tanzania, reported few incidences of disturbance in forests under CBFM than those under JFM and even worse for those under exclusive state management regime. The study conducted by Zahabu, (2008) on sinks and sources strategy to involve forest communities in global climate policy found that community forests were more effective in carbon storage and sequestration compared to unmanaged forests. Therefore, from the study, it was learned that CBFM could be the best practice in addressing REDD+.

### 3.3 Community perceptions on the REDD initiative

The study found that in both study areas, communities were aware that the climate is changing. Most people could tie the changes to the rise in temperatures, unpredictable precipitation patterns as well as increased crop and livestock diseases. The results further showed that most people understand the role which forests play in regulating micro climates as well the overall global climate. However, while communities support forest management initiatives, 72 % and 68% in Kondoa and Rungwe respectively consider REDD+ initiatives as ‘business as usual’ management approach equating it to PFM.

In Kondoa people have past negative experience from Hifadhi Ardhi Dodoma Program (HADO) where one among the measures was to destock. People with large number of livestock were forced to destock which resulted into shifting to other areas (displacement) to look for grazing land. As a result of that experience, people in some areas tended to equate REDD initiatives with being again pushed away from their land. Furthermore, discussions revealed that although some communities are participating in REDD+ activities, they see little hopes for positive social benefits from the initiative. They would like to see more emphasis be put just on forest conservation.

On the other hand, in the Mt Rungwe pilot area it was quite clear that people were scared on REDD+ initiatives thinking that it was administered by Tanzania National Parks (TANAPA). The misunderstanding could be attributed to the fact that TANAPA field staff fully armed patrols the Kitulo National Park which is rather close to the Mt. Rungwe pilot project area. Despite the fact that TANAPA is only responsible for the management of the Kitulo national park but conservation activities including guidance of the reserve from illegal extraction of forest resources are conducted in collaboration between TANAPA and forest officers. Further more forest patrols are conducted out side the

reserve where is difficult to distinguish source of extraction. It was reported that any person caught by TANAPA harvesting valuable forest resources including timber and poles from Rungwe Nature Reserve is fined about Tsh. 50 000 and the logs and all his working gears are confiscated and the offender is punished. Discussion with Wildlife Conservation Society (WCS) officers who are also involved in implementing REDD+ in Rungwe district disclosed that TANAPA is strictly restricting not only extraction of forest resources but also accessibility to forest reserve and national park as well.

It was also learned that in gazettement the National Park, some people lost pieces of land and access to the resource which they used to have prior to gazettement. As a matter of fact, local people emphasises that TANAPA really has two faces – cooperating with communities and a law enforcement part. Thus they send very mixed signals. Moreover, TANAPA is very centralized. As a result the Authority becomes very unpopular to the local communities. The study observed that the introduction of tea and coffee plantation since colonial era was the major cause of land inadequacy in Rungwe district. Discussion with villagers depicted that, despite the fact that same tea estates are owned by the individuals, but the policy does not allow them to uproot and grow other crops which have high market demand. This situation has threatened the locals to diversify land into different uses. The scenario also created uncertainty on adoption of the REDD+ due to hesitation of loss of tenure security.

### **3.4 REDD+ compensations**

#### **3.4.1 Implementation status**

One of the most critical parts of REDD+ scheme is the compensation for the foregone opportunities. Both piloting NGOs (African Wildlife Foundation – AWF in Kondoa and Wildlife Conservation –WCS in Rungwe) are

capitalizing on their long term experiences of conservation and more specifically wildlife conservation. The primary focus of the piloting NGO (WCS) in Rungwe is on conservation without compensation. The observation in Rungwe showed that WCS was avoiding raising expectations to the communities due to the uncertainties surrounding the REDD payment mechanisms. As the matter of fact, WCS has been in the field for so many years and managed to raise awareness among the communities about the benefits of conservation.

