

Infrastructure and Tourism Development in Nigeria: The Case Study of Rivers State

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ABSTRACT

This study examined the relationship between Infrastructure and tourism development in Rivers State, Nigeria. Purposive sampling method was applied to select ten tourist destinations for the study. During a cross-sectional survey, interviews were held with key informant, along with a checklist of infrastructure to collect relevant data for the study. Data on infrastructure were obtained from secondary sources. The level of infrastructure development was measured on a scale 1-5 (that is, very low 1, low 2, moderate 3, high 4, very high 5) using a researcher-made instrument called "measure of infrastructure score". Multiple correlation and Stepwise regression analysis was applied to analyse data obtained from the field. Results showed a high significant relationship between the sets of infrastructure components (water, electricity, transport, communication and accommodation) and tourism development. Furthermore, transport infrastructure was found to contribute a significant proportion to the total variance in tourism development thereby proving to be the most important element of tourism development. The study therefore concluded that massive infrastructure development anchored on transportation would provide the enabling environment for tourism to thrive in Nigeria and Rivers State in particular.

Keywords: *Infrastructure, Tourism development, Transport, Rivers State.*

INTRODUCTION

Tourism has been identified as a critical sector in the service industry having high prospect of generating economic growth and development (WEF, 2007). The multiplier effect of tourism development spans through all spectrum of society- social, political, cultural and economical to the extent that both nations of the developed and developing economies have adopted new paradigms of development that are tourism oriented. Tourism is believed to contribute about 12% of the world Gross Domestic Product (WTTC, 2010). In 2011, there were over US\$919 billion as tourist receipts (UNWTO, 2011). France, United States and China led the rank of ten most developed tourist destinations having individual tourist arrivals of 76.8, 59.7 and 55.7 million respectively (UNWTO, 2011). On the African scene, tourism remains a key engine of economic growth and development in Kenya, South Africa, Egypt, Mauritius and Nigeria to mention but a few. In 2010, Africa contributed about 40 million tourists to international tourist arrivals. In Nigeria alone, the tourism sector contributed 3.8% (US\$7.023billion) to the gross domestic product (GDP) with a projection of 3.6% in 2012 (WTTC, 2010). The tourism sector has become a major driver of the Nigerian economy after oil and agriculture. Nigeria boast of over 150

tourist attraction (natural, cultural and historical) spread over all parts of the country (Karibo, 1991). There is a link between infrastructure and tourism development that is theoretically established. On one hand authors have underline the special role of tourism in modernizing infrastructure, and on the other hand the reverse direction, the generation of multiplication effects of infrastructure development on tourism (Gunn and Var, 2002; Eagles and Mc Cool, 2002). The level of tourist satisfaction and the degree of a visitor's trip experience are described to have high correlation with the level, use or lack of infrastructure and technology in a destination (Smith, 1994). Also, infrastructure presence is fundamental to a tourist overall impression and image of a destination (Crunch and Ritchie, 2000). Additionally, Boers and Contrell (2007) have asserted that tourism planning and development would not be possible without roads, airports, harbours, electricity, sewage and potable water. Accordingly, the infrastructure dimension is thus a necessary element for tourism development as it promotes comparative and competitive advantage on destinations (Crouch and Ritchie, 1999).

Prideaux (2000) acknowledges the importance of transport infrastructure as an essential component of successful tourism in that it provides inducement for the growth of existing tourist destinations and the creation of new attractions. More so, the establishment of high quality tourism resort in any country depends on the availability of a critical mass of public infrastructure. The absence of it can create heavy burden on operating cost with attendant negative effect on the competitiveness of a destination (Prideaux, 2000). In Rivers State where this study is based, the renewed effort of Government towards kick-starting the tourism industry has brought to the fore, the question of infrastructure especially in rural areas where most tourist attractions are located. Therefore, this study was designed to bridge the gap between policy issues on tourism development and empirical facts. The study examined the level of infrastructure development in the study area and relates key infrastructure components namely transport, water, electricity, communication and accommodation to tourism development.

Interrelationship between Infrastructure and Tourism Development

A number of studies have examined the interrelationship between infrastructure and tourism development. Paramount among them is the work of Seetanah *et al* (2011) in Mauritius. The study examined the extent to which tourism infrastructure, income of tourists, distance and relative prices influence the level of tourist arrivals. Applying the regression analysis, findings showed that infrastructure had a strong positive effects ($R = 0.70$) on tourist arrivals both at the global and regional level of consideration. In Ramnicu Valcea country (Romania), Constantine, Peptenatu, Pintilii, Alina and Stoian (2010) have assessed the infrastructure role in tourism development with specific reference to accommodation. In their findings, they indicate that over a 10 year period the number of tourists arrivals grew in *pari-passu* with hotel units thus establishing the significant role of accommodation in tourism development. An evaluation of the level of tourism competitiveness among selected Asian and Pacific countries revealed that infrastructure dimension showed one of the highest positive correlations with the overall tourism competitiveness index by 96% (WEF, 2007). Other studies in Turkey (Gearing 1974); Thailand (Tang and Rochananond, 1990) and

