

# **Governance and Livelihoood Impacts of Forest Conservation** Partnerships in Kilwa District, Tanzania

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# NEPSUS Working Paper 2019/4

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# Governance and Livelihood Impacts of Forest Conservation Partnerships in Kilwa District, Tanzania

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## Abstract

Forest conservation partnerships in Tanzania aim to deliver three sustainability outcomes; improved forest governance, improved forest conditions and ultimately enhanced local livelihoods through tangible socio-economic benefits. This paper is part of the larger project, New Partnerships for Sustainability (NEPSUS) which seeks to assess the impact of natural resource conservation partnerships on sustainability outcomes in three sectors: Wildlife, Coastal and Marine Resources, and Forestry. The project examines the correlation between partnership complexity and sustainability outcomes. Based on qualitative and quantitative methods, this paper presents empirical findings of socio-economic outcomes of forest conservation partnerships in eight villages of Kilwa District. Four of the sampled villages are involved in multi-stakeholder partnerships through Community Based Forest Management (CBFM), Reducing Emissions from Deforestation and Forest Degradation (REDD+), and have Forest Stewardship Council certified forests; two villages are adjacent to National Forest Reserves without any form of Participatory Forest Management (PFM) and two others are neither adjacent to National Forest Reserves (NFRs) nor implementing CBFM. In Kilwa CBFM is championed by the Mpingo Conservation and Development Initiative (MCDI), which works with local communities to establish and implement CBFM in Village Land Forest Reserves. The findings suggest that there has been improved forest governance and enhanced conservation practices in CBFM villages and that forests in non-CBFM villages suffer from uncontrolled forest use. The findings also show that CBFM villages benefit from Village Land Forest Reserves. However, the benefits are primarily only realized at the community level rather than at the household level. The majority of surveyed households in CBFM-villages find that their livelihoods have improved in the past five years compared to non-CBFM villages. Changes in livelihood conditions at the household level appear, however, to be mostly determined by the performance of crop farming, especially cash crops such as sesame. Understanding the socio-economic outcomes of partnerships in forest conservation thus requires disentangling other factors, such as non-partnership factors, and examining the links between community level benefits and household level benefits.

# List of Acronyms

CBFM	Community Based Forest Management
CBNRM	Community Based Natural Resource Management
CMT	Council Management Team
DANIDA	the Danish International Development Agency
DFO	District Forest Officer
FGD	Focus Group Discussion
FMR	Forest Management Regime
FSC	Forest Stewardship Council
JFM	Joint Forest Management
JMA	Joint Management Agreement
KDC	Kilwa District Council
KII	Key Informant Interview
LAFR	Local Authority Forest Reserve
LUP	Land Use Plan
MCDI	Mpingo Conservation and Development Initiative
MJUMITA	Mtandao wa Jamii wa Usimamizi wa Misitu Tanzania (Tanzania Community Forest Network)
MNRT	Ministry of Natural Resources of Tanzania
NBS	National Bureau of Statistics
NEPSUS	New Partnerships for Sustainability Research Project
NGO	Non-Governmental Organization
NTFPs	Non-Timber Forest Products
ODK	Open Data Kit
PFM	Participatory Forest Management
REDD+	Reducing Emissions from Deforestation and Forest Degradation

SNA	Social Network Analysis
TCRS	Tanganyika Christian Refugee Service
TFS	Tanzania Forest Service
URT	United Republic of Tanzania
UTUMI	Utunzaji wa Misitu (Woodland and Forest Management Project)
UWAMBALI	Umoja wa Wanunuzi wa Mbao Lindi (Association of Timber Buyers in Lindi Region)
VEC	Village Environmental Committee
VEO	Village Executive Officer
VLFR	Village Land Forest Reserve
VNRC	Village Natural Resource Committee
WWF	World Wide Fund for Nature

# **Table of Contents**

1.	Intro	oduction and Background	9
2.	The	Context of Participatory Forest Management in Tanzania	10
3.	Ove	rall Objective and Specific Research Questions	12
4.	Des	cription of the Study Area and Study Sites	13
	4.1.	General and Contextual Characteristics of Kilwa District	13
	4.2.	Description of Study Sites	15
5.	Res	earch design and Methodology	20
	5.1.	Selection of Study Sites	20
	5.2.	Sampling Design	22
	5.3.	Data Collection methods	24
	5.4.	Data Analysis Process	26
	5.5.	Ethical Considerations	27
6.	Emp	pirical Findings	28
	6.1.	Configuration of Participatory Forest Management (PFM) in Kilwa District	28
	6.1.	1. Establishment and Functioning of Forest Conservation Partnerships	28
	6.1.	2. MCDI's Roles as a Focal Organization in Forest Conservation Partnership	s in
	Kilw	/a	31
	Kilw 6.1.	a 3. MCDI Credibility in CBFM, REDD+, and Forest Certification	31 33
	Kilw 6.1. 6.2.	a 3. MCDI Credibility in CBFM, REDD+, and Forest Certification Legitimacy of Forest Partnership (Input, Process, and Impact)	31 33 34
	Kilw 6.1. 6.2. 6.2.	<ul> <li>MCDI Credibility in CBFM, REDD+, and Forest Certification</li> <li>Legitimacy of Forest Partnership (Input, Process, and Impact)</li> <li>Input and Process Legitimacy</li> </ul>	31 33 34 34
	Kilw 6.1. 6.2. 6.2. 6.2.	<ul> <li>MCDI Credibility in CBFM, REDD+, and Forest Certification</li> <li>Legitimacy of Forest Partnership (Input, Process, and Impact)</li> <li>Input and Process Legitimacy</li> <li>Outcome Legitimacy</li> </ul>	31 33 34 34 40
	Kilw 6.1. 6.2. 6.2. 6.2. 6.3	<ul> <li>MCDI Credibility in CBFM, REDD+, and Forest Certification</li> <li>Legitimacy of Forest Partnership (Input, Process, and Impact)</li> <li>Input and Process Legitimacy</li> <li>Outcome Legitimacy</li> <li>Participation in Partnerships</li> </ul>	31 33 34 40 51
	Kilw 6.1. 6.2. 6.2. 6.3 6.4	<ul> <li>MCDI Credibility in CBFM, REDD+, and Forest Certification</li> <li>Legitimacy of Forest Partnership (Input, Process, and Impact)</li> <li>Input and Process Legitimacy</li> <li>Outcome Legitimacy</li> <li>Participation in Partnerships</li> <li>Partnership Impacts on Forest Governance</li> </ul>	31 33 34 40 51 56
	Kilw 6.1. 6.2. 6.2. 6.3 6.4 6.4.	<ul> <li>MCDI Credibility in CBFM, REDD+, and Forest Certification</li> <li>Legitimacy of Forest Partnership (Input, Process, and Impact)</li> <li>Input and Process Legitimacy</li> <li>Outcome Legitimacy</li> <li>Participation in Partnerships</li> <li>Partnership Impacts on Forest Governance</li> <li>Impact on Forest Management Practices</li> </ul>	31 33 34 40 51 56 56
	Kilw 6.1. 6.2. 6.2. 6.2. 6.3 6.4 6.4. 6.4.	<ul> <li>MCDI Credibility in CBFM, REDD+, and Forest Certification</li> <li>Legitimacy of Forest Partnership (Input, Process, and Impact)</li> <li>Input and Process Legitimacy</li> <li>Outcome Legitimacy</li> <li>Participation in Partnerships</li> <li>Partnership Impacts on Forest Governance</li></ul>	31 33 34 40 51 56 56
	Kilw 6.1. 6.2. 6.2. 6.3 6.4 6.4. 6.4. 6.4.	<ul> <li>MCDI Credibility in CBFM, REDD+, and Forest Certification</li> <li>Legitimacy of Forest Partnership (Input, Process, and Impact)</li> <li>Input and Process Legitimacy</li> <li>Outcome Legitimacy</li> <li>Participation in Partnerships</li> <li>Partnership Impacts on Forest Governance</li> <li>Impact on Forest Management Practices</li> <li>Market availability for Forest Products</li> <li>Benefit Sharing of Income from VLFR and TFS timber harvesting</li> </ul>	31 33 34 40 51 56 56 56 58
7.	Kilw 6.1. 6.2. 6.2. 6.3 6.4 6.4 6.4. 6.4. 6.4. 50ci	<ul> <li>MCDI Credibility in CBFM, REDD+, and Forest Certification</li> <li>Legitimacy of Forest Partnership (Input, Process, and Impact)</li> <li>Input and Process Legitimacy</li> <li>Outcome Legitimacy</li> <li>Participation in Partnerships</li> <li>Partnership Impacts on Forest Governance</li> <li>Impact on Forest Management Practices</li> <li>Market availability for Forest Products</li> <li>Benefit Sharing of Income from VLFR and TFS timber harvesting</li> </ul>	31 33 34 40 51 56 56 56 58
7.	Kilw 6.1. 6.2. 6.2. 6.3 6.4 6.4. 6.4. 6.4. 50ci 7.1.	<ul> <li>MCDI Credibility in CBFM, REDD+, and Forest Certification</li> <li>Legitimacy of Forest Partnership (Input, Process, and Impact)</li> <li>Input and Process Legitimacy</li> <li>Outcome Legitimacy</li> <li>Participation in Partnerships</li> <li>Partnership Impacts on Forest Governance</li></ul>	31 33 34 40 51 56 56 56 58 58 58
7.	Kilw 6.1. 6.2. 6.2. 6.3 6.4 6.4. 6.4. 6.4. 50ci 7.1. 7.2.	<ul> <li>MCDI Credibility in CBFM, REDD+, and Forest Certification</li></ul>	31 33 34 40 51 56 56 58 58 58 58
7.	Kilw 6.1. 6.2. 6.2. 6.3 6.4 6.4. 6.4. 6.4. 50ci 7.1. 7.2. 7.3.	<ul> <li>MCDI Credibility in CBFM, REDD+, and Forest Certification</li> <li>Legitimacy of Forest Partnership (Input, Process, and Impact)</li> <li>Input and Process Legitimacy</li> <li>Outcome Legitimacy</li> <li>Participation in Partnerships</li> <li>Partnership Impacts on Forest Governance</li></ul>	31 33 34 40 56 56 56 58 58 58 58 58 59 60
7.	Kilw 6.1. 6.2. 6.2. 6.3 6.4 6.4. 6.4. 6.4. 7.1. 7.2. 7.3. 7.4.	<ul> <li>MCDI Credibility in CBFM, REDD+, and Forest Certification</li></ul>	31 33 34 40 51 56 56 56 58 58 58 58 58 58 58 58 58 58
7.	Kilw 6.1. 6.2. 6.2. 6.3 6.4 6.4. 6.4. 6.4. 50ci 7.1. 7.2. 7.3. 7.4. 7.5.	<ul> <li>MCDI Credibility in CBFM, REDD+, and Forest Certification</li></ul>	31 33 34 40 51 56 56 56 58 58 58 58 58 58 59 60 64 65

# List of Figures

Figure 1. Study Villages in Kilwa District14
Figure 2. Forest Land Use by Geographic Cluster14
Figure 3. The social network of actors in the study villages
Figure 4. Local Knowledge on Forest Governance Regulations. Numbers indicate whether or
not heads of households answered the question correctly42
Figure 5. Perceptions of fairness of rights of access and use of forest resources45
Figure 6. Local perceptions of the clarity of rules and rights to access and use forest resources.
Figure 7. Local perceptions of acceptability of rules and rights to access and use forest
resources47
Figure 8. Local satisfaction of rules and rights to access and use forest resources
Figure 9. Satisfaction with Governance, by Village Committee Connections
Figure 10. Attendance of Last Meeting on Partnership Implementation Matters53
Figure 11. Villagers Attendance of routine Meetings54
Figure 12. Family Benefits of Partnerships59
Figure 13. Community perceived Benefits of Partnerships60
Figure 14. Forest related livelihood options in Surveyed Villages62
Figure 15. Changes in Farming following implementations of Partnerships in CBFM Villages.
Figure 16. Proportion of villages reporting various livelihood activities who also report forest
use63
Figure 17. Perceptions on Livelihood improvement in CBFM and Non-CBFM villages
Compared645

# List of Tables

Table 1. Summary of Partnership Complexity Score Values	20
Table 2. Summary of Sampled and Surveyed Households in Selected Villages of Kilwa	23
Table 3. Local Perceptions of Happiness on performance of partnership leadership	49
Table 4. Attendance to Partnership (CBFM) meetings	52
Table 5. Villagers' attendance of Last Meeting on Environmental Management Issues	53

#### 1. Introduction and Background

The 1992 United Nations Conference on Environment and Development (UNCED) encouraged policy and institutional frameworks to adopt environmentally friendly pathways in pursuit of socio-economic development goals. Since then, the politics of the conservation-development nexus have taken multiple trajectories in an attempt to define the best practice partnership models of governance that can guarantee 'win-win' outcomes for both conservation and development (Ely et al., 2013; Linner and Selin, 2013). The design and execution of conservation partnership models face an ever-present challenge to accommodate dynamic processes – such as the changing climate, volatile markets, globalization, and population growth – in delivering sustainable conservation and development outcomes. From a political ecology point of view, policy and legal frameworks at the national level are key in providing guidelines for natural resource governance. This includes clearly defined actor-relations and the anchoring of actor participation in decision making processes and benefit sharing. Tales of contestation between 'top-down' and 'bottom-up' approaches have dominated the scientific and political agenda and became louder during the past six decades. The implementation of both have implications for locally based actions, especially in the developing world where the sustainability of local livelihoods hinges on the conservation of nature. Letting local communities define conservation needs and inform conservation pathways has been cited as belonging to the core of designing workable partnerships through Community Based Natural Resources Management (CBNRM) approaches. The forestry sector is rich in examples that reflect a paradigm shift from centralized to decentralized natural resource governance such as CBNRM.

The world's forests are estimated to cover one-third of the total land area (Chao, 2012). Forestry is among the most well appreciated natural resource sectors. The socio-ecological significance of forests has been repeatedly documented by a wide range of scholars (see Kalumanga et al. 2018; Smith, 2012; Bonan, 2008; Dudley and Stolton, 2003). Forest governance has been inherently dynamic with deliverance of sustainability outcomes being a continuous matter of evaluation through research lenses. Of particular interest has been the paradigm shift from state-centric top-down approaches to a decentralized form of governance that empowers local communities in defining the equation between decision making and benefit sharing and allows for greater inclusion of non-state actors. This working paper focuses specifically on forest governance that has been structured through conservation partnerships with the objective of achieving improved governance and environmental and socio-economic outcomes (Bwagalilo et al. 2019). These partnerships are characterized by a configuration of multiple actors and actor categories: state and non-state actors, and local communities operating at different levels (Ponte et al. 2017). Similar conservation partnerships have been formed and vividly observed in other natural resource sectors such as wildlife, coastal and marine resources.

Empirically, the working paper focuses on the forestry sector in Kilwa District as part of the larger New Partnerships for Sustainability (NEPSUS) project that also addresses wildlife (in Kilwa and Rufiji Districts) and coastal and marine resources (in Mtwara District). NEPSUS is a research project that looks at the configuration of actors around conservation partnerships and processes and evaluates partnerships' sustainability outcomes (Ponte et al. 2017). The research design and methodologies for the entire project have been elaborated in Ponte et al (2017). In brief, data collection started in February 2017 and this paper is written and treated as a repository of empirical findings within the forestry sector based on fieldwork experiences in Kilwa District. The paper is therefore divided into three main sections. The first is concerned with the context of participatory forest conservation in Tanzania and the characteristics of the study sites in Kilwa district in relation to forest conservation. Secondly, the paper presents the main empirical findings based on the specified objectives, and thirdly the discussion of emerging patterns of data in relation to the main research questions of the project.

