



# HARNESSING THE POTENTIALS OF SUSTAINABLE FOREST MANAGEMENT FOR IMPROVED RURAL HOUSEHOLD WELFARE IN NIGERIA

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## Abstract

Man derived numerous benefits from the forest. These benefits include environmental / ecological benefits, economic benefits, social / cultural benefits, medical benefits and religious benefits. However, man has been deprived of many of these benefits due to over exploitation of forest resources and poor management of the forest estates. Sustainable forest management has great potentials in improving availability of forest resources to man and ensures that rural households continue to use forest resources to improve their welfare. It is in view of this that this paper takes a look at the ways of harnessing the potentials of sustainable forest management in improving the welfare of rural households in Nigeria. The ways include combating deforestation problem, promoting social forestry programmes in rural communities, discouraging excessive use of fuel wood by rural dwellers, involvement of rural dwellers in forest protection, improved forestry extension and review of states forest policy. Government will do well by promoting sustainable forest management through the aforementioned ways thereby ensuring continuous availability of forest resources for improved welfare of rural households.

*Key Words: Sustainable Forest Management, Rural households, Human welfare*

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## Introduction

God created man to live a high quality life on planet earth. To live this high quality life God created the forest and its resources for the use of man. The forest and its resources are therefore very precious resources to man. The welfare of man and his wellbeing are linked with the forest and its resources (Adedayo, 2018a). In the same vein Adeyoju (2001) noted that forests and their products play critical roles in the human environment, needs and livelihood. Adedayo and Oyun (2010) noted that man cannot live a convenient and satisfying life without the forest and its resources. Not even the application of today's technology can provide a suitable and acceptable alternative to the use of the forests and its resources. As such the welfare of man has a direct link with the forest and the resources of the forest. Adedayo *et al.* (2010) noted that the welfare of a household has to do with the state of well-being, health, nutrition, happiness and safety of the household. They noted further that a household's welfare is affected by the nature of access the household has to medical care, food, hygienic water and income as well as the nature of education and social security the household enjoys. Forests are known to play important roles in the welfare of an individual or household by providing varieties of foods, income and medicinal materials. Unfortunately, the area covered by the forest has been on the decline in many parts of the country. The reason for this is not unconnected with the increasing population and the resultant over exploitation of forest resources in many places. This has resulted in decreasing availability of forest resources for the use of the people. As noted by Adedayo (2005) today, the situation in most part of the country is such that the trees in the forest, the land, the people as well as the entire rural environment are no, longer at ease. This is because the forest which most of the time provide succor to many people in terms of food and income have been abuse and over exploited in many places. The annual rate of deforestation in Nigeria according to Federal Ministry of Environment, Abuja (2006) averaged 3.5% and the forest area declined from 14.9 million hectares to 10.1 million hectares. This translates to the loss of 350,000 to 400,000 hectares of forest cover per annum (Agbeja and Taiwo, 2012). The resultant effect is dwindling availability of food products from the forest and dwindling availability of forest services to the people. The declining availability of forest resources and services must not be allowed to continue.

In order to stop the dwindling availability of forest resources and services to the people, attempts have been made in all the states of the federation to promote sustainable forest management (SFM). SFM is the process of managing forests to achieve one or more clearly specified objectives of management on a continuous basis without undue reduction of its inherent values and future productivity and without undue undesirable effects on the physical and social environment. It therefore follows that SFM will enhance the capacity of the forest to meet the forest resources needs of the people- especially the food needs and the welfare of the people. As noted by Lipper (2000) forests and the benefits they provide in the form of food, income and watershed protection have an important and often critical role in enabling people around the world to secure stable and adequate food supply and good welfare. Deforestation and forest degradation impair the capacity of the forests to contribute to people's welfare. As such it is important that sustainable forest management must be promoted in the country in order to enhance people's welfare. It is in view of this that this paper examines the ways of harnessing the potentials of sustainable forest management towards improving the welfare of rural households in Nigeria. This is with a view to call the attention of policy makers and development planners to the far-reaching benefits of sustainable forest management to the people in general and to the rural sector in particular.

