Community Perceptions and Willingness to Accept and Execute REDD+ Initiative: The Case of Pugu and Kazimzumbwi Forest Reserves, Tanzania

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Abstract

The study examined community perceptions and willingness to accept and execute Reduced Emissions from Deforestation and Forest Degradation (REDD+) initiative at Pugu and Kazimzumbwi Forest Reserves (PKFRs) in the course of addressing the overriding problem of climate change. The survey was conducted in two villages' i.e. Kisarawe and Kazimzumbwi adjacent to PKFRs. A total of 110 respondents were randomly selected with a sampling intensity of 10%. Key informants interview, focus group discussion (FGD) and in-depth interviews using a questionnaire administered to selected community members were the major techniques used in data collection. Regarding community perceptions and acceptability of the REDD+ initiative, the study revealed low level of acceptance (16.2%), which was highly attributed to low level of awareness on the initiative. Poor governance and poor community involvement in REDD+ activities were highly ranked as REDD+ perceived problems. Lack of livelihood options was observed to be constraining factor behind community support to the initiative. The study concludes that, for the success and sustainability of REDD+ initiative at PKFRs, robust livelihood options like training the community on how to make charcoal out of dry leaves are needed to be crafted at the shoes of the community in line with educating the community on the rationality of the initiative in their locality.

Key words: Community; Livelihood options; Perceptions; REDD+ Sustainability

INTRODUCTION

Climate change is a global issue posing challenges to the very survival of mankind and sustainable development. The adverse impacts of climate change are now evident almost everywhere. Climate change poses a serious risk to poverty reduction and threatens to undo decades of development efforts. It is widely accepted that, the impacts of climate change are, and will continue to be more pronounced in poor countries. These countries have contributed the least to the problem and are the ones least able to cope with the impact (URT, 2007).

However, there have been efforts to address the problem of climate change at both global and national level through adaptation and mitigation measures. At the global scale the main contribution towards addressing climate change has been through coordinating national and regional efforts and providing a platform for dialogue on pertinent issues before appropriate decision is to be made. Coordination and monitoring of all climate change mitigation and adaptation measures globally are realized under the United Nations Framework Convention on Climate Change (UNFCCC). On climate change mitigation actions, UNFCCC has been coordinating the formulation of Nationally Appropriate Mitigation Actions (NAMAs) among the parties. NAMAs are voluntary emission reduction measures undertaken by developing countries that are reported by national governments to the UNFCCC. They are expected to be the main vehicle for mitigation action in developing countries under a

future climate agreement, and can be policies, programs or projects implemented at national, regional, or local levels (Dalkmann, & Binsted, 2010). It is very fortunate that, Tanzania is one of the selected Pilot countries for climate change mitigation measures under the umbrella of REDD+ Pilot countries. It has about nine REDD+ Pilot Projects all over the country the results of which will be up-scaled to the entire country when the countries embark on implementing REDD+ in the post 2012 climate regime.

Perceptions of the local community towards a given natural resource management programme is very essential and hence need not to be underestimated. Understanding of community perceptions is of paramount importance in natural resources management (Logomo, 2009). Several studies stress the importance of using local people's perceptions as an input for designing and applying appropriate management plans for sustainable development, particularly in protected areas (Kleftoyanni et al, 2010). However, studies that compare local communities' perceptions of forest management regimes and further identify factors that explain these perceptions are not widespread. Current conservation debates place high emphasis on the need to integrate the views and needs of local communities in conservation processes. Understanding local Community perceptions of forest management and the factors that influence these perceptions is important for designing management policies that are sensitive to their needs. However, more often than not local communities' perceptions do not receive as much attention as they deserve (Guthiga, 2008). This implies that, low attention given to local communities' perception towards a given forest management approach has been a telling factor for their unsustainability. The rationale of using local people's perception as a basic input for designing appropriate management plans for sustainable development is anchored upon the fact that, local people are the ones who interact with natural environment on daily basis as their mega source of livelihood, thus other things being equal, the acceptability and hence success of any natural resource management intervention will highly depend on the perceptions of the local community towards the same, since such an intervention implies tempering with their livelihoods. In order to do away with possible side effects and/leakages accompanied with intrusion of a new form of forest management, appropriate alternative livelihood means ought to be established based on the views and perceptions of the local community in question. It is therefore the right time for the national REDD+ strategy to devote a due attention on local community's perceptions towards the initiative so that appropriate local communities' perceptions and/attitudes are taken on board in developing REDD+ policy so as to ensure its efficacy and sustainability. This paper therefore presents the case of community's perceptions and willingness to accept and

