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PARTICIPATORY FOREST MANAGEMENT (PFM) FACTS AND FIGURES

TANZANIA 2020

DECEMBER 2020



The United Republic of Tanzania
MINISTRY OF NATURAL RESOURCES
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MINISTRY OF NATURAL RESOURCES AND TOURISM

Forestry and Beekeeping Division



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Foreword

This is the fourth time when the Participatory Forest Management (PFM) Facts and Figures is prepared. Since 2006, the Facts and Figures document has been instrumental in understanding the development of PFM. It should be noted that starting from the official adoption of PFM through the 1998 Forest Policy and in 2002 the enactment of the law to operationalise PFM, aiming to curb the growing forest degradation and deforestation and to improve livelihood and forest governance, it has always been the concern of the Forest and Beekeeping Division and other stakeholders to evaluate our position as a country regarding the implementation of PFM. Particularly, it is important to know how much community action has been taken to meet the challenges of the forestry sector in the country, but also to know how much PFM contributes to livelihood and the development of forest governance. This Facts and Figures 2020 should therefore be used as a yardstick to guide future efforts and interventions by different stakeholders in PFM. I hope all our stakeholders in the forest sector, particularly those who are involved in PFM, eagerly use this document to guide their businesses.

Dr. Ezekiel Mwakalukwa

Director Forest and Beekeeping Division

Preface

Over the years there have been some efforts to make forest resources and management in the country legible which partly include updating of the Participatory Forest Management (PFM) Facts and Figures. After the official introduction of Participatory Forest Management through the 1998 Forest Policy and thereafter Forest Act No. 14, 2002, it was necessary to track its progress over time. From 2006 to the present, the Ministry of Natural Resources and Tourism (MNRT), through the Forest and Beekeeping Division (FBD), department of policy and planning have been working with some professionals in the exercise of updating PFM Facts and Figures. The last PFM facts and figures was updated in 2012. Nearly 8 years have elapsed with notable changes including emerging challenges in managing forest resources using PFM strategy. These include changes in the forest cover under PFM arrangement and changes in number of villages participating in PFM. Moreover, for the past periods the total forest cover in Tanzania mainland was estimated to be 33.4 million ha, but currently the total officially known area of forest and woodlands of Tanzania mainland is 48.1 million ha (NARFOMA, 2015). We consider the current PFM Facts and Figures 2020 to be important not only to policy and decision makers but also to the implementing and funding agencies and NGOs who are eager to use current updated information rather than the old and unrealistic ones.

Moreover, the current PFM Facts and Figures is produced alongside with a living database which is able to:

- i. Show important facts & figures for PFM forests
- ii. Create customized reports for important parameters for PFM
- iii. Store and retrieve PFM data for CBFM & JFM
- iv. Update PFM data at any time
- v. Store PFM documents such as forest management and harvesting plans, Joint management agreements, maps and mapping information.

This publication is intended to provide summarized key information, status and extent of PFM in mainland Tanzania. The main target audience is government policy makers and others PFM stakeholders concerned with sustainable management of forest resources, improved governance and rural livelihoods.

This publication also identifies key challenges in implementation of PFM in the country and proposes some deliberate, strategic and adaptive solutions to address the same. A key lesson from over 30 years of implementation of PFM in Tanzania is that its process is costly and donor dependent. So, for PFM to be realistic, its progress should be seen in the context of a wider national development agenda and supportive regulatory frameworks and governance arrangements such as JFM guidelines need to be approved to achieve the desired outcomes.

Finally, we hope that this document will be a useful instrument in directing PFM development for the years to come.

Acknowledgements

The preparation of the draft Facts and Figures 2020 was done by a team of consultants Prof. A.Z. Sangeda (team leader) Dr. G.E. Mbeyale and Mr. G. Matowo from Sokoine University of Agriculture. This document was subsequently peer reviewed by a diverse group of experts from the Governments, non-governmental organizations, experienced retired government officers, research and academia through a stakeholder validation workshop convened in Morogoro on 24th November 2020. It is therefore a consolidated efforts of many stakeholders including the Forest and Beekeeping Division of the Ministry of Natural Resources and Tourism, Embassy of Finland, Forestry and Value Chains Development Programme (FORVAC), President Office Regional Administration and Local Government (PO-RALG), Tanzania Forest Agency, Local Government Authorities, Tanzania Forestry Research Institute (TAFORI), the Sokoine University of Agriculture (SUA) and Organizations including TFCG, MJUMITA, WWF, MCDI and EAMCEF.

Following inputs by these stakeholders, a second draft was produced which forms the basis of this publication. FBD sincerely thanks special invited guests to the validation workshop, Dr. Felician Kilahama, the former FBD Director and chairman of TAFORI board of Directors, and Mr. Joseph Kigula, the former PFM Coordinator. We particularly acknowledge the role played by all these stakeholders in the production of the 2020 PFM Facts and Figures. We cannot list all of them here but most of them can be found in the list of PFM stakeholders embedded in this report.

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1.0 Introduction

The total area of forest and woodlands of Tanzania mainland is 48.1 million ha (NARFOMA, 2015). This area was underestimated by 42% in the previous area estimates which were officially used including the previous Participatory Forest Management (PFM) Facts and Figures. Forest management in Tanzania has gone through several changes emanating from a range of factors including forest sciences, centralization and decentralization and global shift towards participation of local communities in natural resources management including forestry, particularly PFM. Since the introduction of PFM through National Forest Policy (1998) and the Forest Act No. 14, 2002, PFM has been considered as one of the strategies for improving forest management, governance and livelihoods. Over the years Tanzania has recorded an impressive expansion of PFM coverage from early 1990s when the pilot activities were implemented in Duru-Haitemba and SULEDO in Manyara, MEMA in Iringa and many others. According to Forest Act, 2002 and existing PFM guidelines, PFM can be practiced in National Forest Reserves, Local Authority Forest Reserves, Village Land Forest Reserves, Community and Private Forests.

