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## LEISURE & TOURISM | RESEARCH ARTICLE

# Physical planning implication of Eyo festival in Lagos Island, Nigeria

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**Abstract:** The study examined the physical planning implications of the activities that interplayed during Eyo festival in Lagos Island, Nigeria. Systematic sampling procedure was employed to obtain data for this study. It was revealed that Disruption of local activities (RKI = 5.0), Street littering (RKI = 4.40), Street Trading (RKI = 4.38) and Increase in price of goods (RKI = 4.38) among others are the challenges faced by Residents. However Environmental (28.83% variance explained and Eigen value of 6.343), Socioeconomic (25.15% variance explained and Eigen value of 5.533), Cultural (9.50% variance explained and Eigen value of 1.991) and Security implications (8.22% variance explained and Eigen value of 1.809) are the planning implications of the festival as established by the findings. The study therefore concluded that cultural festival attracts both positive and negative impacts.

**Subjects:** Social Sciences; Tourism, Hospitality and Events; Urban Studies

**Keywords:** tourism; cultural festival; Eyo festival; planning implications; residents' perception

### 1. Introduction

Tourism is a short-term movement of people to places some distance away from their normal place of residence to indulge in pleasurable activities. It also involves travel for business purposes. Horner and Swarbrooke (1996) argued that tourism is not a simple concept: It does encompass the lucrative field of business tourism, where the purpose of travel is not for pleasure but work. Tourism provides the opportunity for people to experience new culture and environment therefore serving as a vital



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### ABOUT THE AUTHOR

Hafeez Idowu Agbabiaka is currently a PhD Candidate at the Department of Urban and Regional Planning, Obafemi Awolowo University, Ile-Ife, Nigeria. My research interest include: Medical Tourism, Community based Tourism, Heritage tourism, Festival and Event Tourism, and Recreation.

### PUBLIC INTEREST STATEMENT

This study investigated the physical planning implications of *Eyo Festival* in Lagos Island. Data for the study were collected from 240 residents across 5 selected streets (Ebute-Ero, Obalende, Oke Popo, Campus, and Lafaji) that are predominantly the route of Eyo masquerade during the festival. Combinations of male and female, young and old, Christians and Muslims and mixed ethnic groups residing in the study area during the period of survey were sampled. The residents identified Disruption of local activities, Street littering, Street Trading and Increase in price of goods are the challenges they encounter during the festival. Despite the challenges, they enjoy every bit of the festival especially the music and costumes from different groups. In the light of this, modalities to turning Eyo festival into an annual event should be worked upon.

educational experience (Ijasan & Izobo-Martins, 2012). Swarbrooke and Horner (2007) described tourism as an activity which is serviced by a number of other industries such as hospitality and transport.

Historically, social events have played an important role in human society by breaking the dullness of daily life filled with constant hard work and effort. Before the industrial revolution daily routine activities were regularly mixed with festivals and carnivals in Europe. Some of the historic driving forces for events have changed in the modern world and today many events play a contemporary role by attracting tourists and tourist income (Shone & Parry, 2004). Key factors attributing to growth of festivals have been the potential of development in terms of destination repositioning, revitalization and economic restructuring (Quinn, 2009).

According to Arcodia and Whitford (2007) “festivals are emerging as growing and vibrant sector of the tourism and leisure industries and are seen to have significant economic, socio-cultural, and political impacts on the destination area and host groups”. Most public festivals are viewed as cultural celebrations, but private festivals that profit from the festivity have altered the meaning of festival (Getz & Andersson, 2008).

Nigeria is blessed with tourism potentials such as the beautiful and colorful fauna and flora as well as the exciting and rich festivals has prompted the tourism drive in the country (Ijasan & Izobo-Martins, 2012). According to Wande (2005), the most important potential of Nigeria’s culture that can be developed for purposes of tourism is the rich and diverse culture of Nigeria’s people. He opined that the aspect of Nigerian culture that have survived and could be projected and exhibit to tourists globally are the festivals. Every region of the country has a major festival that can be packaged and exhibited to international tourists; some examples are the annual Argungu fishing festival of Kebbi State (Northern region), the Calabar carnival (Southern region) the Osun Oshogbo and Ogun festival (Western region) (Wande, 2005). According to George (1980) he asserted that among the annual festivals in Yoruba land is the annual ceremony for Ogun and Adamu Orisa festival of Lagos state. Festivals in recent times are generally considered in Nigeria as one of the important element that contributes significantly to the cultural and economic development wealth of the country. Furthermore, there is no doubt that festivals have major impact on the development of cultural tourism in local communities (Ezeani, 2003). This study however assesses the planning implications of Adamu Orisa festival in Lagos Island.