WCS believe that sustainable forest conservation should be done by facilitating non forestry livelihood pathways and not through payments. Regardless of the WCS trying to hide the component of compensation to the communities, it was learned that people are informed through various sources that REDD in a way means ‘Payments for foregone opportunities’. This might have serious negative implications in future if the WCS sticks to the ‘don’t pay’ approaches as may loose the community’s trust. This is due to the fact that elites have been following up the matter informally with district authorities. On the other hand if payment will be effected during the pilot project and cease thereafter the future of conservation will be more blurred. This is due to the fact local communities are involved in forest conservation activities despite being Nature Reserve managed by the central government. During PRA in Ndala village members of the Village Natural Resource Committee did not hesitate to express their interest of being compensated on conservation activities including tree planting, reporting to the forest officers on illegal activities and attaching the offenders tied with forest resource.

In Kondoa, AWF has included a payment scheme although is yet to be effected. However, the problem in all the pilots is

on how, when and to whom compensation should be made. The issue especially in the Rungwe pilot area is of how to compensate for carbon in the mixed agricultural landscapes if at all payment is to be effected. The study observed that the most challenging factor is the nature of the state forest used in the REDD pilot project (The National Park/Nature Reserve) where there is no access and user rights at all. The question is who will benefit from the conserved carbon? Is it state, communities or individuals with their own woodlots? Compensation being a major and most interesting component of REDD its ambiguity in most REDD pilot projects in the country will delay testing for other important components under the REDD

Scheme including management structures, transaction and opportunity costs.

### 3.4.2 Community perceptions on payments

The study explored whether the communities would prefer payments/compensations and the type of compensations if any. The results showed that most people would consider stopping deforestation and forests degradation if they get compensation to the loss of income they might have been accruing. However, it was noted that communities in both sites prefer the same types of compensation as shown in Figures 6 and 7 for Rungwe and Kondoa respectively.

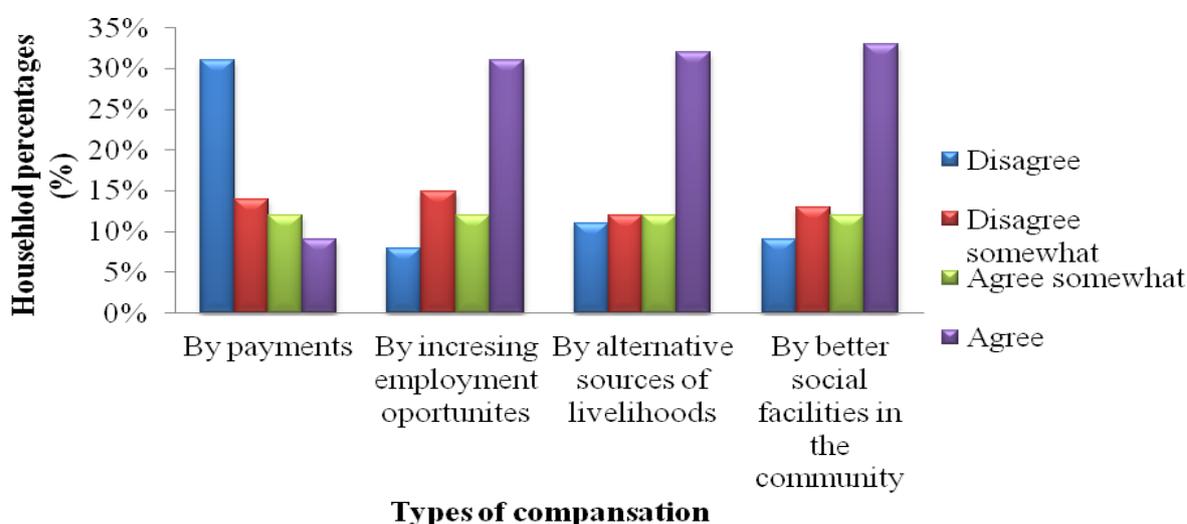
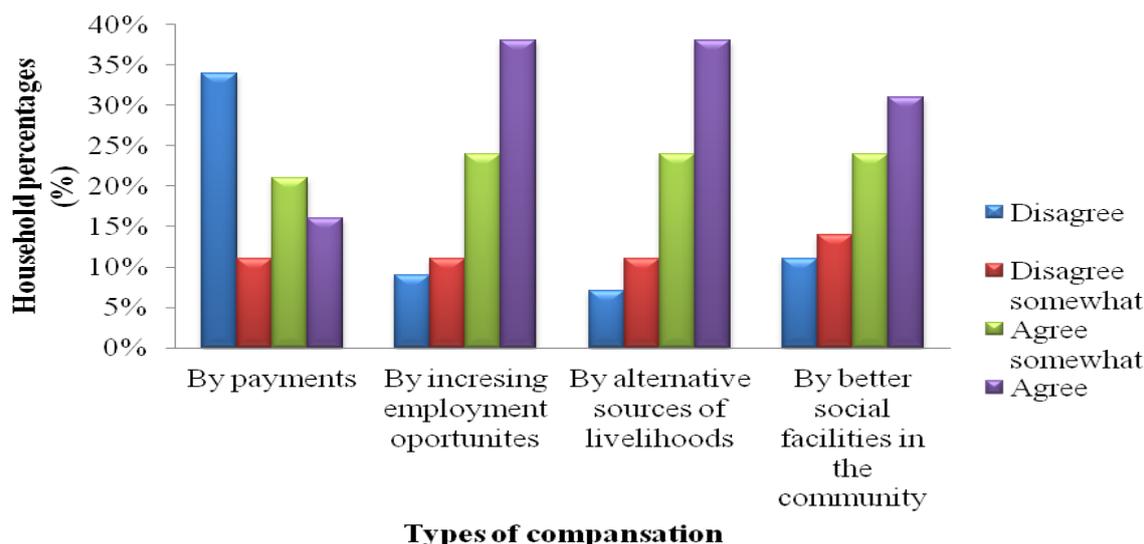


