

Rosewood Trade: China's Economic Exploitation of Nigeria a Case Study of Taraba State

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Abstract: Rosewood and other precious tropical Woods have been subject to increasing demand over the past number of decades in China where they are used for the construction of furniture to satisfy the appetite of the Country's middle class whose wealth has been on the increase. Timber merchants working for Chinese businessmen are moving from one state to another in Nigeria depleting the Rosewood resources in their forests, leaving empty landscapes without minding the enduring effects of unrestrained harvesting of the product on the environment. Apart from the effect on the environment, the forestry experts fear that the illegal activities of local and Chinese merchants will also have telling economic implications in the near future on many communities where the forests that grow the much sought-after tropical Woods are located. This study examined the Rosewood Trade: China's Economic Exploitation of Nigeria, A case study of Taraba State, Nigeria. A cross sectional survey research was conducted to generate the research data used to answer the research questions. Secondary sources of data collection 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 questionnaires were analyzed with the help of Statistical package for the social sciences (SPSS). Thus, amongst other recommendations, the study recommends that the government of Taraba State should empower its forestry department to fully enforce the country's forestry laws and policies. 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: Rosewood, Rosewood trade, economic, exploitation, Taraba, Nigeria, China

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I. INTRODUCTION

Rosewood and other precious woods have been subject to increasing demand over the past number of decades due to the increasing wealth of the middle class in China. As such, tree species that produce precious woods under the umbrella term '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). Asian imports of Rosewood have increased dramatically in recent years (Wenbin, and Xiufang, 2013). According to Lawson, (2015), 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). These imports increased by more than 1,700 in volume: from 50m³ (total Chinese imports during the first quarter of 2010) to 89,301 m³ (total Chinese imports during the first quarter of 2015). During the first quarter of 2015, nearly 30% of the total value of China's imports of Rosewood and nearly 55% of the volume of Chinese imports of rosewood came from West Africa. This quantity was negligible four years ago. He further stated that West Africa is now competing with the Southeast Asia as the main exporting region of rosewood to China. Available information indicates that Chinese imports of Rosewood from West Africa are in fact presently focused on a single species: *P. erinaceus*.

Lawson (2015) articulates that, all the countries of the region do not have the same export-related weight of Rosewood to China. The major exporting countries of West Africa from September 2014 to August 2015 are Nigeria (38% of total regional exports in value), Ghana (18%), Gambia (11%), Côte d'Ivoire (11%), Guinea-Bissau (8%), Benin (7%) and Togo (5%). Thus, once the various populations of *Pterocarpus erinaceus* are commercially exhausted at the regional level, there is concern that commercial networks will focus on other

endemic Rosewood species, such as *Diospyros crassiflora* or *Dalbergia melanoxylon*, triggering new vicious cycles of intensive exploitation of the resource and expansion of illegal practices, before the commercial depletion of existing stocks that will stimulate interest in new species.

Aiyetan, (2016) elucidates 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. In many states, including Kogi, Ekiti, Ondo, Ogun, Taraba, Kaduna, Adamawa and Cross River, a rapacious demand by China for an ornate species of Wood, Rosewood (*Pterocarpus erinaceus*), locally known as Madrid Wood, has, since late 2013, fuelled an unprecedented frenzy of illegal logging of the wood that is fast depleting the nation's natural forestry resources. Aiyetan, stressed 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 unrestrained harvesting of the product on the environment. Forestry experts are worried that the unrestrained and uncontrolled harvesting of the special type of timber across the states in Nigeria will have devastating impact on the environment and contribute immensely to global warming which is currently threatening the world. Apart from the effect on the environment, the forestry experts fear that the illegal activities of local and Chinese merchants will also have telling economic implications in the near future on many communities where the forests that are being violated are located. Since 2011, it appears that Chinese traders in search of Rosewood have moved from one West African country to the other despite the stiffer controls and regulations by each country and the depletion of the forest resources. It started with The Gambia which became the largest exporter of Rosewood from the sub region to China but supplies soon dwindled following an export ban in that country, forcing the traders to look at, in turn, Guinea Bissau, Togo, Benin, Ghana and, most recently, Nigeria. The illegal logging and export of Rosewood continues to thrive in these countries in spite of restrictions and bans on many of them (Aiyetan, 2016).

In many West African countries, a historical driver of deforestation has been noncompliance with forest-related laws and the poor governance of the forest resource. The substantial amount of illegal activities in the sector is a symptom of this failure. 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). Nigeria's timber resources as represented by hard wood trees have been depleted by over logging, which has in turn reduced the country's dense forests outlay. The Nigerian former Minister of Environment, Amina Mohammed, pointed out that over 576 million trees are lost in the country annually due to deforestation, she stressed that this situation has led to the increased rate of desertification, flooding and drought in some parts of the country (Tunde, 2017). 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).

In Nigeria, where forestry matters are handled by state governments because they own all the forestry estates in the country, logging of timber, including Rosewood, is banned or allowed only under license, but traders have free access to the forests across the country because of poor regulations, monitoring and local corruption. From a net importer of timber in 2011 and a marginal exporter of rosewood logs in 2013, posting a mere 30,866m³, Nigeria was by the end of 2014, according to Chinese Customs records, exporting 242,203m³ of Rosewood to China, and 18 fold increase. Socio-economically, most rural communities depend almost entirely on the forest as a source of livelihood – their food, drugs, weaponry, shelter etc. So, deforestation threatens the existence and prosperity of these communities; he added that plants (trees) take in carbon dioxide to make their food and release oxygen. Carbon gasses are the greenhouse gasses that cause global warming that leads to climate change. Trees therefore, act as a sink for carbon dioxide and other greenhouse gasses. So deforestation destroys trees that would otherwise act as a carbon sink and curb climate change (Aiyetan, 2016).

