International Journal of Science and Research (IJSR)
ISSN (Online): 2319-7064
Impact Factor (2012): 3.358

Community Forest Associations and Community-Based Organizations: Redesigning their Roles in Forest Management and Conservation in Kenya

Agevi[1] H, Wabusya[2] M, Tsingalia[2], HM

[1]Department of Biological Sciences, Masinde Muliro University of Science and Technology, Box 190 - 50100, Kakamega

[2]Department of Biological Sciences, Moi University P.O. Box 3900 Eldoret

Abstract: ***One of the key features of Kenya's Forest Act (2005) is Participatory Forest Management (PFM) where the management and conservation of forest resources must involve the communities around the forest resource. Participatory Forest management requires that local communities be engaged in the management and conservation activities through Community Forest Associations (CFAs). We carried out an assessment of the roles of CFAs and their objectives within the Kakamega forest landscape using a structured questionnaire. Our findings clearly show that 90 per cent of the CFAs and CBOs in the Kakamega Forest landscape are engaged in activities that are aimed at creating employment, poverty reduction, and improvements of livelihoods of the communities around the forest through sustainable utilization, conservation and management of Kakamega forest resources. Major activities of the Community-based organizations under the umbrella CFAS include public awareness, tree planting, bee keeping, and ecotourism among others. Given the level of engagement of the local communities in forest management and conservation activities, there has been a significant improvement in forest cover. The study concludes that more funding is needed for capacity training for CFAs and CBOs to enhance and fortify their forest management and conservation skills and activities whose results are clearly evident. Strengthening of CFAs and CBOs is a sure way of conserving of our water towers and increasing forest cover to the recommended 10per cent as stipulated in the new constitution and to help Mitigate against the effects of climate change. The study recommends strengthening and continued monitoring of the CFAs and CBOs to ensure compliance with their objectives.***

Keywords: Participatory Forest Management, Community Forest Association, Community-Based Organizations

1. Introduction

Participatory Forest Management (PFM) is a concept that has been widely used in most developing countries to manage Forest Resources (Wily and Mbaya 2001; Agrawal et al., 2008; Koech et al., 2009; Mbuvi et al., 2009). This refers to the processes and mechanisms which enable people with a direct stake in Forest resources to be part of decision-making in all aspects of forest management, including policy formulation processes (GOK, 2005; 2007;). Participatory Forest Management (PFM) is a form of decentralization in the management of natural resources (Ongugo et al., 2008).Decentalisation refers to any act by which a central government cedes rights of decision making over natural resources to actors and institutions of lower levels in a politico-administrative and territorial hierarchy (Mogoi et al., 2012; Larson, 2005). For the case of Forest resources, the community through Community Forest Associations (CFAs) has a stake in the way management of Forests, a function that was solely in the hands of the Forest Department. (Mbuvi et al., 2009). It involves forging a partnership between the local adjacent community and the central local governments for sustainable management of Forests (Ngece et al., 2007).For instance, MUILESHI- a CFA around Kakamega Forest greatly contribute to the conservation and management of Kakamega Forest since they signed a 10-year management plan with the Kenya Forest Service (KFS) in 2011.

There is increasing evidence to suggest that for sustainable management of forests, Forest Adjacent Communities (FAC) must be fully involved in both decision making processes and concrete actions concerning the land they inhabit and use (IUCN, 1992; UNCED, 1992; WCED, 1987). Community participation/involvement is now globally recognised as an effective strategy in the management of forest resources (IUCN, 1992; WRI, 1996). However, in developing countries and particularly Africa, forest management policies have in the past, largely failed to recognise the important role that Forest Adjacent Communities (FAC) can play in the management of forest resources. In Kenya, efforts to incorporate local communities in forest resource management policies have not adequately recognised the variable nature of the forest adjacent communities.

The rationale for promoting community participation in natural resource management is based on the assumption that effective management is more likely when local resource users have shared or exclusive rights to make decisions and benefit from resource use. An important feature of participation can be seen as its potential to enhance the power of resource users to influence things, (Nelson and Wright, 1995), herein viewed as the policy formulation process.

