The Negative Impacts Of Poverty In Urban And Rural Architecture In Nigeria

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Abstract: Bad governments in Nigeria and most Third World countries are resulting in poverty of the people as a result, negatively impacting their built environment and especially, architecture. A lot of poor people are reverting to the use of prehistoric building materials including, clay/ laterite soil (in mud buildings), plant leaves and recycled products, used hundred years ago. This paper aims at, identifying how bad governments promoted poverty in both their urban and rural communities and proffered solutions to the negative impacts of poverty in their architecture. It adopted qualitative research method that embraced information from secondary data sources. The invention of bottled water in Nigeria resulted in abundance of empty plastic containers (wastes) in the communities with architectural values. They are used by the poor in building their houses and fences. The governments’ current bad and unsustainable policies are reversing the assumed improved standards of living and lifestyles of the poor, to nomadic living and pushing the poor into impoverished lifestyles. This paper recommends for the players to start discussing today’s environment for tomorrow’s generation, develop and implement documents that would guide and promote development and growth plan of the communities leading to unprecedented indoor-outdoor standardized growth, human and economic empowerment.

Key words: urbanization, poverty, housing, bricks, clay soil, cement, hydriform block.

Introduction

Urbanization which occurs without adequate industrialization, sufficient formal employment or secure wages, has condemned burgeoning urban populations in the Third World to poor-quality housing. The problem has been compounded by a lack of government funds for housing subsidies, by inflated land prices boosted by housing needs and speculation, and by real-estate profiteering on the part of the upper and middle classes. The operation of the class structure of Third World cities nowhere more geographical explicit than in the composition and working of the housing market. Only the small upper and middle classes in Third World cities have income, job security and credit worthiness to purchase or rent houses in properly surveyed, serviced and legally conveyed developments (Dickenson, 1983). The same small upper and middle classes in Third World cities have benefited from government sponsored housing programmes in the past. In his Housing and Environmental Planning, Olu-Sule (1988) indicated that, prior to 1973 government activities in public housing had been quite sectional and favored only the working class elites in the society. The poor and low-income were relegated to the background. For example, during the first Development Plan period, 1962 – 68, no attention was accorded housing generally. It was under the town and country planning, Government’s policy to house the low-income and the underprivileged did not crystallize even during the Second National Development Plan of 1970 – 74. In spite of the N49 million allocated Town and Country Planning, housing was overshadowed by other priorities of the planning department. Housing as a major government social service venture did not receive any priority attention it deserved until the Third National Development Plan of 1975 – 80 when the Federal Government of Nigeria allocated the sum of N2.5 billion to housing for the creation of 202, 000 units mostly for low-income families. The defective and ineffective methods of allocating these houses to the low-income, the medium-income and under which the underprivileged masses received their shares is the bone of contention in the Nigeria public housing policy (Olu-Sule, 1988). The 1980 – 85 Development Plan when N1.6 million was allocated to housing sector did not achieve any better success than its predecessor. The plan included the construction of 200, 000 housing units; provision of staff quarters and staff housing loans; site and services programme and urban development in collaboration with the World Bank. In addition to Federal Government budgeting efforts, the state governments committed the sum of N1.1 million to the housing sector during 1980 – 85 Development Plan. The core of the problem in all these Development Plans -1962 – 68 to 1980 – 85 was not the financial allocation or the units completed, but who got the houses. Hard evidence exists that those who benefited from the general government financial capital investment in housing sector has been the upper-income families (Olu-Sule, 1988). The poor, both in the urban and rural areas are left out and they struggle on their own to provide their own houses with any available material as is the case in most Nigeria urban and rural areas. Adiukwu (2014), in his Prospects and Challenges of Informal Settlements and Urban Upgrading in Abuja, indicated that, poverty has a social dimension poor quality of housing and the living environment, i.e. lack of access to basic services like clean water, health care, education etc.), Urban Poverty, according to Adiukwu (2014), citing Copenhagen resolution (2000), is strongly associated with high levels of environmental risk. This is largely due to poor quality and overcrowded housing conditions and the inadequacies in provision of water, sanitation, drainage, health care, garbage/waste collection, poor percolation resulting into flood, building on waterways and pollution of land, air, and water (plate 1). Daramola and Ibeam (2010) affirmed that the concentration of more people in urban areas has brought more pressure on the land space for the
production of food, infrastructure, housing, and industrialization. The movement affects the capacity of the environment to cope, as each additional person increases the demand on the infrastructure and the natural system and as result creating ecological imbalance with adverse environmental penalty in hazards and disaster.