The findings suggest that there has been improved forest governance and enhanced conservation practices in CBFM villages and that forests in non-CBFM villages suffer from uncontrolled forest use. The findings also show that CBFM villages benefit from Village Land Forest Reserves (VLFRs). However, the benefits are primarily realized at the community level rather than the household level. The majority of surveyed households in CBFM-villages find that their livelihoods have improved in the past five years compared to non-CBFM villages. Changes in livelihood conditions at the household level appear, however, to be mostly determined by the performance of crop farming especially cash crops such as sesame. Understanding the socio-economic outcomes of partnerships concerned with forest conservation requires disentangling other factors such as non-partnership factors and the examination of the links between community level benefits and household level benefits.

#### 2. The Context of Participatory Forest Management in Tanzania

Almost 40% of Tanzania Mainland is covered by forest, occupying an estimated 35.2 million ha of land (URT, 2012; Blomley et al. 2008). Tanzania's forests form one of the most important natural resource sectors in the country in terms of its ecological functions and socio-economic potentials (URT, 1998; Blomley et al. 2008; Blomley and Iddi, 2009; Schaafsma et al. 2014). The sector carries huge expectations to improve livelihoods of communities adjacent to forests, contribute to and support national development budgets, and at the same time preserve its global ecological significance. This thinking is strongly echoed in the 1998 National Forest Policy (URT, 1998). A historical analysis of Tanzania's forest governance by Kalumanga and colleagues (2018) analyzes forest management in both pre and post-colonial eras. Since colonial times, akin to other natural resource sectors, forest governance has been state-centric. The state-controlled decisions in relation to forest conservation were taken according to a top-down management style until the 1990s when governance followed a path of decentralization. This was largely a response to growing calls for more participatory policy and institutional designs.

The need for decentralized governance necessitated changes in legal and policy frameworks to embrace the involvement of non-state actors and empower local communities to play key roles through Participatory Forest Management (PFM) approaches (Kalumanga et al. 2018; Bwagalilo et al. 2019). In practice, PFM related approaches started in the 1990s (Treue et al.2014). The main critique of top-down approaches were that local communities' needs were not adequately addressed and that a lack of authentic local participation in decision making and benefit sharing meant that forests as natural assets did not offer much to improving local livelihoods (Bwagalilo et al. 2019; Nzunda et al., 2011). Nzunda and colleagues (2011) find that policy emphasis on state-centric governance excluded local communities and necessitated more participatory governance as a panacea. The failure of state-centric policies is implicitly acknowledged in Tanzania's 1998 National Forest Policy. The policy opens up avenues for inclusion of non-state actors and supports community participation through decentralization of forest governance (URT, 1998).

The fact that Tanzania has been historically challenged with high rates of deforestation and forest degradation brought PFM to be regarded as one of the interventions to curb the challenge. PFM has also been one approach to decentralizing forest governance which has aimed at empowering local communities to take a leading role in decision-making, control, and the sustainable utilization of forest resources adjacent to them (Bwagalilo et al. 2019; Kalumanga et al. 2018; Nzunda et al. 2011; Blomley and Iddi, 2009). PFM underlines a paradigm shift in forest governance from top-down to participatory multi-stakeholder approaches. Multiple actors are vested with different interests, a diversity of resources, different levels of commitments, various backgrounds and they operate at different scales through more sophisticated organizational structures to influence forest governance. The Forest Act No 14 of 2002 formulates two main approaches to PFM: Joint Forest Management (JFM), i.e. joint management between the state and the community of state-owned forests, and Community Based Forest Management (CBFM), i.e. where the communities are both managers and owners of the forest. See Kalumanga et al. (2018) and Bwagalilo et al (2019) for further details on the policy and institutional framework within which JFM and CBFM operate. The evolution of PFM in Tanzania is praised as exemplary across Africa (Blomley and Iddi, 2009). PFM has been the basis for implementing other global initiatives such as Reducing Emissions from Deforestation and Forest Degradation (REDD+) projects for climate change mitigation. However, the relevance of PFM, in particular its separate tiers, JFM and CBFM, has been under scientific scrutiny in relation to whether they deliver the much-expected sustainability outcomes (Nzunda et al. 2011; Blomley and Iddi, 2009; Kalonga 2015; Sungusia and Lund 2016; Corbera et al. 2017). Different scholars have worked on quantifying the sustainability outcomes of forest partnerships. Kalonga and colleagues (2015) assessed the impact of forest certification on forest structure in Kilwa district and concluded that certified forests are correlated with improved forest conditions and with better economic gains

compared to villages without certified forests. The explanation has been that certified forests are managed in accordance with the conservation standards that are stipulated as part of the certification requirements.

Forest certification in Kilwa district is implemented in forests that are under CBFM. As a result, CBFM is considered as a foundation for enabling conservers to abide by the Forest Stewardship Council (FSC) standards. Sungusia and Lund (2016) find that, while there is rising praise of CBFM among local communities, the consequences of turning unreserved lands with open access into VLFRs with controlled access is largely ignored. Corbera and colleagues (2017) analyzed the impact of REDD+ initiatives in Tanzania, which operate within PFM institutional frameworks, and observed enhanced forest governance, but the results on livelihood outcomes were inconclusive thus calling for more definitive parameters that link partnership impacts to socio-economic benefits. Kalonga and Kulindwa (2017) have attempted to bridge this gap by looking at forest certification and its influence on local livelihoods. They observed that in FSC-villages, 16% of household income is linked to forest activities compared to 6% in non-FSC-villages. There is thus a need for combining and exploring various methods and approaches to examine different types of partnerships in the name of participatory management in order to further our understanding of the links between the nature and form of partnerships in resource governance and the socio-economic outcomes.

The current working paper examines the impact of partnerships on forest governance and socio-economic outcomes<sup>1</sup> in relation to CBFM in Kilwa District. CBFM is increasingly growing popular in Tanzania and, in relation to forest management in Kilwa, it involves partnerships between non-governmental organizations, businesses, certifications agencies, government authorities, timber traders, and local communities. The research design has been explained in more detail by Ponte et al. (2017).

## 3. Overall Objective and Specific Research Questions

The main objective of this paper is to document empirical findings on the governance and socio-economic outcomes of forest governance partnerships and inform key research questions within the NPESUS project. Materials in the paper broadly respond to the following specific research questions:

<sup>&</sup>lt;sup>1</sup> Environmental outcomes, which address forest conditions/structure, are not addressed in this paper, but will be a key theme of another empirical working paper within the NEPSUS' series of working papers.

- (i) How are forest conservation partnerships configured and in what context of Kilwa district?
- (ii) What is the legitimacy of established forest conservation partnerships?
- (iii) What are evident governance and socio-economic outcomes of forest conservation partnerships in Kilwa district?

# 4. Description of the Study Area and Study Sites

This study was carried out in Kilwa district in southern Tanzania. The description of Kilwa District as a study area provides an important entry point in understanding contextual factors in relation to socio-economic and environmental aspects of natural resource management. This is approached at two levels; one consists in the general description of Kilwa District and the second in the characterization of villages sampled as study sites for the NEPSUS research project.

# 4.1. General and Contextual Characteristics of Kilwa District

Geographically, Kilwa district (Figure 1) is located in the northern part of Lindi Region in the Southern corridor of Tanzania.

The district lies between latitudes 8°15′ and 10°00′S, and between longitudes 38°40′ and 39°40′E. The district forms one of five districts in Lindi region. It borders the Indian ocean to the east, and Liwale district and Selous Game Reserve to the west, Coastal region to the north, and Ruangwa and Lindi to the south (MCDI, 2019).

The district is rich on natural resources and is largely covered with Miombo subtypes and the East African Coastal Forest variants. Kilwa District is among the first in Tanzania to feature National Forest Reserves and Village Land Forest Reserves. There are 161,506.4 ha of forest land under National Forest Reserves, of which 144,900.4 ha are for production, and 16,606 ha of forest land are strictly for protection. Up to July 2017, the district had about 128,948 ha of forest land under CBFM in eleven villages (MCDI, 2019) (see also Kalonga, Midtgaard, and Eid, 2015).

Figure 1. Study Villages in Kilwa District.



Source: Kelvin Kamnde

Figure 2. Forest Land Use by Geographic Cluster.



Source: Kelvin Kamnde

The district is well vested with historical and cultural heritage sites with huge potentials for cultural tourism including the Songo-Mnara Islands which were the hub of trade between hinterland Africa and Persian countries in the 14<sup>th</sup> and 15<sup>th</sup> centuries. Kilwa is known as the commanding center of the Maji Maji rebellion against the Germans in between 1905 and 1907. Despite these historic and cultural heritage sites, cultural tourism in the district is not fully developed. Hunting tourism is also not well established but can be observed in Likawage and Nainokwe villages.

Livelihood activities are largely nature-dependent and most of the small and medium business enterprises are concentrated in Kilwa Masoko, the headquarters of the district administration. Fishing is a prominent livelihood activity for communities adjacent to the Indian Ocean. Agriculture is the main stay of the district's economy where farming accounts for 79.5% of livelihoods, while livestock keeping is only 0.2% (NBS, 2016). Farming is mainly small scale and peasantry in nature. Sesame and cashew are two main cash crops, in order of importance, with the latter highly fluctuating in importance depending on cashew market trends. An agricultural census conducted by the National Bureau of Statistics in 2002-2003 (NBS, 2002/2003) indicated that Kilwa had a moderately planted area with permanent crops dominated by coconut (5,541 ha), cashew (5,304 ha) and orange (1, 4371 ha). Other permanent crops were either not grown or were grown in very small quantities. Of recent, however, Lindi region and Kilwa district in particular attracted many people from outside their boundaries who wanted to grow sesame. According to Tremblay and Willy Lowry (2017) drawing data from the local NGO, the Mpingo Conservation and Development Initiative (MCDI), the rapid growing sesame production has also been observed in neighboring villages such as Nanjirinji A. Moreover, in neighboring districts, sesame growing is described as a significant factor in relation to deforestation in this region.

Large-scale investment in agriculture has been attempted by outsiders through the Bioshape project - a biofuel project. The project failed to live up to expectations and instead stirred land ownership issues while un-kept promises of employment to local communities painted an image of distrust against foreign investment within Kilwa district. In general, the life standard is averagely poor, where 76.6% of house types are either made of mud and leaves or grass and leaves. Similarly, 78.9% of the house floors are made of earth or sand, while wall materials consisting of poles and mud or grasses feature in 74.5% of the houses (NBS, 2016).

#### 4.2. Description of Study Sites

The villages identified as study sites for the research have different characteristics that are worth evaluating as contextual factors. The villages are characterized as follows.

# (i) Kikole village (CBFM)

Kikole village was established in 1905 and it was set up as an administrative centre in 1947 when the British colonial government began relocating people from the neighboring Liwale District. Kikole means 'new place'. During the study, the village population was estimated at 1490 people and 173 households. The village has three sub-villages: Kikole, Mbunga and Nanyati. Geographically, Kikole village is located at a far distance from the Dar–Mtwara main road (15-20 km). The road to the village is poor and not easily accessible during rainy seasons. Farming is the main source of livelihood. Sesame is an important and most dominant cash crop. Sesame follows a shifting cultivation system and it has been pointed out as a threat to forest conservation. Other cultivated crops include sorghum, rice and cassava and maize and are mainly for subsistence.

Kikole was among the earliest pilot villages for the DANIDA funded UTUMI (Woodland and Forest Management) project between 2001 and 2004. When the local NGO MCDI took over from the UTUMI project in 2004, they started working with Kikole village on establishing CBFM. The village is the earliest village in Africa to adopt forest certification. It is also among the first villages to establish a Village Land Forest Reserve in 2005 with a total number of 454 hectares and it succeeded to have its first harvest in 2009. In 2017, Kikole village decided to expand its VLFR from 454 to 954 ha. Apart from implementing CBFM, Kikole is also adjacent to the Mitature National Forest Reserve (NFR) and thus has the potential to be part of a JFM arrangement should it be pursued in the future. Boundary conflicts between Kikole and neighboring Ngea and Ruhatwe villages have not affected much the village involvement in CBFM arrangements.

## (ii) Nainokwe village (CBFM)

Local narratives suggest this village existed even before the 1974 villagization program. The village is located about 90km east of Kilwa Masoko. The road to this village is in a very poor condition and not easily accessible during the rainy seasons. During this study, the population of the village was estimated at 540 residents and 117 households. Farming is the main source of livelihood. Main subsistence crops are maize, and millet/sorghum. Sesame is the main cash crop and critical for household income replacing cashew. Sesame production was low in 2015-2016 because of the lower market price. Lumbering is a historic business in the village and has attracted migrants from other parts of Tanzania into the village. Timber is harvested from different parts of the village lands (especially in the open areas) where harvesting of forest products is not as highly regulated as compared to the Kijawa VLFR. Village members also depend much on forests for building materials, firewood, vegetables and wild fruits for household use. The village has conserved 8,000 ha as Kijawa VLFR. In 2011 the village made its first harvest and over TZS 13 million was received. The village is currently engaged in

reviving the Mnungunungu (Erythrina-Schliebenii) which was listed by the International Union for Conservation of Nature (IUCN) as extinct. Nainokwe village is one among the villages that jointly sold part of its land to the failed Bioshape Project. Because of its proximity to the Selous Game Reserve, there is evidence of hunting tourism in the village.

# (iii) Mchakama (CBFM)

The village is found within the Mandawa ward, located 54.4 km south-west of Kilwa Masoko. Access to the village is via Mavuji village through a 6 km rough road. Mchakama started as a village in 1976. The villagers refused to leave during the villagization operation. The village was officially registered and given its village certificate and number in 1996. The village had a total population of approximately 1788 and 406 households during the 2012 census. Agriculture is the main source of livelihood for many members of the community.

The CBFM process started in 2008. The MCDI organization facilitated raising community awareness about CBFM and natural resource governance, the establishment of a Village Natural Resource Committee (VNRC) and developing village land use plans and forest boundaries demarcation. The village has a total number of 3000 ha forest conserved as VLFR and is also adjacent to the Mitundumbea NFR. The village is surrounded by the Mavuji river which also acts as a barrier to easy access to the Mchakama forest, hence it is less disturbed due to limited access. MCDI use this village as a focal area for re-growing of the threatened tree species Mnungunungu.

# (iv) Likawage (CBFM)

Likawage village is located in Likawage Ward. People have been living in the Likawage area even before it was formally registered as a village. In the 1940s, the Likawage area was known as Nangangachi. People were moved from Nachingwea district to this area by the colonial government in 1945 and some from Madaba and Lukalelelwa/Likulilwa areas in Liwale where there had been outbreaks of *Malale* and *Ndui* diseases. The word 'Likawage' came from a Ngindo word literally meaning 'go and wait.' In the 1940s, the Likawage area had serious water shortages and had few water points for domestic use. People had to walk for some kilometers, que and wait to fetch water from natural wells (Mkakabage - Likawage).