In Kenya, the idea of Participatory Forest Management (PFM) was as a result of the government's recognition of the critical role that can be played by the local adjacent communities in ensuring that tree cover in the country increases to the recommended 10% (MENR, 2007) and to reduce forest destruction and degradation (DSRS and KFWG, 2006) This was actualized with passing of the Forest Act 2005 and Forest policy 2007 (GOK, 2005; 2007). According to Ongugo et al. (2007) and Ongugo et al. (2008),

Forest Act 2005 applies principles to public, private and local authority forests which have been tremendous achievement for the local communities.

1.1 Forest Act 2005 and formation of Community Forest Associations (CFAs)

Kenya's Forests Act (2005) encourages local communities to participate in the management of forest resources adjacent to them (GOK, 2005; 2007). As a result of new policy and law, new institutions are emerging with the object of implementing the process of local communities involvement in the management of forest resources. These institutions are being established with the aim of co-managing forest resources with central and local government institutions such as the Kenya Forest Service (KFS) and the County governments (Ongugo et al., 2007). Under the Forest Act (2005), it is a legal requirement that communities form Community Forest Associations (CFAs), before entering into a forest management agreement with Kenya Forest Service (KFS) under the PFM process (Ludeki, et al., 2006). The formation of CFAs started in 1997, and currently there are over 40 forests where communities participate in forest management (Thenya, et al., 2007).

For a CFA to be operational, it must be vetted based on the following criteria before it can be allowed to operate: its objectives, composition of its management committee, election procedures, and the purpose for which its funds may be used. Despite all these requirements, CFAs just like any other institution may be mismanaged and eventually collapse. In addition, communities that form forest associations may not be homogeneous. They may also have varying socio-economic objectives for forming the associations. Lack of homogeneity may also affect their forest management objectives and this in effect may have an impact on the sustainability of the forest resources to which they are adjacent (Thurow, 1995). While most studies on Community Forest Associations have focused on challenges facing them, there is scanty information on their activities that improve livelihoods and reduce overdependence on forests and ultimately, the conservation efforts. This study carried out a critical analysis of the activities of the CFAs and how they are likely to improve livelihoods and the same time reduce forest overdependence on the Kakamega Forest, Kenya.

2. Materials and Methods

2.1 Study Area

The study was carried out around Kakamega Forest ecosystem which is located in Shinyalu division of former Kakamega district in Kakamega County as in figure 1, approximately 40 km North West of Lake Victoria. It lies between latitudes 00° 08'30.5''N (41 236 in UTM 36 N) and 00 ° 22' 12.5''N (15 984) and longitudes 34 o 46'08.0''E (696 777) and 34° 57'26.5'' (717 761) at an altitude between 1500 m and 1700 m above sea level.

