Determinants and Consequences of Commercial Exploitation of Madrid Wood (*Pterocarpus Erinaceus*) in Taraba State, Nigeria

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***Abstract*: - This study examined the determinants and consequences of commercial exploitation of Madrid Wood (pterocarpus erinaceus) in Taraba State, Nigeria. Noncompliance with forest-related laws and the poor governance of the forest resource of Nigeria as a nation state contributed tremendously to the unrestrained commercial exploitation of Madrid Wood in Taraba State. A cross sectional survey research was conducted to generate the research data used to answer the research questions as well as to test the hypotheses. Both qualitative and quantitative research approaches were combined in this study. Samples of five hundred and forty-four (544) questionnaires were administered by trained research assistants but five hundred and seventeen (517) were duly completed and returned. The data from the returned questionnaire were analyzed with the help of Statistical package for the social sciences (SPSS). Qualitative data were generated by in-depth interview (IDI) with the LGA Chairman, the Forestry Director, and eight Madrid Wood Merchants. Chi-Square was used to test the hypotheses; the hypotheses were tested at 0.05 level of significant and 99% confidence interval. The findings of the study show that the commercial exploitation of the Madrid Wood both serves as sources of revenue to the government and income to the residents in the study area; the commercial exploitation of the Madrid Wood also contributes to the extinction of the specie, climate change among others. Thus, amongst other recommendations, the study recommended that the government of Taraba State should empower the ministries and departments responsible for regulating forest laws and policies to control the unrestrained commercial exploitation of the Madrid Wood. That would include the prosecution of corrupt government officials that aid and abet the merchants who break forestry laws. The study further recommends extensive public awareness campaign by the government through various media platforms that would educate the public on the dire consequences of deforestation to people and society at large.**

Keywords: **Madrid Wood, Pterocarpus erinaceus, exploitation, determinants, consequences**

I. INTRODUCTION

In the majority of countries with large forest areas and high levels of deforestation and degradation, illegal activities – both conversions of forests for agricultural purposes, and forest degradation, particularly that is caused by illegal logging have been the most significant drivers of deforestation (World Bank, 2008). In addition to the aforesaid, noncompliance with forest-related laws and the poor governance of the forest resource are also said to be the drivers of deforestation in many West Africa countries which Nigeria is also not exempted. Aiyetan, (2016) also corroborated that Smart Chinese businessmen are exploiting Nigeria forest resources due to the country's weak regulations on forest resources and lack of government policy and direction as well as official corruption by government officials to drive an illegal trade and export of the country's forestry resources that might have grave consequences for both the environment and the economy. He further unraveled that timber merchants working for Chinese businessmen are moving from one state to another depleting the Rosewood resources in their forests, leaving empty landscapes without minding the enduring effects of the unrestrained harvesting of the product on the environment.

The high demand of Rosewood (Madrid Wood) over the past number of decades was necessitated by the increasing wealth of the middle class in China who area after the satisfaction of their appetites. As such, other tree species that produce precious woods under the umbrella termed 'Rosewood' have begun to feature prominently in discussion amongst parties to the convention on International Trade in endangered species of Wild fauna and flora (CITES) (Global Witness and Environmental Investigation Agency (US) (2010); and Environmental Investigation Agency (EIA) (2014). One of the major threats to all species is habitat loss and deforestation. In Africa between the years 2000 and 2010, 3.4 million hectares of forest were converted for other uses (Innes, 2010). Worldwide close to 10 million hectares was lost from the tropics in 2014 (Global Forest Watch, 2016). Lawson, (2015) articulated that between the first quarter of 2010 and the first quarter of 2015, Chinese imports increased by more than 3,000-fold in value: from 21,250 US dollars (total of Chinese imports during the first quarter of 2010) to 63,943,732 US dollars (total Chinese imports during the first quarter of 2015).

Research Questions

The following research questions were formulated to guide the study:

i. What is the take of government on revenue generation and ban placement on the commercial exploitation of the Madrid Wood in Taraba State?
ii. Which among the following category of people (employed or unemployed) are more knowledgeable

about the rate of the commercial exploitation of Madrid Wood in Taraba State?

iii. What are the control strategies for the rapid commercial exploitation of the Madrid Wood for the avoidance of deforestation?