execute REDD+ initiative using Pugu and Kazimzumbwi Forest Reserves (REDD+ Pilot Project) as the case. This has been important as the REDD+ initiatves have just started to be implemented in the area.

1. METHODOLOGY

1.1 The Study Area

This paper presents findings obtained from the study conducted in two villages namely Kisarawe and Kazimzumbwi found in Kisarawe district (Figure 1). Kisarawe is among six administrative districts found in Coast region in Tanzania. It is situated between latitude $6^0 50^0$ and 35^{0s} and between longitude $38^0 15^0E$ and $39^0 30^0E$. It borders Mkuranga district in the East, Morogoro district in the West, Ilala Municipal in the Northeast, Kibaha district to the North and Rufiji district to the South (Figure 1). The district covers an area of 3535 sq.km and 100M above sea level. The District has temperatures, which vary between 28^0C and 30^0C. There are two main rain seasons; the short rains popularly known as Vuli, starts from October to December while the long ones, Masika, starts from March to early June. Average rainfall range from 1400mm to 1,600mm in the Eastern part of the district, which covers Sungwi division and the Western parts which covers Chole and Mzenga division receive an average rainfall of 1000mm.

1.2 Data Collection Methods

Key informants interviews, focus group discussions (FGDs) and in-depth interviews using a standard questionnaire administered to selected community members were the major techniques used in data collection complemented by documentary review from other studies.

Key informant interviews were conducted with a written checklist of open-ended questions that guided the researcher in dialoging with a range of stakeholders pertaining REDD+ Pilot project at PKFRs. The key informants involved a wide range of stakeholders, ranging from community leaders, district officials and officials from Non government organizations (NGO) responsible for implementing the project and for this case Wildlife Conservation Society of Tanzania (WCST) with its respective partners including Environmental Media Network of Tanzania (EMNET), Lawyers Environmental Association of Tanzania (LEAT) and the University of Dar es Salaam Business School (UDBS).

