

THE ROLE OF TRANSPORTATION IN THE DEVELOPMENT OF TOURISM IN NIGERIA

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This paper examines the relationship between transportation and the development of tourism in Nigeria. An attempt is made to quantitatively test the relationship between presence of transportation (as measured by road connectivity, road condition) and tourism development (as measured by location national parks) in Nigeria. It was found out that there are eight national parks located in different states in Nigeria. The analysis was conducted at two levels, the disaggregate and the aggregate. In the aggregate case, indexes of road connectivity is related to levels of tourism development (as measured by locations of national parks) within Nigeria. In the analysis at the disaggregate level multiple linear regression was used to explain the relationship between development of tourism and indexes of road development. Also the percentage method was used to support the result of the analysis. A major finding of the study is that transportation is a significant determinant of tourism development in the Nigeria. However, other factors which include availability of recreational and social facilities and security also play positive role because they encourage patronage. It was also found out that some of the national parks are well connected while some are poorly connected. Importantly, those not well connected have large number of good games, have rich ecosystem and fauna. The conclusion arrived at is that transportation plays important role in the development of tourism in Nigeria. Other key role factors which require attention are finance, protection, security and recreational facilities for relaxation.

KeyWords: *Transportation, Development, Connectivity, National- Park and Tourism*

JEL Classification: *L83, M1, O1*



INTRODUCTION

The role of transportation in the development of tourism has been and continues to be a controversial issue, it is controversial in the sense that many schools of thought exist concerning its role vis-à-vis development. Storey (1969) and Dawson and Barwell (1993) have for instance classified the impact of transportation on regional development into positive, neutral and negative. In the positive case, transportation acts as a stimulus to further development while the neutral effect applies where transport facilities do not themselves bring about productive activities. The negative case related to situations in which it brings about increase migration, spread of disease or decline in the level of per capital income.

Numerous scholars have expressed divergent views, which follow the basic structure of Storey's classification. For example, Hunter (1965) and Wilson (1966) point out the neutral effect of transport on regional development. Filani (1995) explained the role of transportation on rural development, Salau and Baba (1984) reported the effect of transport on settlements change and development. Eliot Hurst (1974) and Stephen (1998) further states that access has no meaning without resources to be utilized. This implies that the development of transportation infrastructure should occur only where there are resources to be developed; where as in another study, Dodgson (1974) and Chou (1971) also shows that highway construction may not always lead to regional development.

The negative effect of transportation on regional development is further demonstrated by Chatzioonou (1989) and Chang (1989). On the other hand the studies by Janelle (1959) Bierman and Rydzkowski (1991) as well as Sammer (1981) in their work have proved that there is a positive impact of transportation on regional development. Thus, while views may differ, the general conclusion is that the development of major transport network can develop tourism which will contribute positively to reconciling environmental protection, economic development and the fight against poverty, (Sammer, 1981; Halsall, 1992 and Pearce, 1997; Curtis and Kokotos, 2009; Brida et al., 2010; Dodds and Butler, 2010). Others went further to observe that little progress has been made by Geographers in this area, which has to do with the relationship between transport facilities recreational and tourism activity that occurs, (Chubb, 1989; Page, 1993; Hall and Page, 1998a; Brown, 2009)

This study therefore, attempts to examine the role of transportation in development of tourism using Nigeria as a case study. It is hypothesized that transportation is not a determinant of the development of tourism (as measured by the location of national parks) in Nigeria. This work is

basically guided by the pioneering work of Garrison and Marble (1965) on technological development and network characteristics, which showed that graph theoretic indexes of transport development such as Beta, alpha and gamma among others, are closely related to level of technological advancement. The present study therefore follows a similar framework in that we attempt to quantitatively examine, the relationship between presence of transportation (as measured by road connectivity) and the development of tourism in Nigeria.

METHODOLOGY

The quantitative assessment of the relationship between levels of tourism development(as measured by the location of national parks) and indexes of road development(measured by connectivity) follows the approach adopted by Garrison and Marble (1965). And percentage quantification was done to certify the result obtained. Consequently, multiple regression analysis is used to statistically examine the relationship. At the state level (aggregate) the relationship is specified as follows:

$$\ln Y = \ln b_0 + \ln x_1 + b_2 \ln x_2 + \ln U \dots \dots \dots (1)$$

Where

$\ln Y$ = Number of national parks in Nigeria.

(Logarithmically transformed)

$\ln x_1$ = Maximum Eigen value of road connectivity.

(Logarithmically transformed)

$\ln x_2$ = Beta and gamma indexes (logarithmically transformed)

$\ln U$ = error term (b_0 , b_1 and b_2 are coefficients to be estimated)

The data were logarithmically transformed to achieve linearity and normality.

At the urban level (disaggregate) the relationship is specified as follows:

$$\ln Y = \ln b_0 + b_1 \ln x_1 + b_2 \ln x_2 + \ln u \dots \dots \dots (2)$$

Where

$\ln Y$ = Number of national parks located in Nigeria.

(Logarithmically transformed)

$\ln x_1$ = Index of connectivity as measured by the Beta and Gamma.

(Logarithmically transformed)

$\ln x_2$ = Index of connectivity as measured by potential interaction

(Logarithmically transformed)

$1u =$ error term

In this study the measures of road connectivity and other park characteristics (species of mammals, fauna and reptiles) in the national parks were also used as support to measure development of tourism.

States where national parks are located and are used in analysis are shown in Table 1, information on number of national parks in States were obtained from the Federal Ministry of Information and tourism. Furthermore, to be able to measure distances from the state capitals to site of the national parks, a spectrum road map of Nigeria 1:1,500,000 (1991), was used because it is the current map available, which shows improvements in the development in the Trunk A and B road network connecting national parks in Nigeria.