## Concept of Sustainable Forest Management

Sustainable Forest Management is a concept that has evolved out of the necessity to judiciously manage forest resources to meet the forest resources needs of the present generation while not compromising the ability of the forest to meet the forest resource needs of the future generation. As noted by Programme for the Endorsement of Forest Certification (PEFC) (2014) SFM is an evolving process and the parameters defining it change over time based on the latest scientific knowledge and society's understanding of the concept. Sustainability and sustainable forest management are old concepts, even though new light was shed on the issue in more recent times (FAO, 2014). International Tropical Timber Organisation (ITTO) (2004) defined sustainable Forest Management as the process of managing forest to achieve one or more clearly specified objectives

of management with regard to the production of a continuous flow of desired forest products and services without undue reduction of its inherent values and future productivity and without undue undesirable effects on the physical and social environment.

### **Concept of Rural Household Welfare in Nigeria**

Nigeria is predominantly a rural society as majority of her population dwells in the rural areas (Nwuke, 2004). Specifically, rural areas in Nigeria are characterized by smallness in size (low population) that lie outside the densely built-up environment of towns and cities and whose inhabitants engaged mainly in primary production activities (i.e. farming, hunting, fishing and rearing of livestock). Indeed, 90 % of the rural labour force in Nigeria engages directly or indirectly in agriculture or agriculturally related activities (Nyagba, 2009). It should be noted that rural sector in Nigeria has been identified as a backward sector of the economy. Since independence, the rural sector of Nigeria has not witnessed significant level of development. This is evident in the apparent lack of basic infrastructural facilities and poor quality of life in the rural areas. As such rural household welfare in Nigeria is poor. According to Ikojo (2001) a vast majority of rural inhabitants in Nigeria suffer from adverse environment, unemployment, poverty and disease. For millions of rural inhabitants in Nigeria life is neither satisfying nor decent. Their incomes are so low; diets are inadequate and often uncertain. Unemployment and underemployment render many of them redundant, illiteracy forecloses their future, diseases, malnutrition and hunger threatens their existence (Adedayo and Akindele, 2003).

### **Contributions of the Forest to Human welfare**

The survival and the good living of man on planet earth are closely linked with the presence of trees. The great value of trees to the welfare of man must have been the reason why God created trees before he created man. The contributions of the forests/ trees can be broadly classified into the following categories. These include; environmental / ecological benefits, economic benefits, social / cultural benefits, medical benefits and religious benefits.

#### **A. Environmental / Ecological Benefits**

The environmental benefits of the forest trees include prevention of soil erosion, provision of oxygen, purification of the air and detoxification of the environment as well as conservation of ground water and serving as a genetic bank (Adedayo, 2018b). All these environmental benefits of forest trees help to improve human welfare. Trees through the process of photosynthesis produce oxygen which is of extreme value to man and other living organisms. Klient Solutech (2018) noted that man cannot live more than 3 minutes without oxygen. As such the ability of forest trees in producing oxygen is highly essential to the welfare of man. Forest trees help to purify the air by removing harmful substances and dust from the air. Trees and shrubs filter the air by removing dust and absorbing other pollutants like carbon monoxide, sulphur dioxide and nitrogen dioxide. After trees intercept unhealthy particles, rain washes them to the ground (Savatree www.savatree.com). More forest trees mean less pollution from the increased levels of carbon dioxide, chloro fluoro carbons (CFCs), and other pollutants in the earth and hence improved human welfare. Man can live longer because trees remove pollutants and deliver fresh air to the lungs. (Klient Solutech, 2018). The canopies of forest trees act as a physical filter, trapping dust and absorbing pollutants from the air. Each individual tree can remove up to 1.7 kilos of pollutants every year (The Royal Park, 2018). They reduce wind speed and cool the air as they lose moisture and reflect heat upwards from their leaves. It is estimated that trees can reduce the temperature in a city by up to 7°C. (The Royal Park (2018)). My Green Montgomery (2018) noted that trees help to cool the streets and sidewalks by up to 10°F by providing shade thereby improving the well-being of the people especially in this era of climate change. Another environmental benefit of forest trees is their ability to conserve ground water. This is done via the shade provided by trees which help to slow water evaporation from the ground. Through this way ground water are conserved and made available for the use of the people through digging of wells and boreholes. This environmental benefit of forest trees is highly significant in contributing to the improvement of rural household welfare in Nigeria considering the fact that majority of rural dwellers in Nigeria do not have access to safe and drinkable water.