Plate 1.8. Abuja Slum Architecture
Source: buzznigeria.com (retrieved: Nov. 2018)

Urban and rural poverty and inadequacy in housing provisions in both the urban and rural areas of the third world countries are forcing the poor, to revert to the prehistoric housing types and materials in order to provide shelter for themselves Obiadi (2014). Mud and raffia palm are prevalent and on the increase in poor communities of the world countries. In Shibam, Yeman, the tower blocks were the tallest mud brick buildings in the 16th century. Shibam has more mud brick high-rise buildings and the tallest mud buildings than anywhere in the world. Some of the buildings are 30 meters (100 feet) high and regarded as oldest and best examples of urban planning based on the principles of “vertical construction or Manhattan of the desert” (Tower Block, 2013). According to Types of Houses in Nigeria (2014), back in 1940 Nigerians lived in mud houses with thatched roof especially those from the north and the south central. Housing types vary by geographic location. In the coastal areas the walls and roofs are made from the raffia palm, which abounds in the region. Rectangular mud houses with mat roofs are found in the forest belt, although the houses of the more prosperous have corrugated iron roofs. In the savanna areas of the central region and in parts of the north, houses are round mud buildings roofed with sloping grass thatch, but flat mud roofs appear in the drier areas of the extreme north (Mud Houses, 2014). The Igbos occupying the eastern part of the country also live in their mud beaten houses. Then, it only takes four to eight able-bodied men to dig up the mud and mold it into different huts for the man of the house and his often numerous wives (Types of Housing in Nigeria, 2014). Plate 2 is a typical example of the 1940’s mud houses still existing in Igbo land although, the building has gone through renovations since built (Obiadi, 2014).

Source: The author’s field work

In some areas, they covered wood framed structures with mud while same was not the case in certain areas. The mud structures are commonly known as “Uno Atani” in Igbo land (spare grass house and raffia palm fronds). The mud buildings are covered and roofed with all kinds of plant leaves, depending on the area, but mostly used are, raffia palm fronds, Ata (spare-grass, sharp mouthed and aggressive grass, carefully weaved together). At that time, most of the huts (mud buildings) in developing countries were built with mostly clay/laterite soil mixed with water,
fences in the communities are collapsing and because of poverty, are replaced with bamboo and palm fronds. In most cases, with used and abandoned zinc (plates 3 and 4).

In the mid-1960s and with improvement in the economy of most developing countries, came the introduction of concrete in the building industry. The improvement and growth in the economy of Nigeria, came the introduction of cement (Obiadi, 2014). According to the Nigeria’s Cement Manufacturing Industry (2014), the history of cement production in Nigeria dates back to 1957. With the introduction of cement, Nigerians gradually moved away from mud buildings and used mostly concrete blocks made with cement and sand (sandy soil). According to Types of Houses in Nigeria, the mud houses were transformed into beautiful edifices, people began building it with plan, with different rooms and even a sitting room, painting it and even bringing in electricity. Some of the mud buildings were plastered and covered with cement. Even with the introduction of cement and blocks, mud was still used in the form of bricks. As indicated by the Types of Houses in Nigeria, the brick houses have taken the center stage in Nigeria now as the mud and thatched houses are referred to as ancient or primitive houses. Bricks are compressed clay soil specially made in form of small blocks. According to Neufeldt and Guralnik (1994), brick is a piece of baked clay. A substance made from clay molded into oblong block and fired in a kiln or baked in the sun, used in building and paving. Most times, the compressed clay is burnt in special ovens depending on the area, availability of the facility and or, dried under the sun before usage. These bricks are still used in the western world, especially in building expensive homes. In Maryland, USA, the Maryland Masonry Institute, now, the Mid-Atlantic Masonry Association (MAMA) did a lot of work with bricks and constantly promoting their products and marketing innovative works done with bricks (Obiadi, 2014). The Mid-Atlantic Masonry Association (MAMA) was formed in 2013 to disseminate information and promote the use of masonry in all aspects in the market area. The program of work creates a targeted approach to providing information and strategies to promote masonry as the premier building system. Committees address topics as: promotion of masonry products and services within the geographic areas. Networking events where members can share best practices and camaraderie (Mid-Atlantic Masonry Association, 2014).