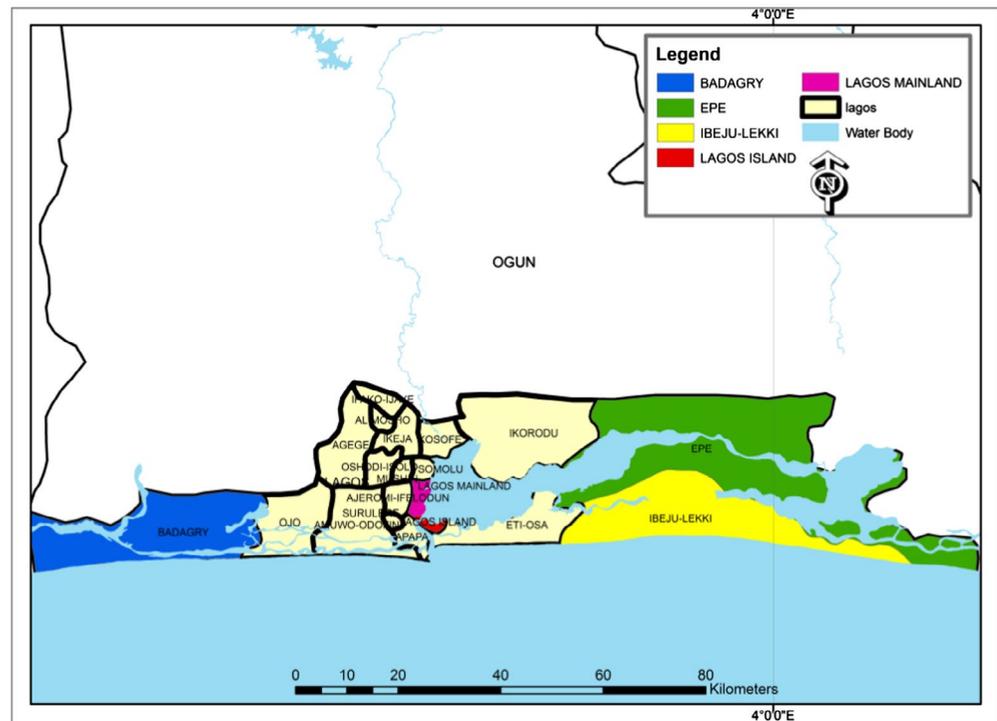
## 2. Study area

Lagos State is situated in the southwestern corner of the Nigeria, Lagos State lies within Latitudes 6°2’N to 6°4’N of the Equator, and Longitudes 2°45’E to 4°20’E of the Greenwich Meridian. The State is flanked from the north and east by Ogun State, in the west by the Republic of Benin and the south by the Atlantic Ocean/Gulf of Guinea. The total landmass of the State is about 3,345 square kilometers, which is just about 0.4% of the total land area of Nigeria. Most of the land in Lagos State has an elevation of less than 15 m above sea level (see Figure 1). Lagos Island was the capital of Nigeria but the creation of Lagos state in May 27, 1967 following the restructuring of Nigeria into 12 states (by virtue of State Creation and Transitional Provisions Decree No. 14 of 1967), gave it the enviable role of serving as both the state and federal capital. It has however retained its role as the commercial nerve center of the country housing most of the country’s major private corporations and manufacturing industries and arguably, Africa’s largest sea port.

Eyo masquerade festival of Lagos is an event full of spectacles and merrymaking. The Eyo is the masquerade that comes out during this culturally prominent festival. Unlike other festivals, the Eyo festival isn’t just celebrated for entertainment purposes. Every Eyo festival commemorates a deceased Oba (king) or prominent Lagosian who has had a great impact on the people of Lagos. The festival has survived over fifteen decades, with the premiere festival held in 1854, and staged in memory of late Oba Akintoye. Historically, the Eyo masquerades (Eyo Orisha) are categorized into five groups, Adimu (EyoOrisha), Eyo Alaketepupa, Eyo Oniko, Eyo Ologede, and Eyo Agere. Within these different types of masquerades, there exists a hierarchical order. Besides from these hierarchical differences, they also have distinct physical characteristics and functions.

**Figure 1. Map of Lagos state indicating Lagos Island and other Local Government Area.**

Source: National Airspace Research and Development Agency (NASRDA) (2015).



### 3. Literature review

Special events and festivals are beneficial to both communities that host them and visitors they attract. Despite the popularity of festivals in tourism studies, there has been a little research focusing on visitors' perception of community based and local festivals (Huang, Li, & Cai, 2010; Kim, Kim, Ruetzler, & Taylor, 2010). Fredline, Jago, and Deery (2003) revealed that while the social impacts of tourism are well investigated there has been less research conducted on the social impacts of events and festivals in particular. Most importantly, various authors acknowledge that for an event or festival evaluation research has been mainly concentrating on the economic impacts (Pasanen, Taskinen, & Mikkonen, 2009; Robertson, Rogers, & Leask, 2009; Stevik, 2008). This fact brings inconsistency in the process and causes insufficient event evaluation. According to Getz (2005) and Stevik (2008), events/festivals produce various outcomes and managers cannot concentrate only on event profitability as a measure of success. Instead, there is growing recognition that social and environmental aspects of running an event should be equally considered, articulated, measured and understood (Carlsen, Getz, & Soutar, 2001; Delamere, Wankel, & Hinch, 2001; Fredline et al., 2003; Kim & Petrick, 2005; Reid, 2007; Small, Edwards, & Sheridan, 2005; Wood, 2006).