The Forest and Beekeeping Division (FBD) under the Ministry of Natural Resources and Tourism (MNRT) has continued to publish PFM guidelines (CBFM 2007, JFM 2013) and Facts and Figures document from 2006 (first edition), 2008 (second edition) and 2012 (third edition). These documents provided an understanding of PFM progress, coverage and practice in the country. The previous PFM Facts and Figures 2012 indicated mainly the positive trends in which PFM continues to strive. The positive trends showed that PFM continues to expand across the country and was strongly supported by the government and development partners.

Since the third Facts and Figures publication in 2012, it has taken about eight years where some changes have happened regarding PFM which are unrecorded. It was therefore important to update it based on new development that has been registered in these years to give the current status of PFM in mainland Tanzania. The Facts and Figures presented in this publication involved rigorous literature review and field visits to some selected PFM sites.



Plate 1: Data collection through group discussion with forest adjacent communities in Nandenje Ruangwa and Libobata Tandahimba districts.

Data were collected from Ministries (MNRT, PO-RALG), Zonal Managers, Regional Forest Officers and District Forest Conservators/Officers. Others were Conservators from Nature Reserves, managers of Forest plantations and staff from Non-Governmental Organizations and researchers from training and research institutions. These data were then validated through the PFM stakeholders' workshops before production of final document. More important, the 2020 PFM Facts and Figures document is produced with a PFM database (Annex 1) that is able to show important Facts & Figures for PFM forests, create customized reports for important PFM parameters, store and retrieve PFM data, update PFM data at any time, store PFM documents such as forest management/harvesting plans, bylaws and maps.

2.0 Participatory Forest Management

Participatory Forest Management (PFM) is a management strategy that was formally introduced in Tanzania following the enactment of the Forest Act No. 14 of 2002. The main aim of PFM apart from supporting sustainable forest management is to improve livelihoods of local communities in terms of both tangible and intangible benefits. Its implementation was strengthened by several guidelines by Forest and Beekeeping Division under the Ministry of Natural Resources and Tourism. These include guidelines for Participatory Forest Resources Assessment (PFRA) 2005, CBFM 2007 and JFM 2013. Other inter-ministerial laws that support PFM include Village Land Act No. 5 of 1999 and the Local Government and District Authorities Act No. 7 of 1982. All these legislations provide a clear legal basis for communities, groups or individuals across mainland Tanzania to own, manage or co-manage forests under a wide range of conditions. The two PFM types formally recognized in Tanzania are:

- i. Community Based Forest Management (CBFM), where local communities are allowed to declare and ultimately gazette Village, Group or Private Forest Reserves. CBFM takes place on village land or private land, and the trees are owned and managed by either a village council (through a village natural resource committee), a registered group, or an individual. Most of the costs and benefits relating to management and utilization are

carried by the owner. The role of central government is minimal and district councils only have a role in monitoring and provision of technical assistance.



Plate 2: Part of a conserved ritual forest (Quymanda), in Ayasanda village Babati, Manyara

- ii. Joint Forest Management (JFM), where communities are allowed to sign joint forest management agreements with government or other forest owners. JFM takes place on “reserved land” land that is owned and managed by either central or local government. Villagers typically enter into management agreements to share responsibilities for the management with the forest owner.



Plate 3: A tree nursery at Kyarano FR managed between TFS, Local communities, JKT and G Resources Alliance in Butiama District.

Different models of PFM have been supported by projects, NGOs, districts and central government since early 1990s. PFM has been implemented in a wide range of circumstances in most of the districts of Tanzania. The total number of villages in mainland Tanzania based on the National land use planning commission is currently 12,319 (URT 2019). It is implemented in various ecosystems including Miombo and Acacia woodlands, Mangrove forests, Thickets, Montane and Sub-montane, Coastal and Lowland forests. In some locations e.g. in Nyasa, Mbulu and Karatu Districts, PFM is practiced through plantation and woodlots. In Nyasa Ruvuma, Land for plantation is owned by the local government Authority while tree resources are owned by communities and there is a special agreement on costs and benefit sharing which implies JFM. In Mbulu and Karatu districts, they practice CBFM where both land and trees are owned by community members and distribution of costs and benefits follows the normal procedures as for the natural forests. Figure 1 shows the distribution of PFM in the Mainland Tanzania locating both CBFM (in Black square) and JFM (in Red dots).