Under focus group discussion, two FGDs were held, one in each of the two study villages. Each FGD had 7 participants. The groups were composed of representatives of the community members, belonging to different socio-economic groups as identified by village leaders i.e. village leader, sub-village leader, a health worker, a teacher, a social worker and common villagers.
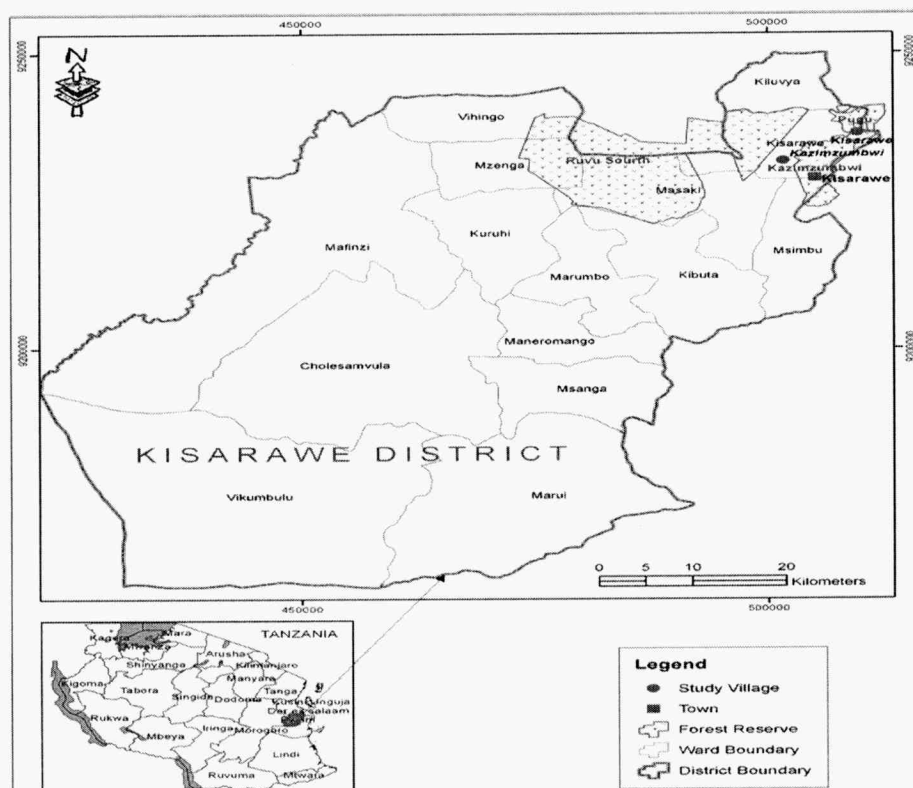
Figure 1
A map of Kisarawe District Showing the Study Villages in One of the REDD+ Pilot Project in Tanzania

Through FGD information on community perceptions and willingness to execute REDD+ initiative and on the challenges and opportunities in the course of introducing REDD+ to the community were discussed.

Varied information was also collected through in-depth interviews using semi-structured standard questionnaire administered to selected community representatives. Under this technique, a total of 110 community representatives were randomly selected with a sampling intensity of 10% from two purposively selected villages. The 10% sample size was considered adequate since it even surpasses by far the minimum recommended size for statistical analysis. A sample of at least 5% is adequate and recommended for researchers (Kajembe et al, 1996). Purposive selection of villages was intentionally done so as to meet community members leaving adjacent to PKFRs as they were considered to be potential informers for the study.

1.3 Data Analysis

Data analysis was based mainly on two categories, being qualitative data analysis and quantitative data analysis. The main method used for analyzing qualitative data was content analysis whereby the researcher served as the main tool of analysis. On the other hand the analysis of quantitative data for the study was dominated by Exploratory Data Analysis (EDA). This was realized by the use of Statistical Packages for Social Sciences (SPSS) and Ms Excel in analyzing data collected through household interview. Through SPSS and Ms excel summaries of the findings were displayed by the use of graphs, charts and tables.

2. RESULTS AND DISCUSSIONS

2.1 Respondent's Characteristics

Characteristics of respondents analyzed were in terms of gender, age, household size and the level of education. This was of meant for laying out a basis for studying issues pertaining community perception on REDD+ initiative at the study area.

2.1.1 Age of Respondents

In the course of finding out the age of respondents, an age group system was employed and (26.4%) of respondents were in the young age group of 18 – 30, (50.9%) were of the adult age group i.e. 31 – 55 and the remaining (22.7%) of respondents were under the category of the old age cohort of the population i.e. above 55 years of age (Figure 2). Study findings (Figure 2) revealed that 50.9% of the interviewees were of the adult age cohort of the population. Only 26.4% of respondents were of the age group 18 – 30.This implied that majority of the population interviewed were mature enough to understand the whole

concept of REDD+ initiative and make the necessary and/needed action if involved accordingly. This is further amplified by the fact that the same age cohort i.e. 33-55 years of age forms the decision making segment of the population and consisted of the largest proportion of community representatives in the study.
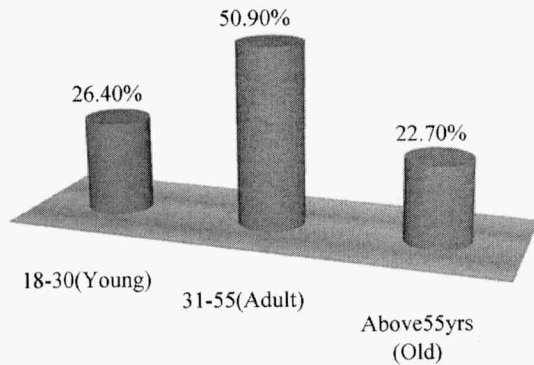