Research on festivals and event tourism has increased since 2008 (Getz & Page, 2015). Studies have been conducted on tourism from various perspectives: marketing targeted place (Boo & Busser, 2005; Felsenstein & Fleisvher, 2003), generating economic benefits (Litvin & Fetter, 2006; Mckercher, Mei, & Tse, 2006), and preserving local culture (Xie, 2004). Festivals have been identified as having two well-distinguished per-formative forces, namely hosts and guests (Giovanardi, Lucarelli, & Decosta, 2014), and have been regarded as a mixed industry in which the public, nonprofit, and private sectors compete and collaborate in attracting and satisfying visitors (Andersson & Getz, 2009).

Empirical evidence from previous research suggested that government policy positively influences the value perception of residents, according to an evaluation of the obtained social benefits after

considering social costs (exchange theory); this increased value perception where residents further influences their spreading positive word of mouth (Lee, Liu, Chung, & Ho, 2015). A desirable environment, in and out of festival venues, necessitates the government's active support to provide tourists with a satisfactory experience. Reactive measures by the government are required to monitor and control negative effects such as traffic, environmental problems, waste, and noise. Lee et al. (2015) affirms that government policy referring to tourists' expectations of support from the government in overseeing all safety and quality measures, controlling illegal activities, ensuring security, and creating a drug-free environment.

Festivals are a large-scale industry in which governments, private firms, and nonprofit organizations collaborate to create tourist products (Andersson & Getz, 2009). However, Barker, Page, and Meyer (2002), pointed out that the festivals and event should be economically viable and operate within social and urban development boundaries established by the destination. Another issue is that, despite the fact that a number of innovative empirical scales for residents' perceptions of the social outcomes of events/festivals exist (e.g. Delamere, 2001; Delamere et al., 2001; Fredline et al., 2003; Small et al., 2005) further development and refinement of these instruments applying factor analysis is required (Small, 2007). According to Small (2007), this enables a deeper understanding of this kind of impacts produced by events/festivals. She points out that

by identifying the underlying dimensions of social impacts, factor analysis helps to simplify a set of data, allowing for easier interpretation. The findings from such research not only advance theory in the area, but may also have practical use in the management of social impacts resulting from these festivals and events. (Small, 2007)

Lastly, Kim and Petrick's (2005) show, that there are substantial differences in perceptions of social impacts produced by events among residents who come from various socio-demographic groups. Therefore, it is valuable both for organizers and researchers to reveal the existence of any differences between these groups in order to deeper understand who exactly benefits from hosting an event and who loses because of it. Consequently, the environment in which festivals operate has become a research focus (Lee, Lee, Lee, & Babin, 2008; Lee et al., 2015). Getz and Page (2015) noted that the environmental impact of events and tourism has remained a largely neglected area of academic research. Therefore this study examines the environmental impacts of Eyo festival on the residents of Lagos Island.

### **3.1. Conceptual framework**

Cultural festival attract people from diverse culture and background to come together for social interaction, creates arenas for local knowledge to be produced, shared cultural practices, and where social structures and inheritance are recreated and revised. One conceptual model is considered relevant to this study and is adopted and synthesized to serves as the framework for this study.

### **3.2. Social exchange theory**

According to Emerson (1976), the social exchange theory emerged from the intersection of economics, sociology and social psychology by four main authors named Homans, Blau, Kelley, and Thibaut states that the theory is concerned with understanding the exchange of resources between individuals and groups in an interaction situation. The purpose of the exchange is to minimize costs and maximize benefits, where people weigh the potential benefits and risks of social relationships. In a situation where the risks outweigh the rewards, the relationship will be terminated or abandoned (Thibaut & Kelley, 1959).

Social Exchange Process Model, Various researchers have defined the modern approach to the Social Exchange Theory, but one definition that fits the purpose is: "Residents evaluate tourism and events as either positive or negative in terms of the expected benefits or costs deriving from the services they supply" (Waitt, 2003). Many models have been developed by various authors to clarify and describe the relationship between residents' attitudes towards tourism and the impacts of tourism.

This model explains that in festivals and other events there is a relationship between the event's organizers and the residents, and this relationship is evaluated positively or negatively "in terms of the presence or absence of certain antecedent conditions: rationality, satisfying benefits, reciprocity and the justice principle" (Waitt, 2003). According to Ap (1992), rationality is a residents behavior based on reward seeking, satisfying benefits suggest that the residents might accept negative impacts if they feel that the benefits outweigh the costs, reciprocity proposes that if the resources that are exchanged between the residents and the event are roughly equivalent then the impacts and effects will be perceived as positive by both parties, and finally, the justice principle suggests that all exchanges should be fair ensuring that in return for the residents' support and participation they will receive equitable returns. Therefore, the social exchange process being a modern approach to social exchange theory and explains the impacts of the relationships among the organizers, the festival/event and the residents is considered relevant and adopted as framework for this study.