Research Questions

The following research questions were formulated to guide the study:

- i. Which countries are the Rosewood logs mostly exported to?
- ii. What is the rate of the Rosewood trade in Taraba State?
- iii. Is there any development carried out by the exporter in any of the Rosewood producing areas within the State?
- iv. Do State government collect revenue from the trade? If yes, how much do they collect per truck?
- v. Do State government place ban on the Rosewood trade?
- vi. What are the strategies to curb the exploitation of the Rosewood?

Objectives of the Study

The general objective of the study is to examine Rosewood Trade: China's Economic Exploitation of Nigeria, A case study of Taraba State. The following specific objectives have been outlined to guide the study:

- i. To find out the country where Rosewood logs are mostly exported to.
- ii. To ascertain the rate of Rosewood trade in Taraba State.
- iii. To determine whether there is any development that is carried out by the exporter in any of the Rosewood producing areas within the State.
- iv. To find out whether the State government collect revenue from the trade, and the amount government collect per truck.
- v. To ascertain whether government place ban on the Rosewood trade
- vi. To determine the control strategies to curb the exploitation of the Rosewood.

II. CONCEPTUAL CLARIFICATION

Rosewood trade simply connotes the commercial exchange of Rosewood. Rosewood is locally known as Madrid Wood while, its botanical name is *Pterocarpus erinaceus*. "*Pterocarpus*" means "winged fruit," from the Greek "pteron" (wing) and "karpos" (fruit). *Pterocarpus erinaceus* belongs to the *Fabaceae* (legumes) family and *Papilionaceae* subfamily. *Pterocarpus erinaceus* is a Rosewood species, a deciduous legume tree of African savannahs (Bosu, 2013). It is a deciduous tree with a high, open, few-branched crown; usually growing at a height range of 12-15m tall with some specimens reaching 25m (Burkil, 2004). It has a trunk diameter averaging between 1.2m and 1.8m. It comprises of a rough dark grey bark, which covers the trunk, the branches which are usually light grey (Babalola, 2012). The showy and attractive golden-yellow flowers that is considerable potential as an ornamental which are visible from December to February in its natural range of which it cover the full canopy during flowering (Balarabe, 2011). Rosewood also produces leafy fodder high in protein, which makes an excellent animal feed crucial for the survival of livestock during the dry season (Hutchinson *et al*, 1958).

Utilization of Rosewood

In the various regions where Rosewood grows naturally, the species is known for its multiple utilizations. Rosewood timber is one of the most sought-after in West African dry forests, both for its colour (varying from pink-red to dark brown, with dark streaks) and its technological qualities that make it an ideal wood for furniture manufacturing, decorative panels, flooring and various utensils. (Bowling, 2000).The species has also been used locally as construction lumber (heavy construction) and for exterior joinery including doors and windows (Burkil, 2004).

It is worth noting that the resin is used for dyeing traditional fabrics, giving them a dark purplish colour much appreciated. Rosewood is also harvested to be transformed into coal because of its excellent calorific value. The species also plays a key role in animal feeding. The foliage of Rosewood is a nutritious fodder for farm animals. Indeed, the leaves, once dried, provide fodder of high nutritious quality (energy-rich, rich in proteins and minerals such as phosphorus). For this reason, farmers usually prune trees and integrate leaves in their agro-pastoral system, enabling the livestock to survive the dry season. This fodder is highly sought in the major urban markets of the region. Mali has an active market for this which is in high demand by sheep farmers for fodder (Hutchinson *et.al.*, 1958). Thus, in Bamako (capital of Mali), more than 1400 tons of Rosewood fresh leaves are reportedly sold each year to feed livestock in urban areas, especially sheep. This supply does not meet the high demand, which was estimated at about 8,000 tonnes per year (Central Intelligence Agency, World Fact Book, 2007).

Due to its various local utilizations and despite the plasticity of the species, the first signs of overexploitation of the populations of Rosewood have been described in several countries in the region, including Benin, Burkina Faso, Ghana and Togo (Effects of Deforestation, 2010). However, despite the importance devoted to this multi-purpose species, many countries of the range do not have adequate information on the current state of natural populations, especially in order to develop appropriate management strategies of the resource.

In Nigeria, there are different plants noted for several pharmacological and medicinal utilization of which Rosewood tree is not an exception. Several ethnobotanical studies of the plant have been reported by researchers in management of some ailment. Naturally, this type of vegetation is endemic to trypanosomiasis (sleeping sickness). Trypanosomiasis, is majorly managed traditionally by rosewood tree and have been indicated as both significant *in vitro* /*in vivo* anti-trypanosomal activity (Hunter, *et al*, 2005).

A number of studies demonstrated the importance of *pterocarpus erinaceus* in other pharmacological and medicinal uses for yellow fever and antimicrobial treatments (Enabor, 1981). These include the use of leaves, in particular as a febrifuge to treat fever, the bark would help to fight against oral infections (for tooth and mouth troubles) and the bark decoction has also been used for the treatment of tumours of the gland,

urethral discharges and as restorative (Irvine, 1961). The decoction of the stem bark resin as astringent for severe diarrhoea and dysentery and as an ingredient in abortifacient prescriptions. The grated root is mixed with tobacco and smoked in a pipe as a cough remedy (Hutchinson *et al*, 1958; Sandrine, 2006).). It is also used as a dressing on ring worm of the scalp and chronic ulcers (Dalziel, 1948).

III. REVIEWED AND ADOPTED THEORIES

The following theories were selected and adopted for this research work:

New Ecological Paradigm

In the 1970s, The New Ecological Paradigm (NEP) conception critiqued the claimed lack of human-environmental focus in the classical sociologists and the Sociological priorities their followers created. This was critiqued as the Human Exceptionalism Paradigm (HEP). The HEP viewpoint claims that human-environmental 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. Research proceeded accordingly without environmental analysis. In the 1970s, sociological scholars Riley Dunlap and William R. Catton, Jr. 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, 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 because the earth has a finite level of natural resources and waste repositories.