Figure 2
Respondent's Age Distribution in the Study Villages

2.1.2 Respondent's Sex Distribution

Of the 110 respondents who responded to the household questionnaire in the study villages at PKFRs, 70 (63.6%) were males and 40 (36.4%) were females (Figure 3). The analysis of gender in the study area was of paramount importance since it is clearly known that in a gender based labour division; males are highly involved in forest related activities as compared to females. On the other hand, as it is common in African countries that, males have more access to information compared to females, the results on respondent's gender distribution forms the basis for a fair judgment particularly on community awareness on REDD+ initiative.
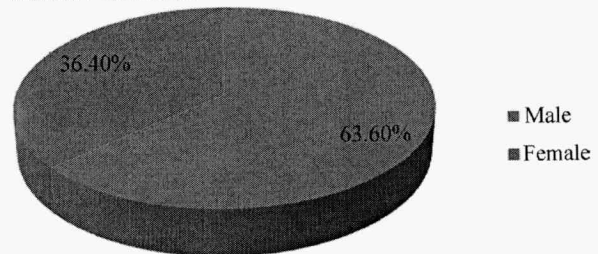

Figure 3

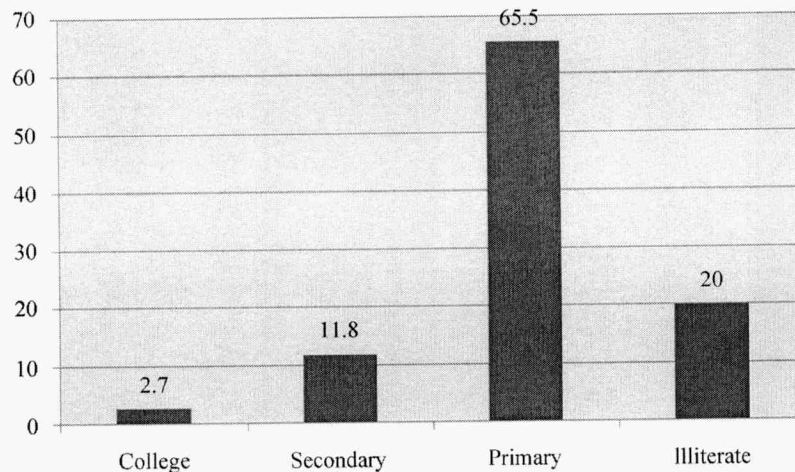**Respondent's Sex Distribution in the Study Village**

Figure 4
Respondent's Level of Education in the Study Area (%)

2.1.3 Respondent's Level of Education

Education level to community representatives was examined since it offers basic skills for an individual to master his/her environment and for this case be able to understand varied issues such as REDD+ and make decisions accordingly. As portrayed (Figure 4), the level of education to most respondents was low and for those who had an opportunity to formal education majority of them i.e. 65.5% attained merely basic primary education (standard 1-7). Very small proportion of community representatives attended secondary education by 11.8% and very few, about 3% had an opportunity to attend college education. None reported to have attended

university level education. These findings on respondent's education level do correlate with previous findings on the same forest reserves. Most of the household heads (61%) have attended school, at least to primary education level (HIMADA project, 2011). The fact that, the level of education to majority of respondents was low has a bearing on the knowledge on the importance of utilizing forest resources sustainably, since other things being equal (ceteris peribus) the higher the level of education the higher is the knowledge on the importance of sustainably using forest resources, which is in turn implied in the efficacy of REDD+ initiative.

