The Economics of Deforestation in Ondo State

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Abstract: Deforestation is at the center of modern urbanization. This is because the growth of new houses and space for expansion of extant infrastructures requires that a large number of trees are displaced or consumed by the processes of urbanization. Despite this knowledge, studies have considered urbanization more from the standpoint of economic developments with little reference to the opportunity costs. Similarly, the theories of urbanization have been quiet with it costing. This study is interested in relating the number of forest woods felled to the growth in the number of urban houses. Data for the study was obtained from in-depth interviews and observations of records with the forest guards, wood loaders, and log drivers across the Akoko regions of Ondo state. This study is an attempt at valuing the cost of the growth of new towns in terms of the depletion and displacement of the forest resources. Being the richest state in forest resources in southwestern Nigeria, this study provides important insights to policymakers and relevant authorities in quantifying the rate of forest depletion.

Keywords: Urbanization, deforestation, Ondo state, forest resources

Introduction

The relationship between deforestation and urbanization has been well documented in social science literatures. In terms of the connective relationship, urbanization is seen as driving deforestation (Jones, 2010; Richards and Van Wey, 2015). But the concern of this work is not with the causal relationship. The worry is with the economics of the relationship. How much is involved in the relationship and the pay offs. In this article, we turn our analytical lenses to the effect of the exploitation of forest resources for the creation and development of new urban areas.
The concerns and choice of Ondo state as the study area of this study is based on three main reasons. First, Ondo state houses about 35% of the total forest resources of the southwestern region of Nigeria. As a result, there is the growing response of the citizenry in decapitating the forest wealth in response to demand pressure of the surrounding external for quick monetary compensation. Without conscious and careful effort at curtailing the move, the state may forfeit the long term benefits that the resources represent and face a future urbanization that will be more expensive. Secondly, the region has a very close proximity with Lagos, which serves as the exit point from where most of the exploits are exported. With a huge need of infrastructural development, the forest wealth is looked up to in providing support to the local economy. Third, the state mirrors the typical experience of many other states that are rich in forest resources. For instance, more than 80% of the forest harvests are targeted for markets outside the state. Of these proportions, more 50% of the activities are carried out unofficially and undocumented such that government gains very little from the harvests. What is more worrisome in these exploitations is the growing in-satiation of the market. As a result, Ondo state appears to be under perpetual rape of forest resources while at the same time not maximizing the benefits that the resource endowment should offers.

The forest resource is conceptualized as being exploited not mainly for the development of the immediate community but for external and remote economy. For this, we argue that forest exploitation in Ondo state is at the heart of urban growths in the south western Nigeria and is a direct residual of local and international interest in the production of timber planks for exports within an economic environment where the local urban residents lack the capacity to capture capital and value before it is extracted from the region. Like the case of the Brazilian Amazon, the deforestation is seen as occurring faster as the cities gain increasing domineering access to both rural export commodities and export corridors of the state. This study attempts to quantify the cost of the deforestations in Ondo state using data from 12 selected towns among four local governments in Akoko areas of Ondo state. The rests of the study are structured as follows. Sections 2 and 3 dealt with the conceptual issues and methodology of the study. Section 4 discussed the result and findings while section 5 concludes the study.

Conceptual Issues

Modern urban growth and housing is at the center of increase in forest resources depletion. To understand this properly, one can assess urban growth in terms of the value of tree plants and other forest resources that are consumed by the process. This is important for two main reasons. First, studies have considered urbanization mainly from the standpoint of economic developments with little reference on the opportunity costs in terms of increasing deforestation (Bertinelli and Black (2002) and Spence (2008)). With such conclusions, urbanization is seen as beneficial in as much as it leads to expansions of the city settlements and stimulation of further economic activities. Secondly, the theories attempting to cost urbanization have been largely generic (Linn, 1982). As a result, the disproportional growth caused by urbanization in terms of impoverishing the rural to pay the urban centers is underpriced.

The case of Ondo state calls for a serious concern because of two main reasons. First, within the last two decades, at least eighty thousand trees were harvested annually from various locations and forests in the state (MNR, 2008). Despite this worrisome development, the trend has not declined (Adekunle, Olagoke and Ogundare, 2010). In attempt at taming the trend, the state government banned logging activities at four intervals between 2010 and 2017with reviews on the tariffs and conditions for logging after each of the reviews. These efforts have neither maximized the benefits of the wood economy nor reduced the trends of deforestation in the state.

Urbanization involves the transformation of a rural setting into an urban settlement. The process entails two main developments that are related to deforestation. First, large number of trees are felled and/or displaced from their different locations for new structures and buildings to be planted in its place. In the second, for every building that is completed, some trees must have been lost and processed to provide the woods for its roofing and furniture. An implicit connection therefore exists between forest resources depletion and urbanization. Of which, a critical assessment of the implication of this relationship for a local economy is important.