According to the village forest management plan of 2016, Likawage had a population of 5,994 people with 500 households. The distance from Kilwa Masoko Town is 100.8 km through a very rough road via Nangurukuru and Nainokwe villages. The village is not easily accessible during the rainy season due to poor road infrastructure. However, being the headquarters of the Ward, Likawage is more active in petty trade and appears to be better in terms of economic activities compared to the nearby Nainokwe village. Farming is a main livelihood activity for the people in Likawage village. Main food crops are millet/sorghum, maize and rice. In the past, cashew was the main cash crop in Likawage village, but is currently sesame (which was produced for subsistence from the 1940s to the early 1990s).

Forest management efforts in areas surrounding the Likawage village started in the 1950s, during colonial time. Giraffe-painted signposts were seen in areas surrounding the Rungo NFR and the Mitundumbea NFR. Forests were managed by the Tanganyika Forest Services. Forest management, both in NFRs and outside the NFRs, was under forest guards and forest officers operated from the district to the village levels. Access to some forest resources such as building poles were not restricted. Members of communities surrounding the NFRs were not engaged in forest management activities. Even after independence (in the 1960s), community members were not engaged in forest management. Currently, the village implements CBFM. MCDI activities on CBFM started in 2008. A VLFR was officially established in 2012 and encompasses 31,005 ha. The village joined the MCDI FSC group certificate in 2013 (more on this later). The village conflicts with the bordering Rungo NFR and the NFR managing authority exists particularly over border and illegal forest use. The recent government border review has indicated a huge chunk of village land as part of the NFR, hence, the Tanzania Forest Service (TFS) claim their land and the village has allocated use to the same land.

Likawage is close to the Selous Game Reserve and has been occasionally carrying out hunting tourism. This is also evident with the presence of a small airstrip from which tourists can be airlifted to the village. Both Likawage and Nainokwe have high records of interaction with wildlife during dry seasons (elephants are the most spotted animals).

# (v) Kiwawa (Adjacent to Mitundumbea National Forest Reserve)

The village started with a few scattered settlements in 1938-39. The villagers used areas close to the Mkondaji River stream for cashew production/farming. Back in those years, the village was known for large groups of elephants and buffaloes along the Mkondaji River stream. The giant mammals are no longer visible instead wild pigs and primates are found in the area. The Ujamaa villagization program in 1974 influenced settlement development in the current center of the village. The population is 1668, and the number of households is 417.

Farming is the main livelihood activity for the people in Kiwawa village. Main food crops are maize and millet/sorghum. Cashew used to be a main cash crop in Kiwawa, between 1950s and 1970s. Then, sesame became a cash crop while previously it was produced at subsistence level and for food. Today, income from sesame is improving people's life, especially their settlements. More people are coming to Kiwawa villages from different places (even outside the Kilwa District) for sesame production. There is more demand for land for sesame production. There have been no community-based initiatives in forest management in Kiwawa village. The village is adjacent to the Mitundumbea NFR. Kiwawa is along the Dar-Lindi highway and charcoal selling is among the activities easily noticeable along the road.

# (vi) Migeregere (Adjacent to Mitarure National Forest Reserve)

Migeregere, established in 1972, is one of the oldest villages in Kilwa District. It is located along the Kilwa-Liwale road and close to Nangukuru, the intersection of Dar-Lindi and Kilwa

Liwale roads. Farming is the main livelihood activity in Migeregere village. Main food crops are maize, millet/sorghum and sesame (produced for subsistence and cash). By 2015, the population of the village was 1621 and 330 households.

The village has two areas set aside for forest protection (to obtain various forest products): Ndwiu forest (Migeregere sub-village) and Kindumba (Kindumba sub-village). Adjacent to the village land is the Mitarure National Forest Reserve (NFR) managed by the central government, Ministry of Natural Resources and Tourism through the TFS, formerly under the District Forest Officer at the Kilwa District Council. The Mitarure NFR (shamba la bibi – queen's land) was gazetted during colonial time and people are restricted to collect any forest products without permits from higher authorities, meaning district and ministerial level.

Community members are not engaged in any forest management-related activity. The last time villagers were actively engaged in village-matters was during the Bioshape project. The Bioshape company came to Migeregere village and about 20,000 ha of land was leased for jatropha farming - a biofuel project. The village assembly agreed and approved some land to be given to the Bioshape company.

# (vii) Ruhatwe Village (Non-PFM and not adjacent to any National Forest Reserve)

Ruhatwe village was registered on 10<sup>th</sup> July 1974. Before it was a sub-village of Migeregere village. The village has three sub-villages: Mbuyu Kibaba, Ruhatwe kijijini and Kimelemeta. The access to the village is mainly through Migeregere. The road to the village is rough and not accessible during the heavy rainy season. Farming is the major source of livelihood in Ruhatwe and main crops are maize, sorghum/millet, mbaazi and sesame. Local narratives suggest that sesame was not a cash crop 15 years ago but now it is due to its market potentiality. The village has 896 people in 224 households.

Specific to the Ruhatwe village, the first forest conservation awareness and engagement of communities started during the UTUMI project (the Ruhatwe village was among the UTUMI pilot villages). In 2000, the village was selected as a focal area of the UTUMI project with an initial area of 790ha. However, because of its border disputes over Kigangambate with the neighboring village known as Migeregere, the village failed to continue with the further legal process of declaring a village forest. The forest within the village is highly degraded as people continue to transform the village forest into farm plots.

# (viii) Mavuji village (Non-PFM and not adjacent to any National Forest Reserve)

Mavuji is located along the Dar-Lindi main road. The road contributes significantly to rural urban interaction between the village and other villages and townships along the road. Farming is the main livelihood activity followed by petty trade. Mavuji has a population of 3400 people and 652 households. It is among the villages that leased part of its land (approx. 16,000 ha) to the Bioshape company for the growth of Jatropha in 2007 and received

approximately 86 million Tanzania Shilling. The village is now in the process of claiming back the land they sold to Bioshape with the support from TNRF. For various reasons including land use conflicts with Bioshape, the village has not set any piece of their land aside for forest conservation.

#### 5. Research design and Methodology

This study is structured as part of the larger NEPSUS project and the research design is formulated in order to enable comparison across the three studied sectors including forestry in Kilwa. Within each sector more complex, simpler, and no partnerships are further compared. Ponte et al (2017) provides detailed elaborations on the three forms of partnerships.

## 5.1. Selection of Study Sites

The selection of study sites was achieved after several discussions and deliberations among the NEPSUS team members and other stakeholders knowledgeable of the districts focused on by the project. The choice of sites in the coastal landscape of Kilwa has been driven by the need to compare cases across the three sectors studied within the NEPSUS project i.e. Coastal and Marine resources, Wildlife and Forestry. This justification is elaborated by Ponte et al. (2017). In the earliest stages, the project considered partnership complexity to be a guiding principle in selecting study sites. Originally, villages with CBFM and FSC were classified as

Partnership Characteristics	Actors Score	<mark>Kikolg</mark> (early adopter CBFM)	<mark>Naingkwg</mark> (early adopter CBFM)	Likawage (late adopter CBFM)	<u>Mchakama</u> (late adopter CBFM)	Kiwawa (non-CBFM, adjacent to NFR)	Migeregere (non- CBFM, adjacent to NFR)	Mayuji (non-CBFM)	Bubgtwg (non-CBFM)
Actor Categories									
Villages/local community	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
Local government	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
Central government	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
Private sector/business	0.125	0.125	0.125	0.125	0.125	0	0.125	0.125	0

Table 1. Summary of	Partnership	Complexity Score	Values.
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CSOs local	0.125	0.125	0.125	0.125	0.125	0	0	0	0
CSOs international	0.125	0.125	0.125	0.125	0.125	0.125	0	0	0
CBOs	0.125	0.125	0.125	0.125	0.125	0	0	0	0
Others	0.125	0.125	0.125	0.125	0.125	0	0	0	0
Subtotal 1	1	1	1	1	1	0.5	0.5	0.5	0.375

Institutional setup									
Legal framework > 2	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0	0
Division of functions > 2	0.25	0.25	0.25	0.25	0.25	0	0	0	0
Revenue distribution > 2	0.25	0.25	0.25	0.25	0.25	0	0	0	0
Access rights > 2	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0	0
Subtotal 2	1	1	1	1	1	0.5	0.5	0	0
Total	3	2.86	3	2.25	2.69	1.89	1	0.58	0.96

Source: Authors

more complex. These villages were also considered early entries into the CBFM arrangement. Villages that had CBFM only were considered simpler partnerships and as late entries into the CBFM arrangement. Villages that were not implementing CBFM were considered as control villages. However, by the time fieldwork was being undertaken, all the villages with CBFM were also certified with FSC. Through discussions on complexity in relation to partnerships, the NEPSUS research team therefore came up with scores that could differentiate study sites in terms of degree of partnership complexity. The summary of the scoring method used to determine partnership complexity is show in Table 1.

Table 1 above presents the number of actor categories, the institutional setup and the network relational complexity as factors determining partnership complexity in each of the studied villages. It also indicates the different weighting and scoring used to show the degree of complexity related to the partnerships. In relation to actor categories, the maximum score is 1 which was divided into the possible number of actor categories present in a partnership. In this case, since there had been 8 categories, 1 was divided by 8 and the presence of any of the actor categories in a village was assigned a score of 0.125. In relation to the institutional setup, the maximum score is also 1, which was divided by the number of factors defining the setup, in this case four. For each of the following factors defining the institutional setup, a score of 0,25 would thus be assigned: the presence of more than 2 legal frameworks;

functions divided between and defined for more than two actor categories; revenue distribution defined for more than two actor categories and access rights defined for more than two actor categories. With regard to relational complexity, scores were calculated (see Section 5.4) for each village. The maximum score of 5 was normalized into 1 for all villages.

The grand total defines the overall complexity of the partnerships present in the village in relation to forest resource management. Where the score was 2 and above the partnership was considered more complex, where the score ranged from 1 to just less than 2, it was regarded as a simpler partnership, and where the score was less than 1, the village was regarded as having no partnership, and was thus a control village. Therefore, based on the scores in Table 1, the CBFM villages Nainokwe, Kikole, Likawage and Mchakama were classified as villages with more complex partnerships, Kiwawa and Migeregere as simpler partnership villages and Ruhatwe and Mavuji were treated as control villages. Kikole and Nainokwe were early adopters of CBFM and Likawage and Mchakama were late adopters of CBFM. The simpler partnerships Kiwawa and Migeregere were adjacent to NFRs with forests that had potential for CBFM implementation but had never implemented neither JFM nor CBFM. The two control villages Mavuji and Ruhatwe are not adjacent to NFRs and have not been able to implement neither JFM nor CBFM.

#### 5.2. Sampling Design

Sampling of key informants and participants was done using qualitative sampling techniques. Qualitative sampling ensured that key sections of the local communities were represented. These included members of the Village Natural Resource/Environmental Committees and the Village Council. The exact number of individuals that were chosen for Key Informant Interviews depended on the availability and willingness of the members to participate. For Focused Group Discussions (FGD), we ensured that different demographics were represented by conducting FGDs with elders, with women alone, with men and women together, and with youth.

Serial No.	Village	Characteristic of the village	SAMPLED	INTERVIEWED
1	Kikole	Complex-CBFM adopter	50	43
2	Nainokwe	Complex-CBFM adopter	50	43
3	Likawage	Complex-CBFM adopter	50	44
4	Mchakama	Complex-CBFM adopter	50	44
5	Kiwawa	Adjacent to National Forest Reserve	50	44
6	Migeregere	Adjacent to National Forest Reserve	50	45
7	Mavuji	Control	50	44
8	Ruhatwe	Control	50	45
Total				352

Table 2. Summary of Sampled and Surveyed Households in Selected Villages of Kilwa.

Source: NEPSUS survey

Since this study is basically on partnerships a wide range of actors apart from local communities are included, such as those at the national level. This made it necessary to interview different individuals, public and private organizations, business companies, and agencies of certifications involved in, or somehow influencing, these partnerships existing outside local communities. The identification of these organizations was done through a review of the literature and using Social Network Analysis and Interviews with villagers. The sampling was therefore dependent on the actors' role in forest governance in the relevant partnerships, and in forest resource management in Kilwa and Tanzania in general.

Through project level discussions it was determined that we needed to include a minimum of 40 households in every study village in the household questionnaire-based survey. The quantitative survey employed systematic sampling of a minimum of 50 households in each village with the objective of reaching a minimum of 40 respondents should a head of household be unavailable when their house was visited. The number of sampled vs interviewed households is as shown in Table 2.

The sampling process followed the following protocol. Firstly, the survey team consulted the village office in a particular village. The village office has important details on the number of hamlets and people in particular villages. The village leadership would organize a meeting which included hamlet chairpersons/leaders. This was done because every study village is

divided into hamlets. Hamlet leaders were involved to discuss the logic of sampling and the practicability of the survey. Hamlet leaders had rosters of residents which provided information on the number of household members, and basic demographic data for each of the listed households. These rosters made it possible to ensure a proportional contribution of every hamlet to the total desired sample and an appropriate interval for systematic sampling. Involving hamlet leaders enabled the identification of available heads of households as some of the heads of households may have passed away or relocated without this being noted by the village office. These hamlet leaders would also later take enumerators to specific sampled households within their hamlets.

The sampling process had several challenges. By focusing on heads of households, most of whom are males, females were underrepresented. Male dominance in the samples may thus have compromised the strength of female voices in relation to the data provided. Ensuring the availability of some village leaders also proved difficult. For instance, in Ruhatwe village, the village office was closed during the days that the survey team entered the village, and the Village Executive Officer (VEO) and the village chairperson were not around. A member of the village council had to assist the team in organizing a meeting of hamlet leaders. It was also not possible to capture the number of households in that village and sampling was done in hamlets but not guided with specific intervals as it should be in systematic sampling. Another challenge was that some rosters were not updated to capture very recent demographic information. The survey team therefore had to rely on the hamlet leaders to get additional demographic information for their hamlets, especially in order to identify unlisted heads of households and those households that were available for sampling purposes.

## 5.3. Data Collection methods

Multiple techniques were adopted in order to collect and triangulate data. As far as the focus on socio-economic/livelihoods outcomes are concerned, data captured through the following methods were analyzed to address the above-mentioned research questions.

(1) Key Informant Interviews (KIIs) with a range of stakeholders involved in forest management at district and national level. These included non-government organizations, business actors and more specifically timber buyers, government authorities, and research institutions. In order to obtain a list of potential respondents a mapping of stakeholders was conducted, which provided an overview of various actors' involvement in forest conservation partnerships. At the national level, the research team requested appointments to talk to government authorities' executive officers of organizations of interest. Such government authorities and organizations include the Kilwa District Forest Office, MCDI, the timber trading company Sound and Fair, the Association of Timber Buyers in Lindi Region UWAMBALI, TFS, the Tanzania

Social Action Fund (TASAF), the NGOs ActionAid, WWF and Aghakhan Foundation, Tanganyika Christian Refugee Service (TCRS), etc. At the village level, KIIs were conducted with village elders with vested knowledge of forest management, the village council leadership, and VNRC members. At the district level KIIs were conducted in the offices of particular respondents in relevant authorities and organizations. KIIs captured data on actor-relations and organizational collaborations, legitimacy of partnerships and socio-economic outcomes of partnerships.