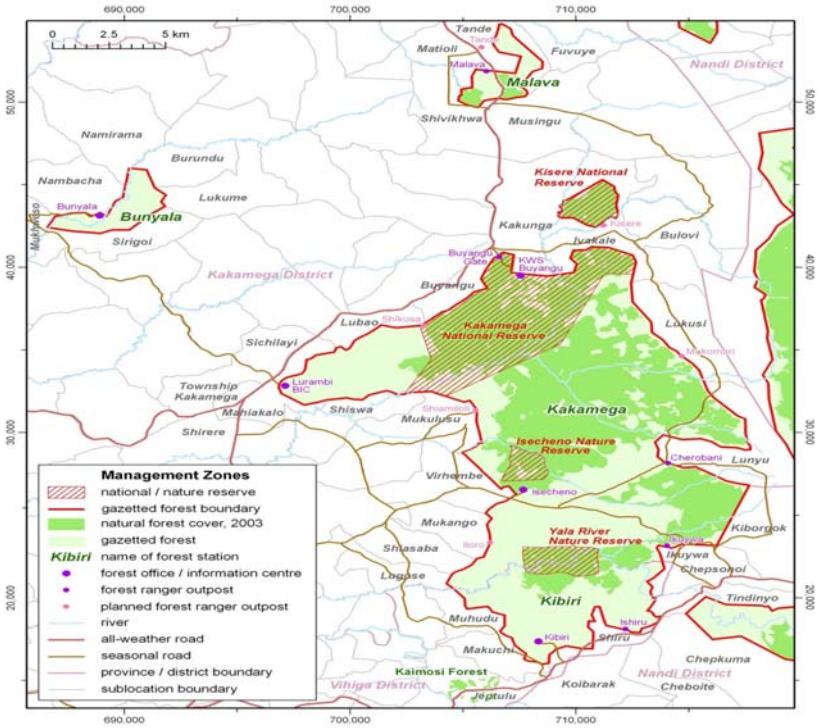

Figure 1: Geographic extent of the Kakamega Forest Ecosystem (Source: BIOTA Atlas, 2010)

Kakamega Forest stands as an island in a densely populated area where human population density was projected to be 241 persons km2 by 2004 (Tsingalia and Kassilly 2009; Kenya National Bureau of Statistics 2006). Studies by among others Guthiga & Mburu (2006) and Musyoki et al., (2013) have showed widespread dependence on the forest by the local people who obtain firewood, thatch grass, medicinal plants and also graze their cattle in the forest. Incidences of illegal logging, charcoal burning and hunting of small animals in the forest are also reported cases. Kakamega Forest has therefore faced intense human disturbance over the last decades. The forest itself is

managed by two different national departments. The northern parts of the forest are managed by the Kenya wildlife service (KWS) because the forest is home to endangered monkeys. The southern parts of the forest are managed by the Kenya forest service (KFS) which manage all of Kenya's forests. KFS uses the Participatory Forest Management (PFM) in managing the forest.

2.2 Study population and Sample Size

The study targeted communities living within 10km radius from the forest edge. According to KIFCON (1994), these are the communities that have total dependency on the forest resources either directly or indirectly and they have a say in the manner in which forest resources should be managed effectively. Target communities were those of Shinyalu, Malava, Kibiri and Kambiri. These are areas that surround the Kakamega Forest ecosystem. Random sampling was used to select farmers to participate in the research. At each of the study site, 63 individuals were chosen making a total of 252 as the sample size. Focused group discussions (FGD) were also carried out with the officials of different CBOs under the CFA since the CFA has decentralized its functions to different fragments of the Kakamega Forest.

2.3 Data collection methods

A combination of qualitative and quantitative research methods were used. These were implemented in 3 sections, which included review of existing literature, a survey (quantitative) and qualitative research that included focused group discussions and discussions with key informants. Semi structured questionnaires were issued to the selected farmers, KWS and KFS officials.

2.4 Data Analysis

The quantitative data were cleaned, sorted, summarized, and stored using MS Excel. The data was presented in forms of charts and tables where necessary. Chi-square test statistics were computed for quantitative data using SPSS 20 to assess association between categorical variables.

3. Results

3.1 Community Forest Associations (CFAs) around Kakamega Forest

It was evident that the Kakamega Forest Ecosystem has operational CFAs which include Kibiri CFA, Bunyala CFA and Muileshi CFA. However, Muileshi CFA is registered in the office of the attorney general by the name Muileshi Community Forest Association. The CFA has 6 CBOs registered under it that are involved in various activities that help improve community livelihood and at the same time help reduce overdependence on the forest. Names of the CBOS registered under the Muileshi CFA are as in table 1. The CFA has 10 year (2012-2022) Management plan that was signed in 2012 by the KFS director and chairman of Muileshi CFA that gives it the right to co-manage the forest with Kenya Forest Service (KFS). Four of the CBOs are localized within sub-locations surrounding the forest while two of them (KEEP and KAKOFA) are distributed all over the forest fragments. The CBO operate within the villages and that is where they have various projects. The BUSH and SHAMU CBOs border the KWS and the KFS parts of the forest and the MUSHA and IKUCHI CBOs border only the KFS parts of the forest. It was evident that 89% of the people interviewed have heard of the CBOs and CFAs that are operational in their areas and they are member of atleast one CFA.