Objectives of The Study

The general objective of the study is to examine the Determinants and consequences of commercial exploitation of Madrid Wood (*Pterocarpus erinaceus*) in Taraba State, Nigeria. The following specific objectives have been outlined to guide the study:

i. To determine the take of government on revenue generation and ban placement on the commercial exploitation of the Madrid Wood in Taraba State.
ii. To ascertain whether the employed or the unemployed are more knowledgeable about the rate of the commercial exploitation of the Madrid Wood in Taraba State.
iii. To find out the strategies for controlling the rapid commercial exploitation of the Madrid Wood for the avoidance of deforestation.

Study Hypotheses

i. Government revenue generation from the Madrid wood trade is more likely to be responsible for the absence of ban on the commercial exploitation of the Madrid wood in Taraba State as perceived by the educated and non-educated residents.
ii. The employed residents are more likely to be aware of the rate of commercial exploitation of the Madrid wood tree in Taraba State than the unemployed residents.
iii. The strategies for controlling the commercial exploitation of the Madrid wood are more likely to be dependent on the level of education in Taraba State.

Conceptual Clarification

Madrid Wood: In the context of this study, it refers to the local name of Rosewood, while Rosewood is it English name, and *pterocarpus erinaceus* is the scientific name. Madrid wood as a local name is used to help the people in the study area to easily understand what the research is focusing on since the concept is commonly known and used by them. Though, it will be used interchangeably with *pterocarpus erinaceus* and Rosewood.

Pterocarpus erinaceus: It refers to "winged fruit", from the Greek "*pteron*" (wing) and *"karpos*" (fruit). It is the scientific nomenclature of Rosewood (Madrid wood) which belongs to the *fabacea* (legumes) family and *Papilionaceae* sub family.

Rosewood: Is the English name of *Pterocarpus erinaceus.*

Theoretical Consideration

Neo-Malthusian Theory

Hardin (1968), reformulated Malthusian theory and asserts that abstract population increase and individual selfishness or self-interest causes famine and at a larger scales causing degradation of common pool resources such as the air, water, forest, the oceans, or general environmental conditions. Hardin offered privatization of resources or government regulation as solutions to environmental degradation caused by tragedy of the commons conditions. The application of Neo-Malthusian theory as it relates to environmental degradation today derives from later Malthusian scholars rather than directly from the works of Malthus himself. This shows that the environmental resources in the society are mostly accessed and exploited by those in the lower class who constituted the major group in most societies, and are ever willing to work for the few rich so as to earn livelihood.

The Neo-Malthusian theory has been criticized particularly by political scientist Elinor Ostrom, (1990) and economists Amartya Sen, (1980) and Ester Boserup, (1965). Even though much of mainstream journalism considers Malthusianism the only view of environmentalism, most sociologists disagreed with Malthusianism since social organizational issues of environmental degradation are more demonstrated to cause environmental problems than abstract population or selfishness per se. For examples of this critique, Ostrom in her book governing the Commons: The Evolution of Institutions for Collective Action (1990) argued that instead of self-interest always causing degradation, it can sometimes motivate people to take care of their common property resources. To do this they must change the basic organizational rules for resources use. Amartya Sen argues in his book Poverty and Famines: An Essay on Entitlement and Deprivation (1980) that population expansion fails to cause famines or degradation as Malthusians and Neo-Malthusians argue. He argues that famines and environmental degradation would only occur in non-functioning democracies or unrepresentative states.