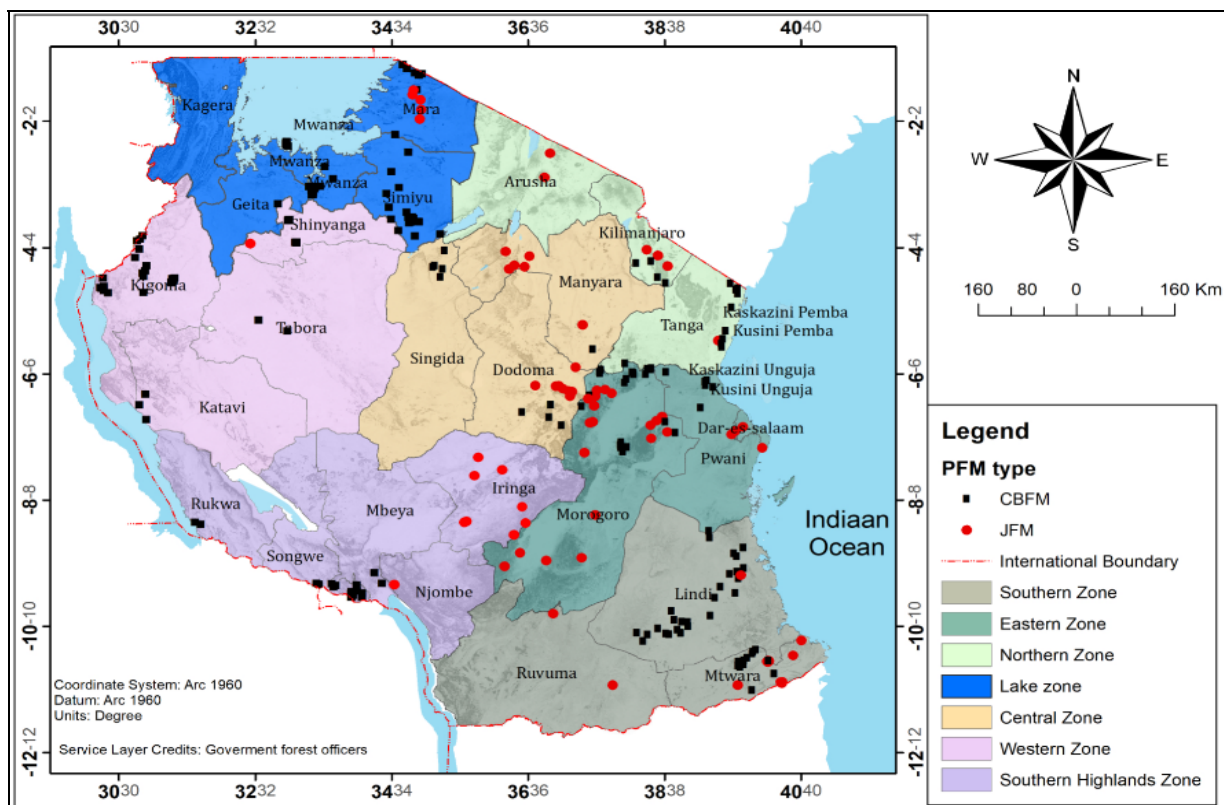


Figure 1: Distribution of PFM forests in the mainland Tanzania
(Note: The forests shown in this map are only those where coordinates were obtained)

Table 1 presents the overview of PFM information in mainland Tanzania.

Table 1: Overview of PFM in Mainland Tanzania

SN	PFM Parameter	Value
1	A total area of forest covered by PFM arrangement (ha)	5,882,527.82
2	Percentage of total forest area under PFM	12.23%
3	Number of villages involved in PFM	2046
4	The percentage of the total villages in mainland Tanzania involved in PFM	16.61%
5	Number of villages with declared/ Gazetted village forests/ Signed JMA	1023
6	The number of districts/ Councils where PFM is operational	133

2.1 Community Based Forest Management (CBFM)

In the last 30 or more years, CBFM has been largely supported by donor funding either through NGOs, or Local Government Authorities (LGAs) within PO-RALG. While many villages are participating in CBFM across the country, relatively few have formalized their forest management in line with the provisions of the 2002 Forest Act. This requires that villagers have an approved management plan with bylaws and harvesting plan for production forests. Table 2 indicates the distribution of CBFM Forests in the mainland Tanzania.

Table 2: Extent of CBFM Forests in mainland Tanzania

SN	CBFM Parameter	Value
1	Number of villages with CBFM established or in process	1,225
2	Forest area covered by CBFM (ha)	2,689,342.31
3	Number of declared village forest reserves	685
4	Number of CBFM gazetted forests	67
5	Number of villages with certified forests under FSC group certification	15
6	% of villages with CBFM in Mainland Tanzania	9.39%

Table 3: Distribution of CBFM Forests in mainland Tanzania

Regions	Districts	Villages	CBFM	Declared	Gazetted	Total area (ha)
Arusha	2	23	11	4	0	24,229.90
Dodoma	8	102	97	14	16	56,614.96
Geita	5	42	41	5	0	1,687.09
Iringa	3	92	115	34	0	238,246.11
Kagera	3	8	4	1	0	1,943.58
Katavi	4	21	21	19	0	198,355.20
Kigoma	6	100	117	65	0	89,706.44
Kilimanjaro	2	8	9	4	4	16,733.44
Lindi	5	79	105	105	0	617,913.31
Manyara	4	69	68	42	0	268,633.14
Mara	5	44	44	17	0	9,080.13
Mbeya	3	53	73	7	14	73,141.46
Morogoro	6	71	82	55	15	196,630.58
Mtwara	2	16	16	16	0	984.10
Mwanza	6	45	54	30	0	10,065.15
Njombe	2	26	35	7	0	26,916.88
Pwani	5	36	40	8	14	38,015.57
Rukwa	3	21	25	-	0	6,833.23
Ruvuma	4	27	17	17	0	130,746.35
Shinyanga	4	46	333	10	0	12,887.29

Regions	Districts	Villages	CBFM	Declared	Gazetted	Total area (ha)
Simiyu	5	52	99	15	0	9,738.58
Singida	4	62	25	6	1	377,308.28
Songwe	3	29	48	25	0	63,606.11
Tabora	3	41	25	6	0	137,175.88
Tanga	7	89	147	141	3	82,149.54
Grand Total	104	1202	1,651	653	67	2,689,342.31

2.2 Joint Forest Management (JFM)

This is another type of PFM where there is a Joint Management Agreement between communities with either Central Government Forest Reserve or Local Government Authority Forest Reserve. JFM currently has stagnated due to some difficulties in reaching agreement on benefit sharing between the government and the communities. However, there are some forests that are still practicing JFM in the ground. Table 4 and Table 5 show trends of JFM across mainland Tanzania.

Table 4: Overview of JFM in mainland Tanzania

SN	JFM Parameters	Value
1	Number of Forests with JFM arrangement	232
2	Number of villages with JFM established or in process	920
3	Forest area covered under JFM arrangement	3,193,215.50
4	% of villages involved in JFM arrangement in the mainland Tanzania	7.47%
5	Number of districts/ Councils with JFM arrangement	78
6	Number of villages that have signed JMAs	263

Table 5: Distribution of Forests under JFM in mainland Tanzania.