Among some of the activities Muileshi CFA is involved in according to the chairman include: Eco-camp project, on-farm tree planting in conjuction with KFS, cooperative society, Carbon project, Pelis project(Rehabilitation), Bee keeping project, Tree nursery project, Butterfly Farming project, Community awareness, Environmental Education in schools around Kakamega rainforest, Eco-Tourism (Tour guiding, Bandas, camping), Energy saving devices (Jikos, basket food warmer, stoves, Solar, biogas, Briquettes'), Fish Farming, Medicinal plants (*Ocimmum klimandscuricum* project, Mondia project).

Table 1: CBOS registered under Muileshi Community Forest Association (CFA)

CBO	Villages	Sub-locations	Direction
MUSHA	Musembe, Shamiloli	Mukulusu, Mukango	Southwest
SHAMU	Shanderema, Mukomari	Lukusi, Ivakale	Northeast
IKUCHI	Ikuywa, Chirobani	Ikuywa, Lunyu	Southeast
KAKOFA	All forest fragments	All forest fragments	Active all round
BUSH	Bukhungu, Shihingu	Buyanga, Lubao	Northwest
KEEP	All forest fragments	All forest fragments	Active all round

Kibiri Forest has a CFA but it has not signed management plan as it is in the process of being prepared. The same to Bunyala CFA. This was according to the KFS Kakamega county director.

3.2 Membership to the CFAs and CBOs around the forest

Membership to the CFAs and CBOs that are part of the CFAs is shown as per figure 2. According to the membership to the CFAs and CBOs, KEEP is the CBO that is popularly known by most members (28.17%) while IKUCHI CBO has the least membership into it. In terms of CFAs combined, Muileshi is well represented (76.98%) in all the forest fragments that make up the Kakamega Forest Ecosystem. This is followed by Bunyala (12.3%) and lastly Kibiri (10.71%).

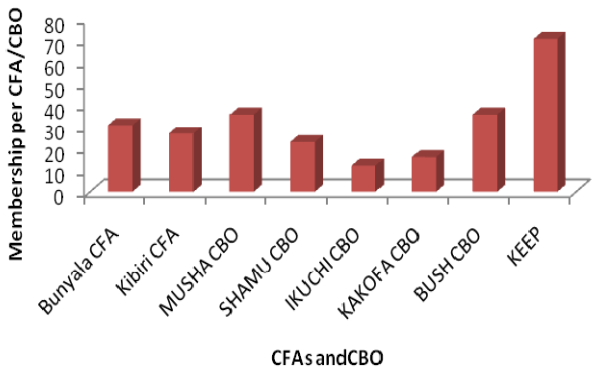

Figure 2: Membership into the CFA and CBOs around the forest

Men formed largest number (52.52%) in terms of membership as compared to women (47.48%) as in table 2.Most women join the CFAs and CBOs because of the benefits they get like energy saving jikos, provision of poultry to begin poultry farming and payment for some of the labour they provide. Men who had the highest membership felt it wise to join as there are many benefits that CFAs offer to them. Most cited as benefits they obtain when there is a project being conducted around the forest and is fully funded.

Table 2: Membership into CFA and CBO

CFA/CBO	*Number*	*Male*		*Female*	
MUSHA	36	21		15	
SHAMU	23	16		07	
IKUCHI	12	5		07	
KAKOFA	16	10		06	
BUSH	36	19		17	
KEEP	71	39		32	
Bunyala CFA	31	17		14	
Kibiri CFA	31	23		08	
Totals	**252**	**150**	**52.52%**	**102**	**47.48%**

3.3 Membership of the CFAs by age

Majority of men (78%) of membership into the CFAs are within the age bracket of 31-40 while females (54%) who are members are in the age bracket of over 40 years as in figure 3. From the interviews, it was found that most youth below age of 31 years could have left the villages to urban areas to look for other alternatives of livelihoods. Other people within this age bracket are least interested in being involved in forest management activities. Women over 40years are active in terms of membership into these CFAs and CBOs as they mostly access things from the forest and thought it wise joining because they are likely to benefit while they inside those forest associations.

