



INSTITUTIONAL CAPACITY BUILDING FOR CLIMATE CHANGE AND SUSTAINABILITY IN NIGERIA: REFLECTIONS ON THE RESPONSES OF BUILT ENVIRONMENT PROFESSIONALS

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Although professionals in the building trade are largely aware of the challenges of climate change and that buildings are mostly affected by the impact of climate change, they are however, not fully aware of the relationship between buildings and climate change. As a result, some of their sustainability practices are questionable. The study identifies professional collaboration as a key factor for promoting institutionalised capacity building for sustainability within the built environment, between the professions and at the different levels of governance to ensure policy implementation of sustainable practices in Nigeria.

Keywords: Built environment, Climate change, Capacity building, Nigeria, Sustainability.

Introduction

This study's purpose was to consider the potentials of institutionalised capacity building in promoting and enhancing the sustainable practices amongst the built environment professionals in Nigeria. The study examines the practices of some professionals practitioners within the construction sector and those engaged with the control of construction related development as administrators. The unit of analysis is centered in Abuja, the Federal Capital of Nigeria. Preceding findings from this study is the literature review and the methods employed by the study to collect its data.

Literature Review

In this section the study presents the review carried out and presents highlights on the relationship between climate change, built environment, construction activities and environmental sustainability. Linking these key words provide background information, current professional practices within the built environment and the expectations for sustainability. The Nigerian context is also discussed alongside the underpinning discourse.

The evidence of climate change and its challenges have been acknowledged globally. Climate change manifestations cut across every country (IPCC, 2007; Nath and Behera, 2011) and its impacts also affect every aspect of human livelihood and development globally (International Energy Agency (IEA) 2008; Bond, 2009; Pyke et al., 2012). Thereby continuously posing challenges to all forms of development (Dudley et al, 2010; Martins and Ferreira, 2011) and especially in the developing countries like Nigeria (OECD, 2011). Consequently, the challenges of climate pose a great threat to the built

environment and particularly for the construction sector (IIPC, 2007; Bello et al., 2012). Notably, the challenges of climate change and its impacts to development and particularly to the built environment are not in doubt.

The continuous negative impacts and challenges of climate change in the developing countries are more devastating. Physical infrastructures amongst other economic and social network in most cities of developing countries are affected adversely due rapid urbanization and high population (OECD, 2012). In the Nigerian context there abound evidences of climate change (Odjubo, 2010) and its impacts are diverse from one geographical region to another (Building Nigeria's Response to Climate Change (BNRCC) 2011; Allu, 2014), largely because the country is transverse by different latitudes and longitudes as shown in Figure 1.



Figure 1. Map of Nigeria Showing Location of Latitudes and Longitudes

Source: <http://www.infoplease.com/atlas/country/nigeria.html>

This geographical divides further explains the regional climatic variation (Allu, 2014). Abuja the capital city of Nigeria is therefore susceptible to the negative impacts of climate change if the sustainable practices of its built environment professionals are not ascertained.

Buildings constitute the larger part of the built environment and are the product of construction sector's activities. Although buildings are an important aspect of any country's development and central to human activities (Cam, 2012), they are also posing negative influence on the environment. These negative influences are firstly; that buildings contribute about 50% of carbon emissions leading to climate change (UNEP, 2009; Robert and Kummert, 2011). Secondly, buildings has continuously make use of natural resources unsustainably and as a results there is a decline in the natural resources (Surenran and Sekar, 2010). Also, the construction sector has greater vulnerability to the negative impacts and risks associated to climate change (Hertin et al., 2002; UN, 2009; Allu, 2014).

In view of the above, there is an increasing concern for the environment and the negative impacts of construction activities (Halliday, 2008). Agenda 21 was also developed as the blue print to guide environmental development globally (Ebohon et al., 2013). As such, the construction industry is saddled with; creating new innovations in its activities (Carbon Disclosure Project CDP, 2010). Adamson (2010) suggests that in order to arrive at the production of sustainable products and at the same time address the challenges of climate change, requires sustainable actions to be taken from the design phase to the control of all other phases that includes; use of materials and their effects beyond the construction stage. Adamson's assertions point to the practices within the construction sector for sustainable actions. Additionally, the study by Akadiri et al., (2012) asserts that, the construction sector has the capacity with new technologies and to engage sector-based strategies to tackle environmental sustainability.