New Ecological Paradigm

The New Ecological Paradigm (NEP) conception in the 1970s critiqued the claimed lack of human- environmental focus by the classical sociologists and the Sociological priorities their followers created; and it was critiqued as the Human Exceptionalism Paradigm (HEP). The HEP viewpoint claims that human-environment relationships were unimportant sociologically because humans are 'exempt' from environmental forces via cultural change. This view was shaped by the leading Western worldview of the time and the desire for Sociology to establish itself as an independent discipline against the then popular racist-biological environmental determinism where environment was all. In this HEP view, human dominance was felt to be justified by the uniqueness of culture, argued to be more adaptable than biological traits. Furthermore, culture also has the capacity to

accumulate and innovate, making it capable of solving all natural problems. Therefore, as humans were not conceived of as governed by natural conditions, they were felt to have complete control of their own destiny. Any potential limitation posed by the natural world was felt to be surpassed using human ingenuity.

In the 1970s, sociological scholars Riley Dunlap, (1978) and William R. Catton, Jr., (1978) began recognizing the limits of what would be termed the Human Exemptionalism Paradigm. Catton and Dunlap (1978) suggested a new perspective that took environmental variables into full account. They coined a new theoretical outlook for Sociology called the New Ecological Paradigm, with assumptions contrary to HEP. The NEP recognizes the innovative capacity of humans, but says that humans are still ecologically interdependent as with other species. The NEP notes the power of social and cultural forces but does not profess social determinism. Instead, humans are impacted by the cause, effect, and feedback loops of ecosystems. It was further revealed that the Earth has a finite level of natural resources and waste repositories. Thus, the biophysical environment can impose constraints on human activity.

In summary, Neo-Malthusian theory emphasizes on the causes and solutions of environmental degradation. The causes of environmental degradation on the adopted theory includes increase in abstract population and selfishness or self-interest on common pool of resources such as air, water, forest, the ocean and other general conditions. Individuals are more concerned about themselves than the interest of the society at large, they are also more mindful of short term economic benefits for their survival from the resources available without considering the reciprocal anthropogenic-environmental negative impacts. Individuals are more or less particularistic and not universalistic. Increase of human population also serve as one among the impetuses of deforestation because as population increases the more demand for natural resources to meet the people's needs. Individuals are illegally harvesting the timber resources for themselves without selective exploration. The government ministries, departments, and other agencies bestowed with the responsibilities for sustainable forest management or control are less concerned or laissez-faire in executing their duties effectively because some of them are also into the trade or gaining from it directly or indirectly due to self-interest at the detriment of the public, which is tantamount to what Hardin (1968) revealed in the aforementioned theory. This is also an indication to prove that most of the government functionaries are egoistically after themselves and not the country by not strictly enforcing/implementing the regulations for forest control.

New Ecological Paradigm reveals that humans are ecologically interdependent with other species in the environment that is to say; there is an interdependent relationship between humans and the natural environment. It further reveals that humans are impacted by the cause, effect and feedback loops of ecosystem. And that the earth has a finite level of natural resources and waste repositories. So the rapid depletion of the environmental resources which rosewood tree is inclusive by humans will pose great threat to the ecological system, climate and humans health.

II. METHODOLOGY

This study investigates the determinants and consequences of commercial exploitation of Madrid Wood (*Pterocarpus erinaceus*) in Taraba State, Nigeria. And in doing that, the study adopted the cross-sectional research design; the scope of this study was limited to the determinants and consequences of commercial exploitation of Madrid Wood (*Pterocarpus erinaceus*) in Taraba State, Nigeria. Takum LGA was the focal point of this study because it's one among the areas in Taraba State that produces Madrid Wood in large quantities. Both quantitative and qualitative methods of data collection were employed for the success of this study. Taro Yamane's (1967) formula for determining sample size was adopted for the study. The study data collected were subjected to Statistical package for the social sciences (SPSS); different tables were drawn in tandem with bar charts to indicate the various responses on different questions raised in the questionnaire. Such tables include both the Socio-demographic characteristics of the respondents as well as the substantive issues of the study, and the study hypotheses were tested using chi-square (x^2).

Hypotheses Testing

Three hypotheses were put forward to guide the study. The hypotheses were tested at 0.05 level of significance and 99% confidence interval. The hypotheses were tested using chi-square test.

Hypothesis One: Government Revenue Generation from the Madrid Wood Trade is more likely to be Responsible for the absence of Ban on the Commercial Exploitation of the Madrid Wood in Takum LGA

To test hypothesis one, item 4 and 13, item 4 and the table of figure 11 of the questionnaire were cross tabulated, resulting to table 1 and table 2 of the Hypotheses.