#### **B. Economic Benefits of Trees**

Trees provide income to many people especially in the rural areas. This is through the direct sale of some tree products for cash. This include sale of tree fruits (e.g. fruits of, *Chrysophyllum albidum*, *Irvingia gabonensis*, *Parkia biglobosa* e.t.c.), sale of tree leaves, stakes and firewood. Trees can help to grow the economy especially in agrarian communities. Bello *et al.* (2008) noted that rural women in Sokoto state earn an average income of N3, 700.00 per month from the sale of forest fruits. Adedayo *et al.* (2010) also noted that 37% of rural women in North Central Nigeria earn between N 31, 000.00 and N 40, 000.00 per annum from forest fruits.

#### **c. Social / Cultural Benefits of Trees**

One of the social benefits of trees is the provision of food to man and animals. The food provided by trees to man can be in terms of fruits and nuts and in terms of their edible leaves serving as vegetables. There is a direct link between trees, their products (i.e. leaves, fruits, roots and flowers) and rural household food security in Nigeria. Ondo State Environmental Protection Agency (1999) noted that over 150 indigenous woody plants from the natural vegetation have been identified as yielding edible products for human and livestock consumption. They include seeds and nuts, vegetable leaves, fruits, roots and tubers and fungi. They serve as food supplements, condiments, thickening agents and flavour to diets while providing protein, energy, vitamins and essential minerals. The contribution of trees to diets varies from one ecological zone to another within the country. Some foods obtained from trees are consumed during seasonal food shortages when agricultural crop supplies dwindle. Table 1 shows a list of plant species that provide either edible fruits or vegetables to the people in Nigeria (majority of these plants are trees). Another social benefit of trees is that most often they proffer solution to sadness and bitterness because trees have a way of influencing human thoughts. Living close to nature or around plants and trees for one day can have an amazing impact on human thoughts and the power of the body (Klient Solutech, 2018).

Another social benefit of trees is provision of fuel wood either as firewood or as charcoal. This is an important benefit of trees considering the fact that fuel wood forms about 80% of the total wood requirement and more than 60% of the total energy consumed in tropical Africa (Ogunsanwo and Ajala, 2002). In the same vein Adedayo *et al.* (2008) noted that fuel wood is the

dominant fuel used by rural dwellers in tropical African countries, mainly because it is cheap and is socially more acceptable to rural people than other forms of low technology energy sources. Sene (2000) also noted that the contribution of forest and tree resources to household energy supply is high in Africa and will remain so for the foreseeable future. This is because nobody has yet found an alternative to fuel wood (or charcoal its derivative) as the source of household energy for the rural household in Africa.

Table 1: List of Forest Plant Species that provide edible Fruits or Leaves to the people in Nigeria.

S/N	Name of Plant Species	Type of Food
1.	<i>Adansonia digitata</i>	Fruits and Leaves
2.	<i>Blighia sapida</i>	Fruit
3.	<i>Borrassius aetopium</i>	Fruit
4.	<i>Chrysophyllum albidum</i>	Fruit
5.	<i>Dacryodes edulis</i>	Fruit
6.	<i>Garcinia cola</i>	Fruit
7.	<i>Irvingia gabonensis</i>	Fruit
8.	<i>Moringa oleofera</i>	Leaves
9.	<i>Morus mesozygia</i>	Fruit
10.	<i>Ocimum gratissimum</i>	Leaves
11.	<i>Parkia biglobosa</i>	Fruit
12.	<i>Spondias mombin</i>	Fruit
13.	<i>Tamarindus indica</i>	Fruit
14.	<i>Tetracarpidium conophorum</i>	Fruit
15.	<i>Treculia africana</i>	Seed
16.	<i>Vernonia amygdalina</i>	Leaves
17.	<i>Vitellaria paradoxum</i>	Nuts
18.	<i>Vitex doniana</i>	Leaves