Method

Design: A cross sectional survey research method was employed for this study across the four local government areas in Akoko region of the state. The Akoko region represents the northern senatorial district of Ondo state and comprise of four local government areas. The region contains large concentrations of tree plants distributed across two forest reserves and multiple free forest areas.

Participants and data: The response of 104 respondents provided data for this study. Because of the problem of data keeping by participants in this industry, we concentrated on asking them about the activities of the immediately preceding year, 2018.In attempt at capturing the size of forest depletion in the state, we monitored the conveyance of logs across 8 major point across the regions for four weeks through the month of August, 2019, and the observations formed the supporting data that were presented for the study. The points represent the major link thorough which felled woods were conveyed into the towns and to the several saw mills and selling points across the four local governments. The places include (i) Ugbe roundabout, UgbeAkoko(ii) Jubilee Junction, IkareAkoko (iii) Supare roundabout, SupareAkoko(iv) Semu-semu roundabout, IkareAkoko (v)Arigidi roundabout, ArigidiAkoko (vi) Imo Junction, Imo Akoko (vii) Epinmi/Ipe Junctionand (viii) Iwaro Junction, Oka Akoko.The Akoko regions comprise of four local governments (LGs) areas, which includes Akoko North East (ANE), Akoko North West (ANW), Akoko South East (ASE) and Akoko South West (ASW). In all of this zone, the major forest reserves are located in Oyinmo, in Ikare town of ANELG and Agbaluku in ANWLG. Despite this, large concentration of tree plants also exists around the state owned institutions and secondary schools, especially in Okeagbe, Arigidi, Ikare, Epinmi, Akungba, Supare, Iboropa/Isua, Isse/Auga, Isua, Irun/Ogbagi and ObaAkoko. These towns in the Akoko region constitute the focus area of this study.From each of the selected towns, 10 questionnaires were administered to persons working in the business of wood felling or processing either as a log driver, saw miller, forest agent, loading agent, saw miller operator or owner, etc. In effect, we related the number of woods felled to the growth in the number of new houses and costing the takeaways from the forests. Data for the study were obtained from in-depth interviews among the saw-mailers, the forest guards and the commission agents loading woods out across the study area. Based on the analyses, the following results were obtained.

Results and Discussions

Valuing the rate of forest depletion in a small local economy has much to do with the speed of displacements and also how much the dispossessed spaces are converted for urban purposes. In table 1, we showed that concentration of trees across the various towns in Akoko Areas of Ondo State. On the average, the concentrations have been on a steady decrease over the decades. Forest trees on the average decreased by 29.5% between 2010 and 2018 and is projected to decrease by 41.9% in 2028. As at 2010, an average of 7.3 trees was available on an average plot of land within the region. However, by 2018, this has reduced to 5.17 trees per plot. Were the trend to continue, by 2028, the average number of trees per plot will just be approximately 3. The implication of this is that Ondo state is already losing her position as the hotbed of forest resource endowment in southwestern Nigeria.

Table 1: Average tree per plot of land in Akoko areas of Ondo state

2010		2018		**Projected for 2028**
Towns	Average no. of trees/plot	Towns	Average no. of trees/plot	Average no. of trees/plot
Okeagbe	11	Okeagbe	9	7
Arigidi	6	Arigidi	5	4
Epinmi	7	Epinmi	6	5
Ikare	4	Ikare	3	2
Ugbe	4	Ugbe	4	4
Iboropa/Isua	8	Iboropa/Isua	5	2
Isse/Auga	12	Ise/Auga	7	2
Irun/Ogbagi	8	Irun/Ogbagi	5	2
Akungba	5	Akungba	3	1
Oka	6	Oka	4	2
Supare	8	Supare	5	2
Oba	9	Oba	6	3
Average	7.33		5.17	3

Source: Author's Estimations

Forest depletion imposes cost on the local economy from two fronts. First, the state loses its resources, which it could have developed locally to create value chains and internalize the benefits for local development. For instance, the huge abundance of the forest resources put the state in position of being a potential global furniture hub for the nations. However, this opportunity is lost as the resources are exploited in their raw forms without major value additions. Secondly, the gain from the exploitation fuels a resource curse syndrome. Due to abundance of forest resource, an orientation for quick money is created in the minds of the people such that everybody wants to cut down the trees and eventually nothing is left forthe future. This causes an average tree owner to want to immediately convert the ownership for cash without recourse to maximization of the gains that could be made if the trees are left to fully mature. The huge exploitation places the state at a strategic position in satisfying the forest needs of the sister states and at the same time building a source of revenue enroute Lagos. For example, a fully loaded truck of planks (supposedly loading between 1000 and 1200 planks) will spend about thirty-five thousand naira as the road expenses on the woods transportedenroute Lagos. Whereas the total amount payable to the government (of Ondo state) as revenue is just about twenty-nine thousand naira for such load. Quick depletion of resources implies that supplies may be unnecessarily high in response to demand and places the state at a disadvantage in terms of maximization of revenue.The sustainability of thedeforestation depends on both the continuation of favorable economic climates for exports, and on the ability of the recipient urban areas to capture and re-circulate resource rents to the sources of the resources. Between a span of 2010 and 2018 for instance, the average forest stock of trees was depleted by more than 41% (see table 1). In table 2, we tried to cumulated the loadings made to some selected major recipient of the loads in 2018. For every 10 trees felled in the state, 8 is at least used outside the state. The major recipient places are Lagos, Ogun, Ibadan Abuja, Kaduna, Sokoto and Kano states.