Table 1: Distribution of Respondents based on their Knowledge on Revenue generation by the Government from the Madrid Wood Trade Cross Tabulated on Educational Level

Educational level	Do government collect revenue from the trade			Total
	Yes	No	Don't know	
Non-formal education	67 (88.2%)	7 (9.2%)	2 (2.6%)	76 (100%)
Primary education	65 (88.2%)	3 (4.0%)	7 (9.3%)	75 (100%)
Secondary education	100 (96.2%)	0	4 (3.8%)	104 (100%)
Tertiary education	250 (95.4%)	4 (1.5%)	8 (3.1%)	262 (100%)
Total	482 (93.2%)	14 (2.7%)	21 (4.1%)	517 (100%)

X^2 value = 23.464[a], df = 6, significance level= 0.01

Item 4 and 13 of the questionnaires were cross tabulated, while on the table below item 4 and table of figure 11 of the questionnaire were also cross tabulated based on the perception of the educated and non-educated residents in order to ascertain whether government generate revenue and place ban on the trade or not. More details are articulated under table 2 of the Hypotheses**.**

Table 2: Distribution of Respondents Opinion on the Placement/Non-placement of Ban on the Commercial Exploitation of the Madrid Wood Cross Tabulated on Educational Level

Educational level	Do the government place ban on the commercial exploitation of the Madrid Wood?			Total
	Yes	No	Don't know	
Non-formal education	0 (0%)	68 (89.2%)	8 (10.5%)	76 (100%)
Primary education	0 (0%)	60 (80.0%)	15 (20.0%)	75 (100%)
Secondary education	6 (0%)	86 (82.7%)	12 (11.5%)	104 (100%)
Tertiary education	1 (0.4%)	240 (96.1%)	21 (8.0%)	262 (100%)
Total	7 (1.4%)	454 (87.8%)	56 (10.8%)	517 (100%)

X^2 value = 27.926[a], df = 6, significance level= 0.00

HO: Government revenue generation from the Madrid Wood trade is less likely to be responsible for the absence of ban on the commercial exploitation of the Madrid Wood tree in Takum LGA as perceived by the educated and non-educated residents.

HI: Government revenue generation from the Madrid Wood trade is more likely to be responsible for the absence of ban on the commercial exploitation of the Madrid Wood tree in Takum LGA as perceived by the educated and non-educated residents.

The following values are reported at 99% confidence level. At 0.05 level of significance, the Pearson Chi-square values of tables 1 and 2 are 23.464 and 27.926 respectively, and their p-values which are 0.01 and 0.00 respectively were less than the 0.05 level of significance. This shows that there is a statistically significant relationship between revenue generation by the government from the Madrid Wood trade and the cause of government not placing ban on the commercial exploitation of the Madrid Wood tree in Takum LGA, as perceived by the educated and non-educated residents. We therefore accept the alternative hypothesis that revenue generation by the government from the Madrid Wood trade is more likely to be the cause for not placing ban on the commercial exploitation of the Madrid Wood tree in Takum LGA.

Hypothesis Two: The Employed Residents are more likely to be aware of the Rate of Commercial Exploitation of the Madrid Wood in Takum LGA than the Unemployed residents

To test hypothesis two, item 6 and 16 of the questionnaire were cross tabulated, resulting to table 3 of the Hypotheses.