Eco-Marxism

In the middle of the HEP/NEP debate, the general trend of Neo-Marxism was occurring. There was cross pollination. Neo-Marxism was based on the collapse of the widespread believability of the Marxist social movement in the failed revolts of the 1960s and the rise of many New Social Movements that failed to fit in many Marxist analytic frameworks of conflict sociology. Sociologists entered the fray with empirical research on these novel social conflicts. Neo-Marxism's stress on the relative autonomy of the state from capital control instead of it being only a reflection of economic determinism of class conflict yielded this novel theoretical viewpoint in the 1970s. Neo-Marxist ideas of conflict sociology were applied to capital/state/labor/environmental conflicts instead of only labor/capital/state conflicts over production. Therefore, some sociologists wanted to stretch Marxist ideas of social conflict to analyze environmental social movements from this materialist framework instead of interpreting environmental movements as a more cultural "New Social Movement" separate than material concerns. So "Eco-Marxism" was based on using Neo-Marxist conflict sociology concepts of the relative autonomy of the state applied to environmental conflict. Two people following this school were James O'Connor (*The Fiscal Crisis of the State*, 1971) and later Allan Schnaiberg. Later, a different trend developed in Eco-Marxism via the attention brought to the importance of metabolic analysis in Marx's thought by John Bellamy Foster. Contrary to previous assumptions that classical theorists in sociology all had fallen within a Human Exemptionalist Paradigm, Foster argued that Marx's materialism lead him to theorize labor as the metabolic process between humanity and the rest of nature (Buttel, Frederick, and Humphrey, 2002).

There was an assumption his analysis was very similar to the anthropocentric views critiqued by early environmental sociologists. Instead, Foster argued Marx himself was concerned about the Metabolic Rift generated by capitalist society's social metabolism, particularly in industrial agriculture. Marx had identified an "irreparable rift in the interdependent process of social metabolism", created by capitalist agriculture that was destroying the productivity of the land and creating wastes in urban sites that failed to be reintegrated into the land and thus lead toward destruction of urban workers health simultaneously (Diamond, and Jared, 2005). Reviewing the contribution of this thread of eco-marxism to current environmental sociology, Pellow and Brehm conclude that the metabolic rift is a productive development in the field because it connects current research to classical theory and links sociology with an interdisciplinary array of scientific literatures focused on ecosystem dynamic (Dunlap, Riley, and William Michelson, 2002).

IV. ROSEWOOD TRADE: CHINA'S ECONOMIC EXPLOITATION OF NIGERIA

Rosewood trade has become a way for the exploitation, subjugation and incorporation of Nigeria's economic to Chinese economy through unsustainable rapid commercial depletion of the species. Demand for luxury furniture made of Rosewood has soared among China's burgeoning middle class at an unprecedented rate, particularly since 2010. This has resulted in high demand for Rosewood, thereby driving illegal and unsustainable logging on an alarming scale in some of the world's most endangered forests in Southeast Asia and, increasingly, Africa and Latin America. Not only is China the top market for Rosewood imports; it is also by far the biggest consumer (Bosu, 2013). In 2014, more than 30,000 Chinese companies traded in Rosewood products, generating domestic retail revenues of over \$25 billion (Aiyetan, 2016). Aiyetan, observed that since 2011, the Chinese traders in search for rosewood have moved from one west African country to the other as each country erected stiffer controls and regulations or as the forestry resources are being depleted. It started with the Gambia which became the largest exporter of rosewood from the sub-region to China but supplies soon dwindled following an export ban in that country, forcing the traders to look at, in turn, Guinea Bissau, Togo, Benin, Ghana and, most recently, Nigeria (Bosu, 2013).

Timber merchants working for Chinese businessmen are moving from one state to another in Nigeria depleting the Rosewood resources in the forests, leaving empty landscapes without minding the enduring effects of unrestrained harvesting of the product on the environment. As of 2015, Nigeria became the single largest exporter of the Rosewood logs to China, accounting for 45% of total imports to the country (Aiyetan, 2016). The Chinese demand, coupled with both extensive timber extraction, and intensive has not only threatened extinction of this highly valued Rosewood, but has also given rise to complex, organized crime networks that facilitate this trade with impunity. The harvesting and trade in Rosewood involves a complex web of actors and trade value chains, coupled with a weak forest regulatory frameworks as well as weak monitoring and enforcement regimes (Bosu, 2013) evidenced in most West African countries and Nigeria in particular. Its effects are also felt in surrounding local and indigenous forest communities, many of whom rely on Rosewood for fuel, medicine, and income even as they are induced with money by traders to harvest and transport the logs. The Rosewood timber is exported for making musical instruments, furniture and decorative items such as chess pieces, due to its unusual hardwood. The rich red colour of rosewood, as well as the hardness explains why it has always been highly prized. It takes a long time to grow and mature, making it vulnerable to unsustainable harvesting. Thus, it takes a long time to replace logged trees. The recent discovery and exploitation of *Pterocarpus erinaceus* species in Savannah lands of Taraba State has generated a lot of concern. The high rate of exploitation of this forest tree species and the large traffic flow of this wood timber across the state is a source of concern because of its likely consequence to the environment. Despite the fact that logging activities in the area are mostly through illegal operations and permit and conveyance arrangements, not much has been done by way of research to understand the dynamics of this indiscriminate exploitation of the Rosewood and its associated environmental impact to the affected areas (Aiyetan, 2016).

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. Ussa LGA is also not exempted from the Rosewood exploitative activities.

V. METHODOLOGY

The study adopted the cross-sectional research design. Babbie, (2010) asserted that cross-sectional research design involves observation of a sample, or cross section of a population or phenomenon that are made at one point in time. This design is best suited for the study because it permits the researcher to obtain useful data in a short period of time from a sample as well as generalization of research result to the entire population of the study. Yamane's (1967) formula for determining sample size was adopted which resulted to a sample size of 544. The study also adopted probability sampling techniques; Simple random sampling served as sampling techniques in generating data via questionnaire. The reason is that the aforesaid sampling techniques did justice to the study.