Source: Adapted from Fuwape, 2005 and Babalola and Agbeja, 2008

**d. Medical Benefits of Trees**

Trees play important role in the health of the people. The tree is the basis of a healthy life. (Klient Solutech, 2018). Research has shown that within minutes of being surrounded by trees and green space, blood pressure drops, heart beat rate slows and stress level come down (The Royal Park (2018). This explains the reason why sick people are advised by medical practitioners to move closer to nature by staying under the tree or stay in a green environment. Adedayo and Oyin (2017) noted that Forests and trees are valued by agrarian communities for their supply of medicinal products even more than orthodox drugs. Table 2 shows the list of tree species used for medicinal purposes in Nigeria. The Table showed that wide varieties of tree species are used for medicinal purpose in Nigeria.

Table 2: Tree Species used for medicinal purposes in Nigeria

S/N	Name of tree species	Parts used	Ailment cured
1	<i>Cassia siamea</i>	Flowers, roots	Malaria
2	<i>Spondias mombins</i>	Leaves	Blood replacement
3	<i>Annona senegalensis</i>	Leaves	Low sperm count
4	<i>Calotropis procera</i>	Leaves	Rashes
5	<i>Gossypium barbadense</i>	Green leaves	Cough, Malaria
6	<i>Pilostigma thomningi</i>	Leaves, bark	Malaria
7	<i>Cola nitida</i>	Bark	Low sperm count
8	<i>Terminalia avicenoitoides</i>	Leaves, bark	Cough, Diarrhea
9	<i>Jatropha curcas</i>	Exudates, root	Mouth diseases, Sore
10	<i>Phyllanthus amarus</i>	Leaves, seeds	Fever, high blood pressure
11	<i>Khaya senegalensis</i>	Bark	Pile, malaria
12	<i>Azadiractha indica</i>	Bark, Leaves	Malaria
13	<i>Parkia biglobosa</i>	Bark	Skin Rashes
14	<i>Pupalia lappacea</i>	Leaves ,seeds	Women sterility
15	<i>Garcinia cola</i>	Seed	Asthma, cough
16	<i>Morinda lucida</i>	Leave	Malaria
17	<i>Citrus aurantifolia</i>	Leaves	Malaria
18	<i>Alstonia boonei</i>	Bark,	Rashes, Fever

Source: Adapted from Adedayo et al 2015

**Ways to Harness the Potentials of Sustainable Forest Management for Improved Rural Livelihood in Nigeria**

In view of the far-reaching benefits of the forest to the people of the country, especially the roles of the forest in improving the welfare of the people, it is important that ways should be sought to promote sustainable forest management. This in essence means ways should be sought to ensure continuous availability of forest and its resources in order to meet the welfare of the people. These ways include the following:

- 1. Combat Deforestation Problem:** - It is sad to note that despite the great importance of the forest to the welfare and the good living of man, the forest estate in the country has continued to diminish very fast through deforestation and over exploitation of forest resources. At the dawn of a new millennium the rate of deforestation in Nigeria has become alarming. Nigeria lost 55.7% of its primary forest between 2000 and 2005 (Butler, 2005). He noted further that the annual rate of deforestation in Nigeria is 3.5% approximately 350,000 -400,000 hectares per year (Butler, 2005). It therefore, follows that if any reasonable achievement is expected to be made in the contributions of sustainable forest management to the improvement of human welfare in the country then deforestation problem must be tackled. Some of the ways by which deforestation problem can be tackled include; combating rural poverty, improving the relationship between foresters and local community dwellers, involvement of rural dwellers in forest protection, improved forestry extension and discouraging excessive use of fuel food by rural dwellers in the country.
- 2. Promoting Social Forestry Programmes in Rural Communities:** - One of the potent ways by which the benefits of sustainable forest management can be made available to rural households in Nigeria is to promote social