Table 3: Distribution of the Respondents based on the Awareness of the Rate for the Exploitation of the Madrid Wood Cross Tabulated with Occupation

Occupations	Rate of the Madrid Wood exploitation				Total
	Rapid/high	Moderate	Slow	Unpredictable	
Farming	54 (72.0%)	15(20.0%)	3 (4.0%)	3 (4.0%)	75 (100.0%)
Trading	86 (60.6%)	28 (19.7%)	19 (13.4%)	9 (6.3%)	142 (100.0%)
Artisan	13 (34.2%)	12 (31.6%)	13 (34.2%)	0 (0%)	38 (100.0%)
Civil/public servant	87 (78.4%)	14 (12.6%)	10 (9.0%)	0 (0%)	111 (100.0%)
Unemployed	38 (64.4%)	8 (13.6%)	8 (13.6%)	5 (8.5%)	59 (100.0%)
Students	70 (76.1%)	5 (5.4%)	14 (15.2%)	3 (3.3%)	92 (100.0%)
Total	348 (67.3%)	82 (15.9%)	67 (13.0%)	20 (3.9%)	517 (100.0%)

X^2 value = 56.791[a], df = 15, significance level= 0.00

HO: The employed residents are less likely to be aware of the rate of commercial exploitation of the Madrid Wood in Takum LGA than the unemployed residents.

HI: The employed residents are more likely to be aware of the rate of commercial exploitation of the Madrid Wood in Takum LGA than the unemployed residents

The following values are reported at 99% confidence level. At 0.05 level of significance, the Pearson Chi-square values of tables 3 is 56.791with the p-values of 0.00, which is less than the 0.05 level of significance. This shows that there is a statistically significant relationship between the employed and the unemployed residents of Takum LGA being aware of the rate of commercial exploitation of the Madrid Wood. We therefore accept the alternative hypothesis that the employed residents are more likely to be aware of the rate of commercial exploitation of the Madrid Wood than the unemployed residents in Takum LGA.

Hypothesis Three: The Strategies for Controlling the Commercial Exploitation of the Madrid Wood Tree is more likely to be dependent on the Level of Education in Takum LGA

To test this hypothesis, item 4 and table of figure 12 of the questionnaire were cross tabulated, resulting to table 4 of the Hypotheses.

Table 4: Distribution of Respondents on the Strategies for Controlling the Commercial Exploitation of the Madrid Wood Tree Cross Tabulated on the Level of Education in Takum LGA

Educational level	Avoidance of illegal logging	Strict implementation of forest policy and punishment of offenders	Replanting of logged trees by loggers and traders	Eco-forest/ selective exploitation	Prosecution of corrupt government officials in charge of forest management	Orientation of the general public on the effects of deforestation	Total
Non-formal education	9(11.8%)	9 (11.8%)	38 (50.0%)	5 (6.6%)	0 (0%)	15 (19.7%)	76 (100%)
Primary education	5 (6.7%)	8 (10.7%)	35 (46.7%)	3 (4.0%)	0 (0%)	24 (32.0%)	75 (100%)
Secondary education	16 (15.4%)	11 (10.6%)	44 (42.3%)	7 (6.7%)	4 (3.8%)	22 (21.2%)	104 (100%)
Tertiary education	9 (3.4%)	30 (11.5%)	162 (61.8%)	4 (1.5%)	11 (4.2%)	46 (17.6%)	262 (100%)
Total	39 (7.5%)	58 (11.2%)	279 (54.0%)	19 (3.7%)	15 (2.9%)	107(20.7%)	517 (100%)

X^2 value = 42.800[a], df = 15, significance level= 0.00

HO: The strategies for controlling the rapid commercial exploitation of the Madrid Wood tree are less likely to be dependent on the level of education.

HI: The strategies for controlling the rapid commercial exploitation of the Madrid Wood tree are more likely to be dependent on the level of education.

The following values are reported at 99% confidence level. At 0.05 level of significance, the Pearson Chi-square value of tables 4 is 42.800 with the p-values of 0.00, which is less than the 0.05 level of significance. This shows that there is a statistically significant relationship between the level of education and the strategies for controlling the rapid commercial exploitation of the Madrid Wood tree for the avoidance of deforestation. We therefore accept the alternative hypothesis that the strategies for controlling the rapid commercial exploitation of the Madrid Wood tree for the avoidance of deforestation is more likely to be dependent on the level of education.

