

# SUSTAINABLE TOURISM ARCHITECTURE: USER EVALUATION OF ARGUNGU FISHING VILLAGE

Stephen Nwabunwanne Oluigbo<sup>1</sup>

*Department of Architecture, Ahmadu Bello University, Zaria, Nigeria*

Architectural design for sustainable tourism facilities demands the creation of spaces which will attract and satisfy the market, based on solutions which preserve, reinforce, or project destinations' natural and cultural attributes. In order to determine the extent to which this was reflected in the design of Argungu fishing village, Kebbi state, Nigeria, visual survey was conducted. This was followed by user perception survey through on-site questionnaires administration. Obtained data were subject to descriptive analysis and non-parametric tests. Findings from the questionnaire survey include: Perception of low level of response to the market; moderate level of response to local culture; and, high response to the natural environment. Results also show positive attitude towards the combination of indigenous and modern architecture in the design. The study concludes that the design of Argungu fishing village reflected considerable attempts at sustaining the natural and cultural environment. However, there is need for more attention to user needs and preferences in order to enhance patronage and economic sustainability.

Keywords: culture, fishing, market, natural environment, sustainable tourism.

## INTRODUCTION

One of the key physical features of tourism development is the construction of facilities. These facilities are an important part of the tourist experience at destinations and their adequacy is often central to visitor attraction and satisfaction (Mill and Morrison, 1985; Moscardo, 2001). They contribute in shaping tourism landscapes by influencing the type and number of tourists in a particular location as well as their spatial activity patterns (Middleton and Hawkins, 1998). They are one of the most visible features of tourism destinations with the potential to alter the characteristics of their location if designed insensitively (Marin and Jafari, 2002). Their fixed nature and large footprint makes them the most likely sectors to be blamed by destination authorities and communities for any perceived environmental or social degradation (Weaver, 2006). In line with this, the World Tourism Organisation (WTO) (2005) emphasized the importance of appropriate architectural design of tourism facilities and the place of architecture in shaping and enhancing the image of tourist destinations or destroying it altogether.

Two key stakeholders in sustainable tourism facilities development are the tourists and members of the host community. These two also constitute the users. Robinson and Picard (2006) noted that tourists and member of the host community had a stake in sustainable tourism development. Therefore, their input is essential in sustainable tourism facilities design. While the benefit of the tourists was largely linked to

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<sup>1</sup> snolui@yahoo.com



recreational experience, host communities have a direct stake in tourism in ensuring that developments do not degrade their environment or erode local culture. Studies have also identified significant difference between tourists and the local community in perception of tourism facilities developments (Mcnicol, 1996; Jones et al. 2000; Yung et al, 2003). Others have noted that what some considered as progress may be viewed by others as detrimental to the environment (Kaltenborn 1998; Cheng et al. 2003; Cresswell, 2004; Rowena, 2005). These factors need to be put into consideration for the sustainable tourism facilities design.

This paper applied user perception and evaluation in order to determine the extent to which the architectural design of Argungu fishing village reflected consideration for sustainable design. The objectives of the paper are:

- (i) To conduct a review of sustainable tourism facilities design requirements with reference to the three pillars of sustainability;
- (ii) To survey the perception of users on the reflections of sustainable design in Argungu fishing village; and,
- (iii) To determine whether there are significant differences between key user groups (tourists and the local population) on the importance attached to various aspects of sustainability in the design of tourism facilities.

## **SUSTAINABLE TOURISM FACILITIES DESIGN**

Designing for sustainability firstly requires the identification of the entities that needed sustaining and what their requisite state should be (Gibberd, 2003). This study looks at the design of sustainable tourism facilities through the three pillars - the environment, culture, and economy.

### **The Market as Basis of Economic Sustainability**

One of the keys to economic sustainability of tourism facilities is the ability to attract tourists, increase their expenditure, while providing them with quality services and satisfying experiences (Ritchie and Crouch, 2003 Al-Masroori, 2006 *op cit*). In order to achieve this, tourism facilities design should be based on study of market trends, needs, expectations and preferences of tourists, and the type of facilities which would best satisfy them. This will aid the design of facilities based on the characteristics of the destination (Michael, 1986; Western Australia Tourism Commission (WATC), 1990; Southern Australia Tourism Commission (SATC), 2007; [http:// www.rainforest-alliance.org](http://www.rainforest-alliance.org)). SATC (2007) listed the following as the basic questions to ask in the study of the existing market for the purpose of development as: How many visitors come to the region, town, area, or specific sites? Where do they come from – international, specific region, local? What do they seek – desires and preferences? Who are they – origin, demography, psychographic and behavioural segmentation? Where do they stay – accommodation preferences?