forestry programmes in rural communities. Social forestry means the management and protection of forests and tree planting on available / barren lands with the purpose of helping to increase the number of trees, as well as improve the environment, and rural development (Wikipedia, 2015). It is a form of forestry practice that is aimed at using trees and tree planting specifically for the purpose of pursuing social objectives usually for the betterment of the poor through the delivery of the benefits of using trees and tree planting to the local people. From the foregoing it follows that social forestry is a people oriented forestry programme that is directed towards improving the supply of fuel wood, fodder, stakes and fruits as well as improve the vegetative covering of exposed land areas through involvement of the people. It is indeed forestry of the people by the people and for the people. It is a forestry practice that is directed towards dealing with rural poverty, hunger, malnutrition, unemployment, environmental deterioration and improvement in the standard of living of the people by the involvement of the people themselves. Evidences all over the country have shown that the living standard of the people is getting worse, the environment is deteriorating very fast, unemployment is increasing, hunger and rural poverty is getting worse with its attendant negative effects on welfare of the people. Social forestry programmes like community wood lots, road side forestry and afforestation of abandoned farmlands can go a long way in helping to boost the welfare of rural households. For instance, promoting community woodlots can help to increase the supply of fuel wood in rural communities. This will help to reduce deforestation cause by firewood gathering. It should be noted that firewood gathering is one of the major causes of deforestation in Nigeria because rural dwellers exploit enormous quantity of firewood on a daily basis. Adedayo (2002) noted that rural households in Nigeria use more fuel wood than their urban counterparts. It therefore follows that rural households cause a great deal of deforestation and forest degradation through firewood gathering. Promoting social forestry programme like community wood lots can therefore help to promote SFM and through this promote rural household welfare. Firewood is very important in helping to improve the access of rural dwellers in the country to food and income. It is a known fact that majority of the rural dwellers in the country cannot afford other forms of fuel like gas, kerosene, and electricity. Sene (2000) noted that the contribution of forest and tree resources to household energy supply is essential in Africa and will remain so for the foreseeable future. This is because there are large numbers of poor all over Africa that depend on fuel wood to cook food. As a matter of fact, many social forestry projects in the country were initiated to improve fuel wood supply to the rural dwellers. Wikipedia (2015) noted that social forestry also aims at raising plantations by the involvement of common men so as to meet the growing demand for fuel wood, thereby reducing the pressure on the traditional forest area. Provision of fuel wood by social forestry can be more appreciated when one considers the fact that many rural households can be exposed to hunger and food borne diseases if they lack access to fuel wood. A decreased fuel supply can create constraints on food preparation which can lower nutritional value, increase risk of food borne diseases and reduce their welfare (FAO, 1989).

3. **Discouraging excessive use of fuel wood by Rural Dwellers:-** It is important to note that while trying to promote tree planting to meet the fuel wood need of the people, it is also important that efforts should be made to reduce excessive use of fuel wood by rural dwellers. Adedayo *et al.* (2008) and Gwandu (2001) noted that rural dwellers use enormous quantity of fuel wood in Nigeria. In their search for fuel wood rural dwellers strip off the land of trees, shrubs and other vegetative covering leading to soil exposure and deforestation thereby reducing availability of forest resources that meet the welfare needs of the people. It is therefore important that ways be sought on how the quantity of fuel wood used by rural dwellers can be reduced and this will help to reduce deforestation and promote SFM in Nigeria. Some of the ways by which the use of fuel wood by rural dwellers can be reduce include;
  - i. Giving of fuel-efficient stoves by government to rural women.
  - ii. Making alternative energy to fuel wood available and cheaper to the rural dwellers especially kerosene.
  - iii. Promoting the use of briquettes by rural households by making briquette available to them. It should be noted that briquettes are made from saw dust which most often are wasted in the saw mills by been burnt. These saw dusts can be converted to briquette and can sold cheaply to rural dwellers to be use as fuel. This will help to reduce the quantity of firewood being used by rural dwellers in the country.
  - iv. Rural dwellers should also be educated on how to make efficient use of fuel wood heat. This is because rural dwellers are known to frequently use open fire to cook which often results into wastage of fuel wood.
4. **Involvement of Rural Dwellers in Forest Protection:-** Another way of ensuring continuous availability of forest products for the use of the people is to ensure that the forest estates are well protected. It is when forests are not well protected that they are exposed to abuse, misuse and other illegalities, thus limiting the capacity of the forest to meet the welfare needs of the people. However protecting the forest form misuse and other illegalities has become very difficult in the last few decades in Nigeria. Evidences all over the country have shown that uniform men are finding it difficult to curtail illegal activities inside forest reserves. Adetula (2008) noted that in many communities in Ondo State some youths have constituted themselves into gangster making it difficult for forest uniform men to curtail illegal forestry activities. He noted further that some uniform staff have been attacked sometimes resulting into death. The use of rural dwellers in forest protection can be very effective because they live very close to forest reserves. They know the terrain of the reserves and they can easily be on the tail of any forest offender. As such for effective forest protection it is essential to involve rural dwellers in the protection of the forest. Through this way SFM is promoted and the welfare of the people through provision of forest resources is sustained.
5. **Improved Forestry Extension;-** Forestry extension is an out of school educational service directed towards informing people about forestry activities especially about innovations in forestry. Today in many parts of the country forestry extension is yet to be well developed. As such many people in the country especially the rural dwellers are still ignorant of forestry activities especially on the need to use forest resources wisely so as to ensure sustainability. That is why many rural dwellers in the country today are involved in massive over-exploitation of