III. DISCUSSION OF FINDINGS

This scholarly study determined the Determinants and consequences of commercial exploitation of Madrid Wood (*Pterocarpus erinaceus*) in Taraba State, Nigeria. Data for the study were generated through the distribution of 517 questionnaires; in-depth interview was equally administered and further used to generate responses from the LGA Chairman of Takum, the Forestry Director and Eight Madrid Wood Merchants. Majority of the respondents opined that the commercial exploitation of the Madrid Wood curtailed the level of unemployment rate and crime in the study area. They were also of the views that it will result to deforestation, the extinction of the Wood in the near future, and alter climate. Ahmed, Oruonye, and Ayuba, (2016) asserted that about 30 trailer loads of Rosewood or more are transported from a single site in Mayo-kam, Taraba State weekly. This gives an estimated 2,250 stands of Rosewood trees that are felled weekly and 132,600 stands felled annually invariably, not less than 400,000 stands of Rosewood trees have been felled in this single site in the last three years that the activity has thrived in the area. According to them, these exploitative activities are also taking place in Garba-chede, Gassol, Bali, Gashaka, Kurmi, Ardo-kola, Mutum-Biyu and Takum LGAs of Taraba State.

Results obtained from the first hypothesis shows that government do not place ban on the commercial exploitation of the Madrid Wood because of revenue generation. This findings is in line with what the Raw Material Research and Development Council (RMRDC), (2009) indicated that Management focuses now almost entirely on revenue collection. This findings is also in consonant with the work of Aiyetan, (2016) who stressed that in 2014, more than 30,000 Chinese companies traded in Rosewood products, generating domestic retail revenues of over $25 billion. He further unravelled that smart Chinese businessmen are exploiting Nigeria forest resources due to the country's weak regulations on forest resources and lack of government policy and direction as well as official corruption by government officials to drive an illegal trade and export of the country's forestry resources that might have grave consequences for both the environment and the country. Bosu, (2013) also added that the harvesting and trade in Rosewood involves a complex web of actors and trade value chain, coupled with a weak forest regulatory frameworks as well as weak monitoring and enforcement regimes evidenced in most West African countries and Nigeria in particular.

Findings from the second hypothesis revealed that the employed residents are more likely to be aware of the rate of commercial exploitation of the Madrid wood than the unemployed residents. This is also in agreement with Aiyetan, (2016) work which stated that timber merchants working for or employed by the Chinese businessmen are moving from one state to another depleting the Rosewood resources in their forest, leaving empty landscapes without minding the enduring effects of the unrestrained harvesting of the product on the environment. This implies that those who are engaged in the trade either the loggers, loaders, transporters and buyers are more knowledgeable on the rate of the Madrid Wood exploitation because they are directly involved in the activities.

Findings from the third hypothesis indicate that the strategies for controlling the rapid commercial exploitation of the Madrid Wood are dependent on educational level. This finding is consistent with the opinion of the European Commission (2008) which stressed that illegal logging has been identified as the driver of degradation and loss of forest resources throughout the world. Which the educated are said to be more likely aware of the appropriate strategies to control the unrestrained commercial exploitation of the Madrid Wood. Aber, (2001) stated that Rosewood face a diversity of worldwide threats including illegal logging, forest conversion for agricultural purposes, increasing frequency and severity of forest fires which may also cause increasing atmospheric acidification as a result of global climate change that can reduce the ability of these species to recover from disturbances. Aiyetan, (2016) asserted that Taraba state may be the next state to suffer total depletion of its Rosewood resources in the country due to perpetual illegal and indiscriminate exploitation of the Rosewood. Bosu, (2013) unraveled that the indiscriminate exploitation of the Rosewood tree as started causing a lot of deforestation and degradation. He further asserted that in 2015, many small areas of forest which hitherto serve as habitat for wildlife species have been destroyed by the indiscriminate exploitation of the tree.