#### 4. Research methodology

In this section, the methodology adopted in carrying out this study is presented. These include methods of data collection, description of the sampling procedure, sample frame and sample size, and the methods of data analysis. Data for this study were collected from only primary source. Primary data were derived from fieldwork, through the administration of questionnaire. The instrument was structured using 5 point Likert scale rating. Strongly Agree – 5, Agree – 4, Just Agree – 3, Disagree – 2 and Strongly Disagree – 1. From the rating of the scale, it should be noted that "Just Agree" is the midpoint of the respondents responses which could also be termed as "Indifferent". The questionnaire was administered on the residence of Lagos Island. Information obtained through the use of questionnaire includes socioeconomic characteristic of the residence, residents' responds to identified possible impact of the festival. Jang and Wu (2006) and Wu and Pearce (2014) argued that using directly adapted scales from previous literature does not enable researchers to explore specific motivational factors in a study. Therefore, the 22 measures of physical planning implication were derived from past literature and authors self developed through pilot survey. Additionally, the items were pre-tested before the research.

Systematic sampling procedure was employed to select (5) five areas (Such as: EbuteEro, Obalende, Oke Popo, Campus, and Lafiaji) that are predominantly the route of Eyo masquerade during the festival. A total of 120 houses were systematically sampled cutting across the five selected areas. Within each building two occupants (One Landlord and a Tenant) were interviewed, making a total of 240 respondents for the study. A total 120 buildings was sampled in the study area, with 240 respondents (see Table 1).

The target respondents were the residents in each of the selected buildings. Data collected were coded into Statistical package for social sciences (SPSS Version 20). Processing of data was through the use of quantitative methods of analyses. These include factor analysis. Factor analysis was used to analyze the planning implication of Eyo festival in Lagos Island.

**Table 1. Sample frame and sample size**

Areas	Building sample size	Residents sample size
EbuteEro	10	20
Obalende	15	30
Oke Popo	28	56
Campus	32	64
Lafiaji	35	70
Total	120	240

## 5. Finding and result

### 5.1. Negative impact associated with Eyo festival

This section examines the residents' knowledge index of the challenges encountered across the selected area during Eyo festival. The challenges identified are termed to mean the negative impact/effect of the festival. The degree of influence of these challenges was examined using 5 point Likert scale rating.

One of the factors raised on the challenges faced by the residents across the selected areas during Eyo festival Traffic congestion. Findings as presented in Table 2 reveal that 124 (51.7%), and 86 (35.8%) of the respondents agrees and strongly agree with the assertion that they witnessing traffic congestion in Lagos Island during Eyo festival, while only 5 (2.1%) of the respondents disagree with the assertion that they witness traffic congestion on the streets of Lagos Island during Eyo festival. However, it is an indication that whenever Eyo festival is going on, the residents of Lagos Island witness traffic congestion on the streets of Lagos Island, which they consider as a challenge because it hinder and restrict their movement. This could be attributed to the fact that the festival attracts people from all and sundry to witness the festival.

Findings on overcrowding as presented in Table 2 revealed that 111 (46.3%) and 99 (41.3%) of the respondents strongly agree and agree with the assertion that influx of people causes overcrowding during Eyo festival, while the remaining 30 (12.5%) of the respondents just agree with the assertion, none of the respondents have contrary view to the assertion. This is an indication that Eyo festival causes overcrowding and as such hinders the activities of the residents of the area. This could be attributed to the attractive nature of the festival in attracting tourist to witness the celebration.

Increase in crime rate is another index to measure the challenges faced by residents in the study area as resented in Table 2. Majority of the respondent under study representing 236 (98.3%) perceived that there is always increase in crime and social vices whenever it is time for Eyo festival, while only 4 (1.7%) have contrary opinion. This is an indication that to a large extent little crime and social vices like picking pocket, rape, stealing, smoking of Indian helm among other as stated by some of the respondents during interview. This specifically can be attributed to the porosity in the nature of *Isaleeko* and the influx of people from different part of the country and beyond.

**Table 2. Residents' perception on negative impact associated with Eyo festival**

Factors	Level of agreement					Total
	Strongly disagree	Disagree	Just agree	Agree	Strongly agree	
Traffic congestion	0 (0.0%)	5 (2.1%)	25 (10.4%)	124 (51.7%)	86 (35.8%)	240 (100%)
Overcrowdings	0 (0.0%)	0 (0.0%)	30 (12.5%)	99 (41.3%)	111 (46.3%)	240 (100%)
Increase in crime rate	4 (1.7%)	0 (0.0%)	50 (20.8%)	90 (37.5%)	96 (41.3%)	240 (100%)
Noise pollution	109 (45.4%)	68 (28.3%)	5 (2.1%)	45 (18.8%)	13 (5.4%)	240 (100%)
Interest group clash	69 (28.8%)	108 (45.0%)	34 (14.2%)	29 (12.1%)	0 (0.0%)	240 (100%)
Street trading	0 (0.0%)	0 (0.0%)	29 (12.1%)	92 (38.3%)	119 (49.6%)	240 (100%)
Increase in price of goods	0 (0.0%)	0 (0.0%)	21 (8.8%)	108 (45.0%)	111 (46.3%)	240 (100%)
Street littering	0 (0.0%)	0 (0.0%)	19 (7.9%)	105 (43.8%)	116 (48.3%)	240 (100%)
Disruption of local activities	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	240 (100.0%)	240 (100%)
Total	182 (8.4%)	181 (8.4%)	213 (9.9%)	692 (32.0%)	892 (41.3%)	2,160 (100%)

Source: Author's field survey, 2015.

