GREEN AGENDA: A SOCIO-CULTURAL RESPONSE TO SBS AND BRI IN AFRICAN DOMESTIC ARCHITECTURE

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ABSTRACT

Green agenda is a participatory method for developing and implementing local sustainable development strategies and plans with active involvement of different sectors in the local community where the process is conducted. But Sick Building Syndrome (SBS) and Building Related Illness (BRI) are building concerns in African cities, because building designs, materials and styles are alien the culture and climate. The focus of the paper therefore was to deploy sustainability parameters (Green Agenda) to address SBS and BRI in African Domestic Architecture. Taking into consideration the three main aspects of green agenda which includes; identifying local values, process participation and genuinely owned result. The methodology employed was quantitative and qualitative. The findings revealed that the research had addressed the issues of imported design, sick building syndrome and building related illness using sustainability considerations. The study result has shown that the three aspects of local green agenda has socio-cultural nuance in Domestic Architecture that includes the values, beliefs, available materials in the studied community. This pre-supposes that building design necessarily need to have organic content (i.e. it has to be culture specific, socially responsive and environmentally friendly). Organic designs however have proved to be sustainable and also one of the way out of SBS and BRI.

Keywords: Green Agenda, Agenda 21, Habitat Agenda, Socio-Cultural, Domestic Architecture, SBS and BRI

1. INTRODUCTION

Environmental issues comes under two broad terms "Brown" and "Green" agendas: "Brown agenda" focuses on reducing direct threats to human health and wellbeing by improving the quality of people's living environments (e.g. better sanitation and housing, and less industrial pollution); and "Green agenda" focuses on reducing more indirect threats to human well-being by preventing

resource degradation and loss/deterioration of natural life-support. International environmental concerns have become very Green, while the Brown agenda remains the more obvious priority for urban Africa and particularly for its most deprived communities (Allen, 2012). About 50 per cent of the population in most urban areas in Africa lives in poor quality homes, lacking good provision for water and sanitation thus, the need for a green agenda. In low-income urban communities, local engagement and participation is at the centre of urban environmental improvement, as drivers of Brown agenda and partners in Green agenda. Different groups have different priorities, and the conflicts between Brown and Green agendas are socio-culturally constructed. Table 1, provides a crude characterization of the two agendas. For the Brown agenda, the aspects emphasized in relation to water, air, solid waste, land and human wastes are all familiar to those working to improve conditions in low-income settlements. The aspects emphasized in Green Agenda are more clearly the responsibility of environmental agencies, and often affect a broader "public" (OECD 2010a).

Table1: Show Categorization Brown and Green Agendas for Urban Environmental Development

Characteristics Structures of Problems High on The Agenda:	Brown Environmental Health Agenda	Green Environmental Protection Agenda
First-order impact	Human heath	Ecosystem health
Timing	Immediate	Delayed
Scale	Local	Regional and global
Worst affected	Lower-income groups	Future generations
Characteristics Approach To:		
Nature	Manipulate nature to serve human needs	Protect and work with nature
People	Work with people	Educate people
Environmental services	Provide more services	Consume less services
Aspects Emphasized In Relation To:		
Water	Inadequate access and poor quality	Over use, need to protect water sources
Air	High human exposure to hazardous pollutants in home and workplace	Acid precipitation and greenhouse gas emissions
Solid waste	Inadequate provision for collection and removal	Excessive generation and lack of recycling
Land	Inadequate land supplies for low-income groups' housing	Loss of natural habitats an agricultural land to urban development

| Human waste | Inadequate provision for safety removing faecal materials and waste water from the living environment | Loss of nutrients in sewage and damage to water bodies from its release of sewage into waterways |

Source: Source: McGranahan & Satterthwaite, 2000

2. AFRICAN URBAN NEIGHBOURHOOD.

In Africa 40 per cent of the population (350 million people) lives in urban areas and Africa has many large cities, (Mwangi, 2000). Housing and living conditions are poor for the residents in almost all cities (Showers, 2002). It is familiar for 50 per cent of people in cities to be in an illegal settlements and high levels of overcrowding with little or no provision for basic infrastructure and services, like no sewers, house rent and utility bills issues, lack of toilets and transport, high mortality rates for children under five (i.e. one in ten children dies before the age of five in many low-income urban areas) and proximity to services does not imply access, inadequate provision for water, sanitation, drainage and garbage collection for urban people (Sahn & Stifel, 2003). The land around many cities is held with no formal title. It is often complex to get land for housing through traditional land-allocation systems, where elders/chiefs allocate land, and monetized it (Bah, et al., 2003). Given these challenges, Progressive, functioning and governed urban centres are key elements of stronger regional and national economies UN-Habitat, (2003).

