

ROLE OF TEACHERS IN INSTILLING FOREST AND NATURAL RESOURCES MANAGEMENT AMONG STUDENTS

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ABSTRACT

Malawi just as many other Africa countries is faced with the challenge of deforestation. Notwithstanding the endowments forests provide to people namely; income, wood for cooking and molding bricks, timber for construction and oxygen that every living organism depend on, trees continue to be cut without replacement. In Malawi, various conservation strategies have been put in place to avert the trend of deforestation namely: lobbying utility companies and communities to venture into reforestation. However, such efforts have hit a snag with challenges like need for funding to support communities who engage in such tree planting and subsequent theft from the communities. Nonetheless, no concrete documentation on the role of teachers in nurturing students in forest conservation and regeneration has been made in Malawian context. Subsequently, the study wanted to understand the role of teachers in instilling the attitude of forest management among students in schools. The study followed Exploratory Approach in studying the role of teachers in instilling forest and natural resources management among students in schools. Using *Convenience Sampling technique*, the study sampled 50 teachers. Questionnaire was used as data collection tool from teachers of the three schools: Assalam Boys Secondary school, Assalam Primary School and Changamire Primary, all located in Lakeshore district of Mangochi, Malawi. The study observed the need to have active student engagement if communities are to create a sustainable way of forest management hence averting deforestation.

KEYWORDS: Agro Forestry, Deforestation, Forest Management, Tree Plantations.

INTRODUCTION

Saharan Africa remains one of the countries that boast of forest resources. However, the overreliance on forest resource namely trees has led to reduction of forest area in the middle of the 20th Century in Sub-Saharan Africa (Rudel, 2013), a situation commonly referred to deforestation. However, the need for forest

management in countries like Malawi need not to be overemphasized, as it boasts of providing food, firewood, medicine, construction materials and income for most of rural communities (Meijer, Sileshi, Catacutan, & Nieuwenhuis, 2015).

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Above all, reports reveal that 28% of the total income of about 8000 households in 24 developing countries comes from forests resources (Meijer, Sileshi, Catacutan, & Nieuwenhuis, 2015). However, the rate and state of deforestation in Malawi is still appalling; studies reveal that between the year 1972 to 2009, total area cleared of forest cover totaled 12 760 km², a reduction of 36% (Bone, Parks, Hudson, Tsirinzeni, & Willcock, 2017). In Malawi, Dzalanyama Forest Reserve and Viphya plantations are among the highly encroached forest areas (Lilongwe Wildlife Trust, 2015) one of the motivating factors being need for wood. Reports reveal that due to availability of forest, people in developing countries traditionally rely on firewood and charcoal for fuel other than alternative sources of energy (French, 1986). Thus, the high population growth, tobacco growing, agricultural expansion, biomass energy and non-energy demands, brick burning, urbanization and inadequate budgetary support from government have worsened deforestation in Malawi (Mauambeta, Chitedze, & Mumba, 2010). Above all, poverty is cited as the main factor for deforestation (Meijer, Sileshi, Catacutan, & Nieuwenhuis, 2015) with a number of trees cut are bound for sale, a source of income for rural communities (Katumbi, Nyengere, & Mkandawire, 2017). As more trees are cut for charcoal and fuel wood, the rate of deforestation in places like Dzalanyama increases, the state of affairs seems irreversible (Katumbi, Nyengere, & Mkandawire, 2017). Thus, as people rely on forests, the peril remains that, demand for wood still exceedingly surpass supply (Lilongwe Wildlife Trust, 2015). The consequences for deforestation remain a threat to all, rich and poor. According to Wiyo, Fiwa and Mwase (2015), deforestation has been correlated with electricity problems with observable sedimentation and low water flow from rivers. Furthermore, the traditional knowledge on the existence and the clearance of forests in Malawi reveal that its destruction has led to relative increase in temperature and consequent drying of crops (Katumbi,

Nyengere, & Mkandawire, 2017), a situation popularly known as climate change. Hence, in country that heavily rely on Rainfed agriculture, nonexistence of vegetative cover would continue to greatly lead to heavy crop losses especially for low heat tolerant crops (Mwale, 2018). Similarly, deforestation has been reported to be associated with soil erosion which ultimately affect agricultural activities (Kerr, 2005). Nevertheless, it is not that the government is not doing anything. Malawi government embarked on fuel wood plantations, as early as 1970s in Blantyre (Mauambeta, Chitedze, & Mumba, 2010). However, while this has been the case, it has been observed that trees continue to be degenerated due to illegal exploitation and uncontrolled bushfires (Mauambeta, Chitedze, & Mumba, 2010). As regards forests management, numerous studies focused at involvement of local communities, local power utilities and NGOs by lobbying funds for forest regeneration (Wiyo, Fiwa, & Mwase, 2015). However, little is known on how teachers involve themselves in fostering forest management among students the future of today and tomorrow. This creates a gap as students are seen as long time agents in forests and natural resource management. Reports by Bekele (2015) reveal success stories with regards to involving students in forest management in schools and homes. Thus, as children who are ready to take up leadership roles, teachers would be paramount in culturing a spirit of tree planting, regeneration for the community. Therefore, the study wanted to understand how best teachers involve students in forest management in schools for sustainability.