Figure 6: Types of compensation that people prefer for them to stop forest clearing in Rungwe district, Tanzania



**Figure 7: Types of compensation that people prefer for them to stop forest clearing in Kondoa district, Tanzania**

The preference on different ways of compensation add more challenges on piloting NGOs specifically on the structure of REDD program to be proposed to meet the demand and preferences of different people within the communities. The results of different compensation preferences is assumed to be attributed by different factors including age, ownership of land, type of economic activities and user rights to the forest resources. For the community forests there were general tendencies of proposing communal means of compensation such as social facilities.

**4.0 Conclusion and Recommendations**

Experience from REDD pilot projects revealed that many people depend on forests for their livelihoods. Land in both study areas was mainly private. Land use planning is going on rather slowly as it needs approval at different levels, and this has delayed implementation of the REDD piloting. The study revealed that Joint Forest Management (JFM) and Community Based Forest Management (CBFM), are potential models for REDD implementation as they offer more incentive options to communities’ livelihood. Tenure security and institutional autonomy of the Community

Based Forest Management have shown to be prerequisites in securing community livelihoods. The majority of the communities bordering protected areas were not satisfied with the rules as they threaten their livelihoods. However, about half of the studied communities are aware of the REDD+. However, lack of appropriate payment mechanisms hinders the development.

Based on the early experiences from the study areas, it can be concluded that for successfully REDD projects, both social and environmental benefits should be considered both during the designing and implementation of the projects. The study further suggest that in order to promote successful implementation of REDD initiatives, policy makers need to carefully coordinate a wide range of interrelated activities, ranging from establishment of multidisciplinary partnerships to detailed carbon analyses, stakeholder engagement processes, carbon finance and marketing. Strong, multi-disciplinary partnerships (including expertise in technical issues, project management, relevant laws and policies and local stakeholder engagement) are essential.

The fact that the Rungwe Pilot involves protected forests, it is important that community management programs are introduced to ensure that community livelihood is not compromised on the expense of conservation. Actually, the Rungwe pilot could be used as a 'test ground' for how carbon projects in protected areas could be designed so that they can ensure poverty alleviation. Currently, there is no strategy developed in Tanzania concerning how income from carbon projects from state owned land should be distributed. That's why some of the NGOs piloting REDD+ have decided to exclude reserved forests so as to maximize community incentives.

### Acknowledgements

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