Regions	Districts	Number of NFRs	Number of LAFRs	Protection forests	Production forests	Production and protection	Number of villages	JMAs Signed	Total area (Ha)
Arusha	4	1	6	7	0	0	23	0	21,337.50
Dar es Salaam	3	5	1	6	0	0	16	0	3,733.10
Dodoma	4	9	4	13	0	0	44	0	258,310.08
Geita	2	0	2	2	0	0	8	6	18,898.78
Iringa	3	10	3	12	0	1	84	71	212,672.20
Kagera	1	2	1	2	0	1	5	0	164,443.60
Katavi	0	0	0	0	0	0	0	0	-
Kigoma	1	6	2	4	0	4	32	29	220,488.65
Kilima									
njaro	2	3	4	7	0	0	31	0	20,496.10
Lindi	3	1	4	2	0	3	18	0	129,602.90
Manyara	5	8	6	11	3	0	55	26	175,023.90
Mara	2	0	3	2	1	0	13	0	3,558.25
Mbeya	1	0	1	1	0	0	9	0	684.80
Morogoro	7	29	6	32	0	3	181	59	345,072.32
Mtwara	4	0	12	11	1	0	24	6	20,758.81
Mwanza	3	3	9	8	0	4	24	0	22,671.00
Njombe	4	12	9	18	3	0	36	7	17,020.13
Pwani	4	7	0	7	0	0	20	0	45,924.60
Rukwa	3	1	12	10	2	1	40	0	62,102.48

Regions	Districts	Number of NFRs	Number of LAFRs	Protection forests	Production forests	Production and protection	Number of villages	JMAs Signed	Total area (Ha)
Ruvuma	6	6	5	5	0	5	31	0	181,802.40
Shinyanga	2	1	2	3	0	0	17	11	103,744.00
Simiyu	3	0	6	2	0	4	6	3	263.40
Singida	1	0	1	0	0	1	18	0	30,365.00
Songwe	2	2	1	3	0	0	8	7	46,915.22
Tabora	2	2	2	1	0	2	31	4	1,024,480.00
Tanga	6	17	5	20	1	1	146	34	62,846.30
Grand Total	78	125	107	189	11	30	920	259	3,193,215.5

3.0 Analysis and Synthesis

3.1 Forest dynamics

There has been expansion of PFM activities since 2008 in terms of forest area. However, in 2012, there was an extraordinary expansion of JFM area. Review and field survey has confirmed that JFM area for Tabora region was overestimated in 2012 (about 2 M ha) see Figure 2.

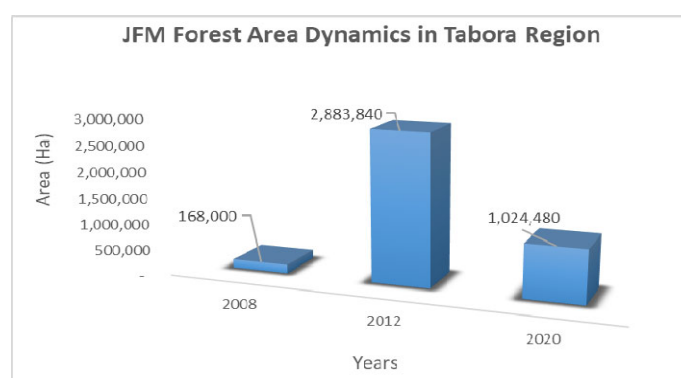


Figure 2: Dynamics on forest area for JFM in Tabora Region over years.

The over estimation of JFM in Tabora during 2012 is ratified by ground truthing information collected in 2020 where there is no data on forest loss matching with the area increased in 2012. We have therefore decided to do away with the abnormal and unqualified increase which has resulted to a discrepancy in the analysis of JFM and by doing so data indicates a slight and slow but steady increase over time in PFM area for mainland Tanzania (Figure 3a). Despite that increase, data reveals a declining number of villages involved in PFM (Figure 3b). Figure 3a and b show these different dynamics in terms of villages involvement over time.

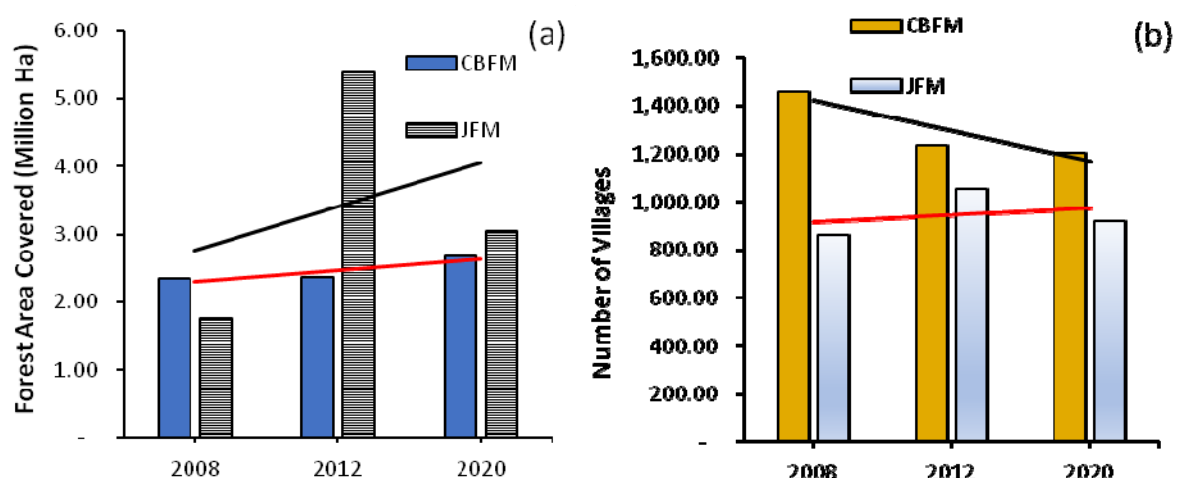


Figure 3: The trend of PFM in terms of (a) Area covered (b) Number of villages involved over time in Mainland Tanzania. (Note that JFM area for Tabora region was overestimated in 2012)