### **Sustaining the Natural Environment**

Environmental conscious tourism facilities design entails optimal use of environmental resources (SATC, 2007). To achieve this, controls should be applied in tourism facilities design in order to minimise adverse impacts on the natural environment, maintain and promote the image of the facility, optimize the experience, and enhance the attraction (WATC, 1990). At the destinations, design should minimize any form of environmental degradation or pollution. It should also aim at maintaining the visual quality of the setting (SATC, 2007). This demands that design



be based on ecological factors of the location such as solar energy, soil, water supply, humidity, wind, topography, and altitude, and the use of sites natural attributes as primary experience and design determinant (Denver Service Centre, 2009). At the global level, the major issues are the minimization of greenhouse gas emission and conservation of non-renewable energy (SATC, 2007). Design with natural characteristics of tourism destinations reduces capital and operating costs by relying on the site's natural features thus downsizing mechanical systems through smart and efficient energy systems (WATC, 1990; Sustainable Sitting, 2007; Denver Service Centre, 2009). Tourists are also responding to good design. According to a 1996 study by the Travel Industry Association of America, some 43 million Americans are willing to pay an 8.5% premium to stay in what they perceive to be an environmentally sensitive property (Sustainable Sitting, 2007).

### **Sustaining Local Culture**

Sustainable tourism facilities design should promote the identity and sense of place of the host community rather than overshadowing it. In line with this, Huffadine (2000) recommended the assimilation of local customs and heritage with the function of tourism facilities. Similarly, SATC (2000) called for the reflection of community values in tourism developments and recommended that architectural style, landscape design, and construction materials of new developments should reflect the cultural heritage of the locality or region. This can be achieved through the use of the cultural attributes of sites as primary experience and design determinant (Denver Service Centre, 2009). Design should also encourage the use of local knowledge, skills and traditions, and promote tourist activities and behaviours which are respectful of cultural activities, sites and values (Williams, 2007; SATC, 2007). While focusing on local built environment, submissions from the international conference on Built Environments for Sustainable Tourism (BEST) held at Muscat, Sultanate of Oman held in 2005 showed that modern tourism facilities were not necessarily antagonistic to sense of place (WTO, 2005). Memorandum of the conference stated that modern components can blend successfully with traditional built environments.

### **ARGUNGU FISHING VILLAGE**

Argungu Fishing Village is the venue of the annual Argungu fishing and cultural festival which is one of the most popular cultural tourism attractions in Nigeria. It is located in the Sudan Savannah grassland zone of Nigeria and lies in the Sokoto river basin at an altitude of about 225 metres above sea level and covers an area of about 276 hectares (Adamu, 1982; <http://argungufishingfestival.gov.ng/index.php>).

Argungu has been a strong centre of administration, right from its establishment at the beginning of the nineteenth century, to date (Adamu, 1982). The dominant ethnic group at the destination is the Hausa with a small minority of the inhabitants from other groups. (<http://argungufishingfestival.gov.ng/index.php>).

Place responsive design for this destination is clearly reflected in the traditional architecture (Hausa architecture). Features of this include: Use of courtyard in design; massive mud walls of high thermal capacity with an eight hour time lag; small size openings; longer sides of buildings facing the north and south; use of trees for shading; flat, domed or thatched roof; pinnacles; arches; decoration of door and window surrounds; general abstract wall decorations; entrance room (azure) and inner courtyards, among others (Evans, 1980; Denyer, 1982; Moughtin, 1985; Sa'ad, 1985; Dmochowski, 1990; Ogunsote, 1991).



Four categories of buildings are distinguishable from the visual survey of Argungu fishing village. These are: the fully traditional buildings represented by Gidan D. O. (former District officer's residence); combination of modern and traditional styles represented by the round huts; fully modern with no distinguishing characteristics, represented by the lodges; and, symbolic buildings, represented by the "fish house" (Nigerian Tourism Development Corporations' station) (see Plates I to IV).

These multiple and apparently contradictory architectural characteristics could however be explained by the history and evolution of the village which shows that each of these categories of buildings was constructed at different periods starting from the colonial era to the present age.



Plate I and II: Gidan D.O. showing fully traditional Hausa architectural characteristics; group of 'round huts' in the landscape showing resemblance to a village setting. Source: field survey 2010.