Noise pollution is another index to measure challenges as presented in Table 2. Majority of the respondents with a share of 177 (73.8%) state categorically that they do not consider the noise during Eyo festival as pollution; they state that the noise actually add color to the event and they enjoyed it. While only 63 (28.3%) of the respondents have contrary opinion and state that they consider the level of the noise as pollution even though they are part of it. This is an indication that the noise level is part of the color of the festival and majority of the respondents can tolerate the noise level because it last for only the festival period. This noise level can be attributed to the music from different musician, songs from different Eyo group. Band gang for supporters of different Eyo groups.

Findings on interest group clash as presented in Table 2 reveal that majority 211 (87.9%) of the respondents perceived that in recent times Eyo festival has been the uniting factors between and within groups and gangs, they asserted that there is hierarchy of respect among the Eyo group and as such smaller Eyo respect the Bigger Eyo whenever they cross part and so as their supporters. While, 29 (12.1%) have contrary perception to the assertion and believe that interest group clashes during Eyo festival. Holistic discussion with some residents across the selected areas reveals that Eyo festival in Lagos Island is a unifying factor between the residents of the study area.

Findings on street trading and increase in price of goods as presented in Table 2. revealed that majority of the respondents with the respective share of 211 (87.9%) and 219 (91.3%) agrees with both assertion that they witness street trading and increase in prices of goods during the festival and whenever the festival is over it reverts back to normal. This is an indication that sellers of goods and services always increase the price of their goods and sell to the people at expensive price, despite the fact that they move their goods from where their shop is to the street where people can easily see them. This could be attributed to increase in demand that makes a particular commodity scarce and expensive.

Street littering is inevitable during cultural festival. Findings reveal that 240 (100.0%) all the respondents attest to the fact that after the festival the entire streets are always filled with solid waste such as nylon bags, pure water nylon, containers of all sorts, and plastic bottle of all sorts among others. This can be attributed to the fact that every activities during the festival happens on the street.

### **5.2. Residents' knowledge index of negative impacts associated with Eyo festival**

The residents awareness of the negative impacts associated with Eyo festival in the study area were examined using a five point Likert's scale rating to determine the Residents Knowledge Index (RKI) in identifying the level of dissatisfaction attached to the identified challenges. For this study, a total of 9 indicators were identified. To calculate the RKI, the respondents were instructed to rate each challenges using one of the five ratings: Strongly Agree – 5, Agree – 4, Just Agree – 3, Disagree – 2 and Strongly Disagree – 1. The summations of the weight value (SWV) for each of the indicators were obtained through the addition of the product of the response for each rating of the variable and their respective weight values. Mathematically, this is expressed thus:

$$SWV = \sum_{i=1}^5 X_i Y_i \tag{1}$$

where SWV is the summation of weight value,  $X_i$  is the respondents rating of particular indicator and  $Y_i$  is the weight value assigned to each indicator.

The RKI for each indicator is arrived at by dividing the summation of weight value by the addition of the number of respondents to each of the five ratings. This is expressed mathematically as:

$$RII = \frac{SWV}{\sum_{i=1}^5 P_i} \tag{2}$$

**Table 3. RKI of negative impacts associated with Eyo festival**

Challenges	Rating and weight value					SWV	RKI	Mean deviation		Rank
	SD (1)	D (2)	JA (3)	A (4)	SA (5)			(RKI- $\overline{\text{RKI}}$ )	(RKI- $\overline{\text{RKI}}$ ) <sup>2</sup>	
I	0	0	0	0	240	1,200	5.00	1.11	1.2321	1st
H	0	0	19	105	116	1,057	4.40	0.51	0.2601	2nd
F	0	0	29	92	119	1,050	4.38	0.49	0.2401	3rd
G	0	0	21	108	111	1,050	4.38	0.49	0.2401	3rd
B	0	0	30	99	111	1,041	4.34	0.45	0.2025	4th
A	0	5	25	124	86	1,011	4.21	0.32	0.1024	5th
C	4	0	50	90	96	994	4.14	0.25	0.0625	6th
D	109	68	5	45	13	505	2.10	-1.79	3.2041	7th
E	69	108	34	29	0	503	2.10	-1.79	3.2041	7th
Total	182	362	639	2,768	4,460	8,411	35.05		8.7480	

Notes: A = Traffic congestion; B = Overcrowdings; C = Increase in crime rate; D = Noise pollution; E = Interest group clash; F = street trading; G = Increase in price of goods; H = Street littering; I = Disruption of local activities.

Source: Author's field survey, 2015.

where RKI is the residents' knowledge index, SWV and  $P_i$  are defined previously. The closer the RKI of a particular indicator to 5 the higher is assured of the level of dissatisfaction attached to such challenge. The result is as presented in Table 3.