In other regions, the size of forests under PFM has changed/decreased due to forest degradation or complete loss of the area linked to encroachment from illegal trees harvesting, uncontrolled grazing and illegal establishment of farms and settlements. Other reasons for reduced PFM area include change of conservation status through upgrading of the forest areas to National Parks or other categories of protected areas under wildlife division. Data indicates about 171,462 ha of forests under PFM were encroached due to the mentioned reasons, while 25,682 ha were completely lost due to land use change. Furthermore, about 163,000 ha of PFM forest were converted to protected areas due to upgrading of a national forest reserve to a National Park. Figure 4a shows the PFM encroached areas and Figure 4b the forest area completely lost (total deforestation) across mainland Tanzania.

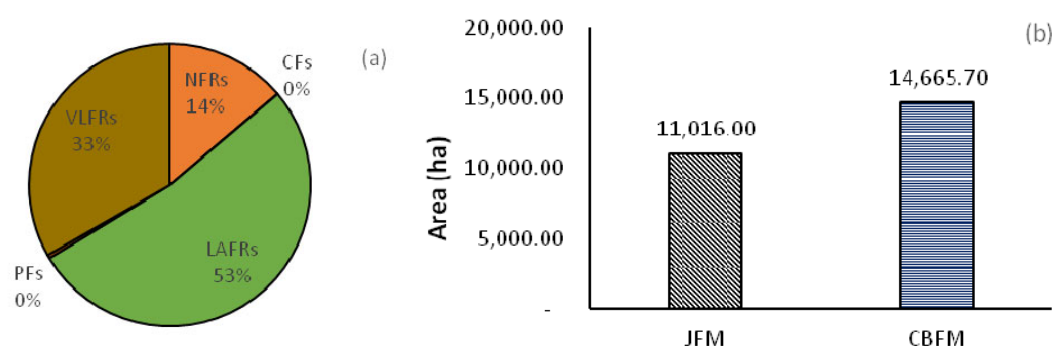


Figure 4: (a) Percentage of encroached areas of PFM (b) The extent of lost forest area under PFM across mainland Tanzania.

In some areas with donor or government support the VNRCs have managed to reduce illegal activities in their forests. In other areas with no support, illegal activities in PFM forests have substantially increased and conflicts magnified. In some cases, increased conflicts have resulted to some communities who manages CBFM forests to think of transferring management or ownership of their forest to TFS. A good example is the Mgori Forest Reserve in Singida and many others. This change of ownership/management also applies to some forests under Local Government Authorities including Kigonsera, Amani Makoro and Mamsea Lilengalenga Forest reserves in Ruvuma. The transferring of either ownership or management powers to TFS is mainly attributed to lack of capacity in terms of both human and financial resources empowerment to sustain PFM operations. It is also a result of lack of coordinated security measures and efforts from the district to village level when it comes to dealing with armed illegal harvesters of forest products.

3.2 Projection and expansion of PFM in mainland Tanzania

It was revealed that the involvement and support of PFM stakeholders, particularly programmes and both local and international NGOs such as FORVAC, WWF, MCDI, TFCG, MJUMITA, JGI and others as indicated in Table 9, have remained to be a driving force in enhancing and supporting PFM in mainland Tanzania. There is a substantial area of about 1,786,527.13 ha of forest areas which are in the initial stages (proposed) of PFM across mainland Tanzania. Given availability of resources and government support these hectares of forests will graduate to formal CBFM or JFM in the next few years. The extent of the proposed forests for PFM is shown in Figure 5. Based on the estimations (relative increase and decreases including some indicative PFM expansion efforts as stipulated above), the spread of PFM is expected to increase to more than 1.5 mil ha in the next five years.

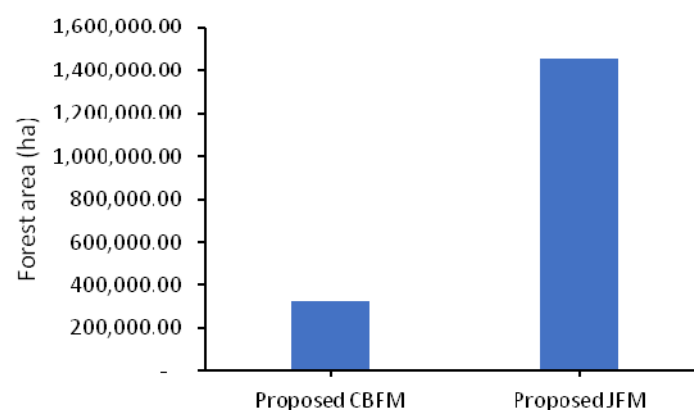


Figure 5: Proposed area of PFM in Tanzania mainland (potential area for expansion).

Interestingly, some programmes e.g FORVAC and organizations like TFCG/MJUMITA, WWF, MCDI, JGI and others have already set their prime focus areas for CBFM expansion in unmanaged forests across Tanzania mainland including Tanga, Pwani, Tabora, Katavi, Kigoma Manyara, Ruvuma, Lindi and Mtwara. All these areas have vast unmanaged forest resource in villages. Such planning and efforts indicate that PFM particularly CBFM will continue to expand with time. This trend is expected to continue but may be affected by changes of stakeholders' interests, political environment and availability of funds. For JFM, the government has not shown much interests of expansion because the proposal for cost benefit sharing mechanisms has not yet been approved by Treasury, Ministry of Finance and Planning and recently TFS has changed to a military nature in management of its forests.