Table 2: Records of saw milled activities in selected Akoko area of Ondo state (2018)

Sawmill Towns	Quantity of planks	Value of the planks (₦'m)	Quantity of logs milled	Top destination places
Arigidi	83007	99.61	12206	Abuja, Kaduna, Kano, Ibadan, Ogere, Lagos, etc
Ikare	180615	216.74	25802	
Supare	107060	128.47	14869	
Oba	117890	141.47	16374	
Average	122143	146.57	17313	

Source: Authors' Estimations

Note: A full scale saw milled plank measure1by12m

Table 3 showed some interesting implications. In just 4 out of the 18 local governments in the state, over 120 truck load out of planks was made in the year 2018 in the areas of study. By generalization, over 540 trucks load out of planks would have been made in the year. Based on the estimation, the value of forest economy amounted to about N146million naira in the studied area. By applying this to across the state suggests that the wood economy amount to over N650million. a standard modern 3-bedroom flat required about 4-8 standard sized trees to be processed to make up the woods for its roofing and furniture and including those that will be used in the making of casements for lintel and other reinforcements in the building. With the decline in the percapita wood stock (see table 1), the prospect of securing woods for future housing need of the state is in doubt. And if the need must be satisfied, it will be at higher costs.

Table 3: A cross correlation between forest depletion and urbanization in Ondo state

Indices of Urbanization	2017	2018
	Size of exploited forest trees	Size of exploited forest trees
Road construction	38	45
Building construction	35	57
Population	40	37

Source: Authors' Computations

Based on table 3, building construction constitute the leading driver for urbanization in 2018. This study is an attempt at valuing the cost of the growth of new cities in terms of the depletion and displacement of the forest resources of the source communities. Being the richest state in forest resources in southwestern Nigeria, this study provides important insights to policy makers and relevant authorities in quantifying the rate of the forest depletions.

Conclusion

There is an intricate relationship between urbanization and forest resource depletion in Nigeria. This relationship is stronger in an economy where exploiting cities gain domineering access to the forest resources with little capacity of the host community to develop the resources and create value additions on the resource.Forest trees on the average decreased by 29.5% between 2010 and 2018. In support of this argument,Ondo state was chosen because of her forest-rich advantage among the southwestern states in Nigeria. Based on findings, the value of forest economy amount to over N146million naira in the studied area.This study provides important insights to policy makers and relevant authorities in quantifying the rate of the forest depletions and the payoffs to the state.

References

1. Bertinelli, Luisito; Black, Duncan. 2002. Urbanization and Growth. *Core Discussion papers*: 2002/44
2. NarantuyaDanzan, 2016. "**Cost of Urbanization**," Public Administration and Reginal Studies, "Dunarea

de Jos" University of Galati, Faculty of Juridical, Social and Political Sciences, issue 2, pages 111-117.

3. Ministry of Mineral Resources (2008).

4. Linn, F. Johannes (1982). The Costs of Urbanization in Developing Countries.*Economic Development and Cultural Change*. 30(3):625-648.

5. Spence, Micheal. 2008. Urbanization and Growth. Ministry of Natural Resources, Akure (2008).

6. Gourmelon, G. 2016. How urban consumption lies at the root of deforestation. Retrieved on 1//8/2019 from https://www.greenbiz.com/article/how-urban-consumption-lies-root-deforestation

7. Jones, T. (2010).Urbanization, Deforestation and Reforestation.*Agriculture, Climate and Ecology.*Retrieved on 27/12/2019 from https://blogs.ei.columbia.edu/2010/02/11/urbanization-deforestation-reforestation/-

8. Richards, P. and VanWey, Leah (2015). Where Deforestation Leads to Urbanization: How Resource Extraction is Leading to Urban Growth in the Brazilian Amazon. Ann Assoc Am Geogr. 2015 Jul 1; 105(4): 806–823. Retrieved on 29/12/2019 from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4789292/

9. Adekunle, V. A., Olagoke, A. O. and Ogundare, L. F. (2010).Rate of timber production in a tropical rainforest ecosystem of Southwestern Nigeria and its implications on sustainable forest management.*Journal of Forestry Research*, 21(2):225-230.