OBJECTIVES OF THE STUDY

1. To find out state of deforestation in surrounding community
2. Role of teacher in forest management of the community
3. To investigate how teachers involve students as agents of forest management.

METHODOLOGY

The study followed Exploratory Approach in studying the role of teachers in instilling forest and natural resources management among students in schools. Using *Convenience Sampling technique* and later *Simple Random Sampling technique*, the study sampled 50 teachers for the study using questionnaire as data collection tool. Participants were sampled

from three schools namely: Assalam Boys Secondary school, Assalam Primary School and Changamire Primary in Mangochi, a district which is located in *South East Education* of Malawi. However, only 46 participants managed to respond to the questionnaires under study. Nevertheless, the study site was ideal for study due to proximity and also seen to experience absence of forests in the nearby community.

RESULTS AND DISCUSSION

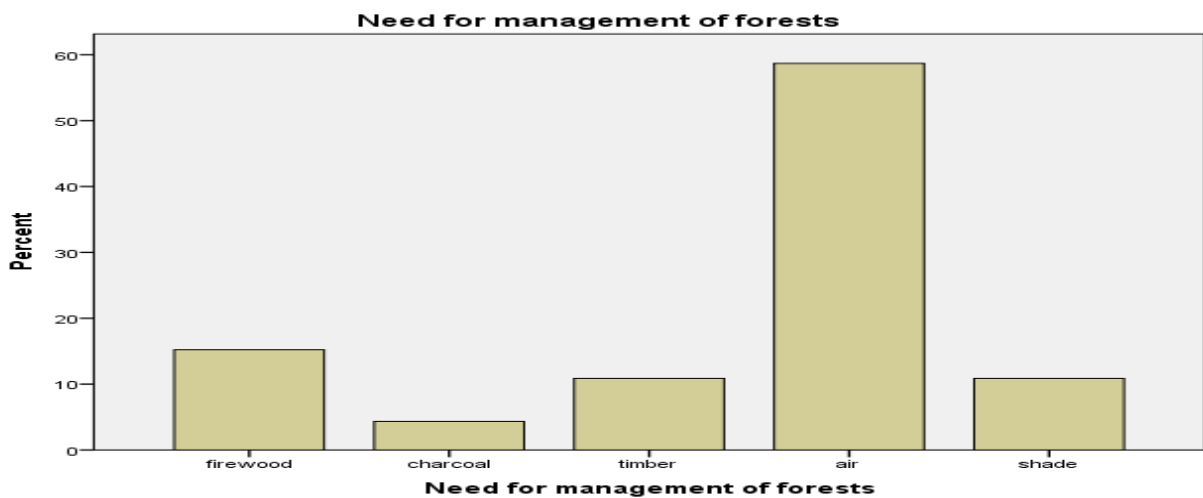
NAME OF SCHOOLS INVOLVED IN THE STUDY

Institution					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Assalam Boys Secondary School	19	41.3	41.3	41.3
	Assalam Primary School	12	26.1	26.1	67.4
	Changamire Primary School	15	32.6	32.6	100.0
	Total	46	100.0	100.0	

The results revealed that 19 participants came from Assalam Boys Secondary school, 12 came

from Assalam Primary School and 15 from Changamire primary school.

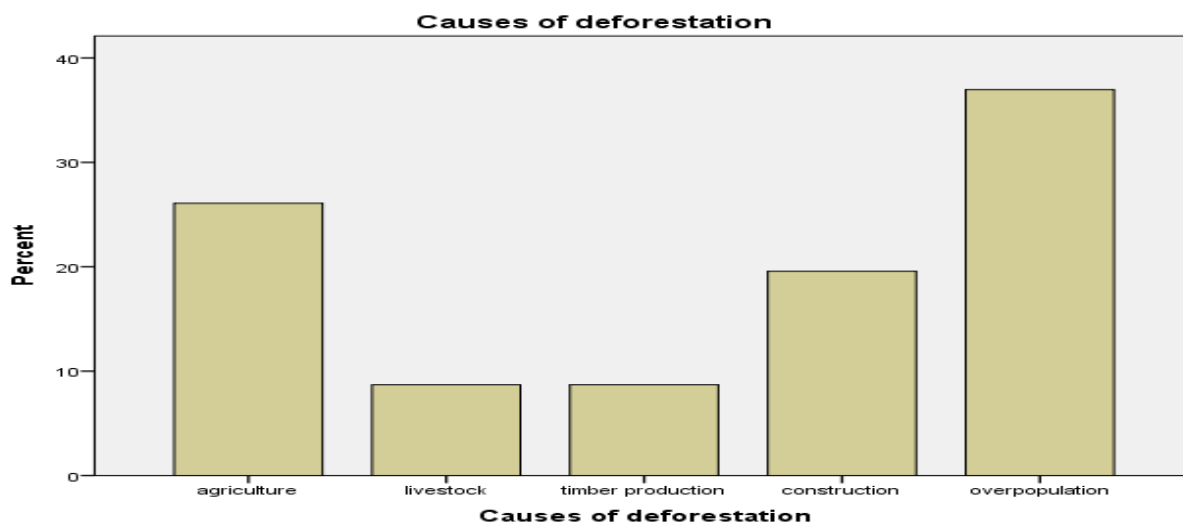
NEED FOR FOREST MANAGEMENT



The study sought to understand from participants the need for forest management. It transpired that forests needs to be managed as they provide fresh air with 27 participants, provide fire wood with 7 participants and the rest said because it helps in provision of charcoal, shade and timber with a total of 12 participants. Apparently, Meijer et al (2015)

