CLIMATE CHANGE AND PHYSICAL PLANNING STANDARDS

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ABSTRACT

There is hardly a discipline where the challenge of climate change is more profound than physical planning. The fact that physical planning deals with the location, control and monitoring of human activities that are carried out on the surface of the earth necessitates the need for planners to be mindful of any significant environmental phenomenon such as climate change. Therefore, this paper attempts a cursory look at the suitability of the existing physical planning standards to meet the unfolding environmental realities occasioned by climate change. It therefore assess the need to overhaul the standards currently in operation in the physical planning discipline with a view to rework those that are found to be inadequate.

CLIMATE CHANGE AND PHYSICAL PLANNING STANDARDS

Standard in physical planning as in many other disciplines is a measure of adequacy or otherwise of a particular facility or service. In physical planning where space standards take pre-eminent position they play key role in the control and monitoring of the provision of urban facilities and services (Lasisi, 2009). In other words, standards are set to ensure quality delivery of those facilities and services that are meant for the welfare and well-being of the citizenry. They are evolved after careful consideration of the socio-cultural and environmental factors prevailing in a particular area or society hence the non- universality of many planning standards. Even where some planning standards appear to be somewhat uniform across wide geographical space the peculiarity of each constituent part is reflected in the application or operation of such standards.

Climate factor such as temperature, rainfall, humidity, sunshine etc arc no doubt the most significant elements that modify the prevailing planning standards in any human environment. For instance, the spatial arrangement of structures and the level of open space provision in an area are all dependent on the intensity of some of the climatic elements mentioned above. According to Uwadiegwu (2006), one of such striking features of space standards is their flexibility which makes them adaptable to any environment. Therefore, it goes without saying that the current phenomenon of climate change makes the review of the existing planning/space standards a necessity since the main objective of such standards is to ensure efficiency and quality delivery. T here is no gainsaying the fact that the environmental factors upon which many of the current planning standards were evolved have undergone-dramatic change in recent times due to the phenomenal changes in climate in the last few decades. The mean temperature of the earth has drastically risen from 0.6^0C in the last 1000 years to about 5.8% currently (Oseni, 2009).

Therefore, it may be tantamount to foolhardiness to pretend that the existing planning standards many of which originated over a century ago could still be relevant today in the face of daunting climate change.

Problem Statement

The fact that climate change has posed a major threat to the liveability of the contemporary human settlements have been variously highlighted by many scholars. Oseni (2009) opined that the phenomenon of climate change, more than any factor that has turned our cities into heat islands and thereby expose the dwellers to a myriad of environmental problems and health hazards. This view was shared by Ericksen (2007) who noted that the disastrous effects of climate change and its attendant global warming have impacted negatively on urban infrastructural provision.

Unfortunately, the physical planning that suppose to play mitigating roles currently rely on some outdated tools such as space standards, majority of which have outlived their usefulness. Observing that physical planning has a unique role to play in tackling the disastrous effect of climate change Oduwaye (2010) maintained that the profession was strategically placed to arrange urban landuses in such a way that the dangerous effects of global warming could be stemmed. It must however be added that the potential of physical planning in this regard can only be successfully tapped if its operational tools such as planning standards and regulations are functional to meet the present day challenges. i

Overview of The Existing Planning Standards

As stated earlier, planning standards offers a useful guide in the orderly development of human settlements. They are set to achieve safety, health, efficiency, uniformity etc Lasisi (2006). Their beauty lies in their ability to respond to the changing needs of the society for

which they are meant to serve, hence the popular saying that their nothing sacrosanct about standards.

In planning, standards usually expressed in two different ways i.e. site standard and access standards.

1. Site Standard: This has to do with land allocation to different landuses in any planned environment e.g. residential, commercial, recreational, industrial and so on (Obateru, 2003). In this category also belong site coverage, accommodation density and set-backs of buildings to roads, power lines, streams etc.
2. Access Standard: This is concerned with the distance between a community facility and the expected users of such facility e.g. the distance between a place of worship and residential houses in a planned neighbourhood is put at 800 metres. This kind of standard is normally categorized further into three types vis minimum, maximum and desirable.