The study was anchored on both qualitative secondary sources of data collection and quantitative method of data collection which is questionnaire. The combination of these methods is considered appropriately since no single source can be dependent upon to elicit the required spread and depth of information. The questionnaire was open and close ended. The open ended items gave the respondents an opportunity to express their own views on the subject matter of interest or give additional information to the one already provided in

the options. While close ended items specifically restricted the respondents to choose from the option provided in the questionnaire.

Four research assistants were recruited and trained by the researcher to help in the administration of the instruments. In addition to coding the data and subjecting them to Statistical package for the social sciences (SPSS) treatment, different tables were drawn to indicate the various responses on different questions raised in the questionnaire. Simple frequency percentages were used to capture the study's findings from the substantive issues of the research.

VI. DATA PRESENTATION AND ANALYSIS

Table 1: Distribution of respondents based on the exporting country for the Rosewood logs

Exporting country for the Rosewood logs	Frequency	Percentages (%)
China	489	94.6
United State of America (USA)	10	1.9
Japan	18	3.5
Total	517	100.0

Source: Field survey (2018)

Table 1 shows that 94.6% of the respondents affirmed that China is the exporting country for the Rosewood logs, 1.9% responded that United State of America is the exporting country for the Rosewood logs and 3.5% responded that Japan is the exporting country for the Rosewood logs trade. Their respective frequencies were 489, 10 and 18. The respondents that agreed that China is the exporting country for the Rosewood logs trade were highest in number while those that agreed that United State of America is the exporting country for the Rosewood logs were lowest in number.

Table 2: Distribution of respondents based on their knowledge on the rate of the Rosewood trade

Rate of the Rosewood trade	Frequency	Percentages (%)
Rapid/high	348	67.3
Moderate	82	15.9
Slow	67	13.0
Unpredictable	20	3.9
Total	517	100.0

Source: Field survey (2018)

From table 2, 67.3% of the respondents agreed that rate of the Rosewood trade is high/rapid, 15.9% of the respondents agreed that rate of the Rosewood trade is moderate, 13.0% agreed the rate of the Rosewood trade is slow while 3.9% agreed that the rate of the Rosewood trade is unpredictable. Their respective frequencies were 348, 82, 67 and 20. The respondents that agreed that rate of the Rosewood trade is high/rapid were highest in number while those agreed that the rate of the Rosewood trade is unpredictable were lowest in number.

Table 3: Distribution of respondents on any development/non development in the state by the exporter

Development/non development by the exporter	Frequency	Percentages (%)
Yes	8	1.5
No	508	98.3
Don't know	1	0.2
Total	517	100.0

Source: Field survey (2018)

Table 3 reveals that 1.5% of the respondents affirmed that there are developments executed by the exporter (export country) of the Rosewood in the state, 98.3% responded that there is no any development executed by the exporter (export country) of the Rosewood in the state and 0.2% of the respondents don't know if there are any development executed by the exporter (export country) of the Rosewood in the state. Their respective frequencies were 8, 508 and 1. The respondents that agreed that there is no development executed by the exporter (export country) of the Rosewood in the state were highest in number while those that don't know if there is any development executed by the exporter (export country) of the Rosewood in the state were lowest in number.

Table 4: Distribution of respondents on the generation of revenue from the trade by the government

Government revenue generation	Frequency	Percentages (%)
Yes	482	93.2
No	14	2.7
Don't know	21	4.1
Total	517	100.0

Source: Field survey (2018)

From table 4, 93.2% of the respondents believed that government collect revenue from the Rosewood trade, 2.7% don't believe that government collect revenue from the Rosewood trade while 4.1% believed don't know if government collect revenue from the Rosewood trade Their respective frequencies were 482, 14 and 21. The respondents that believed that government collect revenue from the Rosewood trade were highest in number while those that don't believe that government collect revenue from the Rosewood trade were the lowest.

Table 5: Distribution of respondents on the amount of revenue state government is generating from the trade on each truck

State revenue generation	Frequency	Percentages (%)
400,000 naira	481	93.0
350,000 naira	4	0.8
250,000 naira	4	0.8
Don't know	28	5.4
Total	517	100.0

Source: Field survey (2018)

Table 5 indicates that 93.0% of the respondents believed that the state government generates #400,000 from the trade on each truck, 0.8% of the respondents believed that the state government generates #350,000 from the trade on each truck, 0.8% of the respondents believed that the state government generates #250,000 from the trade on each truck and 5.4% of the respondents don't know how much the state government generates from the trade on each truck. Their respective frequencies were 481, 4, 4 and 28. The respondents that believed that the state government generates #400,000 from the trade on each truck were highest in number while those that believed that the state government generates #350,000 and #250,000 respectively from the trade on each truck were lowest in number.

Table 6: Distribution of respondents on the placement/non-placement of ban on the Rosewood trade

Placement/non-placement of ban by government	Frequency	Percentages (%)
Yes	7	1.4
No	454	87.8
Don't know	56	10.8
Total	517	100.0

Source: Field survey (2018)

Table 6 indicates that 1.4% of the respondents agreed that government place ban on the on the Rosewood trade, 87.8% responded that government did not place ban on the Rosewood trade, while 10.8% responded that they don't know whether government place ban on the Rosewood trade. Their respective frequencies were 7, 454 and 56. The respondents that who said government did not place ban on the trade were highest in number while those that agreed that government place ban on the Rosewood trade were lowest in number.