- (2) Focus Groups Discussions (FGDs) were conducted to capture community narratives of the history, dynamics, legitimacy and perceptions of environmental and socioeconomic outcomes, and views of forest conservation partnerships and were organized in places of participants' choice within villages. Targeted groups included youth, women, and mixed groups. Participants were introduced to the purpose of the project and the objectives of the discussions.
- (3) A Questionnaire Based Survey (SUR) was administered to 352 heads of households. The method aimed at collecting quantitative data on socio-economic outcomes at the household and community levels. Preliminary data from KIIs and FGDs provided focus for questions. The questionnaire was tested in two villages in Kilwa before the final version was prepared and structured into an Open Data Kit (ODK) online version. Four enumerators were recruited, three of which had experience in using ODK for household surveys in rural Tanzania. The team of enumerators was oriented to research ethics, the basics and management of ODK tool in data collection and editing and uploading into a specific account secured from an online data management platform. The team was supervised by two senior researchers. Respondents had the freedom not to participate in the survey and to not respond to any question. A geopoint was recorded at each of the surveyed households.
- (4) Participant observations (PO) were organized in all villages as transect walks that involved members of the village communities. The process of transect walks entailed that researchers were assisted by the village leadership to organize a small team of villagers knowledgeable of the villages' forests. The agenda and main goals of the transect walk into the forests was introduced and discussed with every member. Then, a small team of researchers and villagers departed on foot into the forests. Researchers observed the structure of forests, asked questions and sought clarifications while walking into the forests. Photographs and geo points of interesting points were recorded for future geospatial analysis.
- (5) Review of Secondary Data/Secondary Documents (SD). The study also reviewed documents on forest harvesting requests, permits, forests management plans, and

audit reports of financial management at village levels. Some of the documents reviewed from district level stakeholders were reviewed under the conditions of confidentiality of providers due to their sensitivity.

(6) Network data collection: This had a specific protocol and involved several methods of data collection identified above. The objective was to collect data on the village resource management networks in which villages are involved. The procedure was as follows. First, village guest books were consulted and provided records on visits from corporations, NGOs, donors, and government's officials. The records helped in constructing the initial lists of potential village collaborators. Second, interviews were conducted with village leaderships and members of VNRCs to solicit information on organizational partners with whom they were collaborators obtained from guest books informed interview questions about village partners. Third, the team consulted policy and conservation project documents. In interviews and while reviewing documents, researchers sought information on three forms of collaborations; governance, technical and financial collaborations. Information was obtained on the timing of collaborations, in particular direct ties between villages and their partners in forest management, for five-year increments starting from 2000.

#### 5.4. Data Analysis Process

Different approaches were used to analyze data collected through the various methods mentioned above:

(1) Social Network Analysis (SNA) was employed to establish the interconnectedness of different actors in a partnership, their interests, roles and impact on forest governance. Data for SNA was collected as part of the data collected through the household surveys, KIIs, FGDs, and reviewed documents. Collected data was coded and edge types between actors were based on governance, financial and technical support since 2004 when participatory forest management in Kilwa started following the formal CBFM path. Visualization of actor networks in forest sector partnerships was done with the assistance of UCINET 6 software. The resultant diagram showed focal organizations behind key forest conservation partnerships in Kilwa, as well as first and secondary neighborhoods for each of the studied villages.

More specifically, SNA was done to measure relational complexity between actors connected to villages (village alters) and connections among those connected actors. Data on ego networks (ego nets) for each village (i.e. all collaborators connected to each village, taken separately) were established from network data and used to

measure the diversity of activities in each village's egonet by, first, calculating the Herfindahl-Hirschman index (Laine, 1995). This is a measure of concentration of categories in a population, computed as the summed squares of each category's share of the total. Second, converting the measure to increase with decreasing category concentration (and, hence, increasing complexity). Third, the index was calculated using each category's proportion of each population and then subtracted the index from one. This measure is used to compute diversity of both actor and edge types in each village's ego net. To measure concentration of network power, the measure was computed using different actor types' share of edges in each village's egonet.

- (2) Analysis of qualitative data captured through KIIs, FGDs, POs, and SDs was facilitated with the assistance of NVivo 11 and 12 software packages. See Olwig 2018 for a detailed description of our approach to analytical coding using NVivo. Data editing was done to ensure texts were readable and understood. A codebook was then established between the members of the research group according to the following principles:
  - a. Based on the preliminary findings of the quantitative survey, interesting trends, paradoxes and gaps were determined that the qualitative data could help to answer. Codes were then created which could help find these answers.
  - b. Codes were developed based on preliminary findings from the fieldwork.
  - c. Codes were also developed based on cross-cutting issues identified by the team during a debriefing meeting following the fieldwork. Using this approach enabled us to work closely with the data which is a key factor to successful inductive research.
  - d. While coding, coders suggested codes that they found were missing in the codebook.
  - e. Once coding was completed, codes were reviewed, and various queries run to identify patterns and themes.
- (3) The analysis of the survey data started with exporting data from ODK format into excel and later formats readable by quantitative analysis software packages and basically SPSS v23 and R. Data editing was done to ensure entries were clearly understood before data cleaning was carried out to remove unwanted data. Descriptive statistics were run to obtain frequencies and crosstabs, which gave an organized understanding of the data in relation to the objectives of the study. Further statistical modelling and analysis to associate partnership performance to socio-economic livelihoods were done.

# 5.5. Ethical Considerations

This study followed legal processes, observed ethics such as respect, honesty, and anonymity of respondents where sensitive data was collected and provided respondents with professional and accessible presentations of findings. After data collection, the findings were disseminated to local communities and other stakeholders involved as sources of information and for validation.

#### 6. Empirical Findings

The empirical findings for this working paper have been organized in relation to the specific research questions outlined in this paper.

# 6.1. Configuration of Participatory Forest Management (PFM) in Kilwa District

## 6.1.1. Establishment and Functioning of Forest Conservation Partnerships

The configuration of partnerships is key to understanding partnership sustainability outcomes. Forests in Kilwa district fall under different Forest Management Regimes (FMRs) depending on the types as outlined by the Forest Act No. 4 of 2002. National Forest Reserves (NFRs) are under the control of the state through TFS. Kilwa has both NFRs for protection, such as the Mitundumbea NFR, and for production, such as the Rungo NFR. The involvement of local communities or adjacent villages is important for ensuring the conservation of NFRs and should be done through JFM arrangements. However, TFS attempts to establish JFMs in Kilwa did not reach the stage of signing a Joint Management Agreement (JMA) with councils of adjacent villages. By 2018, there were no JMA agreements signed between TFS and any village council in the district. One reason they may have failed, is that TFS in Kilwa has been resurveying NFRs that were gazetted during the colonial times, an exercise that could lead to boundary conflicts with adjacent villages. In the NEPSUS study villages, JFMs were attempted in Kiwawa and Migeregere, and both failed to become functional. Interviews, however, have reported the presence of TFS issuing permits to harvest timber from general land in the villages.

The District Authority manages Local Authority Forest Reserves (LAFRs). The district issues logging and charcoal making permits to interested buyers and villagers. The District Authority, through the District Forest Office, are mandated to manage general land forests that fall within the boundaries of villages. The Forest Act No. 4 of 2002 instructs the authority to manage that land in collaboration with the village councils. The same land might be used as an 'open area' by villagers which they can use for farming purposes and the collection of poles and firewood under the by-laws set at village level. Villages may request that part of the

village general land is reserved as a village forest land i.e. a Village Land Forest Reserve (VLFR). VLFRs should be declared at the district level and gazetted at the national level although declared land can proceed with CBFM implementation. CBFM and JFM are regarded as the most important forest conservation partnerships that aim at working with local communities. As there are no JFMs, however, and the operations of CBFM have kept pace since its establishment, this makes CBFM an important focus of this paper.

PFM in Kilwa started with the implementation of the DANIDA funded UTUMI project in 2001 and 2003. UTUMI is the short form of "UTUnzaji wa MIsitu", literally meaning woodland and forest conservation (Kibuga, 2004). The UTUMI project aimed at engaging local communities in participatory forest management through JFM and CBFM approaches and building the capacity of the Kilwa District Council to sustainably implement PFM (Kalumanga et al., 2018, Kibuga, 2004). Interviews with district forest officers showed that UTUMI personnel such as the technical advisor, forest services officer and accountant were placed within the Kilwa District Council. The challenge of ensuring sustainable funding and the need to run participatory forest management as a program rather than a project resulted in MCDI being invited to chip in since it had funding as will be explained further below.

A diagram showing the social network of actors in the study villages in Kilwa (Figure 3) shows that the MCDI, the Kilwa District council (KDC) and TFS are the three most important actors in the implementation of participatory forest management.



Figure 3. The social network of actors in the study villages.

Source: Lasse Folke Henriksen & Caleb Gallemore

The interrelationship between MCDI, KDC, and TFS thus influences the functioning of forest conservation partnerships in Kilwa District. The KDC is a government representative at the district level overseeing the implementation of developmental policies including forest management strategies. The TFS is a central government authority with mandate to manage forests in general land and other forest land that is not defined as village land or otherwise. MCDI is a well-established NGO in Kilwa that promotes forest conservation and forest stewardship council certification in VLFRs. Interviews with the Kilwa District Forest Officer, and the CEO of MCDI, suggest that MCDI and the KDC have been working together since 1995. In fact, MCDI, then Cambridge Mpingo Conservation, was originally hosted within the KDC premises. The close collaboration between MCDI and KDC is also evidenced by the following excerpt from our interview with the MCDI's CEO.

"...when we use land use plans we take the district technical team to the field. When we use their staff such as their lawyers, we can cover their allowances. We don't pay the technical fees. There are facilities such as vehicles which we can share. They may need a vehicle to go to the rural areas, and we simply provide them with that..." (KII with MCDI executive officer, February 2017 in Kilwa)

Records taken from visitors' books in CBFM villages suggest that on several occasions, MCDI and KDC officials have been making visits to villages together. To villagers this has been taken as an act of demonstration that MCDI and KDC are working towards forest management together in a harmonious way. MCDI and TFS advocate forest resource governance in different ways. While TFS is more concerned with state owned forest and collection of forest resources revenue from both NFRs and general land, MCDI is more concerned with encouraging and supporting villages to establish VLFR's and collect revenue from the same.

There is an implicit conflict of interests between these two organs despite that they manage the same resource. A more elaborate analysis of the configuration of actors in forest conservation in Kilwa is part of another SNA working paper forthcoming as part of the NEPSUS series of working papers. Given its central role in forest management, participatory forest management in Kilwa district follows the history of MCDI as a focal organization. It is therefore important to examine MCDI's history when establishing the genesis and dynamics of participatory forest management in Kilwa district.

MCDI has been operating in various parts of Tanzania but is more dominant in Kilwa District where it has its headquarters. KIIs with MCDI's CEO and Kilwa District Forest Officers, and the information on the MCDI website<sup>2</sup> suggest that MCDI started in 1995 as Mpingo Conservation Project focusing on researching and conserving the East African blackwood (Dalbergia melanoxylon in Latin, Mpingo in Swahili). It was registered as a Non-Governmental Organization in 2004 following donors' advice. The organization had an office at the KDC

<sup>&</sup>lt;sup>2</sup> http://www.mpingoconservation.org/about-us/our-history/?L=616

premises. KIIs with the MCDI and KDC forest officers revealed that during this time the Mpingo Conservation Project took over the UTUMI activities. MCDI has reaffirmed its relevance beyond the conservation of Mpingo by taking a role in addressing the reported increasing deforestation in Kilwa through community-based approaches. As mentioned earlier, the National Forest Policy (URT, 1998) and the Forest Act No. 4 of 2002 promote Participatory Forest Management (PFM) and the latter has outlined processes for JFM and CBFM. These two documents are thus important in enabling the MCDI to set ground for its CBFM activities by working with local communities (see Bwagalilo et al., 2019).

# 6.1.2. MCDI's Roles as a Focal Organization in Forest Conservation Partnerships in Kilwa

CBFM in Kilwa is mainly implemented by MCDI. As the focal organization, MCDI has shown the following major roles in relation to CBFM partnerships.

(i) MCDI as the initiator of CBFM in Kilwa district

Participatory forest management may have started during the UTUMI project; however, it was not organized as CBFM rather a project that aimed at engaging local communities in forest management in a participatory manner. During this study it was noted that MCDI took an initiative to be part of the PFM implementation in Kilwa District by focusing its attention on supporting local communities through CBFM. CBFM is provisioned by the Forest Act No. 4 of 2002 which also outlines the processes and legal requirements for the establishment of CBFM in a specific village. MCDI has been enhancing what has already been done by the UTUMI project and thus it was ideal and strategic to start with Kikole, one of the UTUMI pilot villages. Starting with Kikole provided access to communities that were already exposed to experiences of participatory forest management. MCDI had to ensure that the experiment of CBFM in Kikole as the first village, turned out to be a success story. Under MCDI facilitation, Kikole went on to be the first village in Africa to have certified forests by the FSC. Currently MCDI has been a dominant facilitator of CBFM arrangements across the district.

MCDI has also worked with other villages such as Kisangi and Nainokwe which were among the earliest entries into a CBFM arrangement. These have been references for other villages that aspire to be part of CBFM. Apart from the legal requirements stipulated in the Forest Act No. 4 of 2002, the decision for a village to be part of the CBFM through MCDI is based on whether the village has forested land within its boundaries with potential to accrue financial gains, for example by containing wood that can be sold through the FSC scheme. This is logical since management of forests through CBFM involves some costs such as patrolling, controlling fires and meetings on management. A portion of income from certified VLFRs will be directed to cover such costs.

(*ii*) MCDI as Convener of collaboration between local communities and other actors

MCDI has been growing and expanding as a focal organization in a network of actors. Through implementing CBFM, REDD+ and certification of forests through FSC, the organization has forged relationship with different actors. MCDI has linked CBFM villages that have certified forests to each other and to timber buyers. MCDI has an established network of donors, organizations such as the WWF, government authorities such as the Kilwa District Council etc. More important has been the business actors such as timber buyers who were supposed to purchase timber from CBFM villages. Through this network of actors MCDI has also managed to integrate other forest management strategies with CBFM. They introduced FSC and REDD+ projects in the areas successfully simply because the two strategies operate under a CBFM institutional set up. Unlike REDD+ which is more focused on conservation, FSC is a conservation enterprise strategy that emphasizes sustainable timber production.

# (iii) MCDI as the facilitator of CBFM, REDD+ and Forest Certification

MCDI has been playing an important role as an intermediary facilitator. Facilitation has been in terms of supporting villages with technical, logistical, and financial resources in initial processes of establishing CBFM. In facilitation, MCDI has been training villagers on various aspects which facilitate communications between different actors. For instance, MCDI is knowledgeable of tree species, general conditions of forests, villages in need of timber buyers etc. Timber buyers may sometimes obtain information about specific species of timber through MCDI. MCDI would provide information between the two ends. This has been the same with research institutions and other non-government agencies aspiring to work with local communities.

In 2009, MCDI managed to process a group license and invite all the CBFM villages in the district to be part of the group certificate. Without this villages could not have afforded the process as well as the costs of obtaining an FSC certificate or understood the principles. MCDI also has been a key player in implementing pilot REDD+ projects in Kilwa. In the process of establishing REDD+ projects, MCDI raised awareness of local communities on the process, practice and benefits. While CBFM and FSC appear to by now be well understood by local communities, REDD+ has been unclear.