South Africa (Kim, 2000) have highlighted the importance of infrastructure (comprising roads, water, electricity, safety services, health services, communication, accommodation and public transport service) as key determinants explaining tourist arrivals. The regression analysis of tourism flow determinant also identified infrastructure alongside security, and marketing effort as vital ingredients of tourism development (Witt and Witt, 1995; Lim, 1997; Naude and Sayman, 2004).

The Emergence of Tourism in Rivers State

Rivers State is one of the oil-rich States of the Niger Delta in Nigeria. The State is located between latitudes 4020' and 5045' north of the equator and Longitudes 6020' and 7033' East of Greenwich. It occupies a land mass of approximately 10,261km² with a typical maritime climate and well developed mangrove vegetation. The State has 23 Local Government areas with a population of 5,198,716 drawn from various ethnic groups - Okirika, Ikwere, Ogoni, Kalabari, Ogbia and Ekehe. The people are predominantly fishermen known to be hospitable, generous and warm-hearted (Bell-ham, 2003).

Historically, tourism development in Rivers States is traceable to the 18th century (Karibo, 1991). At this time, the trade in oil palm, which was controlled by King Jaja of Opobo domestically and internationally, attracted people from different clans and countries to Opobo town. At the same time, a king of Igala visited Kalabari kingdom and the visit resulted in the introduction of a royal dress "Atigara" worn by king of Igala to the Amayanabo of Kalabari who admired it. The dress which is of Yoruba origin, is now part the famous royal regalia for Kalabari (Bell-ham, 2011).

Apart from the domestic trade and cultural relationships which one may rightly refer to as "cultural and economic tourism", the local trade in palm oil attracted the Portuguese, the French and the British, these foreign merchants visited Nigeria and the coastal areas now designated as Rivers State for exchange of goods and culture. Other activities of great cultural and touristic values included, new yam festivals, chieftaincy installation ceremonies, initiation into womanhood, blood oath ceremonies and so on (Karibo, 1991). These ceremonies united the people internally and externally and remind us of the baptism of cultural tourism in Nigeria. It was upon these two traditional industries - trade and culture that Nigeria modern tourism evolved. Tourism gained a conceptual and institutional perspective in 1976 when Nigerian tourism board was created. Today, tourism has become a viable economic sub-sector with tourism potential classified into six categories: Ancient historical sites, Game reserves, festivals /carnivals, Holiday resort with natural sceneries, modern parks/recreational centres and Holicruise (Kariba, 1991).

METHOD

A cross-sectional survey was conducted in ten selected tourist destinations purposively sampled based on their stock of tourist attraction. They include Opobo, Bonny, Andoni, Queens town, Kono, Borikini, Agaga Isaka, Ogbegene and Ifoko. All these communities boast of functional tourist attractions such as carnivals/festivals, Holiday resort with natural sceneries, beaches, Boat race/regatta, recreational parks, Game reserves and several historical monuments. The independent variable (infrastructure) was assessed on five

major components namely water, transport, electricity, communication and accommodation. A checklist of infrastructure was drawn and used during interview with key informants to assess the level of infrastructure development in a destination. Further infrastructure data was obtained from secondary sources to complement those obtained from key informants. The level of infrastructure development was measured on a scale 1- 5 (i.e. very low 1, low 2, moderate 3, high 4, very high 5) using a research-made instrument called "measure of infrastructure score". The number of tourist arrivals in 2010/2011 and 2011/2012 was used to measure the level of tourism development. Interviews with tourism officials/ secondary data from the ministry of culture and tourism generated the required tourism data. Data analysis was done using the multiple correlation and stepwise regression technique on SPSS version 17.0

RESULTS AND DISCUSSION

Pattern of Infrastructure Development: Five key infrastructure components were considered in the study. These include water, transport, electricity, communication and accommodation. A number of variables were considered in assessing each component. Specifically variables considered on transport factor were: road quality, road density and transport service. For accommodation factor, the variables were: Hotel/guesthouse capacity and hospitality of host community. Water infrastructure was measured by the level of access to potable water. Electricity component was gauged by the average duration of power available per week. In Nigeria, the mere linkage of a locality to the national grid does not guarantee power supply. Power supply is limited and therefore rationed to localities. Access to landline/mobile network and internet were variables that indicated communication infrastructure in a destination. Table 1 shows the distribution of infrastructure by destination.