The questions are, who are the people resorting to building primitively because of poverty? As, stated by Mbeki (2009), of an estimated 1 billion people in the world who are trapped in a cycle of grinding poverty and despair, a disproportionate number live in sub-Saharan Africa. In this account, Mbeki (2009) analyses the plight of Africa and concludes that the fault lies not with the mass of its people but with its rulers – the political elites who contrive to keep their fellow citizens poor while enriching themselves. The poor citizens, according to Bamidele (2010), are most of the workers who cannot afford to live in the city proper, find their way to the squatter settlements and uncompleted or abandoned buildings within the city which punctuated all high-brow areas of the city and many. The expanding poor population of both the urban and rural areas deprived by the failed government’s orthodox housing delivering schemes. The expanding poor Nigerian population who have no lands and money to build their homes and squat anywhere they see and provide services needed to maintain the rich communities. The rich and affluence get their housing rent subsidized, the low income who are underprivileged live in poor dilapidated and deteriorating houses in the midst of modern well serviced shelters for the affluent (Olu-Sule, 1988). The people, according to Obiadi (2017) citing Uji and Okonkwo (2007), frustrated by the inadequacies and failure of the conventional approaches to provide urban shelter and services to a significantly large enough proportion of the poor in the urban areas of the developing nations, these ever-increasing class of urban

Plate 3. Bamboo and palm frond
Source: the author

Plate 4. Used Zinc for in place of collapsed concrete fence.
Source: the author
populations have to resort to squatting on public or private land, either by invading and forcefully occupying or leasing such land (illegally sub-divided) on which they hurriedly construct (through self-help) their shelter from any available materials using any readily affordable and available technology (plates 1 - 15). According to Obiadi (2017), the available materials to the poor citizens are clay/laterite soil, plant leaves, off-cuts and left over aluminum pans from the rich citizen’s construction sites (plates 1 - 6) are the materials, they can get at no cost to them. With the clay/laterite soil and plant leaves available to them anywhere they find lands, according to Uji and Okonkwo (2007), they would hurriedly construct (through self-help) their shelter. Hurriedly constructing their shelter, they would reverse back to the old style of housing (mud housing) and applying their own technology of hanging together, off-cut aluminum pans to cover the units as the case may be (Obiadi, 2014).

Plate 5. Off-cut aluminum
Source: the author

Plate 6. Off-cut aluminum and other materials
Source: the author

Aim of Study
The primary aim of this paper was to identify how bad governments and governance in some Third World countries especially, Nigeria, resulted in poverty of the poor citizens in both their urban and rural communities. It, equally aimed at proffering solutions to the negative impacts of poverty in the architecture of the poor communities.