acknowledge that, forests boasts of providing food, firewood, medicine, construction materials and income for most of the rural population in countries like Malawi. However, the study revealed that, the utmost importance of management of forests is the vital provision of fresh air in form of oxygen.

CAUSES OF DEFORESTATION IN SURROUNDING COMMUNITY



The study also sought to understand the reasons that lead to increased deforestation in the community. The results revealed overpopulation, agriculture and construction work with 17, 12 and 9 participants to contribute to deforestation in the area. In addition, it also emerged that livestock keeping and timber production had worsened the state of forest resources. These results concur with

Meijer et al (2015) who reported deforestation to be pronounced in areas of higher population. Furthermore, while poverty is seen as the motivating factors for deforestation in africa, Rudel (2013) further states that the agitation for land for agriculture has led to loss of forests in Latin america a condition similar to the results of the study.

ROLE OF TEACHERS IN COMBATING DEFORESTATION

Role of Teachers in Forests Management					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	plant trees in community	12	26.1	26.1	26.1
	plant trees in school	11	23.9	23.9	50.0
	sensitize people on forests	21	45.7	45.7	95.7
	others	2	4.3	4.3	100.0
	Total	46	100.0	100.0	

The study also wanted to find out the role of teachers in forest management in schools and community where they are situated. It came to light that, 21 participants said they sensitize people on the importance of managing forests, 12 cited they assist people in communities in planting trees whereas participants cited they

plant trees in their schools. Furthermore, teachers also said they use every other measure possible to help the communities in forest management. Thus, being leaders of students the results show that teachers set a good example to students on forest management.

ROLE OF TEACHERS IN INVOLVING STUDENTS IN FOREST MANAGEMENT

Involvement of Students in Management of Forests					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Teach on importance of forests	11	23.9	23.9	23.9
	Encourage environmental clubs	11	23.9	23.9	47.8
	Engage students in tree planting	14	30.4	30.4	78.3
	Sensitize them on forest management	10	21.7	21.7	100.0
	Total	46	100.0	100.0	

The study also revealed some of the ways teachers use to influence students as agents of change in forest management. The study revealed that they equally teach students on importance of forests, engage them in environmental clubs, tree planting and sensitize them on forest management. A study in England revealed that, where students are engaged in environmental related lessons and excursion, it brings consciousness in them on environmental issues and protection (Turtle, Convery, & Convery, 2015). Similarly, Bekele (2015) reveal that, school clubs were influential in tree planting and sensitisation on tree plantations in schools and communities in Ethiopia. Hence, this entail engaging students in clubs, planting trees and exposing them to lessons on forest management would go a long way in creating an environmental friendly society that foster forest management than destruction.

AVAILABILITY OF FOREST PLANTATIONS IN SCHOOLS

The study also sought to understand whether the three schools under study were involved in tree plantations or woodlots. It emerged that at both Assalam Boys Secondary School and Assalam Primary School, they have tree plantations. On the contrary, participants from Changamire revealed that, they do not have a tree plantation. Apparently, in places like Tanzania Forests plantations in schools have been seen to be vital; they lead to forest

regeneration, provision of environmental education and also provide fruits for students and teachers in school (WeForest, 2019). Thus, forest plantations would go a long way in provision of much needed resources in schools.

HOW STUDENTS ARE INVOLVED IN ENSURING THAT STUDENTS PLANT TREES IN THEIR HOMES.

The study also sought to understand what teachers' do to ensure that they replicate the forest conservation activities in their homes. The findings revealed that teachers encourage their students to plant trees in their homes. According to Bekele (2015) a project on tree planting in Ethiopian schools yielded numerous sustainable benefits. It was observed that, students simulated the spirit of planting in their homes with help of their parents, hence creating a conscious generation towards conservation of forests and natural resources. Above all, projects involved do not provide any monetary incentive which seems to be a drawback in Malawi whenever communities are involved such projects.

CONCLUSION

The study looked into the role of teachers in awakening of students in forest management. The study revealed that, communities still face the challenge of deforestation, with overpopulation, construction work and agriculture as leading causes of deforestation. However, it has been seen that, teachers have a

greater role towards forest management, among others, sensitizing the communities on forest management, initiating woodlots in schools and teaching students on practical aspect of forests management by establishing environmental clubs. The study therefore observe that, in order to have a sustainable future with regards to forests preservation, children here referred to as students would be ideal, hence the need to inculcate a spirit of educating students on such topics.

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