forest resources resulting in deforestation.

There is therefore the need to improve forestry extension in order to get many people educated and enlightened about forestry activities and more specifically about the danger of deforestation. It is important to let people know the dangers of deforestation which include; erosion, soil degradation, poor farm yield, biodiversity loss, frequent storm, scarcity of forest products e.t.c. It is when people know the dangers of deforestation that they may be convinced not to be involved in destructive use of forest resources.

- 6. Review of States Forest Policy:** It is essential that the forest policies of all the states in the country should be reviewed. There is the need to review the forest policy of many states in the country in view of the emerging contemporary issues in forestry that are germane to promoting sustainable forest management and the reduction of rural poverty. Presently the forest policy of most states in Nigeria allows for people to have access to forest resources in open access areas (free areas). They only need to obtain permit to cut trees in the open access area. Members of a community are also given free access to NTFPs on communal lands while members of the public are given free access to a limited number of NTFPs on government lands. This limited access includes free access to exploit leaves, snails, mushrooms, herbs and some fruits. This situation has not really help in the sustainable management of forest resources on communal lands. There is therefore the need to review state forest policy to take care of forest governance especially on communal lands. For instance, issues that concerns NTFP governance are necessary to be addressed by the forest policy of each states of the country in order to take care of competition and their over-exploitation of NTFPs on communal lands. State forest policy should particularly pay attention to NTFP governance by ensuring that a unit is created in the Department of Forestry in each state that will see to all issues that is related to NTFP governance. This will go a long way in helping local community dwellers to direct the utilization of NTFPs on their communal lands in a better and more sustainable manner. This no doubt will be in line with the current trend in the management of forest resources worldwide. This will help to ensure sustainable management of forest resources in general and NTFPs in particular towards meeting the welfare needs of the people.

### **Conclusion**

This study has shown that the forest contributes greatly to the welfare of rural households in Nigeria. These contributions include environmental / ecological benefits, economic benefits, social / cultural benefits, medical benefits and religious benefits. However, it is important to note that sustainable forest management can help to boost the contributions of the forests towards improving the welfare needs of rural households in Nigeria. These ways include reduction of deforestation, promoting social forestry programmes in rural communities, discouraging excessive use of fuel wood by rural dwellers, involvement of rural dwellers in forest protection, improved forestry extension and review of states forest policy. It is believed that these ways when properly pursued will go a long way in helping to promote SFM and by extension promote the contributions of forest resources to the welfare of rural households.