The mean infrastructure scores (that is, $X_1+X_2+X_3+X_4+X_5/5$) were used as yardstick for determining the overall level of infrastructure development in a destination. The assessment was done such that mean infrastructure score within the range 1.00 - 1.99 was adjudged "very low" of infrastructure development; 2.00 - 2.99 = "low"; 3.00 - 3.99= "moderate" while 4.00 and above was adjudged as high level of infrastructure development. As data on table 1 indicated, the general degree of infrastructure development in tourist destinations was unsatisfactory. Only one destination showed a high level of infrastructure development; that is, "Borikiri" with a mean score of 4.02. Destinations with very low mean infrastructure score were: Ifoko (1.50), Ogbegene (1.60) and Kono (1.90). Their low level of infrastructure development may be attributed to their status as rural. In Nigeria most rural localities are characterized by slow pace of development compared to their urban counterpart. On specific infrastructure, accommodation and electricity showed lower mean scores (1.85) and (2.47) respectively. The critical role of power and hotel / guest houses to the development of any service industry cannot be overstressed (Telfer and Sharpley, 2008). Viewed in this light, without accommodation, tourism may not flourish. There is therefore need to provide at least a guest house in rural destination with high tourism potential. More so, the reform in the Nigeria power sector if well implemented will act as a catalyst to rural tourism.

Table 1: Distribution of infrastructure score

S/N		Destination Infrastructure					MS	LD
		(X ₁)	(X ₂)	(X ₃)	(X ₄)	(X ₅)		
1	Opobo	3.5	3.5	3.8	3.5	3.0	3.46	Moderate
2	Bonny	3.0	3.0	3.3	3.8	3.0	3.22	Moderate
3	Okrika	3.0	3.6	3.5	3.6	3.0	3.34	Moderate
4	Queens town	2.5	2.6	3.0	3.0	2.5	2.72	Low
5	Kono	2.0	1.5	3.5	1.5	1.0	1.90	Very low
6	Borikiri	4.0	3.5	4.5	4.6	3.5	4.02	High
7	Agaja	2.6	2.0	2.5	2.5	1.5	2.22	Low
8	Isaka	2.7	2.5	2.0	2.0	1.0	2.04	Low
9	Ogbegene	2.0	1.0	2.0	2.0	1.0	1.60	Very Low
10	Ifoko	2.0	1.5	1.5	1.5	1.0	1.50	Very Low
	Mean Score	2.73	2.47	2.96	2.8	1.85		

X₁ = Water, X₂ = Electricity, X₃ = Transport, X₄ = Communication, X₅ = Accommodation, MS = Mean Score, LD = Level of development

Source: Field Analysis, 2012

Pattern of Tourism Development: The tourism flow for two periods 2009/2010 and 2011/2012 as indicated on table 2 revealed marginal differential in tourist arrivals across the ten sample tourist destinations. This figure is for both domestic and international arrivals. The statistics indicated a 2.5% change for the study area which is far below a national annual growth rate of 3.6%. Bonny had 5.3% change which is by far the highest. Bonny is a home to major oil terminals in the Niger Delta. This justifies her comparative advantage on tourism and perhaps infrastructure. Aside from the infrastructure factor, the Niger Delta region had experienced relative peace in recent times prior to the age long era of militancy in the region. It is hoped that sustained civil stability when combined with infrastructure renaissance would kick start tourism development in the region.

Table 2: Tourist Arrivals by destination

S/N	Destination	2009/2010	2011/2012	% Change
1	Opobo	1960	2017	2.9
2	Bonny	1614	1701	5.3
3	Okrika	1870	1912	2.2
4	Queens town	1517	1560	2.8
5	Kono	690	699	1.3
6	Borikiri	2079	2128	2.4
7	Agaja	1110	1122	1.1
8	Isaka	907	917	1.1
9	Ogbegene	511	516	0.9
10	Ifoko	392	399	1.8
	Total	12650	12971	21.5

Source: Field Survey, (2012)

Inter correlations among Infrastructure Components and Tourism Development: Infrastructure components namely water (X₁), electricity (X₂), transport (X₃), communication (X₄) and accommodation (X₅) are the independent variables which could interact either singly or jointly to influence tourism development. This section of the study tested the relationship between any two of the variables and tourism development. This relationship was tested by constructing the matrix of inter correlation of the set of independent variables (infrastructure component) and dependent variables (tourism development). The lower triangle of the matrix was used to enter the zero-order product moment correlation coefficient while the level of significance of each correlation coefficient was entered in the corresponding cell of upper triangle as presented on table 3.