Plate III and IV: Front view of one of the lodges showing reflection of modern architectural characteristics; 'fish' house showing fish-like building form. Source: field survey 2010.

## **METHODOLOGY (EVALUATION)**

The study adopted visual survey and user perception in the evaluation of architectural design of Argungu fishing village with reference to the three pillars of sustainability - economy, environment, and culture. The users include tourists and members of the host community. Site/user survey method was adopted. This approach has the advantage of high response rate and medium cost (Veal, 2006). 392 questionnaires were administered through systematic random sampling. This was based on a combination of respondent and interviewer completed methods through stationary

interviewers distributed around the survey site. The questions were placed on a five point Likert scale. The scale consists of a set of items of equal value and a set of response categories constructed around a continuum of important/not important and low/high. The study also tested a null hypothesis: Ho1 - There is no significant difference between residents and visitors on importance of destination's resources to sustainable tourism facilities design. Analysis was based on descriptive account, descriptive statistics and non-parametric tests. These involved the use of Statistical Package for Social Science (SPSS).

## RESULT

### Design with the Market

With regards to the market, the survey sought to ascertain the level of importance attached to seven facilities and users' rating of provision of such facilities at Argungu fishing village. The facilities are: High quality accommodation facilities; outdoor relaxation spaces; sports facilities; performance spaces; shopping facilities; outlets for food and drinks; and, conference facilities. The result shows that the most important facility was outdoor relaxation spaces with a score of 4.60 on a five point Likert scale, while the provision of such facilities obtained a score of 2.09 on the same scale. The facility scored low on all aspects except for the provision of performance spaces. (see Table 1).

Table 1: User needs and its reflection in Argungu fishing village

| Facility                              | Importance | Reflection |
|---------------------------------------|------------|------------|
| High quality accommodation facilities | 4.52       | 2.09       |
| Outdoor relaxation spaces             | 4.60       | 2.29       |
| Sports facilities                     | 4.00       | 2.09       |
| Performance spaces                    | 4.10       | 3.64       |
| Shopping facilities                   | 2.52       | 2.05       |
| Outlets for food and drinks           | 4.51       | 2.04       |
| Conference facilities                 | 3.50       | 1.15       |

### Sustaining the Natural Environment

Five resources were investigated with respect to the sustenance of the natural environment. These are: Respect for topography; preservation of vegetation; natural lighting; natural ventilation; and, use of renewable energy. The result shows high correlation between the level of importance attached to the destination's natural environment and the reflection of this. Argungu fishing village however scored low in the use of renewable energy (see Table 2).

Table 2: Natural resources and its reflection in Argungu fishing village

| Natural resource           | Importance | Reflection |
|----------------------------|------------|------------|
| Respect for topography     | 3.78       | 3.04       |
| Preservation of vegetation | 3.82       | 3.60       |
| Natural lighting           | 4.82       | 3.50       |
| Natural ventilation        | 4.89       | 3.65       |
| Use of renewable energy    | 2.85       | 1.00       |

### Sustaining Local Culture

Survey result shows that: 241 respondents representing 61.5% were pleased with the combination of indigenous and modern (western) architecture in the design; 117 respondents representing 29.8% believed it should have been based on indigenous



architecture alone; while, 34 respondents representing 8.7% believed it should have been solely based on modern architecture (see Table 3).

Table 3: Respondents' choice of Architectural Style for Tourism Facilities at Argungu

| Modern (Western) architecture | Combination of indigenous and Modern (Western) architecture | Indigenous architecture | Total         |
|-------------------------------|---|-------------------------|---------------|
| 34<br>(8.7%)                  | 241<br>(61.5%)  | 117<br>(29.8%)          | 392<br>(100%) |

The study also sought to determine the level of importance attached to five cultural resources and their levels of reflection in the existing facility. These elements are: Expression of indigenous architectural heritage; use of indigenous building materials; use of indigenous building techniques; application of indigenous ornaments and decorations; and, preservation of local lifestyle. The result shows that expression of indigenous architectural heritage and preservation of local lifestyle, were the most important cultural resources with scores of 4.49 and 4.37 respectively. Respondents perceived moderate level of expression of indigenous architectural heritage and high level of preservation of local lifestyle. Details of these are given in Table 4 below.