Table 7: Distribution of respondents on the Strategies to curb the exploitation of Rosewood

Strategies to curb the exploitation of Rosewood	Frequency	Percentage (%)
Avoidance of illegal logging	39	7.5
Strict implementation of forest policy and punishment of offenders	58	11.2
Replanting of logged trees by loggers and traders	279	54.0
Eco-forest/selective exploitation	19	3.7
prosecution of corrupt govt. officials in charge of forest management	15	2.9
orientation of the general public on the effects of deforestation	107	20.7
Total	517	100.0

Source: Field survey (2018)

Table 7 shows that 7.5% of the respondents agreed that the strategies to curb exploitation of Rosewood is by avoiding illegal logging, 11.2% of the respondents agreed that the strategies for curtailing/controlling the

rapid commercial depletion of the Rosewood is by strict implementation of forest policy and punishment of offenders, 54.0% of the respondents agreed that the strategies to curb exploitation of Rosewood is by replanting logged trees by loggers and traders, 3.7% of the respondents agreed that the strategies to curb exploitation of Rosewood is by eco-forest/selective exploitation, 2.9% of the respondents agreed that by prosecuting corrupt government officials in charge of forest management and 20.7% of the respondents affirmed that is by educating the general public on the effects of deforestation. Their respective frequencies were 39, 58, 279, 19, 15 and 107. The respondents that agreed the strategies to curb the exploitation of Rosewood is by replanting logged trees by loggers and traders were highest in number while those that agreed that the strategies to curb the exploitation of the Rosewood is by prosecuting corrupt government officials in charge of forest management were lowest in number.

VII. DISCUSSION OF FINDINGS

This study determined Rosewood Trade: China's Economic Exploitation of Nigeria, A Case Study of Taraba State. Results obtained from the study shows that government do not place ban on the Rosewood trade 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. Therefore, the non-placement of ban on the exploitation of the Rosewood may likely result to the extinction of the species and environmental degradation which is tantamount to the views of Ahmed, Oruonye, and Ayuba, (2016) which reveals 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.

Furthermore, the findings also indicate that the awareness of the strategies to curb the exploitation of the Rosewood is 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. 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. Bosu, (2013) unmasked that the indiscriminate exploitation of the Rosewood tree as started causing a lot of deforestation and degradation. He further articulated 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. 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.

VIII. CONCLUSION

Based on the findings of the study it was observed that the Rosewood trade has both positive and negative impacts in the study area. The positive aspect deals with revenue generation by the government, job opportunities for the unemployed residents in the community, individual's income generation among others. While the negative impact deals with loss of major source of revenue for the State, massive 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. According to the Federal Ministry of Environment cited by Babalola (2012), 400 out of 1000 of forest land are deforested every year and only 26 hectares of these are forested thus leaving 374 hectares deforested. International Institute of Tropical Agriculture (IITA) (2011) Stated that Nigeria is ranked the worst country with the highest deforestation rate. It was further stated that the deforestation rate in Nigeria is put at 3.5% and 400,000 hectares every year.

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 unveiled 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. 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.

IX. RECOMMENDATIONS

- Based on the findings of the study, it is recommended that the 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.
- 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 create employment and skills development programmes to the youths so as to take away their attentions from the commercial depletion of the Madrid wood which is already seen as source of employment in the area.
- Government should revitalize the forestry policy on the replanting of logged trees. And endangered species should be privatised.

REFERENCES

- [1]. A World Bank study. Washington, DC: World Bank. Retrieved from <http://documents.worldbank.org/curated/en/2012/03/15966880/justice-forests-improving-criminal-justice-efforts-combat-illegal-logging>.
- [2]. Aber, J. et al (2001). Forest Processes and Global Environmental Change: Predicting the Effects of Individuals and Multiple Stressors. *Bioscience*, Vol. 5 (2), pp. 732-751.
- [3]. Adebayo, A. A. (2010). Federal University of Technology Yola 8th Inaugural Lecture: *Climate: Resource and Resistance to Agriculture* 48:15-22.
- [4]. Agency (CIA) *World Fact Book*.(2012). Retrieved from www.allcountries.org/wfb2007/haiti/haiti_economy.html.
- [5]. Ahmed Y.M, Oruonye E.D and Ayuba H.K. (2016). *Socio-economic Impact of Commercial Production of Rosewood (P. erinaceus) in Taraba State, Nigeria*. Journal of Agriculture and Ecology Research International 7(3): 1-9.
- [6]. Aiyetan, D. (2016). *How China Fuels Deforestation In Nigeria* West Africa. International Centre of Investigative Research (ICIR). www.icirnigeria.org.
- [7]. Ajibade, S.A (2002): *The use of GI S in Environmental Protection and Monitoring: A case study of utility management*. NIS 37th Annual General Meeting (AGM Alexander, D. (1993). Natural disasters Kluwer Academic Publishers, London pp 650.
- [8]. Ali, A.M.S (2009) *September 2004 flood events in South West Bangladesh: A study of its Nature, Causes, Human Perception and adjustment to New Hazards*. Natural Hazards 40: 89-111.
- [9]. Analysis of the International Trade in Pterocarpus Erinaceus and its Consequences in West Africa. Information Document for Twenty Second Meeting of the Plants Committee Tblisi (Georgia), 19-23.
- [10]. Andrade, M. I., Scarpati, O.E. (2007). *Recent changes in Flood Risks in Gran La Plata, Buenos Aires Province Argentina: causes and management strategy*. Geo-Journal 70: 245-250.
- [11]. Angelsen, A. (2006). *A stylized model of incentives to convert, maintain or establish forest*. Background Paper for World Bank Policy Research Report entitled "At Loggerheads: Agricultural Expansion, Poverty reduction and Environment in the tropical forests- 2007".
- [12]. Angelsen, A. and Kaimowitz, D. (2001). *Agricultural technologies and tropical deforestation*. CABI Publishing, Wallingford, United Kingdom.
- [13]. Atta-ur-R,Amir, N.H. (2011). *Analysis of Flood Causes and Associated Socio-Economic Damages in Hindukush Region*.
- [14]. Babalola, F. D. (2012). Charcoal business hurting forest communities. Retrieved from <http://premiumtimesng.com> <http://premiumtimesng.com/metro/5020>.
- [15]. Babbie, E. (2007). *The Practice of Social Research*. (11th ed.). USA: Wadsworth.
- [16]. Babbie, E. (2010). *Practice of social research*. Belmont: Wadsworth.
- [17]. Balarabe, L.Y. (2011). *Tackling deforestation problems*. Retrieved from allafrica.com/stories/201106031011.html.