Findings as presented in Table 3 established that the respondents express their dissatisfaction towards 7 out of the 9 indicators considered as challenges and negative impact of the festival. The first indicators considered as challenges was disruption of local activities with RKI = 5.0, followed by street littering, increase in price of goods and street trading with respective RKI = 4.40, 4.38 and 4.38. While, overcrowding (RKI = 4.34), traffic congestion (RKI = 4.21) and increase in crime rate (RKI = 4.14) were also prominent in the study area during the festival. This could be associated to the fact that the festival attracts tourist from all and sundry to witness and enjoy the festival, while also some people are attracted to the festival to sell their goods. The residents do not consider the noise level in the environment during the festival as pollution. Though the respondents attest to the fact that music, chanting of songs, and all sorts of noisy activities were prominent during the festival, but instead of it been a challenge it adds colour to the event, this was deduced from personal discussion with some of the residents during the survey period.

The study also revealed that mean RKI for all the 9 identified challenges (indicators) denoted by  $\overline{\text{RKI}}$  was 3.89, while the variance in RKI was 0.972, with a standard deviation of 0.9859 and the coefficient of variation in the RKI was 25.34% which connotes a spread opinion about the mean i.e. the opinion of the respondents on the negative impact of the festival spread about the mean.

$$\text{Average (Mean)} = \overline{\text{RKI}} = \frac{\sum \text{RKI}}{N} = \frac{35.05}{9} = 3.89;$$

$$\text{Variance} = \frac{\sum (\text{RKI} - \overline{\text{RKI}})^2}{N} = \frac{8.7480}{9} = 0.972$$

$$\text{Standard deviation} = \sqrt{\frac{\sum (\text{RKI} - \overline{\text{RKI}})^2}{N}} = \sqrt{0.972} = 0.9859$$

$$\text{Coefficient of variation} = \left( \frac{0.9859}{\overline{RKI}} \times 100 \right) \% = \left( \frac{0.9859}{3.89} \times 100 \right) \% = 25.34\%$$

### 5.3. Computation of RKI values for the negative impacts of Eyo festival in the study area as presented in Table 3

**Column 1:** Challenges (indicators).

**Column 2:** Number of individual respondents rating each of the indicators with 5 (strongly agree).

**Column 3:** Number of individual respondents rating each of the indicators with 4 (agree).

**Column 4:** Number of individual respondents rating each of the indicators with 3 (just agree).

**Column 5:** Number of individual respondents rating each of the indicators with 2 (disagree).

**Column 6:** Number of individual respondents rating each of the Indicators with 1 (strongly disagree).

**Column 7:** Addition of product of individual respondents rating a particular indicator and their respective weight values. For instance, SWV for "A" =  $(0 \times 1) + (5 \times 2) + (25 \times 3) + (124 \times 4) + (86 \times 5) = 1,011$ .

**Column 8:** RKI equals summation of weight value (SWV) divided by additional of individual respondents rating each indicator. For instance, RKI for "A" =  $1,011 / (0 + 5 + 25 + 124 + 86) = \frac{1,011}{240} = 4.21$ .

**Column 9:** The deviation equals to mean of RKI for all the 9 Identified indicators subtracted from RKI value for each indicator e.g.  $\frac{35.05}{9} = 3.89$ , Deviation  $(RKI - \overline{RKI}) = (4.21 - 3.89) = 0.32$ .

**Column 10:** Square of values in column 9 e.g.  $(RKI - \overline{RKI})^2, (0.32)^2 = 0.1024$ .

### 5.4. Factor analysis on the physical planning implication of Eyo festival

Kaiser-Mayer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of Sphericity was carried out to test the suitability of data-set for factor analysis. The result indicated the sufficiency of the 22 variables loaded for factor analysis, as presented in Table 4. The KMO value of 0.822 which is greater than minimum 0.5, Bartlett's test of sphericity chi-square value of 8.424E3 and significant value 0.000 ( $p \leq 0.05$ ) agree with Field (2005). Therefore factors analysis is considered relevant and possible for this study.

Furthermore, Table 5 present the initial communalities of the factors before extraction through principal component analysis with an initial assumption that all variables are common with 1.000 each. After extraction, it was observed that each variable reflects common variance in the data-set, which is evident in the proportion of the variance explained by the underlying factors. For instance, variable such as *Increase opportunity for shopping, Improves understanding and image of the community, Overcrowdings during the festival, and Street littering during the festival* have associated variation of 0.954 (95.4%), 0.948 (94.8%), 0.938 (93.8%), and 0.932 (93.2%) respectively. Other variable with lower associated variation are *Noise pollution is high, Increase in crime rate, and Encourages smoking of Indian helm* with 0.245 (24.5%), 0.330 (33.0%) and 0.352 (36.2%). It is expected that the communalities after extraction must be high for a reasonable representation. The average communality as computed from Table 5 is 0.713 (71.3%) which is substantial to perform principal component analysis. According to Kaiser's criterion, four factors are to be extracted (Gorsuch, 1983). However it is important to note that this criterion is accurate when there are less than 30 variables and the communalities after extraction is greater than 0.7 or when the sample size exceeds 250 and average communality is greater than 0.6 (Field, 2005). This study satisfies the condition where 22

**Table 4. KMO and Bartlett's test**

Kaiser-Meyer-Olkin measure of sampling adequacy		0.822
Bartlett's test of sphericity	Approx. $\chi^2$	8.424E3
	Of	182
	Sig.	0.000

Source: Author's field survey, 2015.