The underlying discourse shows that the practices of the construction professionals are important for any development to reflect sustainability. According to Bell and Morse, (2003) Vantanem and Maritunen (2005) and Bell et al. (2012), sustainable development problems and their solutions are best understood when studies are focused on the professionals for effective interventions. Whist a later study by Pitts and Gao (2014) opined that a successful intervention for an improved sustainable practice within the construction sector requires an understanding of the climate and the concept of sustainability by the practitioners. Thus gauging their understanding on this regard would establish their capacity to practice sustainably.

According to Wikipedia (2015), capacity building is; “*strengthening the skill, abilities, processes and resources through organisations and communities need to survive, adapt and thrive in the fast and changing world.*” Capacity building in this study refers to the abilities and processes that are employed to ensure quality and enhance sustainable practices within the built environment or the construction sector. Additionally, Ray (2012) opined that developing economies require capacity building for a successful technological transfer. Ray’s opinion is applicable to the construction sector, given that the construction sector in the developed economies has developed new technologies in order to enhance sustainable practices (CDP, 2010).

Simple adaptive strategies for improving sustainable practices have also been identified. Decision tools such as sustainable frameworks are continuously being developed as strategies for addressing the diverse negative impacts of climate change by different climatic regions (Allu and Ekele, 2015). Furthermore, other studies have linked the ability of built environment professionals to provide quality products with their knowledge of sustainable concept and the application of sustainable practices (Allu and Ekele, 2015). Similar studies have also suggested that future studies should focus on ascertaining the ability of built environment professionals’ understanding of the sustainable concept and their ability to apply same within the Sub-Saharan African region (Emuzie et al. 2013; Allu and Ebohon, 2014).

Given the preceding review, this study therefore, sought the perceptions of some selected built environment professionals within Abuja- Nigeria, in order to ascertain their current capacity, its implication and how institutionalised capacity building can enhance their sustainable practices.

Methods

This section details the methods employed by this study in collecting its data. An in-depth inductive inquiry was employed through the use of open-ended interview questions. The interviewees consisted of 6 professionals who are in the main stream professional practice and 4 other professionals who are engaged with the control of infrastructural development with the Federal Capital (FCT) Abuja. The practitioners were; 2 architects, 2 builders, and 2 planners. While the participants from government control boards (administrators) were; 2 each from the Federal Capital Development Authority (FCDA) and FCT Development Board (DB). All 10 (n= 10) interviewees have had more than 10 years of professional practice. These details are presented in Table 1.

Table 1. Profession and practice type of participants

s/n	Profession / Practice type	Practice	Years of practice	No. of participants	Total no of participants
1	Architects	Public /private practitioners	10-16	2	6
2	Builders			2	
3	Planners			2	
4	Government Control Board	FCDA	12-15	2	4
		DC	10-13	2	
	Total				10 (n=10)

All the interviews were pre-scheduled and conducted between March and April, 2015. The semi-structured interview questions that guarded the process were two types as shown in Tables 2 and 3.

Table 2. Questions for the professionals in the Government Control Agencies

No.	Questions
1	What is the mandate of your agency or board?
2	What does your board seek to control and ensure sustainable practices?
3	Are you aware of any global concern for sustainable development?
4	In your opinion can sustainable practices be enforced within the mandate of your board? Please explain

Table 3. Questions for professional practitioners

No.	Questions
1	Are you able to link the relationship between climate change, buildings and sustainability?
2	Does your professional institute or any control board require that your practice satisfy any guidelines for environmental sustainability? If yes, How?
3	Are you aware of any global concern for sustainable development?
4	In your opinion can your professional sustainable practices be improved upon? If Yes, what do you suggest, please?

Summary of Findings and Discussions

In this section, the main findings are presented concurrently with the two categories of respondents except for question 1 on Table 2 which is specific to the mandate of the control boards.

Responses to question 1 from Table 2; The FCDA is government board mandate is to oversee and regulate; infrastructural and physical development of the FC, in the developmental processes that include; planning, designing and construction activities. Whist the interviewee from the DC Board stated that, the Board regulates development according to the guidelines provided for the Federal Capital City within the practices of architecture, mechanical/ structural engineering, and planning.