3.3 Community Livelihoods and Emerging issues




Under PFM and particularly CBFM, communities are direct beneficiaries of the revenues from the selling of timber and other forest products. Through use of various marketing methods including value addition through forest certification and the standard timber drying using solar kilns, their income has improved. In JFM communities has mainly benefited from non-timber forest products and other ecosystem services including water, honey, tourism, forage, fruits and vegetables, firewood, carbon credits, employment, grazing and many others. Table 6 presents monetary annual income of some selected communities in respective districts and regions.




Table 6: Annual Income (2018/2019) from selected CBFM forests in different districts practicing PFM in Tanzania.


SN	District	Region	Annual Income
1	Kilosa	Morogoro	283,413,857.46
2	Handeni	Tanga	135,792,000.00
3	Kilwa	Lindi	1,100,438,400.00
4	Liwale	Lindi	2,211,729,000.00
5	Namtumbo	Ruvuma	54,070,600.00
6	Ruangwa	Lindi	140,965,800.00
7	Rufiji	Pwani	76,296,600.00
8	Tunduru	Ruvuma	1,171,615,600.00
9	Kiteto-SULEDO	Manyara	32,812,000.00
Total			5,207,133,857.46

Most of these funds (Table 6) are used to support development projects in the villages as shown in Table 7.

Table 7: Examples of development and social projects financed by PFM funds across mainland Tanzania.

1. School Infrastructure	
<ul style="list-style-type: none"> ✓ Furniture (Desks, tables and office furniture) ✓ Construction of toilets ✓ Classrooms ✓ Teacher Offices 	 <p>A Classroom in Kilosa District</p>
2. Health Facilities	
<ul style="list-style-type: none"> ✓ Health Insurance ✓ Doctor's houses ✓ Health workers allowances/ Salaries ✓ Purchase of Mattresses, Bed sheets and beds. 	 <p>A dispensary in Ruangwa District</p>
3. Forest Management	
<ul style="list-style-type: none"> ✓ Purchase of patrol enforcement equipment e.g. Motorcycles ✓ VNRC allowances for meeting and patrols ✓ Boundary consolidation ✓ Paying allowances for technical support consultation ✓ Fire management (burning and slashing) ✓ Transport allowances ✓ Purchase of stationaries and VNRC working gears ✓ Harvesting supervision ✓ Maintenance of forest roads ✓ Paying for fuel and repair of the motorcycles 	 <p>Motorcycle for Forest patrol in Kilosa</p>

<p>4. Other Infrastructure Development</p> <ul style="list-style-type: none"> ✓ Construction and maintenance of village roads and offices ✓ Developing water structures (Deep wells, storage tanks and plumbing facilities) ✓ Electricity/ Solar panel installation ✓ Construction of village storage facilities e.g. go-down ✓ Construction of markets ✓ Public buildings maintenance 	 <p>Water project in Kilosa</p>
<p>5. Income Generating activities</p> <ul style="list-style-type: none"> ✓ Initiation of beekeeping projects ✓ Purchase of transportation/ farming equipment e.g. tractor, lorries ✓ Employment ventures e.g. improved charcoal and timber production, tree nurseries, sells on NTFPs. ✓ Construction of guest houses 	 <p>Timber curing chamber in Kilwa District</p>
<p>6. Ecological goods and services</p> <ul style="list-style-type: none"> ✓ Firewood and other NTFPs ✓ Pasture for livestock ✓ Construction materials ✓ Carbon sink and habitat for wildlife ✓ Soil and watershed management ✓ Climate regulation 	 <p>Production Forest in Songea District</p>

7. Social Support	
<ul style="list-style-type: none"> ✓ Provision of food to the famine households ✓ Construction of police posts ✓ Financial support to pregnant women ✓ Food to primary school students ✓ Financial support to year one students joining secondary schools (form 1) 	 <p>Primary school students in Kilosa</p>

In some locations, communities accrue substantial benefits from the forests due to use of marketing strategies and value addition. The fact that some villages have FSC certified forests indicates that PFM has attained a higher conservation level, and is wealth noting that this is the only CBFM forests in Africa that have attained such a conservation status. These communities are now better placed to supply customers both internally and internationally with products from certified forests. This also adds a millage in terms of increasing benefits to communities as incentives for sustainably managing forests. Through the benefits that are accrued, some communities are re-investing in other alternative sources of income which ensures them sustainable income which can also be used for forest management.

An interesting trend has also been observed in Nyasa, Madaba and Karatu district councils towards the use of PFM in management of plantation forests/woodlots between communities and Local Governments with a clearer benefit sharing arrangements. Though this is new, but it is wealth examining and be supported by other PFM stakeholders.

3.4 Challenges of PFM

Operationalizing PFM in Tanzania is linked to various challenges as outlined below:

- i. ***Costs and benefits sharing between Government and forest adjacent villages***
It has been generally a failure for most of the forests under JFM where the government since 2015 has declined to approve the benefit sharing guideline with communities. This has remained as a stumbling block to the progress of JFM in the country. If this problem is not solved, it can lead to the death of JFM.
- ii. ***Capacity of villages and Local Government Authorities to fund PFM processes***
Most of the PFM activities are funded by either local or international organizations or programmes (as shown in Table 9). In most cases, forestry has been ranked lower in terms of priority sectors in Local Government Authorities and even the central

government, resulting into failure to set aside some reasonable budget for PFM. This has made PFM donor dependent since its initiation.