Table 4: Cultural resources and their reflection in Argungu fishing village

| Cultural resource                                   | Importance | Reflection |
|---|------------|------------|
| Expression of Indigenous architectural heritage     | 4.49       | 2.83       |
| Use of indigenous building materials                | 3.19       | 2.16       |
| Use of Indigenous building techniques               | 3.11       | 2.08       |
| Application of Indigenous ornaments and decorations | 4.16       | 2.07       |
| Preservation of local lifestyle                     | 4.37       | 3.98       |

### Test of Hypothesis

The study sought to determine whether there were differences between tourists and the local population on the importance attached to various resources of the destination with regards to sustainable tourism facilities design as indicated in various studies (Mcnicol, 1996; Jones et al. 2000; Yung et al, 2003; Cheng et al. 2003; Cresswell, 2004; Rowena, 2005). A null hypothesis ( $H_0$ ) was therefore proposed which states that there is no significant difference between residents and visitors on importance of destination's resources to sustainable tourism facilities design.

Table 5: Residents versus Visitor Differences on Importance of Argungu's Resources in Tourism Facilities Design

| Characteristics  | $X^2$  | p    |
|--|--------|------|
| Need for design to preserve destinations natural vegetation  | 4.458  | .348 |
| Need for design to preserve destinations topography          | 10.173 | .038 |
| Need for design to express indigenous architectural heritage | 10.465 | .033 |
| Need for design to preserve and reflect local lifestyle      | 2.639  | .620 |

The result showed no significant difference on the need for design to preserve destinations natural vegetation with  $x^2$  value of 4.458 and p-values of  $0.340 > 0.05$ . On the need to preserve destinations topography significant difference was detected with  $x^2$  value of 10.173 and p-value of 0.038. On the need to project destinations architectural heritage, significant difference was detected with  $x^2$  value of 10.465, and p-value of 0.033. On the need for design to preserve and reflect local lifestyle, the hypothesis was accepted with  $x^2$  value of 2.369 and p-value of 0.620 (see Table 5).



## CONCLUSIONS

This paper applied user perception and evaluation to determine the extent to which the architectural design of Argungu fishing village reflected consideration for sustainable design. The result shows moderate level of correlation between the importance attached to local cultural characteristics and their reflection in design; and, fairly high level of correlation between importance attached to the destination's natural environment and its reflection in design. However, while previous studies have buttressed the need for tourism facilities design to be based on user needs and preferences in order to enhance economic sustainability (WATC, 1990; Ritchie and Crouch, 2003 Al-Masroori, 2006 op cit; SATC, 2007; [www.rainforest-alliance.org](http://www.rainforest-alliance.org)), there was a low level of correlation between facilities demanded by users and that which was available at the fishing village. Majority of respondents believed that tourism facilities should be based on a combination of indigenous and modern architectural styles. This confirms WTO's (2005) findings that modern architecture was not antagonistic to sense of place and that local vernacular architecture could be reinterpreted through contemporary lenses for tourism facilities design. Test of hypothesis confirmed the existence of differences in perception between tourists and hosts as indicated in previous studies (Menicol, 1996; Jones et al. 2000; Yung et al. 2003; Cheng et al. 2003; Cresswell, 2004; Rowena, 2005).

Based on these findings the study recommends the following:

- (i) Provision of additional outdoor spaces and improvements of quality of accommodation facilities in order to satisfy the market;
- (ii) Renewable energy should be explored since some amount of importance was attached to it by the users;
- (iii) Design should combine modern architecture with local character to enhance attraction since modern architecture was not antagonistic to the host community;
- (iv) Differences in perception between tourists and the host community should be harmonised to ensure sustainability.

## REFERENCES

- Adamu, M. B. (1982). Argungu fishing festival: Its impact on town's development, Unpublished M.Sc. thesis, Ahmadu Bello University, Zaria.
- Al-Masroori, R. S. (2006). Destination competitiveness: Interrelationship between destination planning and development strategies and stakeholders' support in enhancing Oman's tourism industry. Unpublished Doctoral thesis, Department of Business and Asian Studies, Griffith University, Australia.
- Cheng, A. S., Kruger, L. E., and Daniels, S. E. (2003). "Place" as an integrating concept in natural resource politics: Propositions for a social science research agenda. *Society and Natural Resources*. 16: 87–104.
- Cresswell, T. (2004). *Place: A short introduction*. Malden Ma: Blackwell Publishing.
- Denver Service Centre (2009). *Guiding principles of sustainable design*. Retrieved May 4, 2009 from [http://www.nps.gov/dsc/d\\_publications/d\\_1\\_gpsd.htm](http://www.nps.gov/dsc/d_publications/d_1_gpsd.htm)
- Denyer, S. (1982). *African traditional architecture*. London: Heinemann.
- Dmochowski, Z. R. (1990). *An introduction to Nigerian traditional architecture, Volume one: Northern Nigeria*. London/Lagos: Ethnographica/ National Commission for Museum and Monuments.
- Gibberd, J. (2003). *Integrating sustainable development into briefing and design processes of buildings in developing countries: An assessment tool*. Unpublished PhD thesis, Department of Architecture, University of Pretoria.