Table 1: Site and Access standards for neighbourhood facilities and standards

Facilities and Services	Site Area (Ha)	Service Radius (m)
Nursery School	0.8 – 1.6	400
Primary School	1.6 – 3.2	400 – 800
Neighbourhood Centre	0.8 – 1.6	800
Shopping Centre	1.6 – 4	800
Retail Shop	0.05 – 0.1	100 – 150
Neighbourhood Playground	1.6 – 2.4	400 – 800
Neighbourhood Park	0.8 – 2.4	400 – 800
Children Playground	0.2 – 0.5	100 – 150
Health Centre	0.4 – 0.6	800
Place of Worship	0.3 – 0.4	800
Postal Agency	0.1 – 0.2	800
Police Post	0.2 – 0.4	800
Bank	0.3 – 0.4	800
Filling Station	0.3 – 0.4	800
Refuse Depot	0.2 – 0.4	400 – 800
Service Industry	2.0 – 3.0	1600
Cemetery	1.0 – 1.5	1600
Reading Room	0.2 – 0.3	800

Source: Obateru (2003).

The standards presented above and similar ones abound in literature were products of yester years when there was nothing like climate change. Many of them have been in existence for almost a century without any significant alteration or modification to suit the present

circumstances. For instance, Ogun State Chapter of the Nigerian Institute of Town Planners (NITP) observed in the preamble to its Draft Space Standards and Building Codes for the state that the state government had never published a new operating space standard and Building Codes since the inception of the state in 1976 (Ogun NITP, 2003).

The problem of outdated planning standards and regulations is not limited to Ogun State as virtually all states of the Federation with the exception of Lagos rely on antiquated planning standards with little air or no relevant to the current situation of things.

Area of Special Attention

Areas found to be in dire need of attention in the array of existing physical planning standard as far as climate change is concerned are discussed below:

1. Set-Backs

These are space left between one building and another (sometimes referred to as airspace) or between a building and any public infra structure such as roads, rain-line, power-line etc or water body. In many of Nigerian, cities the operative standards on set-backs ranges from as low as l.8rn to 30m. A structure that is separated from another structure by a space of less than 2 metres can definitely not stand the test of time with the current level of heat generated by global warming. In the same manner, the 30 metres space to major streams and rivers that crisscross our urban landscape is far from adequate, considering the havoc that many of them have wrecked in recent times.

2. Plot Coverage

This has to do with the proportion of land available for development that is actually built on. The average standard here ranges between 40% and 60% depending on the density of the

affected area. The concern here is not about the absolute standard but the use to which the left over spice is put. In a situation where such space is covered with concrete it does not only generate more heat but also increase the volume of run-off which ultimately aggravates the danger of urban flooding.

The Way Forward

There is need for comprehensive overhauling of the existing planning standards with a view to modify those that are not in tandem with current reality. This exercise would demand scientific investigation of the level of effectiveness of those standards. For instance, the current pattern of flooding in our cities must be carefully studied to ascertain the extent of the land area under their influence on both sides of a stream or river. The city-wide study of this nature will enable planners to determine more accurately a desirable set-back to stream/river or other sources of potential danger.

There must also be a conscious effort to review plot coverage standard in line with the dictates of eco-city concept so as to expand the stock of green areas in our urban areas. To achieve this, emphasis of the new standards must be on the reduction of the prevailing plot coverage standard and the enforcement of the appropriate use of the left-over spaces for soft landscaping rather than concrete surfacing which is in vogue presently. This would not only lead to significant reduction of the aggregate temperature of our cities it would equally promote their aesthetic appeal.

Conclusion

An attempt has been made in this paper to look at certain weak points of the existing physical planning standards in coping with the adverse effects of climate change. The panacea to these weaknesses was considered by way of modification of the existing standards in line with the

dictates of the global phenomenon of climate change. However, this study is by no means an exhaustive inquiry into that gamut of issues relating to physical planning standard but only an attempt to examine few critical areas considered to be of significant to the study.

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