"...The Carbon credit (through the REDD+ project) was not, and still not clear to the villagers..." (KII with Village Leadership, Likawage village, August 2018)

"...The MCDI people actually told us that it will be more beneficial if we expand the reserved forest. They said that the money will be from a certain carbon fund and we should sign a contract. Villagers decline issues related to signing a contract... but we think of signing it." (KII with VNRC members, Kikole Village, February 2017)

Hesitation of villagers to sign contracts might be due to thinking of agreeing to something related to land grab. The most unclear part has been the benefits which were supposed to be accrued through selling of carbon credits.

#### (iv) MCDI as a mediator

In partnerships there could easily be misunderstandings between or among actors. In Kilwa, there is vulnerability of conflicts among villages that involve ownership of forests that have potential for CBFM implementation. The mediation role is critical in order to harmonize collaboration among actors. MCDI has been consulted for resolving conflicts and misunderstandings in relation to the Mbate forest between Ruhatwe village and Migeregere, one of the sole reasons the two villages are not in a CBFM arrangement. Despite failure to resolve the conflicts, however, the organization has been trusted to be a reliable mediator worth being involved. In reviewed village forest harvesting plans, there is a statement that reads "...If there will be controversy over the manner of harvesting, the natural resource committee will contact the District Forest Officer or the MCDI will be consulted for mediation." The statement affirms the role of MCDI as a mediator in matters of interests to CBFM implementation.

## 6.1.3. MCDI Credibility in CBFM, REDD+, and Forest Certification

MCDI has earned the trust of local communities in the CBFM villages. This trust is evident through villages' dependency on MCDI for technical advice on CBFM, REDD+ and certification. The trust is also based on the widespread local perception that MCDI has transformed forest management in Kilwa from less profitable forest resources for relatively few individuals to community level benefits visible through implemented projects from the money accrued from the CBFM. Also, the frequent visit of MCDI officials in the villages has kept them closer to local communities than district government officials. This trust is an asset of legitimacy in MCDI's implementation of various CBFM activities or activities associated with CBFM. The awareness of local problems has made MCDI harness the opportunity to link forest conservation and resolving of such problems and are thus considered responsive to local challenges. MCDI has good working relations with the District Forest Office and the two have been supporting each other in terms of the logistics necessary to support forest conservation initiatives. MCDI has been a bridge linking local communities and the District Council when it comes to forest related matters.

Another advantage that MCDI has over the government agencies is the fact that MCDI being a non-government organization, is less bureaucratic than the district council. This makes decision making and actions quicker as noted during an interview with the district forest officer in Kilwa.

"Mpingo are quicker than the government, the government's procedure is bureaucratic compared to NGOs. We were being funded by DANIDA, which was supposed to reach us by July for August and September, but the money would come in September or October. This hindered implementation of various plans leading to complaints that the money is brought and not used..." (KII with District Forest Officer, Kilwa District Council Office, February 2017)

Despite this trust, the transparency of MCDI is questionable in some areas. In an interview with the CEO of Sound and Fair, it was suggested that the Sound and Fair company, a buyer of timber from certified forests, is an organization formed by former board members of MCDI. This formation came after one donor organization advised MCDI to think about how it can survive without direct funds from forests. MCDI could not be a timber buyer as a non-government organization, and therefore Sound and Fair was established. There could be potential conflicts of interest between the two since MCDI is responsible for monitoring certified forest and products, and ensuring local benefits, and Sound and Fair the buyer.

# 6.2. Legitimacy of Forest Partnership (Input, Process, and Impact)

## 6.2.1. Input and Process Legitimacy

A successful conservation partnership must appear legitimate in relation to how it was established, how it is practiced and what results it eventually yields. This legitimacy can be established by conforming to the law or to rules. This section presents findings on input and process legitimacy based on local perceptions of the clarity of rules and regulations, fairness, and acceptability, and finally the outcome of the partnership.

## (i) Partnership Legitimacy at National level

In order to understand the factors that legitimize forest conservation partnerships at the national level, we look at the policy and legal provisions which allow local governments and villages to create partnerships in forest management. This means we look at the institutional arrangements at the national level which enable the establishment of partnerships before moving onto the village/landscape level. We examine the National Forest Policy, 1998, the Forest Act, 2002, The Local Government (District Authority) establishment Act, 1982 and, the National Village land Act No. 5, 1999, because they all play an important role in facilitating

the establishment of partnerships in forest management in Tanzania, and Kilwa in particular. Our argument in this section is that without these institutional arrangements, no partnership in forest management would be termed legitimate.

Both the National Forest Policy (1998) and The Forest Act No. 4 (2002) provide for multistakeholder involvement in forest management. The two institutions advocate for involvement of village communities in forest management by giving rights of occupancy of land and forest to the village community via the village council and also vesting forest management authorities to the village council, see (Village land Act. No.5 1999 and the Local Government - District Authority Act -, 1982. Once forest management is decentralized and village communities are involved in forest management, they attract other actors, eventually leading to partnerships.

A legal base for community engagement in forest management is further provided in the forest act of 2002 which includes a clear statement on how to establish Community Forest Reserves and Village land Forest Reserves (VLFR). Part five of the act, Article 22, subsection 1, authorizes the director of forests to declare by publishing in the Gazette, any area of land to be a National Forest Reserve or a Local Forest Reserve, similarly article 32 subsection 1 authorizes the director to declare a VLFR or gazette a VLFR. In this context however, we will focus on VLFRs. For a VLFR establishment, it all begins at the village, where a village council in consultation with villagers through a village assembly may by resolution declare an area of village land to be a VLFR. They can do this by applying to the responsible minister/director through the local government authority. This goes along with the establishment of the Village Natural Resources Committee (VNRC) as a prerequisite for the establishment of a VLFR.

In Kilwa District, MCDI is at the center of the forest partnership creation and implementation processes. Funded by WWF, MCDI facilitated villages' establishment of VLFRs all over Kilwa district, although this does not mean that all villages have managed to establish VLFRs. Only those which managed to meet the policy and legal requirements and have the needed village capacities and understanding of forest conservation, have succeeded to establish VLFR's. In order of arrangement by time of establishment, these are some of the villages that have managed to establish VLFRs, Kikole in 2004, Nainokwe in 2009, Likawage in 2013, and Mchakama in 2016. Following the village land Act. No 5 of 1999 and the Forest Act No.4 of 2002 which guide CBFM, the MCDI approached the villages and assisted them to establish VLFRs, participate in forest conservation and generate revenue for livelihood enhancement.

Partnerships in forest management are partly the result of failed state forest management (Kalumanga, Olwig, Brockington and Mwamfupe, 2018; FAO, 2018). Amid increasing forest degradation, a shift of management paradigm emerged that (Blomley et al., 2008) was more concerned with triple wins of forest management and that called for pro poor approaches into forests management, that is putting the community at the center of forest management for sustainable development. This was the beginning of the process of moving away from strictly state managed forests to partnerships around forest management including the

community, non-state organizations and businesses. In the following section we describe the legitimacy of partnerships in relation to the landscape level.

# (ii) Creation of Partnerships' at Landscape Level

According to the Forest Act of 2002, the first requirement to establish a VLFR in the village is to provide evidence on whether the village general assembly was successfully held. This means *a copy of the resolution from the general village assembly* should be available. In most cases we found a clear adherence to the regulations of establishing partnerships through VLFRs, conversely, in some villages there were disagreements that in one way or another hindered the establishment of partnerships. Data from KIIs and FGDs provide experiences on successful partnership creation and failed ones.

In areas where partnership establishment went smoothly, for example, it was noted that there have been well designed approaches in sensitizing the village members on conservation and to ensure funding and the creation of partnerships that follow policy and legal requirements. In CBFM villages in Kilwa, this role was done by MCDI or organizations that work with MCDI such as the WWF. Drawing experience from Likawage village for example, when their VLFR was established, MCDI played a pivotal role in creating the partnership. They started with raising people's awareness on forest conservation and later on taking them through the establishment of the VLFR process. It is evident that MCDI had been following all the required processes to establish VLFRs in this village. This quote from a key informant, is one piece of evidence that MCDI spearheaded the entire process and villagers were happy with the process

"...After the arrival of MCDI officers in Likawage village: They reported at the village office and talked to village leaders about CBFM and its benefits, and the entire village council at some later stages. Then, villagers were involved through the village assembly. At the meeting, the MCDI officers explained to the villagers about the CBFM and its benefits. Villagers accepted and agreed to set aside some parts of the village land as a VLFR (the Lung'ou VLFR, after the Rungo NFR)" (KII with the village elders, Likawage Village, August 2017)

Similarly, interviews with MCDI officials illustrate the process they followed when establishing forest management partnerships with villages. The visits are more than raising awareness on forest conservation, they include convincing villagers to establish partnerships with MCDI. The MCDI would further provide technical and financial support to facilitate this process. An interviewed MCDI official summarized the process as quoted below;

"...For a village, such as Mavuji, to adopt CBFM, we either approach the village or consider their request. Once they agree for our support through their village assembly, they have to write and submit minutes specifying the date as well. For example: on 20. March 2017 the village agreed to set aside land for a village forest reserve. If they have

a village land use plan, we usually go with them to do a ground truthing and confirm the village boundaries. We also verify with the neighboring villages if there are no boundary disputes to avoid future conflicts. Villagers would elect a VNRC. There follows a proper boundary marking, then participatory forest resource assessment. This is followed by developing a management plan and drafting village bylaws. The process is that the village assembly has to approve the bylaws before the councilors endorse them and the district council declares them. At this stage, the bylaws start being applied and the management plan can be implemented by allowing harvesting and patrolling of the forest. The setting aside of VLFR was supposed to go up to the ministry (MNRT) for gazettement but none of the villages in Kilwa have achieved that yet... the bylaws have to consider the sociocultural setup, especially when it comes to forest management. If the forest is being used for certain things, after it is certified it should not exclude what these communities have been doing. As long as it is not contradicting with forest laws. (KII with village council member, 7<sup>th</sup> March 2018)

Despite this process being rhetorically clear, it is not always smooth. For instance, in Kiwawa village, the villagers meeting discussing the establishment of a forest conservation partnership ended in vain after being clouded by interest clashes between the village, MCDI, WWF, and TFS. This village did not succeed in establishing a VLFR despite fulfilling all the necessary requirements such as having enough land, a land use plan and suitable forest. Our findings established that the clash of interests between potential partners is among the main reasons for the failure. Therefore, the failure to establish a VLFR led to another unsuccessful partnership between the village and TFS over the management of the NFR (Mitundumbea National Forest Reserve, 9° 10' S; 39° 15' E) adjacent to this village. There are different angles to explain the situation in this village. Firstly, there are diverging interests between actors, as WWF targets the forest for their sustainable charcoal production project, while TFS wants it for meeting their revenue collection targets through timber harvest in the village land<sup>3</sup>. Secondly, it could be that those who benefit most from illegal timber harvests are not in favor of a partnership because it will limit their freedom to exploit the forest. Of significance, however, is the village adjacency to Mitarure NFR which continues to raise border conflicts between the state and the village. This is reflected in the following quote from the villagers' informal narrations:

"Initially, the village was approached by the WWF and assisted to prepare a land use plan with clear zonation to allow different land uses (e.g.). The 06/05/2017 might have been a day that has probably affected the entire process of formalizing the establishment of the Mitekela VLFR. That was a day when representatives from Tanzania Forest Services (TFS-Kilwa), World Wide Fund for Nature (WWF-Kilwa), Mpingo Conservation and Development Initiative (MCDI-Kilwa) and Kilwa District Council (KDC) jointly attended a Village Assembly meeting in Kiwawa. The meeting did

<sup>&</sup>lt;sup>3</sup>TFS has the right to harvest timber in village forest land which is not allocated to any formal use, e.g. VLFRs

not end well." (Participant Observation during a transect walk in Kiwawa village, 12<sup>th</sup> March 2018)

The meeting did not end well because no agreement was reached between the actors, which could legitimize the process of establishing a partnership between them. From the focus group discussion notes in Kiwawa village, it is obvious that the process to establish a partnership with Kiwawa village followed proper legal procedures, only that the process did not mature because of partners diverging interests.

"WWF/MCDI came to Kiwawa village and raised awareness about the CBFM and promised to facilitate the formal registration of the Mitekela VLFR. In the Mitekela, the WWF/MCDI promised to introduce the Sustainable Charcoal Project (10% of the VLFR-100 ha) and the remaining 90% were to be used for other activities such as beekeeping and harvesting of various forest products in accordance with a harvesting plan to be developed." (FG with special group in Kiwawa, 8<sup>th</sup> August 2019, FOR03)

Notwithstanding of successful or failed initiation of partnerships, it is evident that the procedures to gain partnership are followed and respected. We observed that a partnership depends more on the village community agreeing and understanding its aims, particularly in relation to associated costs and benefits. That is also why upon village disagreement; a partnership will not be established. In Ruhatwe village, for example, procedures for establishing a partnership were followed but failed to materialize because of border conflicts with Migeregere village. In this case both Ruhatwe and Migeregere village wanted to defend their interests by claiming ownership of the same piece of land which Ruhatwe has allocated for establishment of VLFR. The conflict has not only blocked the establishment of partnerships between villages and CSOs but has also blocked partnerships between TFS and the village in relation to the management of Mitarure NFR. That is to say, because of defending self-village interests no consensus has ever been reached in order to establish partnerships in forest management.

The requirements to submit villagers' consent and to establish a committee out of the village assembly to manage the VLFR are meant to ensure good forest governance and that livelihoods are secured by restricting use of the forest to applicant villages only. It further ensures significant participation of the entire village community in conservation since they own the resources and understand the idea to conserve through partnership. The Ruhatwe and Migerere village cases therefore lacked village community acceptance hence lacking legitimacy to establish partnerships in forest management. The process to establish partnership in forest management is not easy to take on by just a village. It requires an expert, and more importantly, financial assistance to first establish VLFRs, and/or Joint Forest Management for villages adjacent to NFR's (Scheba, 2015; Sungusia and Lund, 2016). MCDI's existence played both roles of providing forest management expertise to the villages and financial assistance to cater for the establishment of VLFRs.

*"It is due to MCDI that today we have our villagers aware of forest conservation and have taken responsibility to protect the forest for the benefit of us all."* (KII with village leader in Kikole, July 2018)

Despite the involvement of a third part such as MCDI as an expert and a financer, legitimizing the entire process of partnership creation (i.e. establishing VLFRs) requires the consent of the village assembly. The village assembly is the most powerful body at village level and is vested with the authority to oversee all VLFRs' management. This includes approval of revenue inflow and outflow in a transparent and accountable manner as well as attracting more partners i.e. timber buyers. However, our assessment of community attendance in village assemblies and general meetings related to forest partnerships indicates mixed responses regarding community attendance of meetings. The findings by this study suggest that across all CBFM villages, only 43% attended the last village meeting that discussed CBFM related issues. This means that the majority did not attend meetings and that discussed partnership matters.

It is more alarming when data shows that villagers would attend regular meetings more often than partnership related meetings. Across all CBFM villages, an average of 10% of the community only does not attend regular and routine village meetings, against 57% who did not attend the last meeting related to forest partnership. This may be related to the perceived little impact of partnerships on individual household socio economic development. Our analysis has shown that partnership benefit is limited to elite class only and to community level development projects, which may not necessarily equally impact every individual of the village community eventually leading to less attention by the village community.