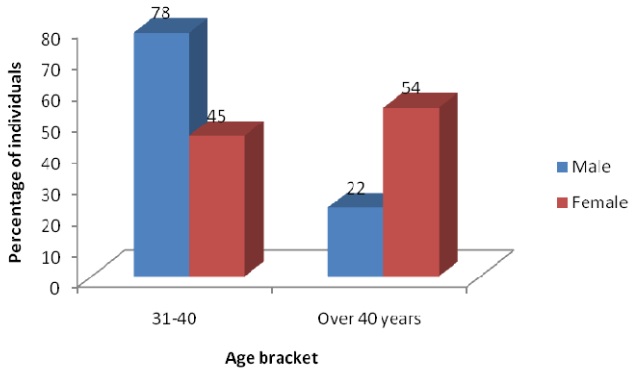

Figure 3: Membership into the CFAs according to age classes.

The relationship between CFA membership and gender had some significance hence gender is an important determinant in household decision to join CFA (x^2=3.71, p=0.05). More so, gender had a significant influence on participation of community members in forest conservation irrespective of CFA membership (x^2=4.173, p=0.04). The reasons behind this varied; some had to spend more time either working some casual jobs or involvement in other activities that would generate income. Many women took care of the homes and food production was solely their responsibility. Most activities performed by CFAs like tree planting cannot be done by women due to the culture of the people living around the forest.

3.4 Education level of the respondents

Members interviewed and who were members of the CFAs and CBOs around the forest had substabtive level of education. 46% had primary level of education while 35% had atleast reached secondary level of education as in figure 4. Some members of the CFA still were uneducated in the region.

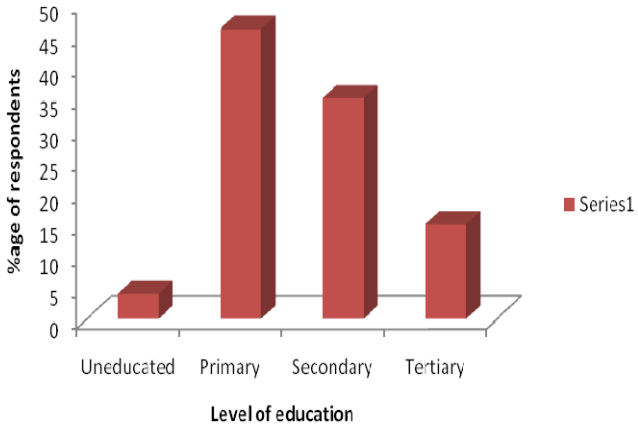

Figure 4: Level of education of the CFA members

3.5 Reason for joining CFAs/CBOs

Reasons as to why local communities joined the CFAs and CBOs gratly varied as shown in table 3. Most women (77%) believed joining CFAs and CBOs they will be able to access most of the forest products.None of the women suggested reasons for joining the forest is to rehabilitate degraded forest areas since they are not allowed to plant trees in their

culture.Men (19%) joined in order to be included in benefits resulting from PFM like energy saving jikos.Men are mostly involved in the rehabilitation and especially of the degraded areas of the forest and are willing to do so sustainably so that the future generations will enjoy the benefits of conserving the forest.