### **References**

- Adedayo, A. G. (2002): Forest Resources Utilization and its impact on Rural Livelihood in Kwara State, Nigeria. Unpublished M. Agric. Tech Thesis of the Department of Forestry and Wood Technology, Federal University of Technology Akure, Nigeria. Pp.146.
- Adedayo, A. G and Akindele, S.O. (2003): Appraisal of Forest Resources Utilization and its impact on Rural Household Poverty Reduction in Kwara State, Nigeria. *Nigerian Journal of Forestry* 33 (1&2) Pp. 17-22.
- Adedayo, A. G. (2005): Gender Roles in Forest Resources Utilization and its Impact on Rural Environment in Kwara State, Nigeria. In: Environmental Sustainability and Conservation in Nigeria, Okoko; Adekunle, V. A. J. and Adeduntan, S. A. (Eds.) Environmental Conservation and Research Team, Federal University of Technology Akure. Nigeria. Pp.291-295.
- Adedayo, A.G, Sale, F.A. and Kekeh, O. (2008). Rural Household Wood Energy Utilization Pattern and its impact on Deforestation in Akoko South West LGA, Ondo State, Nigeria. *Forests and Forest Products Journal*, 1 (1) 51-58.
- Adedayo, A.G. and Oyun, M.B. (2010): Assessment of the impact of Democratic Rule on some Aspects of Forest Resources Management in Ondo State, Nigeria. *International Journal of Social Forestry* 3(1)1- 11.
- Adedayo, A.G. Oyun, M.B. and Kadeba, T.O.S. (2010): Access of Rural Women to Forest Resources and its impact on Rural Household Welfare in North Central Nigeria. *Journal of Forest Policy and Economics* 12 439 - 450.
- Adedayo, A. G. Ogunrinde, O.S. and Adepoju, A.M. (2015): Evaluation of the Uses of Medicinal plants among Rural Households in Ejigbo Local Government Area, Osun State, Nigeria. *Ideal Journal of Engineering and Applied Sciences* 1(1) 33-41
- Adedayo and Oyun (2017): Strategies to improve the use of medicinal plants among rural women in Kogi State, Nigeria. *International Journal of Current Research* 9, (08): 56728-56736.
- Adedayo, A. G. (2018a). Harnessing the potentials of NTFPs for National Development in Nigeria. *Journal of Experimental Agriculture International*. 24 (4) pp. 1 -10. July, 2018.