- [19]. Barnekow, L.J.P; Dhakal, P; Kjaer, E.D; Nathan,I and Shrestha, R. (2000). *Conservation of Trees Through the use by Local People and Decentralized Seed Distribution Supported by a tree seed*. Retrieved from <http://bcb706.blogspot.com/2007/03/consequences-of-deforestation.html>.
- [20]. Barraclough, S. and Ghimire, K. B. (2000). *Agricultural Expansion and Tropical Deforestation*. Earthscan.
- [21]. Beamon, C. and Cargill, C.J. (2007). *Deforestation and Desertification*. Retrieved from <http://www.munfw.org/archive/45th/csd1.htm>.
- [22]. Bevan, D., Collier, P. and Gunning, D. W. (1989). *Peasants and Government*. Clarendon, Oxford.
- [23]. Bosu, D. (2013). *Operation Halt' chainsaw in Northern Ghana: Alarming trends and reactive responses*. www.opinion.myjoyonline.com. Published on June 11, 2013.
- [24]. Bowling, J. (2000). *A worker's view on sustainable forestry Managing forest in the Ecosystem Sustainable forest management: In Von Gadow, Pukkala and Margarida*. Kluwer Academic publishers, Dordrecht, Netherlands. pp 121.
- [25]. Bruijnzeel, L. A. (2004). *Hydrological functions of tropical forests: not seeing the soils for the trees?* *Agriculture, Ecosystems and Environment*104: 185-228.
- [26]. Bruijnzeel, L. A.; Bonell, M.; Gilmour, D. A. and Lamb, D. (2005). *Forest, water and people in the humid tropics: an emerging view Forest. Water and People in the humid tropics*, eds. Bonell, M. and Bruijnzeel, L. A. Cambridge University Press, Cambridge .
- [27]. Burgess, R; Hansen, M; Olken, B; Potapov, P. and Sieber, S. (2011).*The Political Economy of Deforestation In The Tropics*. Retrieved from www.illegal-logging.info/approach.php?a_id=201.
- [28]. Burkil, H. M. (2004). *The Useful Plants of West Tropical Africa*. Royal Botanic Gardens; Kew Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (2015).
- [29]. Buteyko, K.P. (2005). *Carbondioxide: Health effects, uses and benefits*. Retrieved from <http://www.normalbreathing.com/CO2.php>.
- [30]. Buttel, Frederick H. and Craig R. Humphrey. (2002). "Sociological Theory and the Natural Environment." pp. 33–69 in *Handbook of Environmental Sociology* edited by Riley E. Dunlap and William Michelson, Westport, CT: Greenwood Press.
- [31]. Cause and Effect of Deforestation. (2012). Retrieved from Study Mode. com <http://www.studymode.com/essays/Cause>.
- [32]. Central Intelligence Agency (CIA) *World Fact Book*. (2007).
- [33]. Chomitz, K. M. and Griffiths, C. (1996). *Deforestation, shifting cultivation and tree crops in Indonesia: nationwide patterns of smallholder agriculture at the forest frontier*. Research Project on Social and Environmental Consequences of Growth-Oriented Policies, Working Paper 4. World Bank, Washington DC.
- [34]. Chomitz, K. M.; Buys, P.; Luca, G. D.; Thomas, T. S. and Wertz-Kanounnikoff, S. (2007). *At loggerheads? Agricultural expansion, poverty reduction and environment in the tropical forests*. World Bank Policy Research Report. World Bank, Washington DC.
- [35]. Convention on International trade in Endangered Species of Wild Fauna and Flora (CITES), (2015).
- [36]. Dudley, N. and Stolton, S. (2003). *Running Pure*. World Bank and WWF, Washington DC.
- [37]. Dunlap, Riley E., and William Michelson (eds.) (2002). *Handbook of Environmental Sociology*. Greenwood Press, ISBN 0-313-26808-8.
- [38]. Dunlap, Riley E., Frederick H. Buttel, Peter Dickens, and August Gijswijt (eds.) (2002). *Sociological Theory and the Environment: Classical Foundations, Contemporary Insights*. Rowman & Littlefield, ISBN 0-7425-0186-8.
- [39]. Effects of Deforestation (2010). Retrieved from StudyMode.com. <http://www.studymode.com/essays/Effects-Of-Deforestation-498391.html>.
- [40]. Effects of Deforestation. (2010). Retrieved from StudyMode.com <http://www.studymode.com/essays/Effects-Of-Deforestation-498391.html>.
- [41]. Environmental Investigation Agency (EIA) (2014). *Rosewood and the Ongoing Illegal Logging Crisis in Belize*.
- [42]. European Commission (2008).
- [43]. Fakoya, O. (2010). *Haiti and Nigeria: Case studies in failure of Human*. Retrieved from www.nigeriansinamerica.com/articles/3937/1/Haiti-and.
- [44]. FAO, (1979). *Production Yearbook*. FAO, Rome.
- [45]. FAO. (1993). *Land and Environmental Degradation and Desertification in Africa*. United Nations Food and Agriculture Organisation, Corporate Document repository No. X5318.
- [46]. Food and Agriculture Organization. (2005). *Annual Rate of Deforestation*. Retrieved from http://green.wikia.com/wiki/Deforestation_in_Nigeria.