Table 3: Reasons for joining the Community Forest Associations (CFAs)

Reasons for joining associations	*Men*	*% of men*	*women*	*% of women*
To access forest products	34	26	50	77
To be included in the benefits resulting from PFM	27	19		
To gain more knowledge/skills	20	12	20	9
Pressure from friends and family	14	9		
To be included in the management of the forest	11		13	6
To rehabilitate degraded forest areas	32	2.9	18	8
To protect the forest for future generations	20	7.1		
Others	7	4		
TOTAL	**152**	**100**	**68**	**100**

3.6 Productivity of the CFAS and CBOs

The productivity and effectiveness of these CFAs and CBOs towards effective management of forests depends on a number of salient issues. Among the people interviewed, it was evident that 56% attends meetings called by the CFA and CBO officials as in table 4. Only 63% admitted that they hold elections as per the constitutions governing the CFAs and CBOs. Among the leaders elected to hold various positions in the associations, 78% of the leaders are male while only 22% are female.

Table 4: Productivity of the CFAs and CBOs

Issue	**%age**	
Attendance of meetings	56	
Holding of elections	63	
Leadership roles by gender	**Males**	**Females**
	78	22

3.7 Perceptions of CFAs by the Forest Adjacent communities

Perceptions of the FACs about CFAs. Majority (upto 77%) of those interviewed were in agreement that the level of participation by local communities was adequate and this was corroborated by 89% who either agreed or strongly agreed that the CFAs were representative of the FACs, Table 5. Subsequently at least 56% agreed or strongly agreed that the CFAs will lead to improved socio-economic status of the FACs. However upto 22%, 11% and 11% were either undecided, disagreed or strongly disagreed respectively with the statement. Similarly 44% and 33% respectively agreed or strongly agreed that there has been reduced poaching due to the CFAs. On the contrary 23% disagreed with the statement. The 5 km distance from the forest boundary as the limit to FACs had 56% of the respondents disagreeing that it was adequate. The results show that there is some relative awareness about the presence of CFAs as well as their roles.

3.8 Challenges facing CFAS and CBOs

During the focussed group discussions and interviews with the officials of these CFAs, It was evident that they face a lot of challenges among them include: Lack of adequate capacity by the Community Forest Associations in controlling the illegal activities in Kakamega Forest. Moreover the Community Scouts require incentives e.g. allowances, insurance cover, Identification Documents and Uniform, Inadequate funds, transport facilities and equipment.

Table 5: Perceptions of CFAs by Forest Adjacent Communities (FACs)

	The level of participation in management by local communities is adequate	*The CFAs are representative of all forest adjacent communities (FACs)*	*The CFAS will lead to improved socio-economic status of FACs*	*There have been reduced forest poaching due to the CFAs*	*The 5Km distance from the forest boundary is adequate to be referred to as FACs*	*Average*
Strongly Disagree (%) -SD	12	0	11	0	0	4
Disagree (%) -D						22
Undecided (%) - UD	0	0		0		7
Agree (%)- A	33	67	44	44	22	42
Strongly Agree (%)- SA	44	22	12	33	11	**24**
Total	**100**	**100**	**100**	**100**	**100**	**100**

Ban on tree harvesting has greatly reduced revenue collection, Inadequate staffing especially of Rangers, subsistence allowance and tools of trade, inadequate offices, residential houses (and their maintenance) including equipping the offices with ICT facilities, furniture, Electric power and water connectivity,casuals' budget, which is the main source of labour, is low considering that forestry is labour intensive, Low staff morale as the reforms are not moving on fast enough.

3.9 Perceptions on Management and Laws of KWS and KFS as regards natural tropical forests

The interviews also sort to establish the perceptions of the people on the management and laws of KWS and KFS (table 6). 33% disagreed that the Management objectives of KWS and KFS were adequate, with another 11% strongly disagreeing as regards KFS. 34% and 22% however agreed that the management objectives of KWS and KFS were adequate with another 12% strongly agreeing about KFS. 78% and 22% of the respondents either were undecided or

disagreed that many people were aware about the new Forest regulations and laws. 0% either agreed/strongly agreed about the same. 56% and 44% disagreed that there was adequate enforcement of Forest Act and KWS Act while 63% of the respondents disagreed that the compliance with the laws was adequate. The results indicate a lack of awareness of the relevant acts that govern the management of the forest hence low compliance. There needs to be a campaign around the FACs to create awareness of the relevant regulatory frameworks entailing the role of the government vis-a-vis the communities. This is even more important as the governance systems are aligned to county government to avoid NRM conflicts.