Implication of the Study to Theories

The findings of the study is in consonant with Neo Malthusian theory unmasked by Hardin (1968), which reveals that what is responsible for environmental degradation is individual selfishness or interest over the common pool of resources. Individuals who are willing to engage in the Madrid Wood trade are freely accessing the forest where the Woods are found without any form of restriction by the forestry officials or department provided that revenue will be paid to the government via her check points officials. Both the state and local governments are only interested on the revenue attached to the trade without been mindful of the rapid commercial depletion of the Madrid Wood and its aftermath. The species are logged without selection, the forest which the species are found are not guarded by the forestry department. This is also in agreement with what the Raw Material Research and Development Council (RMRDC), (2009) unveils that Management focuses now almost entirely on revenue collection. Government officials are not deployed to the forest to control what is happening at the points of logging, they are only found at the check points to collect revenue. Individuals who are into the trade too are not in any way concern about the negative impacts associated with the uncontrolled depletion of the wood since they are engaged into well paid venture. Their major concern is on the financial benefit they

are generating from the trade, synonymously they are only mindful of themselves without been mindful of the society at large.

The outcome of the study which reveals that the rapid commercial depletion of the Madrid Wood will result to deforestation, flood, erosion, and warmer temperature is in line with the view of New Ecological Paradigm which states that humans are ecologically interdependent with other species in the environment. This implies that there is an interdependent relationship between humans and the natural environment. So, as the environmental resources are rapidly depleted, humans will be impacted by the effects which may pose great threat on humans' health and on the environment.

Contribution of the Study to Knowledge

This study contributed to knowledge by filling the void that hitherto existed in literature on the study area by doing justice to the subject matter of interest captioned determinants and consequences of commercial exploitation of Madrid Wood (*Pterocarpus erinaceus*) in Taraba State, Nigeria. While previous studies focused on the indiscriminate exploitation of Rosewood in Burkina Faso, Gambia, Ghana, Mali, Senegal, Togo, and Taraba State, Nigeria.

The study signifies that despite the economic benefits attached to the rapid commercial depletion of the selected species of the tropical hard Woods, there are also dire consequences that may affect both the rich and the poor in the society which without proper control can supersede the short time economic gains and pose tremendous threat on humans health, society and the environment through reduction of oxygen and carbon dioxide absorption, exposure of the environment to shocks such as increase in climate change, flood, erosion, drought and/or dissertation. Therefore, the study of this nature will prompt researchers, government, Non-governmental organizations, and environmental agencies among others to take measures that will help curb the aforesaid challenges. More to that the study will serves as template for others who wish to research in such or related areas.

IV. CONCLUSION

The findings of this scholarly paper indicate that the commercial exploitation of the Madrid Wood in Taraba State has both positive and negative impacts. The positive aspect deals with revenue generation by the government, job opportunities for the unemployed residents in the community, individuals income generation, provisions of roads, reduction of crime rate due to the reduction of idleness by unemployed youths among others. Butler (2012) articulates that rainforest help in maintaining the climate which is achieved by regulating atmospheric gases, stabilizing rainfall and protecting against desertification. Butler also stressed that deforestation can therefore deprive the planet of these functions thus constituting a serious threat to human existence. And more carbon is released into the atmosphere through deforestation, climate changes take place and soil is exposed to rainfall thus promoting erosion.

The negative aspect deals with the massive depletion and reduction of the species which may likely result to the extinction of the tree in the near future, deforestation which is capable of causing erosion and global warming among others. According to the Effects of Deforestation (2010) trees are the oldest, reliable, very useful and widely used raw materials that play a crucial role in oxygen supply and absorption of greenhouse gasses. It further stressed that deforestation has caused the loss of 50 to 100 animal and plant species each day, and many of these species are now at the verge of extinction even with their significant importance to humans, especially in the area of medicine.

V. RECOMMENDATIONS

It is recommended that:

- Employment opportunities should be created for the unemployed youths including skills development programmes so as to curtail the commercial exploitation of the Madrid wood which is already seen as a major source of employment for the youths in the State.
- More attention should be given to the forestry policy on the replanting of logged trees, and endangered species should be privatised by the government.
- Government should place ban on the uncontrolled depletion of the specie and its export in order to avoid its extinction and deforestation. Public awareness campaign should also be created on the effects of deforestation through the various media platform, village chiefs and district heads.
- Government should empower the forestry department to fully enforce the forestry laws and policies in Nigeria and Taraba state, and to prosecute any corrupt government official and offenders.

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