**Table 5. Communalities before and after extraction**

	Initial	Extraction
Improve the areas' appearance and scenery	1.000	0.575
Improve public utility and infrastructure	1.000	0.763
Increase opportunity for shopping	1.000	0.954
Heritage enhancement	1.000	0.649
Promotes cultural exchange	1.000	0.808
Facilitates meeting visitors	1.000	0.569
Improves understanding and image of the community	1.000	0.948
Aid provision of more basic infrastructure	1.000	0.763
Traffic congestion during the festival	1.000	0.923
Overcrowdings during the festival	1.000	0.938
Increase in crime rate	1.000	0.330
Noise pollution is high	1.000	0.245
On-street trading during the festival	1.000	0.657
Rituals during the festival	1.000	0.800
Feelings of insecurity during the festival	1.000	0.555
Stampede during the festival	1.000	0.792
Increase in price of goods during the festival	1.000	0.739
Street littering during the festival	1.000	0.932
Disruption of local activities	1.000	0.843
Encourages smoking of Indian helm	1.000	0.352
Encourages public alcohol drinking	1.000	0.619
Create a sense of value, belief, pride and ethnic identity	1.000	0.922

Note: Extraction method: principal component analysis.

Source: Author's field survey, 2015.

variables are loaded for analysis with average communality vale of 0.713 after extraction and 240 sample size.

Findings as presented in Table 6 revealed that five factors has an initial eigenvalues above 1.000. Factor 1 accounted for 30.14% of the total variance explained in the original set of data; factor 2 accounted for 24.61%, factor 3 accounted for 8.75% while, 4 and 5 accounted for 7.76 and 7.06% respectively. However, any component that has less than two variables can be disregarded (Field, 2005). Therefore factor 5 with initial eigenvalue of 1.554 and accounted for 7.03% is disregarded. On this basis four factors with the initial eigenvalues of between 1.707 and 6.631 were extracted with 71.25% as total variance explained and were considered for this study.

Findings as presented in Table 7 are the rotated component matrix reveal the types of variable loading highly on each factor. Factor 1 accounted for 28.83% variance, factor 2 accounted for 25.15% variance while factor 3 and four accounted for 9.50 and 8.22% variance respectively. This study agrees with Adeyinka (2007) who adopted 0.55 and above, therefore any variable loading with value that is greater than 0.55 will be interpreted in line with Adeyinka (2007). Accordingly, component 1 has eight (8) variables loading highly on it, these are *Improve public utility and infrastructure* (0.864), *Opportunity for shopping* (−0.971), *Aid provision of basic amenities* (0.864), *Traffic congestion During festival* (0.955), *overcrowding* (0.961), *Encourage smoking of Indian helm* (−0.586), *encourage public alcohol drinking* (0.775) and *create sense of value* (0.952) by the nature of these variable loading on factor 1, it is named environmental factor.

**Table 6. Total Variance explained on planning implication of Eyo festival**

Component	Initial eigenvalues			Extraction sums of squared loadings		
	Total	% of variance	Cumulative (%)	Total	% of variance	Cumulative (%)
1	6.631	30.139	30.139	6.631	30.139	30.139
2	5.414	24.608	54.747	5.414	24.608	54.747
3	1.925	8.748	63.495	1.925	8.748	63.495
4	1.707	7.759	71.254	1.707	7.759	71.254
5	1.554	7.063	78.317			
6	0.704	3.200	81.518			
7	0.690	3.135	84.652			
8	0.665	3.022	87.674			
9	0.517	2.349	90.023			
10	0.391	1.776	91.799			
11	0.382	1.735	93.534			
12	0.318	1.446	94.980			
13	0.279	1.267	96.247			
14	0.247	1.122	97.369			
15	0.203	0.923	98.292			
16	0.161	0.731	99.023			
17	0.114	0.516	99.539			
18	0.053	0.240	99.779			
19	0.040	0.180	99.959			
20	0.008	0.035	99.993			
21	0.001	0.007	100.000			
22	-3.558E-17	-1.617E-16	100.000			

Source: Author's field survey, 2015.

Component 2 have 7 variable loading, they are: *improve the area scenery* (0.603), *improve understanding and image of the community* (0.970), *Ritual during the festival* (0.894), *stampede during the festival* (0.888), *increase in price of goods during the festival* (0.857), *Street littering* (0.961), and *disruption of local activities* (0.916). This variable is referred to as social/economic factor.

Component 3 has 3(three) variables loading which are: *heritage enhancement* (0.797), *promote cultural heritage* (0.881) and *facilitates meeting visitors* (0.726). These variables fall within cultural factors.

The last component 4 has just 2 (two) variable loading. Which are: *street trading* (0.730) and *feeling of insecurity* (0.709).These variables are named as security factor.