Table 6: Perceptions on Management and Laws of KWS and KFS as regards natural tropical forests

	Management objectives are adequate from KWS	Management objectives are adequate from KFS	Many people are aware of the new Forest regulations/ laws	Enforcement of the Forest Act is Adequate	Enforcement of the KWS Act is Adequate	The compliance with the laws is adequate	Average
Strongly Disagree (%) -SD	0	11	0	0	12	0	4
Disagree (%) -D	33	33	22	56	44	63	41
Undecided (%) – (UD)	33	22	78	22	33	25	36
Agree (%)- A	34	22	0	22	11	12	17
Strongly Agree (%)- SA	0	12	0	0	0	0	2
Total	**100**	**100**	**100**	**100**	**100**	**100**	100

4. Discussion

It was evident that adherence to the regulations governing Forest Act, 2005 are being followed with the CFAs formed around the Kakamega Forest ecosystem (GOK, 2005). The CFA have a management plan with KFS which gives them a stake in the way the forest is managed and can share in the revenue resulting from the management of the forest. Membership into the CFAs based on gender appears to be skewed most towards men. Most men have joined the associations due to the massive benefits they are likely to benefit from the forest and related projects. Coulibaly-Lingani et al., (2011) asserts that household chores and other engagements could be a contributing factor that prevents women from joining these associations. However, the few women that join the associations still play a crucial role in the way forest resources are managed. Kabutha and Humbly, (1996) argue that they play a crucial role as they hold the power to sustainable production of the country's land resources. Forest Associations are one way of decentralising the management of forest resources and according to Ongugo et al., (2007), this is likely to contribute to sustainable utilisation of forests in Kenya and the rest of the world as forest adjacent communities (FAC) will benefit from the products forests provide. Their involvement in management objectives affecting the forest is likely to improve the forest cover which according to (Fashing et al., 2004) has been rapidly shrinking due to the human disturbance.

The education level of the members indicates that they have basic education which if utilised will help members greatly in the conservation of the forest. Some of the members have heard of the laws governing forest resources but the rest are not aware of the same. The information they have on laws governing natural resources was given to officials by the Centre for Kakamega Tropical Forest Studies during training on advocacy and capacity building. The most active CBO is KEEP which has well structured office and activities around the forest. The CBO has plans which revolve around education empowerment and environmental awareness to schools around the forest. However this need to further be enhanced which will see membership into the CFAs improve and the youth are incorporated in the decisions affecting forest resources.

Capacity building of the CFA officials and members has been done only to a smaller extent. This has majorly been a major hindrance to the CFAs in their effective management of forest resources. The major challenge has been financing aspect since the CFAs lack the capacity to run without getting funding from the government or other stakeholders responsible for the proper management of the forest. Most members agreed that 5km set aside for the forest adjacent communities was inadequate. This point to an indication of the significance these CFAs are likely to play in the proper management of the forest resources. However, there are indications that there are varied expectations of the communities as regards CFAs.

5. Conclusions

Effective management of forest resources and increased forest cover in Kakamega Forest in Kenya and other forests in the rest of the world solely depends on the proper planing and involvement of all stakehlders in the managment. Forest adjacent commmunities will greatly play an important role as they are the ones who are to have a direct impact of the benefits that will result from the forest resources. Capacity building and funding from the government as well as support from other stakeholders like KWS ans KFS will result to earlier awareness among the youth who will later be incorperated in the CFAs that will ensure continuity and sustainability.

6. Recommendations

KEEP should scale up education awareness in primary and secondary schools around the forest. There should be more seminars, workshops and trainings on the laws that govern forest resources so that people will be able to know the importance of forest resources. There should also be a collaboration between the CFAs and CBOs and institutions like KARI and MMUST that will enhance their power and zeal in managing forest resources.

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