On the other hand, in more complex villages where CBFM is practiced, the process of partnership creation goes beyond the establishment of VLFRs. A new partnership emerged between the villages and other global forest management related initiatives. These are forest certification, which was first introduced, and later on REDD+. All these gained their legitimacy through a similar process facilitated by MCDI. Unlike the establishment of VLFRs, these two have benefitted from already accepted partnerships on forest conservation. Their legitimacy is therefore gained through the already existing VLFRs. An interview with a villager in Likawage village indicates that partnerships related to forest certification and REDD+ were explained to the villages through the village assembly. While they accepted both schemes, they were, however, still confused about REDD+:

"Certification of wood products through the FSC- Group Certification Scheme was explained to and accepted by the villagers. The Carbon credit (through the REDD+ project) was not, and is still not clear to the villagers..." (KII with elders in Likawage, July 2018)

The process of establishing VLFRs has associated more actors to forest management for without the legal provision and a well-defined process of community forest management, it

could be challenging to define the process involved in establishing partnerships in forests. Both REDD+ and FSC initiatives were established in the villages with CBFM, building on the already existing and accomplished process of establishing community forests, that is, the existence of forest with clearly defined property rights and management plans.

The idea of forest certification is Eurocentric<sup>4</sup>, so far not very popular in developing countries, and particularly in Tanzania. MCDI brought the idea of forest certification to Kilwa district and it is now implemented in almost all the VLFRs of Kilwa. Like any other forest conservation endeavor in Tanzania, forest certification is backed by already existing forest institutional frameworks (policies and laws and well set local and national forest institutions). Their principles and guidelines are subject to a well instituted forest management framework of a particular forest, be it VLFRs or National Forest Reserves.

In the two categories of partnership (More complex and Simpler) as defined in this paper, the process to gain legitimacy for partnership creation was followed and accepted. However, for some reasons as explained above, in simpler partnerships the process did not attain the intended results i.e. Migerere and Ruhatwe villages whose process is still hindered by border conflicts between them, and Kiwawa village whose process to create partnership is still hindered by diverging interests between partners.

# 6.2.2. Outcome Legitimacy

## (i) Local Awareness on Forest Management

In CBFM-villages there was very high awareness of forest conservation issues. During KIIs with villagers, Natural Resource Committees and Councils, it became apparent that CBFM-villages were more knowledgeable of forest management issues compared to non-CBFM-villages. The following excerpt was taken from an interview with the MCDI's CEO.

"...many people have changed their mindsets about resource management and understand that they own the resources which increases their responsibility to sustainably conserve such resources. This has made some villages apply for expansion of areas that

<sup>&</sup>lt;sup>4</sup> Forest Certification is a new concept in Tanzania introduced by international organizations such as WWF, and its implementation requires a community of forest steward aware stakeholders i.e. from forest conservators, timber buyers to final users. It needs a connected chain of forest practitioners who understand the total value of timber and are willing to offer a premium price for timber products. It is a very expensive endeavor, obtaining and keeping forest certification requires a huge investment in terms of the time, expertise and funding too, this is why it is not very popular in Tanzania. Where it exists, it has been facilitated and funded by NGOs such as MCDI in Kilwa District.

should be under FSC. E.g. Likawage, had 17,000ha under FSC and has expanded to 30,000 ha..." (KII with MCDI's CEO, February 2017.)

According to the interview, enhancing local awareness and changing the attitude of local communities towards forest conservation is counted by MCDI as the major impact of forest conservation partnership. However, the idea of villages' voluntary decision to apply for expansion of VLFR is not only due to increased awareness, but also income factors.

Experience from Kikole.

"...after seeing the benefits we decided that we expand the size of the forest to be under CBFM...The MCDI people actually told us that it will be more beneficial if we expand the reserved forest. They said that the money will be from a certain carbon fund and we should sign a contract..." (KII with VNRC in Kikole, February 2017)

Experience from Mchakama,

"...In November 2015 MCDI convinced villagers to expand the forest under reserve since the size of the reserved forest was too small to earn customers for serious business, and as well to increase the benefits of more forest being under CBFM. The village agreed to increase the forest area to be reserved under CBFM initiative. This decision was reached after, villagers noted the difference between the healthy reserved forests compared to the widely destructed 'open area' forest. The forest reserve was expanded to 5700 ha..." (KII with Village Leadership, Mchakama, February 2017)

Expansion of VLFRs may not necessarily come from the village's aspirations rather from MCDI. Sometimes MCDI convinces villages to apply for expansion.

(ii) Local Knowledge on Forest Governance regulations

Forest governance goes along with rules and regulations that govern human-nature interactions in a particular context. According to the Forest Act No. 4 of 2002, the process of establishing of CBFM should include formulation of bylaws and rules to access and use forest resources. This process should involve local communities and the institutions should be passed by the village assembly. Local awareness of various elements of regulations reflects their comprehension of partnership influence on forest governance. In villages adjacent to NFRs, regulations are not clear and access to the forests is strictly prohibited unless under the control of government authorities. Control villages' access to forests is not effectively regulated and control is challenging to enforce in the absence of incentives, skills, and resources such as gears and tools. Villages adjacent to NFRs with legally recognized VLFRs. Demonstration of high awareness of regulations/laws governing access into VLFR is among the most prioritized activities conducted by MCDI in implementation of CBFM arrangements.

Figure 4 provides a general picture of local knowledge on governance regulations in CBFM villages.

Figure 4. Local Knowledge on Forest Governance Regulations. Numbers indicate whether or not heads of households answered the question correctly.



Source: NEPSUS survey

From Figure 4, findings show that 89% of interviewed villagers are correct in their view that intruders can be arrested and charged and only 6% think otherwise. This shows high level of knowledge about the responsibility of local communities to policy forests. During KII with VNRC leadership in Kikole, one participant said:

"...Currently, everyone is aware and takes the responsibility to protect our VLFRs. If anyone happens to find intruders in the forest, he/she will voluntarily report to the authorities so they can be arrested and charged...." (KII participant, Kikole Village, February 2017)

Figure 4 also indicates that 89% of interviewed villagers are correctly aware that it is not allowed to collect firewood from the VLFR. This is a very known regulation since firewood is the main source of energy for most of rural communities in the study area. Regulations regarding firewood can be easily understood by local communities. Understanding of this basic regulation that touches almost every household demonstrates high awareness of the rules/regulations governing forest resources. Any attempt to restrict collection of firewood will quickly be noticed by a wider section of local communities. The establishment of CBFM has controlled access to VLFRs for firewood collection and should be done under the permission of village councils and specified conditions in accordance to by-laws. Another very understandable regulation is that which prohibits farming in VLFR. This was knowledgeable

to more than 90% of respondents. Given farming practices in Kilwa district, VLFRs have a regulation/bylaw of punishing those cultivating in the VLFR. In early 2000s, Farming was identified as one among the main drivers of deforestation in Kilwa (Miya et al., 2012). The challenge of population growth and the need of furrowing for sesame, which is the main source of income, may lead to the growing need for more land for agriculture and new settlements and thus encroach VLFRs. This may further lead to conflicts between farming and forest conservation should each fail to consider the other in its implementation. For instance, in Mchakama and Likawage villages, some villagers complain that the VLFR for CBFM has taken their farms and that the VLFRs have taken fertile land suitable for crop growth.

While most of those surveyed were aware of the rules concerning access to VLFRs and regarding firewood collection, more than a third of the surveyed household heads in CBFM villages were unaware or answered incorrectly in relation to whether or not CLFRs are still village land. About 24% responded incorrectly that a VLFR is no longer village land, 8% didn't know while 68% responded correctly that a VLFR is still part of the village land. This understanding may reflect questions of whether those believing VLFR is no longer village land find that their previous individual benefits are no longer accessible, and that forest management is governed by laws that control access to the forest. Local understandings of VLFR ownership is important in gauging local responsibility and accountability in forest management.

Understandings of regulations that guide management of VLFR funds reflect transparency, accountability and legitimacy of leadership before the eyes of local communities. During the household survey respondents were asked about their understanding of allocation and expenditure of income obtained through the VLFR. The response is as shown in Figure 4. Opinions of surveyed heads of households are somehow divided. About 56% believe that the process required does not allow for VNRC members to make expenditure decisions alone. For VNRCs to spend income from VLFRs requires approval from the village assembly and it should be spent on matters approved by the assembly as priority. However, 36% believe that VNRC members are not consulting anyone else in making decisions over expenditure of resources. The Forest Act No. 4 of 2002 has been clear that funds from VLFR should be approved by the village assembly for its use.

Although villages are legally allowed to retain 100% of VLFR income, the practice in Kilwa has been that a certain portion would be divided to the MCDI. This has been 5% of the sales in the Village Council which they call appreciation for what MCDI have been doing. In an interview in March 2017, the MCDI's CEO declined that the 5% allocation is a commission for what it has been doing to facilitate CBFM in specific villages. Later in January 2019, during a dissemination workshop, MCDI officials said that they no longer take the 5% from the sales of timber in CBFM villages. During the household survey, respondents were asked if they are knowledgeable of any amount from the VLFR that the Kilwa District Council gets. The findings are as shown in Figure 4. 68% of surveyed heads of households in CBFM villages were knowledgeable that the Kilwa District Council get a certain share of income from the VLFRs. Ten percent said the council does not get anything from the VLFR, while 22% did not know. The findings show that there is a large number of people in the villages who do not know exactly if the Kilwa District gets any share out of the VLFRs or not. In general, the majority of people in the CBFM-villages appear to be knowledgeable of rules and regulations that govern forest conservation in the particular villages. KIIs and FGDs with local community members indicate that among the earliest things in the process of establishment of CBFM is raising awareness of forest conservation, then defining governance rules and regulations which are made public to the communities. In CBFM villages, there are signboards that spell out various regulations and guidelines on forest conservations.

## (iii) Attitude towards Sustainability Partnerships

Partnerships in forest conservation, have introduced rules and regulations that govern forest conservation. This study explored local attitudes in CBFM-villages towards sustainability partnerships in relation to fairness of, acceptability of, clarity of and satisfaction with rules and regulations. The findings address CBFM villages, since there were no clearly defined conservation partnerships for villages adjacent to NFRs and control villages.

## a. Local Perceptions on Fairness of Rules and Rights to Access and Use Forest Resources

In the process of establishing CBFM, villages make by-laws and formulate rules and rights governing access and use of forest resources. The study aimed at comparing rules and rights among more complex, simpler partnerships and control sites. However, field experience has twisted the analysis to instead be between CBFM and non CBFM villages. This is because both simpler and control villages have not manifested any partnership in forest management that could result in new rules and rights to access and use of forest resources. Local narratives suggest that the majority of local communities perceive the rules to be fair. There are also those who find the rules unfair, however, which may indicate some faults during the establishment of partnership agreements. Critical responses from the community during a focus group discussion included doubting the village leadership and claiming to have not been involved in the decision-making process. There was also suspicion that the village leaders benefitted more from the forest and therefore avoided involving the people. It is a sign of dissatisfaction with the entire partnership package. This kind of response was captured during a focus group discussion indicating the unfairness of the rules to some community members

"Since we were selected as members, we have not been informed by the village government to discuss what exactly we should do in relation to the forest". (FG with group of men and women in Mavuji, March 2018)

"There are issues of transparency in relation to the village government, maybe the MCDI came, but we were not informed. The village government receives benefits from

the forest, so maybe that is why they do not wish to initiate the CBFM." (FG with members of VNRC in Mavuji, March 2018)

One would expect similar responses in all the villages on fairness of the partnership rules especially when considering that the partnership had been pioneered by the same organization across Kilwa. However, our results are different from one village to another. Responses from Kikole village for example differs significantly from the rest, this village manifests greater acceptance of partnership rules as fair, more than 90% acknowledged fairness of the rules as shown in Figure 5.





This result may be linked to the time of the partnership establishment, Kikole is the first village to exercise forest partnership in Kilwa. Their first VLFR was established in 2004 and therefore by the time this survey was conducted, the majority may have seen the value of forest partnerships. The time of partnership establishment may also have affected Mchakama village, this village had recently in "2014" established a forest partnership. Although more than 50% think the rules are fair, a significant number >30% do not. Likawage has also shown a similar trend, while Nainokwe featuring a small percentage of respondents who find the rules to be unfair. About 38.4% and 39.5% of surveyed respondents argued that access and use rights introduced by partnerships were fair. 7.6% found the access and use rights were neither fair nor unfair. About 13% found the rights to be unfair.

A comparative view across CBFM-villages suggests perceptions of fairness is highest in Kikole village where very few complained of unfairness of the rules and rights. The fairness of access rules and rights is attributed to the participatory processes used to formulate the rules and rights before they are passed and adopted by the village assembly. Participatory processes

Source: NEPSUS survey

have helped villagers to find some common grounds in improving equality in terms of access to forest resources.

Among the rights considered unfair in the CBFM-villages was the unequal distribution of benefits from the forest's income. In Nainokwe village, residents from Kichonda sub-village complained of being sidelined from forest income and social services funded by the same income. They also complained about having limited access to forests. Such claims raise concerns over CBFM frameworks of benefit-sharing across sections of specific local communities.

## b. Local Perception on Clarity of Rules and Rights to Access and Use Forest Resources

Clarity of rules and rights refers to the ease with which villagers find rules and rights to be intelligible. Clarity of rules and rights to access and use of forest resources is important in ensuring that local communities are able to comprehend them. Survey results summarize local perceptions in Figure 6 below.



Figure 6. Local perceptions of the clarity of rules and rights to access and use forest resources.

#### Source: NEPSUS survey

Across all the CBFM villages, more than 77% of respondents find the access and use rights are very clear or clear. Respondents identified examples of clear rules to include prohibition of farming and grazing in the VLFRs, as well as prohibition of harvesting small trees. Most rules

and rights are clear because local communities are part of the rule formulation process. The participatory process is important in ensuring that rules and regulations governing forest access and use are clearer since they come from stakeholders who are key implementers. 14% find that rules were neither clear nor unclear and 1% said they do not know anything about clarity. About 8% found rules and rights to be very unclear or unclear. In Nainokwe village, residents of Kichonda, one of the two hamlets in the village, complain that benefits accrued from VLFRs are not channeled to them and they are not clear on how the distribution of the revenues is structured. The hamlet is almost more than one hour walk from the headquarters of the village and thus attendance at the village assembly is very poor. This excludes them from participating in formulating rules and rights or discussing their applicability.

#### c. Local perceptions on acceptability of rules and rights to access and use forests

The study also explored respondents' views on the acceptability of rights/rule to access and use resources that were introduced by forest conservation partnerships. The findings are as shown in Figure 7 below.

Figure 7. Local perceptions of acceptability of rules and rights to access and use forest resources.



Source: NEPSUS survey

Many accept the rules and regulations. Among the most acceptable rules and regulations are those which prohibit forest destruction through the illegal harvest of trees, charcoal burning, farming, grazing, hunting inforest areas and burning of forests; zoning of VLFR areas; arresting and charging of intruders; Other acceptable rules include control of logging and collection of NTFPs, as well as certification of forests. Most of the reasons for accepting these rules are associated with visible benefits accrued from forest income which aim at conservation and protection of forests resources. Some of the rules that are not accepted included those which restrict accessibility of fertile land for crop growing and cultivating lands closer to village forests, rules/rights governing distribution of benefits while leaving out some hamlets of specific villages such as in Nainokwe village. Another set of not acceptable rules are those which prohibit collection of firewood, which is the main source of energy, officers of the Ministry of Natural Resources of Tanzania (MNRT) prohibit charcoal trade irrespective of where logs came from.