iii. *Capacity of villages and District councils to deal with conflicts*

It is well known that villages have limited capacity to manage conflicts particularly when there are armed offenders. It has remained even more difficult where the districts capacity to manage forests and deal with such higher-level conflicts is minimal in terms of finance and equipment (vehicles and other equipments). In such situations many villages and LGAs have decided to abandon the forests to be degraded or surrender them to TFS who have more resources.

iv. *Mistrust between communities and professionals*

There is a general mistrust between the stakeholders in PFM particularly between villagers and the professional foresters. The professionals consider the forest adjacent community as dependent on the forest resources that they are the major source of forests degradation. On the other side in some cases communities have low trust on professionals. Foresters are perceived as corrupt and people who don't have same understanding and fillings about community livelihoods. Therefore, in some cases working together towards PFM has never been without challenges.

v. *Contradictory legislations*

It is confusing how a general land and a village land is defined in the Forest Act no 14 of 2002 and the Village Land Act no 5 of 1999. Based on the Village Land Act, it is not possible to find a general land in a village land, but with the Forest Act, any unmanaged forests within a village are considered as a general land and villagers lose power to accrue direct benefits from such forest resources and are not allowed to process sales of the products from such forests. This tendency demoralizes villagers and limit expansion of CBFM areas within village lands.

4.0 Conclusions and recommendations

4.1 Conclusions

The current survey revealed that there is slight increase of PFM across mainland Tanzania. This is indicated by the current extent of PFM compared to 2012 PFM Facts and Figures. The increasing trend observed is low given the time elapsed since 2012. PFM covers only 12.23% of total forested area of Tanzania mainland (48.1 million ha) about 5,882,527.82 ha in 2046 villages and 133 districts/councils. CBFM is showing slight increase over time as compared to JFM which has shown a better trend in terms of forest extent but performing poorer than CBFM in terms of participation of villagers.

Major reasons for substantial loss of forests in Village Lands and Local Authority Forest Reserves managed under PFM include forest degradation through encroachment, overgrazing and conversion to settlements and farmlands. Limited capacity of LGAs and villages to fund PFM processes has led to a tendency of transferring ownership of some forests to TFS

management and other types of protected areas like national parks. Based on the statistics given above, the spread of PFM is expected to increase for about 1.5 mil ha in the next five years.

4.2 Strategic recommendations

- i. To ensure progression in JFM, all stakeholders in PFM need to collaborate in creating awareness and advocating for approval of the PFM cost and benefits sharing guideline to Ministry of Finance and Planning.
- ii. Instead of transferring forest ownership or management responsibilities of community forests to TFS, joint management agreements could be established between the two parties to create a reversed JFM arrangement.
- iii. Due to the facts that forestry is crosscutting sector as it provides water for domestic use, industrial use, animal use, hydroelectricity, source of energy, tourism, timber and non-timber products, ecological services and many others, it should be enough for PO-RALG to re-categorize the sector to be one of the high priority sectors on the same line as education, health, infrastructure and water.
- iv. Finally, this survey revealed that there is no systematic data on private forests in Tanzania. Many foresters admitted that such forests exist but are not recorded anywhere. Some of these are managed by individuals/clans and some by institutions. There is therefore a need for establishment of this information to improve the statistics of CBFM in the country.

5.0 PFM Stakeholders

Implementation of PFM activities in mainland Tanzania encompasses several stakeholders who differ by focus area and nature of their responsibilities as shown in Table 8.

Table 8: The current and former PFM stakeholders in Mainland Tanzania

Name /Type of institution	Name / Source of funds	Primary Focus with respect to PFM	Responsibility
Ministries (MNRT, PO – RALG) -TFS -District councils	Forestry and Value Chains Development Programme (FORVAC) – Finland	CBFM in Mpwapwa, Kiteto, Kilindi, Handeni, Namtumbo, Songea, Mbinga, Nyasa, Tunduru, Nachingwea, Liwale and Ruangwa.	Financial and technical support
	Participatory Forest Management – DANIDA (Former)	CBFM and JFM in Njombe, Iringa, Mbeya, Morogoro, Songwe, Tanga and Lindi Regions	Financial support
	National Forest Programme - MFA Finland (Former)	CBFM and JFM. Tanga, Mtwara, Morogoro, Dodoma and Ruvuma Regions.	Financial support
	Catchment and Mangrove programme – NORAD (Former)	JFM. Morogoro, Tanga, Kilimanjaro and Arusha Regions.	Financial support
	Tanzania Forest Conservation and Management Project – TFCMP (Former)	Twenty-five (25) districts. CBFM and JFM. Implemented through the Tanzania Social Action Fund, TASAF I & II. Funded the initiation of PFM in Geita, Katavi, Kigoma, Dodoma, Singida, Pwani, Tanga, Kilimanjaro and Manyara	Technical and financial support
	TANAPA	CBFM in Simiyu (Bariadi district)	Financial support
International Organizations and NGOs	WWF	JFM and some CBFM in Coastal forests in Mara, Morogoro, Tanga, Lindi, Pwani, Mtwara and Ruvuma regions.	Financial support to projects and local NGOs implementing PFM on ground.
	CARE International	PFM in Morogoro and Lindi regions	Technical and Financial Support
	World Vision International	CBFM and JFM in Arusha, Kigoma, Manyara, Tanga and Lindi regions.	Technical and Financial Support
	Farm Africa	JFM in Babati and Mbulu districts in Manyara Region	Technical and Financial Support
	International Council for Research in Agroforestry, ICRAF (Former)	Supported JFM in Tanga region	Technical and Financial Support
	Frankfurt Zoological Society, FZS	PFM activities in Arusha and Kigoma Regions.	Technical and Financial Support
	Germany International, GIZ	PFM activities in Mara and Arusha Regions	Technical and Financial Support
	African Wildlife Foundation, AWF	PFM in Arusha, Morogoro and Dodoma regions.	Technical and Financial Support
	European Union, EU	CBFM in Morogoro region	Financial Support
	Swiss Development Cooperation, SDC (Former)	CBFM in Morogoro region	Financial support
	Swiss aid	JFM in Mtwara region	Financial support
	World Bank, WB (Former)	CBFM in Pwani region. Coastal forest vegetation	Financial support