- Government of the Federal Republic of Nigeria, United Nations World Tourism Organisation, United Nations Development Program and Tourism Development International (2006). Nigeria tourism master plan: Institutional capacity strengthening to the tourism sector in Nigeria. NIR/03/002.
- Huffadine, M. (2000). *Resort Design: Planning, Architecture, and Interiors*. New York: McGraw-Hill.
- Jones, C. D., Patterson, M. E., Hammitt, W. E. (2000). Evaluating the construct validity of sense of belonging as a measure of landscape perception. *Journal of Leisure Research*. 32(4): 383–395.
- Kaltenborn, B. P. (1998). Effects of sense of place on responses to environmental impact: A case study among residents in an Arctic community. *Applied Geography*. 18(2): 169–189.
- Marin, C. and Jafari, J. (2002). Sustainable hotels for sustainable destinations. *Annals of Tourism Research*, 29, 266–8.
- Middleton, V. and Hawkins, R. (1998). *Sustainable Tourism: A Marketing Perspective*, Butterworth: Heinemann.
- Mcnicol, B. J. (1996). Views of residents, developers, and government planners about tourism and tourism resort developments in Canmore, Alberta. Unpublished PhD thesis, University of Calgary, Alberta, Canada.
- Michael, I. O. (1986). Tourism in relation to hotel industry. *Nigerian trade journal* 5(2), 30.
- Mill, R. C., and Morrison, A. M. (1985). *The tourism system: An introductory text*. New Jersey: Prentice-Hall.
- Moscardo, G. (2001). Visitor evaluations of built tourist facilities: Pontoon on the Great Barrier Reef. *The Journal of Tourism Studies*, 12(1), 28-38.
- Moughtin, J. C. (1985). *Hausa architecture*. London: Ethnographica Limited.
- Ogunsote, O. O. (1991) *Introduction to building climatology*. Zaria: Ahmadu Bello University Press.
- Robinson, M. and Picard, D. (2006). *Tourism, Culture and Sustainable Development*. Paris: UNESCO.
- Rowena, B. (2005 October 17- 21). Peripheral vision: Implications of spatial contextualization for communities surrounding heritage sites. Proceedings of the ICOMOS 15<sup>th</sup> General Assembly and Scientific Symposium on “Monuments and sites in their setting: Conserving cultural heritage in changing townscapes and landscapes”. Xi’an, China.
- Saad, H. T. (1985). The role of individual creativity in traditional African art: The gwani amongst master builders of Hausa-land. *Nigeria magazine*, Vol. 53, No 4, pp. 3- 16.
- South Australian Tourism Commission (2007). *Design guidelines for sustainable tourism development*. Sydney: SATC.
- Sustainable Siting (2007). *The sustainable siting, design and construction of tourism facilities*. Retrieved December 10, 2007 from <http://www.ih-ra.com/marketplace/docs/3environmental-teaching.pdf>.
- Veal, A. J. (2006). *Research Methods on Leisure and Tourism*. Third Edition. London: Prentice Hall.
- Weaver, D. (2006). *Sustainable tourism: Theory and practice*. Amsterdam: Elsevier Butterworth Heinemann.
- Western Australian Tourism Commission (2000). *Designing tourism naturally – A review of world best practices in wilderness lodges and safari camps*. WATC
- Williams, D. E. (2007). *Sustainable design: Ecology, architecture, and planning*. New Jersey: John Wiley and Sons, Inc.
- World Tourism Organisation (2005, February 5-8). *Final report of the international conference of Built environment for Sustainable Tourism (BEST) held in Muscat, Sultanate of Oman*.
- Yung, L., Freimund, W. A., Belsky, J. M. (2003). The politics of place: Understanding meaning, common ground, and political difference on the Rocky Mountain Front. *Forest Science*. 49(6): 855–866.