## d. Local Satisfaction with forest conservation partnerships

Satisfaction of community involvement in partnerships is of paramount importance. Figure 8 presents local satisfaction with conservation partnerships



Figure 8. Local satisfaction of rules and rights to access and use forest resources.

In total, more than 65% of surveyed households in the CBFM-villages stated that they were satisfied or very satisfied with their community's involvement in forest conservation partnerships. More satisfaction came from Likawage and Kikole villages. The reasons listed by respondents for satisfaction of community involvement in the partnerships include that decision making processes are participatory in that they involve the village assembly in which every villager attends and income from forests are directed to priorities proposed by villagers through participatory channels such as in routine village meetings; some are satisfied with partnerships because of the increased awareness and knowledge on forest conservation; that through partnerships there is prohibition and protection of forests from illegal harvesting, and also that there are visible benefits in terms of community projects that have been facilitated by income from forests. Those not satisfied mentioned two main things that make them unsatisfied with their communities' involvement in partnerships. One, they complain not to benefit from VLFRs funds. For instance, Kichonda is one of the two hamlets of Nainokwe and many in this hamlet claim that the benefits of VLFR are not accessible to them,

Source: NEPSUS survey

Two, is that there are concerns of limited involvement and limited accountability of leadership.

## e. Local Perceptions on Happiness of partnership leadership

The legitimacy of VNRC in relation to CBFM functioning is indicated by the villagers through the village assembly. The performance of the partnership leadership is important in providing direction for the partnership at the village level. The study therefore explored local perceptions of their happiness with the performance of partnership leadership as shown in Table 3.

	Very Happy	Нарру	Neither Happy / Unhappy	Unhappy Very Unhappy Unhappy		Don't Know	Total (%)
Kikole	27.9	32.6	27.9	4.7	0.0	7.0	100.0
Likawage	31.8	25.0	22.7	15.9	2.3	2.3	100.0
Mchakama	20.5	20.5	29.5	13.6	2.3	13.6	100.0
Nainokwe	37.2	9.3	18.6	18.6	9.3	7.0	100.0
Total	29.3	21.8	24.7	13.2	3.4	7.5	100.0

#### Table 3. Local Perceptions of Happiness on performance of partnership leadership.

Source: NEPSUS survey

In total, more than 50% of surveyed households were happy or very happy with the performance of partnership leadership, 24.7% were neither happy nor unhappy and 16.7% were unhappy or very unhappy with the leadership, while 7.5% did not know about the performance of the partnership leadership. In Kikole village, respondents have mentioned that partnership leadership has been important in raising the awareness of forest conservation, changing people's attitudes towards forest conservation, that leaders have been participatory in making decisions over VLFR income and expenditure, and that they follow regulations that were agreed by villagers. Other respondents have mentioned that the partnership leadership has been the catalyst in changing livelihood conditions to the better among the villagers. Those not happy with partnership leadership, for instance in Kikole, complained of the leadership spending VLFR income without involving villagers and failure to control livestock keepers from grazing in the VLFR. In response, village leadership argued that with the current reporting mechanisms there is no room for the village to spend money beyond the approved budgets and priorities passed by the village assembly. Also, that there is auditing done by MJUMITA (Tanzania Community Forest Network) the report of which is provided transparently to villagers. As noted during an FGD with Kikole villagers in February 2017, since the arrival of livestock keepers four years back, there had been complaints of cattle eating crops and entering into the forest reserve.

Mixed responses appear to be a common feature regarding partnership performance and output of the partnerships. The mixed responses on these aspects raise concerns that there is a problem with how the partnership is managed. Previous studies have argued that only the villages elite class profits when benefits accrued from partnership are distributed (Sungusia and Lund, 2016; Kalonga, et al., 2015).

A similar trend is also manifested in our survey data as the majority of community members who praise partnership performance are in one way or another connected to VC or VNRC. This implies that partnership output is felt by a certain group of people in a village community. It is not a coincidence that those who have less connection to the VC or VNRC find partnership performance to be poor or less satisfying. There are also complaints regarding the poor inclusion of women which may in one way or another result in this kind of response. In Kikole village for example, there are claims that women are less involved in the partnership implementation. During a focus group in Mavuji a similar situation was explained as resulting from lack of interest:

"Second reason was that even the women who were in the meeting did not want to be members because of household responsibilities or maybe I'm not fit for the job, maybe I will be removed like the others were removed. Many are saying that women are not able, they do not have experience, they are not fit. Women perceive forest to be hard working job, fit for men." (FG with group of men and women in Mavuji, March 2018)

*"women themselves are not willing to work in the forest"* (FG with group of men and women in Mavuji, March 2018)

Responses from Likawage indicated no/poor involvement in forestry decision making. This village has a VLFR and also borders a NFR, surprisingly, the village ranks second after Kikole in terms of rule clarity and acceptance, yet there is a significant claim of poor performance of partnership. The Key informants claim there was never any kind of community involvement during the establishment of the NFR:

"Members of communities surrounding the NFRs were not engaged in forest management activities. Even after independence (in 1960s), community members were not engaged in forest management." (KII with elders in Likawage, July 2018)

The level of satisfaction with governance, as already indicated, can also be related to villagers' connections to institutions such as the VNRC which is in charge of supervising the VLFR and also very close to funds obtained from timber sales. Figure 9 summarizes satisfaction with governance by village committee connections.

# Figure 9. Satisfaction with Governance, by Village Committee Connections.



#### Satisfaction with Governance, by Village Committee Connections

#### Source: NEPSUS survey

Figure 9 above shows that 60% (>0.6 of proportion) of those without any connections to the VNRC, find the rules to be acceptable or very acceptable. About 75% of those with 1-4 connections find the rules and rights to be acceptable or very acceptable, and 80+% of those with 5 and above connections find the rules and rights to be acceptable or very acceptable or very acceptable. From Figure 9, we can also see that the perception of fairness, acceptability and clarity of rules is much higher for villagers with higher numbers of connections in the VNRC. This suggests that the number of connections to the VNRC influences the perceptions of local communities towards partnerships.

#### 6.3 Participation in Partnerships

Villagers' attendance in village meetings discussing various matters is important in their participation in decision making. The village assembly is the most powerful decision-making institution at the village level and has the mandate to approve or disapprove by vote any matter that calls for the village's consent. Village assemblies, by law, are supposed to be

organized four times a year. There are other special meetings which might be called by the village leadership to discuss matters that cannot wait for a village assembly. This study explored the participation of local communities in village meetings discussing partnership matters and other village agendas as stipulated in the National Forest Act no 4 of 2002.

Village Name	<7 days ago,	Never attended any meeting	Don' tremember	This month	Last month	Within the Last 3 Months	Within the last 6 months	Within the last 9 months	Within the last 12 months	More than one year ago	Never had a meeting	Total (%)
Likaw age	2,3	13,6	11,4	2,3	2,3	2,3	6,8	6,8	4,5	27,3	20,5	100,0
Mcha kama	0,0	13,6	2,3	0,0	0,0	4,5	4,5	0,0	4,5	38,6	31,8	100,0
Naino kwe	0,0	23,3	11,6	0,0	2,3	4,7	7,0	0,0	2,3	39,5	9,3	100,0
Kikole	0,0	16,3	9,3	4,7	7,0	9,3	2,3	9,3	9,3	23,3	9,3	100,0
	0,6	16,7	8,6	1,7	2,9	5,2	5,2	4,0	5,2	32,2	17,8	100,0

Table 4. Attendance to Partnership (CBFM) meetings.

Source: NEPSUS survey

Table 4 above indicates that more than 32% of respondents attended meetings regarding partnership issues more than a year ago, while around 17% did not attend any partnership meeting, and 18% claimed to that there had never been a meeting on partnership matters. However, 43% argued to have attended the last meeting that discussed matters related to implementation of partnership matters and 57% did not (see Figure 10). This means that the majority of villagers did not have an opportunity to exercise their democratic power to make decisions over partnership matters.





The effects of low attendance in partnership implementation meetings, may affect villagers since key decisions over CBFM related matters would be made without their consent. It has been observed during KIIs and FGDs that attending meetings is one thing and voicing opinions is another thing. This has been brought up in relation to women. In a KII with village Leadership in Mchakama in 2017, it showed that women may join men in attending meetings on partnerships or other routine matters however, many may not voice their concern. Table 5 summarizes findings on villagers' attendance of last meeting on environmental management issues.

Name of Villages	This Month	Last Month	Within the Last 3 Months	Within the last 6 months	Within the last 9 months	Within the last 12 months	More than one year ago	Never had a meeting	Never attended any meeting	Can't remember when I attended the last
Kikole	2.3	4.7	18.6	4.7	4.7	9.3	27.9	4.7	4.7	18.6
Likaw age	0.0	0.0	15.9	18.2	4.5	11.4	31.8	0.0	6.8	11.4
Mcha kama	0.0	0.0	6.8	6.8	0.0	2.3	38.6	27.3	6.8	11.4
Naino kwe	0.0	0.0	9.3	14.0	2.3	9.3	39.5	4.7	14.0	7.0
Total	0.6	1.1	12.6	10.9	2.9	8.0	34.5	9.2	8.0	12.1

Table 5. Villagers' attendance of Last Meeting on Environmental Management Issues.

Source: NEPSUS survey

Source: NEPSUS survey

While over 30% said that they attended such meetings more than a year ago, only 12.6%, and 10.9% argued to have attended within the past three and six months respectively. Participants from Kikole argued that in their last meeting they discussed plans for VLFR funds in relation to the priorities of community service projects including drilling a borehole, some mentioned plans to protect the forest, controlling grazing and fire, and discussing customers for their blackwood. In Likawage, respondents recalled that their last meetings were on expanding the VLFR with an emphasis on rules to protect the forests. In Mchakama, the few who recalled their attendance argued that the meeting discussed income and expenditure of VLFR funds and claimed that the meeting did not reach its end due to misunderstandings over the income and expenditure reports. Respondents on their last meetings in Nainokwe recalled income and expenditure and distribution of funds accrued from VLFR being discussed, as well as the expansion of the VLFR, protecting forests, beekeeping and game reserve matters. From the four CBFM-villages, it shows that discussion of income and expenditure of VLFR funds is a dominant agenda, and that villagers are motivated to expand more land for VLFR in order to maximize income from forests.

Attendance of partnership related meetings have been compared to attendance of regular meetings as shown in Figure 11 below.



#### Figure 11. Villagers Attendance of routine Meetings.

Overall attendance of regular meetings is favorable in CBFM-villages with 43% frequently attending and 50% attending occasionally, while the rest (7%) claimed to have never been to routine meetings. Respondents were also asked whether their respective villages organize the four quarterly meetings in which financial matters on income and expenditure are reported and discussed. Responses from Likawage 68% said yes while 32% said no. In Mchakama 36% said yes, while 64% declined that four quarterly meetings are organized in the village. In Nainokwe 72% agreed that quarterly meetings are organized against 28% who

Source: NEPSUS Fieldwork Data (2017)

declined. The best is Kikole where 88% said quarterly meetings are organized while 12% said no. In general, in all the villages, the majority do take part in meetings.

As mentioned, the most important mechanism through which local communities are involved in decision making is the village assembly. In CBFM villages, and as instructed by the Forest Act No. 4 of 2002, local communities have an opportunity to discuss implementation of CBFM, get report of income from VLFR, allocate funds to priorities, and approve expenditure. Such forums as well are critical in settling rules and regulations for accessing and using forest resources. This is contrary to non-CBFM villages, where there are no clear mechanisms of local involvement in forest management as noted by one member of the Village Land Use Management Committee in Kiwawa Village.

"...Lack of active engagement or participatory forest management arrangements are a challenge for forest sustainability. There is absolutely no involvement whatsoever of the local community in governing forest resources..." (KII with VLUM committee, Kiwawa village, March 2018)

Kiwawa is a village adjacent to the Mitundumbea National Forest Reserve with the potential of implementing a JFM with the central government. JFM has, however, not been implemented in Kilwa district. There have been attempts in Kiwawa and Migeregere villages, but the process did not reach the signing of a Joint Forest Management Agreement (JFMA) and implementation. KIIs with TFS officers suggested that the government agency is currently revisiting and resurveying all NFRs that were gazzetted by the colonial government. Resurveying may trigger conflicts with villages should redefined boundaries take villagers' land as part of NFRs.

"...The resurveying has escalated conflicts between TFS and adjacent villages, due to lack of trust and misunderstanding between TFS and villagers, which is a result of portions of the old gazetted NFRs to have been included in some Village Land Forest Reserves (VLFRs) and village land..." (KII with TFS officer, Kilwa, August 2017.)

The argument above suggests that the JFM establishment process should have dealt with potential conflicts before its implementation and failed to win local trust. If the arrangement is to be implemented, it may therefore fall through. Resurveying has been seen by local communities as an attempt to expand National Forest Reserves into their forest lands. There is a concern already in Likawage where the boundaries of Rungo NFR appear to be in the VLFR.

"...Land use conflicts that likely affected forest sustainability in Likawage in 2016 include that the TFS expanded the Rungo NFR into our village land. Parts of the land claimed to be under TFS is planted with cashew trees. The boundary trusted by the villagers to be genuine is (at 37L 0497368 UTM 8972379) and not the new boundary (at 37L 0499427 UTM 897467)..." (KII with Village Land Committee, Likawage Village, August 2017)

The above-mentioned conflict over boundaries between NFR and VLFR in Likawage is visible in the map of forest land use by geographic cluster (Figure 2). In an interview with the TFS official, he claimed that the exercise has led to some misunderstandings between the TFS and villages. These misunderstandings could perhaps have been avoided if there had been clearer mechanisms for local involvement in relation to state forest management in Kiwawa.

#### 6.4 Partnership Impacts on Forest Governance

#### 6.4.1 Impact on Forest Management Practices

Findings from the study villages suggest that implementation of CBFM has significantly changed forest management practices in CBFM-villages. The establishment of VNRCs have had a significant impact on forest patrolling and reporting on the conditions of the forest. Patrols have minimized illicit logging, and forest fires. Forest Patrols are an important aspect of CBFM in ensuring VLFRs are protected against intruders and also serve in reporting of the forest condition. In CBFM, patrols are done by VNRC members. VNRCs have set aside a certain amount of VLFR income to cover equipment, gears, and allowances to members involved in patrols. Patrols in non-CBFM villages are not conducted in a coordinated way and have no incentives to encourage the practice. Compared to CBFM, illicit logging is observed to take place in non-CBFM villages more than in CBFM villages. Another effect of lacking patrols is intrusion of livestock keepers into forests. Miya, Ball and Nelson (2012) identified livestock keeping as among the major drivers of deforestation in Kilwa district. In Kiwawa, it was observed that occasional patrols would be done by members of the Village Environmental Committee (VEC), but members lacked incentives, equipment and skills compared to VNRC members.