There was a consensus from every interviewee on the evidence and impacts of climate change to buildings. Although all the interviewees were well aware of what climate change entails yet, only 2 (20%) were able to confidently link the relationship between climate change, buildings and environmental sustainability. Surprising was the response from one of the professionals in public practice said, "This question should be directed to those in the academics as my job schedule has nothing to do with knowing the relationship between climate change and sustainability." After this interview session, the interviewee claimed his statement was a joke but would not provide further comments. The interviewer deduced that; either this respondent has no knowledge and or has not been interested in acquiring additional knowledge outside his job schedules.

Whist answering the question on approval requirements by the institutionalised control boards the responses suggested that, the boards only sought to conform to standards such as; set-backs lines, provisions for linking services, adherence to minimum standards and specifications provided in the National Building Codes. Notably also is the fact that their responses did not reflect on sustainable practices. A verbatim response to **question 2**, stated that; "I am not aware of any specific criteria for sustainable option for design or construction approval but some of the standards provided for guidelines indirectly implied to sustainability." Responding to **question 3** on Tables 2 and 3: only 6 (60%) of the

interviewees who affirmed that they are aware of the global concern for sustainable development. However, only one of the interviewee made mention of Agenda 21, the document that provides guidelines for all forms of sustainable development globally.

By implications this finding reveals that, there is the need for; training or re-training of professionals on sustainable practices, membership sensitization and awareness drive on sustainability by professional institutes and governance. It is also not certain if Agenda 21 has guided the guidelines and standards provided to practitioners within the built environment by their professional institutes and the government control boards.

Question 4 on Tables 2 and 4 was directed at addressing the measures for capacity building for both professionals in administration and those in practice and all 10 interviewees offered suggestions. It is therefore, indicative on their part that their professional practices need to be enhanced and to improve their ability to practice sustainably. Thus, this is also an acknowledgement and willingness on the part of the respondents to build their capacity when given the opportunity. Their responses are also quite revealing on the lapses of governance and professional institutions to enshrine sustainable development in the practices within the construction sector. Suggestions from professionals in administration and those in practice had overlaps but the summary is highlighted to include the following:

- Continuous professional practice development and training
- Alignment with international sustainable standards
- Sector-based activities and guidelines are required to promote sustainable practices
- Main-streaming sustainable development goals into national standards
- Specific professional strategies for capacity building are necessary

Conclusion

This study acknowledges that the built environment professional are only able to practices sustainably only when they have the capacity to understand sustainable concept. The study also affirms earlier studies and points to the construction sector as the major contributor to climate change and also the most capable to strategise and achieve environmental sustainability.

Findings from this study are quite revealing on the lapses for effective sustainable practices by professional practitioners and those in administration. Therefore, inaction is not an option for the construction sector, but to ensure institutionalised capacity building of its professionals. Recommendations are suggested on the way forward includes the following:

- Harmonised sustainable professional practice expectations with administrative developmental requirements
- Collaborations within each profession and across allied professions are necessary
- Sensitization and awareness strategies to enhance knowledge on sustainable development concepts are necessary
- Ensure sustainable development training for the future built environment professionals
- Formulation of regulating strategies for the control of sustainable practices
- Formulation of sector-based policies
- Guidelines for all control boards should have specific ranking standards.
- Sustainable practices can be ensured and monitored by the use of sustainable tools such as; framework, guides, codes and checklist are necessary
- Proactive governance on sustainable development is vital and
- Professional institutes need to step-up their control mechanism towards sustainable practices by its members in order to address the environmental challenges of climate change.

The contribution of this study is three-fold. First, is in its ability to undertake an exploratory inquiry on the practices of the built environment professionals in the construction sector in Nigeria. Secondly, the study highlights the implication of its findings for achieving sustainability in the Nigerian built

environment and further suggests the need for capacity building. Thirdly, by providing recommendations derived from the methodology employed, show the potentials for a successful capacity building within the construction sector. The glean information on the study's subject and context point towards possibility of conducting similar studies for different regions.

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