Research Method
This paper investigated the causes of the failure of governments and governance in the Third World countries in, improving the economy and lifestyles of their citizens that, resulted in poverty and nomadic living in modern time. At the same time, it looked into the urban and rural development laws and solutions, to improving the state of architecture of the people. The poverty, negatively affecting the architecture, urban and rural development of the communities is without reproach and the governments are not doing much to solving them. The dynamics of the world economy has changed and greatly impacting the socio-economic conditions of every society. Today, the world economy is in a period of rapid and dramatic change, and the question of just how we will connect to this new world is the single most important issue of our life. We are living in a time of contradiction. A time of role reversals, a time in which old expectations are violated so frequently that new expectations cannot form. Many of these contradictions center around connections to the world (Moss, 1995). The world is now connected and affecting the old operational mechanisms of most establishments. It is a new world and with changes. The changes are affecting most of the Third World governments and especially, their socio-economic and building industries. With the arrival of the global economy and the computer age, the days are gone when one economy dominated the world market and citizens depended solely on their governments to provide for them. The governments in most of the Third World countries have failed, enacting laws that would enable connections with the rest of the world economies, enabling their citizens to fend for themselves and that resulted in resurgence of poverty in their communities (urban and rural). As a result of these, different authors are reacting to these changes and differently. Based on that, this writer, adopted qualitative research method that embraced information from secondary data sources including, literature reviews from journals, previous works and books. The disciplinary areas of focus are socio-economic conditions of the poor and their architecture, or better said, the architecture and the urban environments of the poor as a result, the writers evaluated the opinions of the experts in the field and used that in supporting their argument that, “bad governments and governance in the Third World countries resulted in poverty of the poor citizens in both urban and rural communities and Negatively Impacting their architecture.

Finding
Reversing back to clay/laterite, they would bake their clay as practiced hundred years ago and according to Smirnis (1998), the basic process of making clay, preparing and molding it into shape and finally cooling – has not changed much in the thousands of years since the first arch of sun-baked brick was constructed about 4000 BC. Quoting the Brick Institute of America, Smirnis (1998) further indicates...
that, “Brick has a history of its own, but it also has created and shaped history for thousands of years. Its use throughout time has been as dramatic as the Egyptian pyramids and as subtle as a neighborhood subdivision. Likewise, the date 5600BC identifies the first known cement – based floor. Later, the Egyptians used a mortar of partially burned gypsum to cement massive lime stone blocks to construct the Great Pyramid near Cairo. Smirnis (1989) further states that, to build aqueducts and the Coliseum, Romans made a hydraulic cement of slaked lime and volcanic ash that hardened with the addition of water. Hydraulic cement was reinvented in the 18th century by an English engineer, and in 1824, a Leeds bricklayer, Joseph Aspdin, invented Portland cement, so called because the resulting concrete looked to him like stone quarried on the Isle of Portland. According to Smirnis (1998), the natural attributes of brick and concrete make them a more permanent, often safer, construction choice. However, another primary reason the popularity of these materials has endured over time is that, unlike building materials relying on scarce or non-renewable resources, they are made from abundant, readily available ingredients. Brick originates from the earth’s clay, a nearly inexhaustible natural resource. Clay mining does virtually no harm to the environment, there is no waste during the manufacturing process, and energy costs for production is low. Concrete is made from water, aggregate (stone, sand, gravel) and Portland cement. Portland cement itself is made from calcium, silica, alumina and iron. Cement manufacturing makes use of recycled materials and concrete can be recycled. While thousands of years later, the manufacturing process remains basically the same for brick and concrete, modifications have created stronger, more colorful building materials with many forms and shapes to choose from, as confirmed by Ofodeme, an expert in Hydraform blocks, representing CooJike Hydrant, Adazi- Nnukwu (Obiadi, 2014). The poor standard of living (poverty) in both the urban and rural communities of the third world countries is prevalent, resulting in the use of mud and abandoned building materials in building houses by the poor. In Nigeria, the poor communities are gradually going back to mud/laterite buildings although, under a new name, Hydraform blocks (Obiadi, 2014). Hydraform gained its name from a South African company, one of the world leading masonry construction and the manufacturers of Hydraulic Block machines, championing and producing both the machines used in producing the products and the products. Now, all compressed clay/laterite soil blocks are commonly known as Hydraform blocks. Although the industry is not well marketed in Nigeria, the products seem to be gaining attention especially, in estate developments and rural housing schemes in poor neighborhoods and urban poor settlements. The production does not necessarily require any special skill or extensive training and the products are environmentally friendly and could be produced anywhere, even on the job sites. The machines are portable and easily moved around (plates 7 and 8). The products are fast, easy to produce and used. Both the machines and the products are cost effective and create innovative ways of building, especially, with the interlocking dry stacking provisions (Obiadi, 2014).