2.2 Issues Regarding Community Perceptions on REDD+ Initiative

2.2.1 Community Participation in REDD+ Initiative

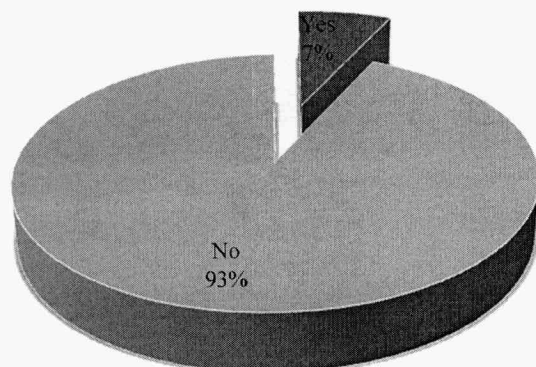Regarding community participation in REDD+ initiative, the study (Figure 5) revealed that, only 7% of the

interviewees have once participated in one of REDD+ related activities and the remaining proportion about 93% have never participated in any of the activities pertaining REDD+ initiative. These findings on community participation differ considerably with findings on the same from other REDD+ pilot projects throughout the country.
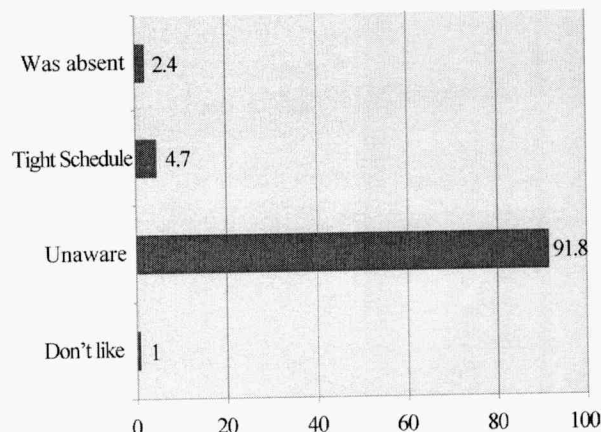
Figure 5
Respondent's Participation on REDD+ Initiative in the Study Area

Figure 6
Reasons for not Participating in REDD+ Initiative in the Study Area (%)

In general, 48.9% of the villagers consulted in all villages surveyed in most of the REDD pilot projects in Tanzania, indicated to have been involved in REDD+ pilot activities in one way or the other (Shemdoe et al, 2011). Statistics (Figure 6) indicate that very few people in the community are being involved in REDD+ activities taking place in the study area as compared to the situation in other pilot projects in the country.

2.2.2 Reasons for not Participating in REDD+ Related Activities

Assessment of reasons for not participating in REDD+ activities was considered essential in order to determine whether the reason behind was due to lack of awareness on the same. The findings (Figure 7) revealed that

majority of respondents 91.8% indicated that they have not participated in activities of the REDD+ initiative as they were not aware of the activities. Others 4.7% indicated that they have a tight schedule for their activities and the remaining 2.4%, claimed that they failed to participate in activities of the initiative simply because they were not present when those activities were being conducted. Reasons given by community representatives for not participating in activities related to REDD+ initiative, suggests further that, low level of awareness was the main reason for poor community participation in REDD+ activities. Thus awareness on the community regarding REDD+ initiative ought to be given special consideration for the initiative to have the needed community backup and support accordingly.
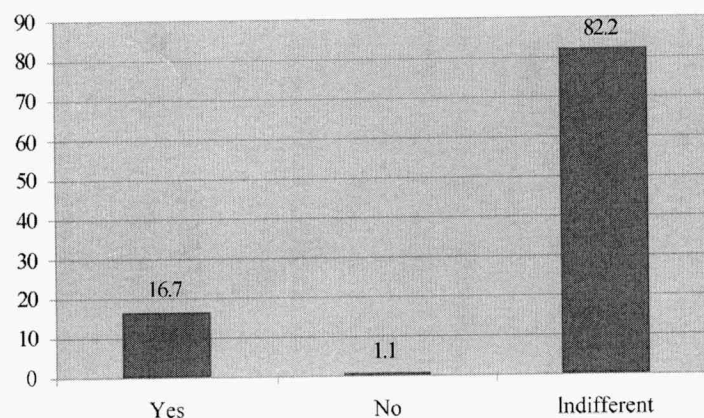
Figure 7
Acceptability of REDD+ Initiative in the Study Area (%)