Table 1 Locations of National Parks in Nigeria

Names of parks	States	Year est	Direction/Area where located	Sizes of the park sq km
Kainji lake	Niger/Kwara	1991	North/west central part of Nigeria	5340.82
Yankari	Bauchi	1958	North/east part of Nigeria	2244
Chad Basin	Borno/Yobe	1991	North/ east part of Nigeria	2258
Cross-Rivers	Cross-Rivers	1991	Extreme Southern part of Nigeria	4000
Gashka-Gumti	Adamawa/Taraba	1975	Mambila plateau	6731
Old Oyo	Oyo	1991	West- Central part of Nigeria	2512
Kamuku	Kaduna	1938	North/west part of Kad-Nigeria	1121
Okomu	Edo	1991	West of Benin-Nigeria	173
Total 8				

Source: Ministry of Information and Tourism

DISCUSSION OF RESULTS

Using the maximum eigen values of networks, it was found that Yankari national park in Bauchi State and Cross- Rivers national park in Cross-Rivers state are well linked in terms of the road connectivity. They are followed by Okomu and Old Oyo national parks in Edo and Oyo states. The Yankari park in Bauchi state is most centrality located, as revealed by the index of centrality result. The state is also properly connected by road from Kano, Jigawa, Kaduna, Jos, Yobe and Maiduguri. Also the Cross-Rivers Park is well connected by road, sea and air routes, which are currently being improved.

With respect to the gamma index the States where national parks are located, which revealed the highest connectivity turned out to be Kaduna, Bauchi and Oyo States. They were closely followed by Benin City in Edo state. Thus the two methods yield quite similar results. However, it is a widely held view that the maximum Eigen value of network connectivity constitutes the best index for measuring network connectivity (Boots 1984, 1991) and Griffith (1987). Thus the results obtained by using Eigen value of networks is more relevant because, at the disaggregate level results obtained by using the matrix powering approach indicates that Yankari national park in Bauchi is the most accessible or most connected park in the Nigeria, following are Kainji lake and Cross – Rivers national parks in Niger and Cross-Rivers states. While the Chad Basin national park in Brono state exhibit poor connectivity.

Results obtained by using the characteristics of the parks (mammals, reptiles and fauna) show that Gashaka – Gumti, Kainji lake, Yankari and Cross-Rivers national parks (see table. 1), have highest number and varieties of games, richest ecosystem and significant fauna species respectively. Though the results obtained from the two analysis methods differ, it is expected to be so since the characteristics of parks basically explained games and fauna in the national parks, while the connectivity index attempts to identify central points or most connected national park location in Nigeria.

The results obtained from the regression analysis equation number (1) relates to the analysis at the aggregate level. The signs or the parameters come out as expected; the gamma index also comes out with a positive sign. The R squared obtained for the equation is 56%. The F ratio turns out to be insignificant at the 5% significant level with 3 and 5 degrees of freedom. Also the T values obtained indicate both P max and

the gamma index are statistically insignificant at the 5% significance level using a two tailed test.

The results obtained are explained based on the broad classifications concerning transportation and tourism development (measured by location national parks). In the first place since all signs of the parameters turned out to be positive, we reject the null hypothesis by accepting that transportation (measured by road connectivity) is a proximate determinant because it acts as a catalyst to the patronage and utilization of national parks. This will seem to support the view that investment in transportation development plays a positive role in development of tourism. This can be interpreted to mean that transport development in itself is very important or critical to tourism development in States, which is certainly, confirmed by the F ratio and t values, supporting this assertion.

The results obtained also support the view that investment in transportation development plays a positive role in development of tourism, because the signs of the two parameters used are positive. This implies that improvement in the connectivity of states or towns where national parks are located will significantly influence patronage and the promotion of tourism activity in Nigeria. The regression analysis result shows a good fit, indicating that the condition of road linking the parks is good for trips makers and also facilitates the transfer of facilities to the parks.

The findings of this study leads to certain policy issues which should be emphasized. Firstly, it is important to stress that the role of transportation in the development of tourism is indispensable at the state and at national levels. This is illustrated by Yakari, Cross-Rivers, and Okomu national parks located in Bauchi, Cross- Rivers and Edo states, which on the basis of the gamma index are well connected. While some parks like kainji lake, Gashaks Gumti and Chad Basin in Niger, Taraba and Borno States which have high levels of fauna ,rich ecosystem and large games are not well connected even though they turn out to have very rich park characteristics. It may therefore be necessary for planners in Nigeria to emphasize the importance of transportation in inducing development of tourism activity. The important thing is that good standard roads should be construction to link these other parks, accompanied by recreational and social facilities to be put in place for visiting tourists.

Thus, for effective development of tourism in Nigeria, there is a need to develop standard roads to link the national parks and provide security, recreational and social facilities and to improve on the maintenance and

managerial ability for the development and promotion of tourism in Nigeria.

CONCLUSION

In introducing this paper we had set out to examine the role transportation in the development of tourism in Nigeria. It was found out that transportation plays a positive role in the development. We therefore confirmed the importance of connectivity indexes as major determinants of national parks development using Nigeria as a case study. An attempt was also made to situate good road condition, the characteristics of national parks (mammals, reptiles and fauna), availability as major determinants of tourists visit. The major finding of this paper is that the presence of transportation (as indicated by road connectivity) is statistically significant in determine of the development of tourism in Nigeria. It plays a positive role and combines with other factors to attract tourists. Thus we conclude by supporting the views of Stephen Page (1998) and Halsall (1992) that transportation can also form the focus of tourism activity. And that transport is an integral part of much recreational behavior, both as an aid to access to recreational opportunities, and as a recreational activity in its own right.

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