- [47]. Global Forest Watch (2016) “*Global Forest Watch*”. World Resources Institute. Available: www.globalforestwatch.org.
- [48]. Global Witness and environmental Investigation Agency (us). (2010). *Investigation into the Global Trade in Malagasy Precious Woods: Rosewood*. Ebony and Pallisander.
- [49]. Global Witness (2013). Retrieved from <http://www.medindia.net/patients/lifestyleandwellness/health-effects-of-global-warming>.
- [50]. Goldsten, H. (1968). *The Detection of Errors in data From Longitudinal Studies*. Proceedings of Annual Reunion of Child Growth Studies. Brussels. Centre International de L’afance, Paris.
- [51]. Goncalves, M.P; Panjer. M; Greenberg, T.S. and Magrath, W.B. (2012). *Justice for Forests: Improving Criminal justice efforts to combat illegal logging*.
- [52]. Haggett, P. (2001). *Geography: A Global Synthesis*. Pearson Education Limited, Upper Saddle River, New Jersey, pp. 321 and 349.
- [53]. Haidet, A. (2003). *Final Paper: The Medicinal Value of the Rainforest*. Retrieved from <http://jrscience.wcp.muohio.edu/fieldcourse03/PapersCostaRicaArticles/FinalPaper.TheMedicinalVa.html>.
- [54]. Hardin, G. (1968). The Tragedy of the Commons. *Science*. 162 (3859): 1243-1248.
- [55]. Houghton, R. A. (2005). *Tropical deforestation as a source of greenhouse gas emissions*. In: Tropical deforestation and Climate change, eds. Moutinho, P. and Schwartzman, S. Pp 13-20. Amazon Institute for Environmental Research, Belem Brazil. <http://www.who.int/mediacentre/factsheet/fsl34/en/print/html>.
- [56]. Hunter, N.M., Horritt, M.S., Bates, P.D., Wilson, M.D., Werner, M.G.F. (2005) *An adaptive time step solution for raster-based storage e of cell modelling of f floodplain inundation*. *Advance Water Resource* 28: 975-991.
- [57]. Hutchinson J., Dalziel J.M., and Keay R.W.J.(1958). *Floral of West Tropical Africa*. Agents for Overseas Government and Administration, London 1: pp531.
- [58]. Hutchinson, J., et al. (1958). *Flora of west tropical Africa*. Vol. 1, part 2. Crown Agents for Overseas Governments and Administrations, London.
- [59]. Innes, J. L (2010) Madagascar Rosewood, Illegal Logging and the Tropical Timber Trade. *Madagascar Conservation and Development, Vol. 5 (1)* pp. 6-12.
- [60]. Irambiya, M.I. (2002). *The Epitome of Peace*. Midland Press Limited, Jos, Plateau State.
- [61]. Irvine, F.R. (1961): *Woody Plants of Ghana*. Oxford University Press. London pp 868.
- [62]. Kant, S. and Redantz, A. (1997). *An econometric model of tropical deforestation*. *Journal of Forestry Economics*3: 51-86.
- [63]. Lawson, S. (2015). *The Illegal Rosewood Boom in West Africa: How Chinese demand is Driving Conflict, Corruption and Human Rights Abuses*. Presentation to Chatham House Illegal Logging Stakeholder Update Meeting, 25th June, 2015.
- [64]. Lawton, R. O.; Nair, U. S.; Pielke Sr., R. A. and Welch, R. M. (2001). *Climatic impact of tropical lowland deforestation on nearby Montane Cloud Forests*. *Science*294: 584-587.
- [65]. Lewis, L. A. and Coey, W. J. (1985). *The continuing deforestation of Haiti*, *Ambio*, XIV, 158±160.
- [66]. Library of Congress-Federal Research Division. (2008). *Country Profile*. Retrieved from memory.loc.gov/frd/cs/profiles/Iran.pdf.
- [67]. Loupe, D. Oteng-Amoako, A. and Brink, M. (2008) *Plant Resources of Tropical Africa*. Wageningen and Leiden: PROTA Foundation/Backhuys Publishers, pp. 704.
- [68]. Maathai, W. (2012). *Deforestation, Water Crises, and Rural Hunger*. Retrieved from en.wikipedia.org/wiki/Maathai.
- [69]. Mahapatra, K. and Kants, S. (2003). *Tropical Deforestation: A Multinomial Logistic Model and Some Country-Specific Policy Prescriptions*. *Journal of Forest Policy and Economics* 7 (2005), Elsevier, pp.1-8.
- [70]. Mangave, H. R. (2004). *A study of Elephant population and its habitats in the northern West Bengal, North East India*. M. Sc. Thesis, Bharathidasan University. Unpublished.
- [71]. Mgbe, S.U. (1981). *The Story of Kuteb and Other neighbourhood of Southern Gongola State, Ibadan, Star Press*.
- [72]. Myers, N. and Mittermeier, R. A. (2000). *Biodiversity hotspots for conservation priorities*. *Nature* 403: 853-854.
- [73]. Nayak, S. (2008). *The Causes and Effects of Deforestation*. Retrieved from www.studymode.com/...Effects-Of-Deforestation-1319342.html.
- [74]. Nigeria Population Commission NPC, (2006) *Official population census result Federal Republic of Nigeria*. Office of Statistics, Abuja Nigeria.
- [75]. O'Connor, A. M. (1991). *Poverty in Africa: A Geographic Approach*. Belhaven, London.
- [76]. Oguntala, I. A. (2000). *Oyo state in Nigeria: A people United, a Future Assured*. Survey of States vol. 2.