Poverty in both the urban and rural areas of the third world countries are in one way or another, making the poor, creative and innovatively taking advantage of their situation. In the mid to late 1990s. Nigeria embraced innovative drinking water production (plastic containerized water). Spring and borehole water were bottled and sold to the public. The containerized water business blossomed and littering the streets, water ways and gutters with their waste (plastic water bottles and sachets) followed. In his Disposal of Municipal Solid Waste in Three Nigerian Cities, Lagos, Enugu and Onitsha, Obiadi (2015) indicated, in all the three cities, selling both plastic bottle and sachet water on their streets is a common practice. In 1996, such was not the case. Field study shows that most of the sachet water wraps and the empty plastic water containers end up in gutters and water ways. Most of the ponds, creeks, rivers or lakes in Lagos, Enugu and Onitsha are littered with mostly plastic material and particularly, empty water plastic containers, sachet water sacks and other plastic packaging materials deposited by runoff water (plates 9 - 13).
Plate 9. Lagos recycling yard. Used Plastic and Rubbers Collection Spot, Mechanic Village, Orile, Lagos
Source: Obiadi, 2012

Plate 10. Lagos, Surulere, Population Census area canal, covered and blocked with millions of empty plastic water containers
Source: Obiadi, 2012

Plate 11. Lagos, Randle Street, Surulere, Water Channel clogged with empty plastic water containers
Source: Obiadi, 2012
A lot of the sachet water wraps and plastic containers are recycled and reused. Field study also indicates that a lot of people recycle without knowing what they do (Obiadi, 2015). Today, the communities have more portable water (sachet/pure water) waste than they had fifteen years ago. Although they have been enjoying this invention (sachet/pure water introduction in the communities), they have not mastered the ways of handling the wastes (plastics) used in packaging the water and they are causing the communities more harm than good. The street managers try their best collecting and removing them from views, they are still seen in a lot of places especially, around poor communities, market places, commercial centers and schools. These sachet / pure water wastes block the gutters, streams and other water ways (plates 10 - 13) and create hibernating grounds for rodents and other animals and insects (Obiadi, 2015). The empty plastic water containers also, have good values. They are wildly used by different people and for different things including, dispensing fuel, selling used and condemned oil, kerosene, fruit drinks, cow milk, wine tappers in tapping palm wine and most times, by palm wine sellers in selling palm wine, in selling liquid medicine and other such products. In all, the one that stands out is the use of empty and abandoned plastic water container in building houses in both the urban and rural communities of the third world countries (plates 14 - 25). With the abundance of plastic bottles and soil, most poor communities have embarked on taking advantage of the resources in building comfortable houses for themselves (Obiadi, 2017). The Controversial Files (temporary housing) by Duchung (2017), indicates that the poor, both in the urban and rural areas are now, building with abandoned plastic bottles filled with sand (plates 14 - 25, panel 1 - 3).

Panel 1. Plastic water bottles collection points
Plate 16. Plastic bottles been filled with sand, to be used in urban poor shelter
Source: Duchung (retrieved September 26, 2017).

Plate 17. Plastic bottles filled with sand to be used in urban poor shelter
Source: Duchung (retrieved September 26, 2017).

Panel 2. Plastic water bottles been filled with sand

Plate 18. Typical urban poor shelter made of plastic bottles filled with sand.
Source: Duchung (retrieved September 26, 2017).

Plate 19. Typical urban poor shelter made of plastic bottles filled with sand.
Source: Duchung (retrieved September 26, 2017).