- Adedayo, A. G. (2018b). Policies and strategies to promote tree planting among rural households in Nigeria. *International Journal of Advanced Scientific Research and Management* .3 (5) 126-134.
- Adetula, T. (2008): Challenges of sustainable forest management in Ondo State: Community Based Forest Management System as a panacea. In: Research for Development in Forestry, Forest products and Natural Resources Management (eds. Onyekwelu, J.C., Adekunle, V.A.J. and Oke, D.O) Proceedings of the First National Conference of the Forests and Forest Products Society, Federal University of Technology, Akure, Nigeria. 16th-18th April 2008. Pp.242-252.
- Adeyaju, K. (2001). Forestry for National Development. In: L. Popoola, J.E. Abu and P.I. Oni (eds.) *Proceedings of the 27th Annual Conference of the Forestry Association of Nigeria* held in Abuja, FCT. 17th-21st September 2001 Pp.55-68
- Agbeja, B. O. and Taiwo, O.J. (2012): Deforestation and Encroachment of Osho Forest Reserve in Oyo State, Nigeria: Impact on Climate Change and need for future Rehabilitation of Forest Policy Measures. (Onyekwelu, J.G., Abgela, B.O., Adekunle, V.A.J., Lameed, G.A., Adesoye, P.O. and Omole, A.O. – Editors) Proceedings of the 3<sup>rd</sup> Biennial National Conference of Forests and Forest Products Society, held at the University of Ibadan, Nigeria. 3<sup>rd</sup> – 6<sup>th</sup> April 2012 pp. 386 -396.
- Babalola, F. D. and Agbeja, B. O. (2008): Potentials of multipurpose trees producing non-timber forest products (NTFPs) on farmland in selected South Western States of Nigeria. *Nigeria Journal of Forestry*, 38 (1) 49–56.
- Bello, A.G., Isah, A.D., Umar, T., (2008): Forest and forest products for accelerated economic development of rural women in Sokoto State, Nigeria. In: Onyekwelu, J.C., Adekunle, V.A.J., Oke, D.O. (Eds.), Research for Development in Forestry, Forest Products and Natural Resources Management. Proceedings of the First National Conference of the Forests and Forest Products society. Federal University of Technology, Akure, Nigeria, pp. 104– 107. 16th–18<sup>th</sup> April, 2008.
- Butler, R.A. (2005): Nigeria has worst deforestation rate, FAO revises figures. [www.mongabay.com](http://www.mongabay.com). Cited on 07-03-2016.
- FAO (1989): Forestry and Food Security, FAO Forestry paper No. 30. Rome.
- Federal Ministry of Environment, Abuja (2006): Approved National Forest Policy for Nigeria. 86pp.
- Fuwape, A.J. (2005): Forest Management for Products and Services in Nigeria's Ecological Zones. In: L. Popoola, P. Mfon and P.I. Oni (eds.) Sustainable Forest Management in Nigeria: Lessons and Prospects. Proceedings of the 30<sup>th</sup> Annual Conference of Forestry Association of Nigeria held in Kaduna, Kaduna State 07 -11<sup>th</sup> November, 2005. Pp. 164 -178.
- Gwandu, A. A. (2001). Private sector participation in forestry in Nigeria. In: L. Popoola, J. E. Abu and P. I. Oni (eds.) Proceedings of the 27th Annual Conference of the Forestry Association of Nigeria held in Abuja, FCT, 17th- 21<sup>st</sup> Sept. 2001. pp. 346-355.
- Ikojo, H. A. (2001): The role of Forestry in ameliorating Environmental problems in rural Communities. In: L. Popoola, J.E. Abu and P.I. Oni (Eds.) Proceedings of the 27<sup>th</sup> Annual Conference of the Forestry Association of Nigeria held in Abuja (FCT) 17<sup>th</sup>-21<sup>st</sup> September, 2001. Pp.116 – 128.
- International Tropical Timber Organisation (IITO) (2014): Sustainable forest management. [www.itto.int/at\\_work/](http://www.itto.int/at_work/) cited on 05 -11 -2014.
- Klient Solutech (2018): The importance of trees in our life. Cited on 3rd March, 2018.
- Lipper, L. (2000): Forest degradation and Food Security. *Unasylva* 202, 51 (1) 24-31
- My Green Montgomery, (2018): The importance of trees! <https://mygreenmontgomery.org>. Retrieved on 3rd March, 2018.
- Nyagba, S. (2009) “Review of Nigeria's Rural Development Policy for Sustainable Development”. Paper presented at Business Round Table in Abuja, 9 – 11 July.
- Nwuke, K. (2004) “Poverty Reduction Strategies: Towards the Millennium Development Goals: Africa's Experiences and Lessons for Nigeria. Paper delivered at the Enugu Policy Forum Organized by African Institute for Applied Economics, Enugu.
- Ogunsanwo, O. Y. and Ajala, O.O. (2002): Firewood crisis in Lagos: Implications on the suburban and rural ecosystem management. In: J. E. Abu, P. O. Oni and L. Popoola (Eds.); proceedings of the 28th Annual conference of forestry Association of Nigeria held in Akure, Ondo State, Nigeria Nov. 7<sup>th</sup>-8<sup>th</sup> 2002.
- Ondo State Environmental Protection Agency, (1999): Amelioration of Ecological and Forest Degradation in Ondo State. Final report submitted to Ondo State Environmental Protection Agency by Env. Solution Ltd., Abuja-Nigeria. 77p.
- Programme for the Endorsement of Forest Certification (PEFC) (2014): Sustainable Forest Management. [www.pefc.org/standards/sustainableforestmanagement](http://www.pefc.org/standards/sustainableforestmanagement). Cited on 05 -11 -2014
- savatree.com: Importance and Value of Trees. Retrieved from [www.savatree.com](http://www.savatree.com) on 3rd March, 2018.
- Sene, E.H. (2000): Forests and Food in Africa; the place of forestry in FAO's Special programme for Food Security. *Unasylva* 202, 51 (1) 13-18
- The Royal Park (2018): Why are trees so important? <https://www.royalpark.org.uk>. Cited on 5th March, 2018.
- Wikipedia (2015): Wikipedia the free encyclopedia. [www.en.wikipedia.org](http://www.en.wikipedia.org).