- [77]. Okoro, N. (2001). *Mass communication Research Issues and Methodologies*. Nsukka; A.P. Express Publishers.
- [78]. Peacock, J. (2013), *May this Day Live, Deforestation: Nigeria Ranked Worst in the world*. Retrieved from www.illegal-logging.info/content/deforestation-nigeria.
- [79]. Pimentel, D. (2006). *Study: Soil Erosion Threatens Human Health*. Retrieved from <http://phys.org/news12033.html#jCp>.
- [80]. Pinker, R. (1980). *The microclimate of a dry tropical forest*. *Agricultural Meteorology* 22: 249-265.
- [81]. Raw Material Research and Development Council, (2003).
- [82]. Raw Material Research and Development Council, (2009).
- [83]. Sahney, S., Benton, M.J. & Falcon-Lang, H. J. (2010). *Rainforest collapse triggered Pennsylvanian Tetrapod Diversification in Euramerica*. *Geology* 38 (12). Pp.1079–1082. 10.1130/G3118doi:2.1.
- [84]. Sands, R. (2005). *Forestry in a Global Context*. CABI Publishing.
- [85]. Sanusi, L. (2011). *Sanusi Predicts Increase in Nigeria's Poverty Level*. Retrieved from saharareporters.com/Article/cbn-poverty-sanusi-lamido.
- [86]. Schnaiberg, Allan. (1980). *The Environment: From Surplus to Scarcity*. New York: Oxford University Press. Available: <http://media.northwestern.edu/sociology/schnaiberg/154302-environmentalsociety/index.html>.
- [87]. Secretariat of Convention on Biological Diversity, (2009). *Sustainable forest management, Biodiversity and Livelihoods: A Good Practice Guide*.
- [88]. Senegal CITES Management Authority (2017). *CITES Cop17 Proposal (57- Pterocarpus erinaceus*. Johannesburg: Convention on International (Trade in Endangered Species.
- [89]. Shepherd, G. (1989). *An Evaluation of the Village A deforestation Project, Mwanza, Western Tanzania*. ODI for International Institute fur Zusammenarbeit, Vienna.
- [90]. Silver, C. S. and DeFries, R. S. (1990). *One Earth, One Future*. National Academy Press, Washington DC.
- [91]. Terminski, B. (2012). *Current Dynamics of Deforestation in Africa*. Retrieved from www.thenigerianvoice.com/...of-deforestation-in-africa.html.
- [92]. The Effects of Deforestation on Our Environment (2012). Retrieved from StudyMode.com. <http://www.studymode.com/essays/The-Effects-Of-Deforestation-On-Our-1314880.html>.
- [93]. The Free Encyclopedia, (2007).
- [94]. The International Institute of Tropical Agriculture (IITA). (2011). *Deforestation: Nigeria ranked worst in the World*. Retrieved from <http://www.thisdaylive.com/articles/deforestation-Nigeria-ranked-worst-in-the-world/103321>.
- [95]. The Causes and Effects of Deforestation. (2012). Retrieved from StudyMode.com <http://www.studymode.com/essays/The-Causes-And-Effects-Of-Deforestation-1319342.html>.
- [96]. The Free Encyclopedia (2007). *Deforestation*. Retrieved from <http://en.wikipedia.org/w/index.php?title=Deforestation&oldid=111799234>.
- [97]. The Free Encyclopedia (2007). *Wangari Maathai*. Wikipedia, Retrieved from http://en.wikipedia.org/w/index.php?title=Wangari_Maathai&oldid=113003501.
- [98]. The Free Encyclopedia. (2007). *Arbor Day*. Wikipedia, Retrieved from http://en.wikipedia.org/w/index.php?title=Arbor_Day&oldid=111158566.
- [99]. Transparency International (2011). *Building Judiciary Integrity to Combat Illegal Logging*. Retrieved from www.illegal-logging.info/approach.php?a_id=201.
- [100]. Transparency International. (2011). *Tackling Political Corruption to Combat Illegal Logging*. Retrieved from www.illegal-logging.info/approach.php?a_id=201.
- [101]. Trendsupdates.com (2012). *Killer Inhabitants of the Rainforests'' Killer Inhabitants of the Rainforests''* Retrieved from www.coolsocial.net/sites/www/trendsupdates.com.html.
- [102]. Treanor N. B. (2015). *China Hongmu Consumption Boom: Analysis of the Chinese rosewood Trade and Links to Illegal Activity in Tropical Forest countries*. Forest Trends, Washington D. C.
- [103]. Tunde, A. (2017). Nigerian Tribune, January 4, 2017.
- [104]. Ukali, D. U. (2013). *Bush Burning, Deforestation, contributing to Food Crisis, Global Warming*. Retrieved from <http://africaproject2020.com/?p=83>.
- [105]. United Nations Earth Summit in Rio Janeiro, (1992).
- [106]. United Nations Earth Summit in Rio de Janeiro. (1992). *Conference on Environment and Development*. Retrieved from www.un.org/geninfo/bp/enviro.html.
- [107]. Van Kooten, G. C. and Bulte, E. H. (2000). *The economics of nature: managing biological assets*. Blackwells.
- [108]. Wenbin, H. and S. Xiufang (2013). *Tropical Hardwood Flows in China: Case Studies of Rosewood and Okoume*.

- [109]. World Bank (2011). *World Bank and Deforestation in Current Events Forum*. Retrieved from www.bloomberg.com/apps/news?pid=newsarchive&sid=aFxG.0_m.LGA.
- [110]. World Bank (1990). *Sub-Saharan Africa: from crisis to sustainable growth*. World Bank, Washington DC.
- [111]. World Bank (2008).
- [112]. World Health Organization (2003). *Traditional Medicine*. www.allcountries.org/wfb2007/haiti/haiti_economy.html Central Intelligence.
- [113]. Yamane, Taro (1967). *Statistics: An Introductory Analysis*. 2nd Edition, New York: Hamper and Row.
- [114]. Yin, H. and Li, C. (2001). *Human impacts on floods and flood disasters on the Yangtze River*. *Geomorphology*41: 105-109.
- [115]. Zhang, Q. Xu, C.Y., Zhang, Z.X., Chen, Y.D., Liu, C.L., Lin, H. (2008) *Spatial and*
- [116]. *Temporal Variability of Precipitation Maxima During 1960-2005 in Yangtze River basin and possible association with large scale circulation*. *Journal of Hydrology* 353: 215-227.

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