Plate 20. Typical urban poor shelter made of plastic bottles filled with sand.
Source: Duchung (retrieved September 26, 2017).

Plate 21. Typical urban poor shelter made of plastic bottles filled with sand.
Source: Duchung (retrieved September 26, 2017).

Panel 3. Plastic water bottles used in building houses for the poor
After the collection of the abandoned plastic water bottles and filling them with sand which is equally, in abundance, the poor in both the urban and rural areas assemble and use cement mortar in gluing them together, to build their houses. Some who could not afford cement, use mud as was the case in the olden days when only mud was in use.

**Conclusion**

Today, the times have changed. Lifestyle has greatly improved and the study has established that because of bad governance and government policies, a greater majority of the Nigerian population still lives in abject poverty and so much depended on their communities to survive. The governments have not properly planned for sustainable environment for the people. In the view of Njoku et al (2012), Nigerian governments have paid lip services to the need for alternative sources of building materials in view of the cost of the conventional or imported ones. Most communities in the third world countries have gone from nomadic living when they depended deeply within their surroundings for survival to contemporary era when lifestyle improved and they are depended on outside world for their daily living. As the tides turned, the bad and unsustainable government policies and governance are pushing the poor into impoverished lifestyles. Poverty, regrets, agony and anguish are becoming the order of the day in those communities. A major hurdle to achieve sustainability is the alleviation of poverty. It has been widely acknowledged that poverty is one source of environmental degradation. Such acknowledgment has been made by the United Nation’s Brundtland Commission report. Our Common Future and the Millennium Development Goals. According to the Brundtland report, “poverty is a major cause and effect of global environmental problems. It is therefore futile to attempt to deal with environmental problems without a broader perspective that encompasses the factors underlying world poverty and international inequality.” Individuals living in poverty tend to rely heavily on their local ecosystem as a source for basic needs (such as nutrition and medicine) and general well-being. As population growth continues to increase, increasing pressure is being placed on the local ecosystem to provide these basic essentials. According to the United Nation’s population Fund, high fertility and poverty have been strongly correlated, and the world’s poorest countries also have the highest fertility and population growth rate (Obiadi, 2014). The poor implementation of urban and rural development laws have often resulted in urbanization and poverty of the people in both the urban and rural areas of the Third World countries.
The rush to the urban areas by the people from the rural areas along with inappropriate provisions for work and affordable housing have resulted in the development of slums in urban areas and the use of prehistoric building materials in both the rural and urban areas in building their houses. Government’s housing programmes have for many years favored the rich as indicated above and the poor are left with no choice but, to build their shanty homes anywhere they see land. In the process of innovatively creating their environment, the poor, both in the urban and rural areas have gone back to prehistoric living and in most part, building with laterite soil, plastic water bottles filled with sand, plant leaves and abandoned used building materials. All in the era of advanced technology just because of bad governments and governance.

**Recommendations**

The poor communities of the world are suffering and the governing bodies who have failed them have not bothered to ask why. This paper recommends that, the players (government and policy makers) in the communities should be discussing today’s environment for tomorrow’s generation. The players, decision makers, policy makers, planners, architects, engineers, and developers should be tied and bonded as one family, challenged with the communities socio-economic needs, development and growth. The players should share ideas (Obiadi, 2014). According to Obiadi (2014), they should come together to develop and implement documents that will guide and promote the development and growth plan of the communities, documents that would lead the communities to an unprecedented indoor-outdoor development and standardized growth. Unfortunately, some of the players and their decisions are action oriented and their actions are sometimes, parochial, short-lived and without vision and the communities have not asked why? Implementation of the existing laws and conditions of engagement must be strengthened and encouraged. Upgrading and promoting socio-economic needs, educational standards, especially in the universities and more importantly, in the schools’ of policy learning, urban and regional planning, architecture, engineering, building and construction management must be encouraged to alleviate pains and suffering in the poor communities and generations to come (Obiadi, 2014).

**References**