The summary of the variance explained by the extracted components after rotation is presented in Table 6. Findings reveal that the various impact of Eyo festival is categorized into factors according to the result of the factor analysis. Environmental Factor came first with total variance explained of 28.831% among the rest factors extracted. The next component in the order of loading variability among the 22 variables as is Social/Economic factor with 25.149% of the extracted components. While the next components are Cultural factor and Security factor have a share of 9.501 and 8.223% respectively of the extracted components. This is an indication that all the significant variable under each of the factors for the physical planning implication of Eyo festival in Lagos Island, Nigeria (Table 8).

**Table 7. Rotated component matrix**

Rotated component matrix	Component			
	1	2	3	4
Improve the areas' appearance and scenery	-0.117	0.603	-0.031	0.443
Improve public utility and infrastructure	0.864	-0.028	-0.038	0.118
Increase opportunity for shopping	-0.971	0.044	0.062	0.077
Heritage enhancement	-0.038	-0.004	0.797	-0.108
Promotes cultural exchange	-0.090	-0.096	0.881	-0.115
Facilitates meeting visitors	-0.081	-0.010	0.726	0.186
Improves understanding and image of the community	-0.063	0.970	-0.039	0.049
Aid provision of more basic infrastructure	0.864	-0.028	-0.038	0.118
Traffic congestion during the festival	0.955	-0.047	-0.047	-0.074
Overcrowdings during the festival	0.961	-0.040	-0.075	-0.085
Increase in crime rate	-0.335	-0.127	0.062	0.445
Noise pollution is high	-0.090	-0.003	0.028	0.486
On street trading during the festival	0.141	0.321	0.007	0.730
Rituals during the festival	0.008	0.894	-0.022	0.027
Feelings of insecurity during the festival	0.189	-0.021	-0.128	0.709
Stampede during the festival	-0.046	0.888	-0.038	-0.003
Increase in price of goods during the festival	0.006	0.857	0.001	-0.072
Street littering during the festival	-0.076	0.961	-0.041	0.041
Disruption of local activities	-0.059	0.916	-0.002	0.030
Encourages smoking of Indian helm	-0.586	0.052	-0.010	-0.079
Encourages public alcohol drinking	0.775	-0.027	-0.058	-0.119
Create a sense of value, belief, pride and ethnic identity	0.952	-0.068	-0.077	-0.076
Eigenvalue	6.343	5.533	1.991	1.809
% variance explained	28.831	25.149	9.501	8.223
Cumulative % variance explained	28.831	53.980	63.031	71.254

Notes: Extraction method: principal component analysis.

Rotation method: varimax with Kaiser normalization.

Rotation converged in five iterations.

**Table 8. Summary of physical planning implication of Eyo festival in Lagos Island**

Factors	Eigen value	% variance explained	Cumulative % variance explained
1 (environmental factor)	6.343	28.831	28.831
2 (social/economic factor)	5.533	25.149	53.980
3 (cultural factor)	1.991	9.501	63.031
4 (security factor)	1.809	8.223	71.254

Source: Author's field survey, 2015.

## 6. Conclusion and recommendation

This paper applied Principal component analysis to identify and summarize the measures of physical planning implication of Eyo festival in Lagos Island, Nigeria. Environmental, Social/Economic, Cultural and Security factors are the four elements that could be referred to as the physical planning implication. Each of these elements was constructed by using some indicators. Environmental were constructed using

Improve public utility and infrastructure (0.864), Opportunity for shopping (−0.971), Aid provision of basic amenities (0.864), Traffic congestion During festival (0.955), overcrowding (0.961), Encourage smoking of Indian helm (−0.586), encourage public alcohol drinking (0.775) and create sense of value (0.952).

Social/Economic were constructed in terms of “improve the area scenery (0.603), improve understanding and image of the community (0.970), Ritual during the festival (0.894), stampede during the festival (0.888), increase in price of goods during the festival (0.857), Street littering (0.961), and disruption of local activities (0.916)”. Cultural was constructed using “heritage enhancement (0.797), promote cultural heritage (0.881) and facilitates meeting visitors (0.726)”. Lastly, Security was Constructed using “street trading (0.730) and feeling of insecurity (0.709)”.

The results of the goodness of fit test shows that majority of the indicators loaded a significance value that supported their constructs and therefore explained 71.25% variation of the physical planning implication of Eyo festival in the study area. However, the study concluded by stating that Eyo Festival in Lagos Island has both positive and negative impacts on the host community. In order to mitigate the impacts, the following recommendations are made: Security operatives should be inculcated as part of the member of the planning committee before the commencement of the festival so as to enable them provide maximum security of life and properties of residents and visitors.

Furthermore, adequate traffic personnel should be deployed to the venue of the festival and the environs so as to direct and control all vehicles moving in and out of the area, with the view to reduce the extent of the traffic congestion. Similarly, Lagos State Waste Management agency should be mandated to clear and clean the streets of Lagos Island immediately after the festival. Lastly, prior public enlightenment should be embarked upon to educate residents and prospective visitors on the rules and regulation as may be laid by the security operatives on code of conduct during the festival

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