Table 3: Inter correlation matrix for infrastructure component (X_1, X_2, X_3, X_4, X_5) and Tourism Development (Y)

	Y	X_1	X_2	X_3	X_4	X_5
Tourism developments (Y)		.000	.000	.001	.000	.001
Water (X_1)	.387		.002	.001	.000	.000
Electricity (X_2)	.557	.833		.000	.000	.000
Transport (X_3)	.822	.793	.620		.002	.000
Communication (X_4)	.801	.475	.573	.590		.000
accommodation (X_5)	.796	.545	.485	.586	.420	

Source: SPSS Analysis, 2012

Table 3 shows that the zero-order correlation coefficients were found significant ($P < 0.05$) in every case. This shows that there is significant relationship between any two of the variables tested. Correlation between two variables signifies the extent to which they share an underlying component. Viewed in this light, the high correlation between paired variables selected from the set of infrastructure and tourism readily seem to indicate the existence of a common property among them all. This common property which underlies the six variables (water, electricity, transport, communication, accommodation and tourism) is most likely rural development. For example, the high correlation between tourism and transport infrastructure (.82) is a direct consequence of rural development drive of successive democratic governments in Rivers State. This is so because rural development efforts provide transport systems on which tourism drives. This is similar in other high correlations between tourism and communication (.80), electricity and transport (0.62), tourism and accommodation (.79) and electricity and water (.83). All of them zeroed to rural development.

Table 4: Stepwise Multiple Regression of Tourism Development on Infrastructure

Independent variables	Multiple R	R^2	R^2 Change	F change	Sig. F change	Std. error	Remarks
Transport (X_3)	.822	.676	.676	183.522	.000	1.00	S
Communication (X_4)	.848	.719	.043	13.604	.000	0.93	S
Accommodation (X_5)	.861	.741	.022	7.004	.000	0.90	S
Electricity (X_2)	.868	.753	.012	4.608	.000	0.88	S
Water (X_1)	.873	.762	.009	2.201	.000	0.86	S

Source: SPSS Analysis, 2012

The Relative Contribution of Infrastructure Components to the determination of Tourism Development: It was necessary to test if the following variables operating singly or jointly contribute significantly to tourism development:

- a. Water (X_1)
- b. Electricity (X_2)
- c. Transport (X_3)
- d. Communication (X_4)
- e. Accommodation (X_5)

The stepwise multiple regression analysis was applied for regressing tourism development on the infrastructure variables listed above. The results are displayed on table 4. The variables were entered into the model in descending order of their value of R^2 change (that is, their relative contribution to variance in tourism development). The value of F-change and the sig. F change were also shown to indicate the Validity of the Model. The result as shown on table 4 indicates that the transport infrastructure (X_3) was by far the greatest contributor to the determination of tourism development in Rivers State. The transport

component contributed 67.6% to the variance of tourism development in the area. The next most important variable was found to be communication (X_4) which contributed up to 4.3% additionally to variance in tourism development. The other variables: accommodation (X_5), electricity (X_2), and water (X_1) each contributed far less than 2.5% additionally to total variance in tourism development. It was therefore confirmed that transport (X_3), operating alone, or jointly with communication (X_4), accommodation (X_5), electricity (X_2) and water (X_1) in that diminishing order of importance contributes significantly (Sig. F change .000) to tourism development in Nigeria and Rivers State in particular.

The model practically explained the fundamental role of the transport infrastructure in tourism development. Transportation remains singly the most important infrastructure for rural tourism development. This is so because where destinations are lacking in other basic infrastructure such as guesthouses, tourists can commute from the urban centres to such destinations provided the destinations are linked by quality roads and available transport service. Essentially, the implication of this model is that stakeholders in the tourism industry should evolve a policy that treats rural road construction and upgrading as a priority. Furthermore, in most developed countries where tourism has become a key economic component, models such as the one generated from this study has been adopted long before the new millennium to improve the competitiveness of their destinations. At the moment some developing countries such as Mauritius, Kenya, Brazil, Malaysia to mention but a few are at the forefront of tourism promotion through an aggressive program on infrastructure provision. If the UN millennium development targets including environmental sustainability are to be achieved in Nigeria, the service sector (tourism) remains a viable alternative. This implies aggressive infrastructure development in rural communities.

CONCLUDING REMARKS

Although theoretical underpinning on the link between infrastructure and successful program of tourism development abound, very limited empirical research exist to verify this hypothesis. The contribution of the 'infrastructure capital' on tourist arrivals (both domestic and international) has been researched quantitatively in this study. The study uses the stepwise regression technique and finds that the infrastructure has contributed positively to tourist arrivals, and that, transportation particularly made the strongest impact. Other infrastructure components namely water, electricity, communication, and accommodation were also found to be significant to tourism planning. The findings in this study are critical to rural infrastructure planning and rural development in general. The tourist destinations considered in this study are all rural and located in the Niger-Delta where infrastructure provision is a national emergency. In spite of the difficult terrain in the Niger-Delta, efforts towards increasing road density and quality transport service are indispensable if the enormous tourist attraction of the region must be utilized.

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