Name /Type of institution	Name / Source of funds	Primary Focus with respect to PFM	Responsibility
International Organizations and NGOs	Belgium Technical Cooperation, BTC (Former)	CBFM in Morogoro and Kigoma regions.	Financial support
	ENABEL	CBFM in Kigoma (Uvinza district).	Technical and Financial Support
	UNDP/ GEF	PFM in Iringa and Katavi regions	Financial support
National NGOs	Tanzania Forest Conservation Group, TFCG	PFM in Morogoro, Lindi, Tanga, Pwani, Kilimanjaro and Dodoma. Operating in Miombo woodlands, Coastal forests and high biodiversity areas.	Technical support and Implementation
	Community Forest Conservation Network of Tanzania, MJUMITA	PFM in Morogoro, Tanga, Lindi, Mtwara, Ruvuma, Pwani and Dodoma regions. The vegetation includes Miombo and Coastal forests.	Capacity building and governance support to the forest adjacent villages
	Mpingo Conservation Development Initiative, MCDI	CBFM in coastal forests and miombo woodlands in Arusha, Morogoro, Lindi, Pwani and Ruvuma regions.	Technical support and implementation of PFM projects including value addition and certification of forest products.
	Jane Goodall Institute Tanzania	PFM in Kigoma, Katavi and Pwani regions. High biodiversity areas.	Technical and Financial Support
	Marine Parks (Mafia)	PFM in Coastal region (Mafia)	Technical and Financial Support
	EAMCEF	JFM in high biodiversity areas of Eastern arc mountain (Kilimanjaro, Tanga and Morogoro regions)	Financial Support
	Tanzania Forest Fund, TaFF	PFM in Kagera, Lindi, Shinyanga, Pwani, Dodoma, Morogoro and Mtwara regions	Financial Support
Other Projects/ Programs	Land Management Project, LAMP (SIDA) (Former)	CBFM in miombo woodlands of Manyara and Singida regions	Technical and Financial Support
	Rufiji Environmental Management Project (IUCN) (Former)	CBFM in Pwani region. Operating in coastal and miombo woodlands	Technical and financial support
	FAO Netherlands Partnership Program (FAO/ IUCN) (Former)	CBFM in Pwani region. Operating in coastal and miombo woodlands	Technical and financial support
	REDD+ (Former)	PFM in Lindi, Manyara and Morogoro regions	Financial Support
	Empowering Communities through training on PFM, REDD+ and Climate Change Initiatives, ECOPRC (NORAD)	PFM in Dodoma, Singida and Kilimanjaro Regions	Technical support
	HASHI (Former)	PFM in Shinyanga and Simiyu. Initiated conservation and management of Ngitiri	Technical and financial support
	Kwimba Reforestation Programme- KRP	CBFM in Mwanza region (Misungwi district)	Technical and financial support
	Lake Victoria Management Project - LVEMP	CBFM in Mara region (Butiama district)	Technical and financial support
	REDESSO	PFM in Shinyanga region. Involved in conservation and management of Ngitiri	Technical and financial support
	TCRS	PFM in Shinyanga region. Involved in conservation and management of Ngitiri	Technical and financial support

Appendix 1: Tanzania Mainland PFM Database Information System

Overview:

The Database is able to:

- i. Show important facts & figures for PFM forests
- ii. Create Customized reports for important parameters for PFM
- iii. Store and retrieve PFM data for CBFM & JFM
- iv. Update PFM data at any time
- v. Store PFM documents such as Forest management plans, maps etc.

Implementation and Technology used:

The Tanzania Mainland PFM Database Information System has been implemented using web technology of HTML, PHP and relational database of MySQL server.

Data for Tanzania Mainland PFM Database has been collected and stored into excel file template; and thereafter the collected data from excel file has been uploaded to MYSQL database. Therefore, storage of Tanzania Mainland PFM Database on MYSQL database facilitate the following: Backup storage of PFM data for future use; and easy retrieval and filtering of stored data.

The Tanzania Mainland PFM Database Information System has been hosted Online; Access using web-based interface and can be accessed via the link <http://41.59.85.2:8585/pfm/>

Variables in the database

Officer name, Officer email, Officer tel no, Council, Region, TFS Zone, Forest Name, Forest Ownership, Street/Village Name, Ward Name, Forest Area (Ha), Vegetation Type, Management purpose, Longitude, Latitude, Reduced/Encroached area (ha), Number of beneficiaries (Number of people benefiting), PFM Type, Initiation (year), Who initiated PFM process, Specify (Who initiated), Presence of updated management plan, Income generation from forest, Presence of VNRCs, Presence of rules of law, Forest patrols, Regular meetings, Record keeping, Any conflict mediation processes, Who funded PFM initiation, Stage reached in reserving process, Forest management plan, Harvesting plan, Products harvested, Biodiversity condition(Flora and Fauna), Stocking condition, Regeneration condition, Presence of ecosystem goods, List other ecosystem services provided by the forest, List of threats to PFM forests, Benefits PFM, Existence of committee, Level of community engagement, Level of compliance to rules, List of names stakeholders supporting PFM, List of responsibility of each stakeholder, Declared / Gazetement status, GN Number, Year gazzeted / Declared and FSC Certified,

Concluding Remarks

The database has been implemented and hosted on-line for backups and future easy retrieval of data. The database is accessed via the following link: <http://41.59.85.2:8585/pfm/>

In the future access technologies of Mobile Applications and APIs can be integrated as added features to the system.

FCG.