2.2.3 Acceptability of REDD+ Initiative

Assessment of community acceptability on REDD+ initiative was brought into account, since it was aimed at assessing the readiness of the community to execute REDD+ initiative. As presented (Figure 8), 16.7% of community representatives were supportive to the initiative i.e. they were able and willing to participate in the execution of the project. Only 1.1% of respondents were not supportive to the initiative i.e. they were not willing to offer support for the execution of the initiative. Majority of respondents 82.2% could not show their stance on the issue. The fact that majority of respondents 82.2% were indifferent as whether they were supportive or not to the initiative is an amazing fact.

By regressing REDD+ acceptability on REDD+ awareness, we have:

$$\tilde{Y} = a + bX,$$

Whereby, $\tilde{Y}$ = is an estimate on REDD+ acceptability a = constant, b = slope/gradient, X = awareness on REDD+

The following model was obtained showing the relationship between REDD+ acceptability and awareness

a = -0.053, b = 1.503, R^2 = 0.64

and thus, $\tilde{Y} = -0.053 + 1.503X$

From the findings above, given R^2 = 0.64, it implies that, the relationship between REDD+ awareness and its acceptability is explained by 64% i.e a good fit model and thus awareness tells a lot on acceptability of REDD+ initiative. Thus, the high degree of indifference on REDD+ acceptability (Figure 6) was due to low level of awareness on REDD+ and hence it suffices to say that if awareness on REDD+ could be raised accordingly to the community, majority of the community members would be acceptable and supportive to the initiative as opposed to the current situation.
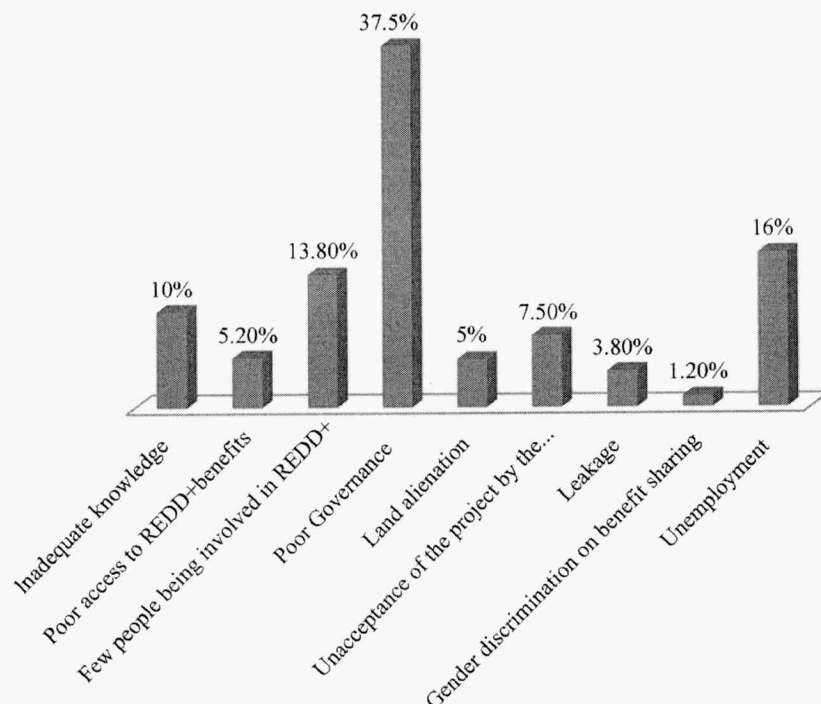