#### 6.4.2 Market availability for Forest Products

The implementation of CBFM has also changed the marketing of forest products in CBFMvillages. Under the CBFM arrangement, it has been observed that villages get more income from selling fees compared to the past. Marketing is now controlled by the village instead of the district council as it was before the implementation of CBFM. It has been noted during this study that before MCDI started implementing CBFM, income from forests were not retained by villages. In a KII with Likawage leadership, one participant was quoted as saying

"...Before MCDI and CBFM, forest management was poor. Marketing of forest products was done through the District Council. The benefits of the forests were not much compared to now. In the past we were getting Tshs 20/- for each piece of log while

now we are getting 300/- per a similar piece as selling fee..." (KII with Likawage Leadership, March 2018 at Likawage village)

The quote above suggests that through CBFM, villages are now getting better prices of forest products compared to the past when marketing was through the district council channels. CBFM villages have been planning to increase their VLFRs in order to maximize revenues from selling certified timber. For instance, Mchakama and Likawage villages have been planning to expand the areas of their VLFRs. However, CBFM villages are increasingly experiencing challenges of unreliable markets:

"...main problem we have right now is the market availability, because, many CBFM villages have the same tree species that are harvested and there are some villages that have more forest area (village land forest reserve) than we do. So many timber buyers are attracted to go and harvest in Nanjirinji village that has a large area under village land forest reserve." (FGD with mixed group, Mchakama village, March 2017)

The most dominant and valuable tree species is Blackwood. Companies that are buying timber have concentrated their efforts in Nanjilinji A village which has a relatively large extent of forest with plenty of Blackwood. Another challenge is related to poor road infrastructure during rainy seasons. This is mostly the case of villages such as Nainokwe and Likawage. For instance, transport logistics to Likawage village are difficult in rainy seasons due to poor roads. Since villagers wait for customers from MCDI's connections, they have sometimes failed to get customers, as observed in Kikole:

"...Since last year we have not received a buyer, this is because we depend on the MCDI, they are the ones looking for buyers" (KII with the Elderly, Kikole village, March 2017)

Respondents in Nainokwe village indicated a similar situation, as this KII explained:

"...Customers are not available, and we can wait for a long time. The customers go for forests that are outside the CBFM, they do not want to be supervised as we do in CBFM. We believe that they steal some timber after being allowed to harvest..." (KII with village leadership, Nainokwe village, March 2017)

Buying timber from certified forests means offering premium prices which some timber buyers find is relatively expensive compared to purchasing from uncertified forests. The TFS in Nainokwe has even been observed to compete with VLFR in selling timber:

"...TFS compete with the Nainokwe village by offering more permits to harvest forest products in the general land (i.e. outside the Kijawa VLFR)..." (KII with the elderly, Nainokwe, March 2017)

The approach by the TFS means that timber buyers who prefer not to buy at premium prices, would go for general lands under TFS instead of VLFR. The practice may create tension between TFS, Nainokwe villagers and MCDI which supports villagers on VLFRs.

#### 6.4.3 Benefit Sharing of Income from VLFR and TFS timber harvesting

Funds obtained from VLFR are distributed based on the allocations approved by local communities. The distribution of income earned after selling timber harvests is as follows. Village government 50%, VNRC 45%, MCDI 5%. The Forest Act No. 4 of 2002 indicates that villages have the right to retain 100% of VLFR income. As mentioned, the 5% paid to MCDI has been to cover part of the costs that MCDI incur in supporting CBFM in particular villages. MCDI argued that this percentage is paid from villages' consent. However, in a dissemination workshop held in January 2019 to district level stakeholders in Kilwa district, MCDI commented that the organization no longer take the allocation from villages.

TFS has been implementing timber harvests in villages such as Kikole, Nainokwe and Likawage. There are no JFM agreements with the villages. There are promises, for instance, TFS attempted to convince Kiwawa villagers to include part of their village forest in the NFRs. In that arrangement the village would have obtained 10% of sales and 90% should have been for TFS. The proposal was declined by villagers. Kikole is also adjacent to the Mitarure National Reserve. TFS work with the Kikole village in timber harvesting processes. However, the Kikole village complain of unkept promises.

"...TFS promised the village a share of timber sales. TFS had promised the village that they would be given a certain unspecified amount of the income accrued from sales of forest products in the Mitarure forest. However, there is no money has been given by the TFS so far..." (KII with Village Leadership, Kikole, March 2018)

#### 7. Social Economic Outcomes of Partnerships

The socio-economic impact of forest conservation partnerships can be measured at two levels. One is the community level with community asset creation and two is the household level. Below we discuss the perceived benefits at the household level.

#### 7.1. Households Benefits of Partnerships

Survey respondents were asked to identify the main benefits that their households have acquired as part of the implementation of forest conservation partnerships. The summary of the findings is as shown in the Figure 12 below.



Figure 12. Family Benefits of Partnerships.

Almost 64% of all respondents said their families have not benefited from partnerships in forest conservation. The concern is shown in Mchakama village where 93% of respondents said that they have not benefited at all from partnerships. Those who benefited mention receipt of conservation education, training opportunities on forest conservation, and training on income generating activities. Monetary payment is mainly through being part of VNRC where one can get allowances or engaging in activities such as felling trees during harvest of timber. There is no direct distribution of funds obtained from VLFR to households. Family losses due to partnerships were not identified by many. Only 6% of respondents from Likawage and Mchakama complained that due to partnership implementation they had their access to fertile land limited and that their farms were taken as part of the VLFR.

## 7.2. Community's perceived benefits of Partnerships

The study explored the perceptions of local communities in CBFM-villages in relation to what they perceive to be the benefits of being involved in CBFM as a partnership. The following were the perceptions. About 63% suggest that their villages have benefited from the CBFM partnership. This means, the benefits of CBFM partnerships are better realized at village or community rather than at household or family level. In Figure 13 we present the kinds of community/village level benefits that were mentioned.

Source: NEPSUS survey



#### Figure 13. Community perceived Benefits of Partnerships.

About 43% of the interviewees said that the community has received conservation education, 29% argued to have received monetary benefits that were accrued through involvement in forest related activities, 21% mentioned training opportunities both in forest conservation and livelihoods skills. Many identified conservation knowledge, conservation skills, conservation benefits in terms of the facilitation of financial and non-financial materials for conservation, support of social services and the establishment of alternative income generating activities to be the main benefits of partnerships.

"...the money earned has been directed to development purposes such as (1) our village water project needed seed money of about 300,000/-that came from the VLFRs fund, as well as purchasing of the damaged spare part for that project. (2) we contributed to the construction of the house for the village midwife (3) we have contributed desks to the secondary school instead of each household having to contribute 20,000/- for that. (4) the condition of the forest has improved a lot..." (KII with VNRC members, Kikole Village, February 2017)

## 7.3. Forest-Related Livelihood Options

Source: NEPSUS survey

Crop farming is the main source of food and income in the studied villages. Findings show that about 95% of households depend on crop farming as their first main source of livelihood, followed by business (3%). Government employment, vibarua (day labor), and others comprise the final 2%. About 22% of households had business as their second main source of livelihood and 18.5% have been practicing petty business for the past 12 months as their secondary activity after farming. FGDs showed that most business activities involve petty trade such as small kiosks, food vending, etc. Which were mainly conducted to support income and food supplies from agriculture. Respondents in the households were also asked to identify forest related livelihood options. About 85% of surveyed households depend on crop farming in forested areas. KIIs with elders, village council members and members of the VNRC, as well as FGDs with local villagers identified paddy and maize sorghum to be the main subsistence crops grown while the main cash crops include cashew and sesame. Sesame farming is practiced as shifting cultivation and observations showed that several village lands with forests have been cleared to pave the way for new farms of sesame. Farming is also connected to forest degradation because the methods of farm preparation are changing. Some villagers use fire, but many increasingly use chemicals which may have adverse consequences to environmental systems and the ability of the forest to regenerate. The management of farming and the need for forest conservation thus need to be balanced and not adversely affect one another.

Apart from farming, secondary activities include beekeeping, charcoal making and exploitation of NTFPs. These three have significant differences in partnership and nonpartnership villages. Figure 14 shows that 28.9% and 20% of Migeregere and Kiwawa villages practice charcoal making. These two are non-CBFM-villages but also located close to the main roads to the urban centers, which provide a market for charcoal. There is, however, no community-based forest management practices in Kiwawa and Migeregere. KIIs and FGDs suggest that access to forest lands in these villages is not as controlled as in CBFM villages and there are illegal logging practices as well that lead to charcoal making. There are beekeeping practices that are used as sources of livelihood for some villagers. This is mostly observed in Kikole (30.2%), Nainokwe (18.6%), and Ruhatwe (13.3%). KIIs and FGDs suggest that in Kikole and Nainokwe, which are early CBFM villages, beekeeping has mostly been associated with initiatives to diversify forest products and services and livelihood options through community-based forest management. Ruhatwe, is one of the villages that has livelihood activities supported beekeeping activities in the village.



Figure 14. Forest related livelihood options in Surveyed Villages.

\*Kikole, Likawage, Mchakama, and Nainokwe are CBFM villages, while Ruhatwe, Mavuji, Kiwawa and Migeregere are non-CBFM villages.

Findings also suggest that harvesting of NTFPs is second to crop farming among activities that are related to forest. About 20% have been using the forest to collect NTFPs. This is especially the case in Nainokwe village. The household survey also suggests that not many people have engaged in vibarua work related to forest products, only 7%. There is a great concern over the limited locally based forest related enterprises in all villages.

The study also aimed at understanding if implementation of partnerships in the study villages has implications on the conductions of the above identified livelihood options. Farming has been impacted by implementation of partnerships. About 30% of surveyed households in Likawage had their farming activities relocated elsewhere. Mchakama appears to be the most adversely affected village following the implementation of partnerships. More than 40% of the surveyed households had either stopped farming completely, relocated farming activities elsewhere or reduced the extent of farming. Across all CBFM villages, 10% argued to have expanded farming activities, almost 20% had either stopped farming completely, relocated in any way with the implementation of partnerships (Figure 15). Tourism was not mentioned among

Source: NEPSUS survey

respondents, however, during KIIs and FGDs in Nainokwe and Likawage village it was noted that there had been hunting tourism for tourists from outside Kilwa.



Figure 15. Changes in Farming following implementations of Partnerships in CBFM Villages.

Source: NEPSUS survey

Focusing on the relationship between primary and secondary livelihood options versus forest related activities, shows that a high proportion of those engaged in timber sales deal also with the collection of NTFPs, poles, and logging (Figure, 16).

Figure 16. Proportion of villages reporting various livelihood activities who also report forest use.



Source: NEPSUS survey

#### 7.4. Locally Perceived Livelihood Outcomes

Besides improved forest conditions, the ultimate expected outcome of forest governance is changes in the livelihood of local communities. This study explored local perceptions of the improvement of livelihoods over the past five years. Findings are as presented in Figure 17 below.





Source: NEPSUS survey

There is a difference in terms of perceptions of livelihood improvement between CBFM and non-CBFM villages. Those arguing that their livelihoods have improved or improved a lot are 43% in CBFM villages compared to 24% in non-CBFM villages. There could be different factors determining livelihood change in CBFM and non-CBFM villages, however, CBFM villages are better compared to non-CBFM villages. In in each of the CBFM villages, local communities perceive livelihood improvements. KIIs and FGDs suggest that income from VLFR have made a difference in financing social services provision and infrastructure. The link between partnerships and local livelihoods is not at the household level rather projects that are facilitated are at community level. During FGDs with Kikole villagers, it was noted that sesame growing is attributed to the change of livelihoods in the village. 85% of those arguing that livelihood has improved, have cited farming especially of sesame to be the main factor for improved livelihood. Market prices for sesame and cashew are important in determining income from farming. The rest have mentioned other factors including livestock keeping, petty business and income related to forest products.

Decline in livelihood conditions has also been associated with poor performance of agriculture. More than 90% of those who argued that livelihoods have declined have cited poor performance in agriculture to be the main factor. Poor performance has been linked to poor farm productivity due to climate variability, pests, and limited access to areas for farming. Also mentioned are poor market prices for cash crops such as mbaazi (pigeon pea), sesame, and cashew. The rest have mentioned health reasons behind the failure to produce adequately and sustain their lives, and poor business performance. Some mentioned changes in forest regulations that constrain them to access income from NTFPs. The reasons for improvement and decline are similar in all CBFM-villages. The identification of agriculture as the main determinant of livelihood performance suggests that the contribution of forest conservation through CBFM arrangements does not have a direct influence on household income.

## 7.5. The contribution of Non-Partnership Organizations to Livelihoods

There are multiple development actors operating in villages including study villages for this project. Organizations such as TCRS, ActionAid, Aghakhan Foundation, and TASAF have been supporting villages with various initiatives that influence livelihoods at the community level or a section of a population in a village. Examples of such roles can be observed in the following quotes.

"...TCRS also provide support in education service. They supported adult education. They used to pay primary teachers to teach adult members from the community that were illiterate. They also provided training to farmers on modern farming systems. E.g. Paddy farms – Irrigation farming..." (KII with Mchakama Leadership, March 2018)

The presence of non-partnership organizations as development stakeholders are mainly visible in villages which are non-CBFM. This is because such organizations find that CBFM villages have been able to mobilize resources and entrepreneurial skills for addressing some of the issues which non-CBFM villages are still struggling to solve due to relatively inadequate resources. Organizations such as Aghakhan Foundation, TCRS and ActionAid have focused on educational support which include renovation of classrooms, advocacy for children justice in Ruhatwe, Mavuji, Kiwawa and Migeregere. They have also been supporting villages with establishing and running VICOBAs. In CBFM villages, such activities have been taken care of by organizations such as MJUMITA and WWF as part of CBFM implementation.

#### 8. Discussion and Conclusions

Forest conservation partnerships in Tanzania are determined by the existing legal and institutional setup that dictates the formation and functioning of such partnerships. A focal organization, which is MCDI in Kilwa, is critical to the directing of key functions of partnerships. The context for CBFM in Kilwa is mainly related to addressing unregulated logging and forest destruction that have been singled out as main reasons for deforestation and forest degradation. The collaboration of different actor-categories and the legal and policy channels through which they interact with local communities have brought more complex institutional setups and forest management operations. Complexity is observed as well in the dynamic nature of partnerships in terms of number of actors, frequency of interactions, change in demand of forest products, power relations at local and national levels and layers of forest conservation initiatives. The business networks are the fuel of PFM since they dictate business and conservation relations in achieving desired sustainability outcomes. In areas where PFM is not formally recognized there is an unclear form of forest management.

The legitimacy of partnerships has been through a process of contestation, especially at the local level. The notion that the adoption of PFM initiatives brings investors into forest lands have instead tended to bring chaos to the study area. In the earliest stage of partnerships, legitimacy is acquired through lobbying, advocacy and investment in awareness raising to local communities. Restructuring of once thought corrupt local institutions into more democratic and relatively participatory entities has bought local confidence to CBFM villages. As partnerships progress into the business making stages, and the local communities' acquisition of income improves, together with perceptible improvement in forest conditions, this leads to the further consolidation of local trust in CBFM. The ability of the focal organization, MCDI, in understanding local challenges through frequent interaction with local communities has strengthened local belief in CBFM. The question is whether this legitimacy will stand the test of time by sustainably delivering desired outcomes. The nexus between farming and forest conservation is a critical equation, while the extent to which livelihood outcomes are significantly observed at the household level is a major challenge to the sustainability of partnerships.

PFM through CBFM in the study sites has arguably improved the governance of forests by introducing clear procedures, benefit sharing and decision-making processes. The accountability of conservation-related institutions at the local level has improved in CBFM villages compared to non-CBFM villages. Improved governance is positively correlated to local perceptions of improved forest conditions. While locals perceive more benefits at the community level through investments in service provision initiatives, there is not much that has been reported at the household level, and benefits are unequally distributed between villagers. The equitable distribution of benefits, also at the household level, is important for the local community if conservation is to make sense in the long run.

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