Figure 8
Rank on Perceived Problems Associated with REDD+ in the Study Area

2.2.4 Severity of Perceived REDD+ Related Problems

The problem that was ranked high by the community is poor governance which had the highest score 37.5%. This was followed by unemployment with 16% score and few community involvement in REDD+ with the score of 13.8%. Other problems were inadequate knowledge on REDD+ 10%, poor access to REDD+ benefits 5.2%, land alienation 5%, unacceptance of the project by the local community 7.5%, leakage 3.8% and gender discrimination on benefit sharing 1.2% (Figure 8). Basing on the given statistics (Figure 7) it suffices to conclude that poor governance on forest resources has been so severe in the

study area and hence calls for immediate and effective intervention if REDD+ is to be realized. Other issues that call for quick intervention as per the above statistics are unemployment, poor involvement of the community in REDD+ activities and inadequate knowledge on REDD+ initiative by the community.

2.3 Challenges and Opportunities in Supporting REDD+ Initiative

One of the challenge laid out by the community in the course of supporting REDD+ initiative was the issue of livelihood means. Community representatives raised their concern that, they are in favour of the REDD+ initiative

but they find themselves in the crossroad when the quest of offering support to the initiative comes in. This is triggerd by the fact that, forest resources particularly PKFRs form the barkbone of community livelihoods in the study area. They thus, quotiened that, for community to offer support needed by the initiative, the issue of livelihood options is to be resolved timely and in an effective manner. The very challenge was cited as among the major challenges to overcome in developing a REDD+ strategy that contributes to the goals of sustainable management of forest resources and poverty reduction. As discussed by Yanda (2009), challenges to overcome in developing a REDD+ strategy that contributes to the goals of sustainable management of forest resources and poverty reduction include, addressing drivers of deforestation while enhancing livelihoods of the rural communities that depend on natural resources for their livelihoods. The other challenge the community is facing in supporting REDD+ initiative is the issue of awareness. The fact that, very few people are aware of REDD+ initiative and that very few are aware of the anticipated benefits and/ costs embedded within the same, poses the challenge when the quest of supporting the initiative comes in. It was hence undescored that, community knowledge on REDD+ initiative should be raised accordingly so that the initiative will have the needed community support.

The question of opportunities within the community in support of REDD+ initiative is a bit intricate, though they appear to be vested within challenges for the community to support the same. Considering the challenge of livelihood options, the community perceives an opportunity embedded within this challenge. They perceive availability of more livelihood options to the community so as to undo the current overdependence on forest resources. Thus addressing the challenge of overdependence on forest resources will be of two edged effect. Firstly, it will reduce the rate of degradation and deforestation while serving as an incentive for the community to support REDD+ initiative.

CONCLUSIONS AND RECOMMENDATIONS

As far as community perceptions and readiness to execute the initiative is concerned, the study observed that very few community representatives were supportive to the initiative and this was later discovered to be highly attributed to low level of awareness on the subject matter. It is therefore recommended that, for the community to have positive perceptions and hence readiness to support the initiative, the quest of community awareness has to be given a due emphasis without which the prospects of the REDD+ initiative will be at stake. On challenges for the community to support the initiative, the study observed that, the main constraining factor behind community support to REDD+ initiative is the quest of livelihoods means. Due to heavy community dependence on forest resources (reserve), it becomes a bit uneasy for the community to support the initiative which has to do with stopping accessing resources from the reserve while it forms the basis for their livelihoods. Thus, feasible livelihood options ought to be devised at the shoes of the community if really the initiative is to be realized in a sustainable manner.

ACKNOWLEDGEMENTS

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