3. GREEN AGENDA, SUSTAINABILITY AND AGENDA 21

The concept of Green agenda advocated for growth and development that would be sustainable over time (Zeller, 2002). It intent is to promote community-centered development with decreasing levels of density radiating from the town core in order to maximize infrastructure, decrease the cost of community services, provide clear development guidelines, and protect agricultural land, primarily rangeland and habitat, watersheds, and rural character (Roberts, & Diederichs, 2002). The basic concept of sustainability is meeting the needs of current generations without compromising the ability of future generations to meet their own needs. Sustainable development is promoting the 'three E's:' environment, economy, and equity. Sustainability exists independent of any government/entity and is a legitimate response to an approved environmental approach to life. (Bakker, et al., 2005). The concept of Agenda 21 is the Rio

Declaration on Environment and Development, along with Principles for Sustainable Management of Forests, adopted by about 178 Governments at the United Nations Conference on Environment and Development held in Rio de Janerio in 1992. Agenda 21 is a non-binding agreement and an all-inclusive global, national and local action plan by organizations / Governments / Major Groups in every area where there are human impacts on the environment. The process marks the beginning of a new global partnership for sustainable development, allows environment and cares for social justice. The Planning Coalition is an affiliation of local community groups that advocate for public participation in community development plans and County's General Plan update, which is one of the primary implementation tools for Agenda 21. The General Plan is essentially a state mandated long term blueprint for growth and development that assigns underlying land use and overlying zoning that reflect the peoples' needs and wants through a collaborative process that includes public and stakeholder participation. It has seven mandatory elements: Land Use, Circulation, Housing, Conservation, Open Space, Noise, and Safety. Its Guidelines confirm that "State law specifies that in general plan preparation/amendment, planning agency shall provide opportunities for citizens, public agencies, public utility companies, civic, education, and other community groups involvement, through public hearings and any other means the city/region considers appropriate. Its process is one of the tentacles of Agenda 21, that why public and stakeholder participation in the planning process is seen as putting community rights over individual property owners rights. However, Agenda 21 identifies priorities and is an "intelligent means" to preserve/sustain the earth. Chapter 28 of Agenda 21 binds local authorities to implementing at a local level, the commitments made towards sustainable development by the international community (Gold, et al., 2001)

4. SOCIO-CULTURAL NUANCE OF GREEN AGENDA ON ARCHITECTURE

Green agenda can be presented as a list of important environmental, social, cultural and economic considerations. However, with respect to building construction a comprehensive technical description of the green agenda has being set out across a set of International and European Standards. EN 15643-

1[1] entitled Sustainability assessment of buildings as shown in figure 1. The United Nations Millennium Declaration (2000) called for "Respect for Nature" as one of the fundamental values for humanity. The Declaration urges that Prudence must be shown in the management of all living species and natural resources, in accordance with the principles of sustainable development. Only in this way can nature immeasurable riches provided be preserved and passed on to generations. The current unsustainable patterns of production and consumption must be changed in the interest of our future generation's welfare. The Declaration calls for a new ethic of conservation and environmental stewardship. Respect for biological diversity implies respect for human diversity. The key to creating sustainable development that is in harmony with culture needs and aspirations is to abandon patterns that undermine the lives and cultural perspectives. Tolerance and mutual respect for cultural uniqueness are indispensable conditions for increased communal understanding and recognition of humanity. Cultural diversity is a source of innovation, creativity and a setting for continuous, unifying dialogue between all expressions of identity. What really needs to be asserted and preserved is daily dialogue acceptance as an established principle because there is reciprocal relationship between diversity and dialogue that cannot be severed without jeopardising development's sustainability. This is the process that builds socio-cultural diversity into a common language that humanity can speak and understand. Diversity defined leads to the discovery of features that are common to all. Cultures encounter its own irreplaceable element of humanity in others; hence socio-cultural diversity unites individuals, societies and peoples. Sustainable development requires that the human moral vision be harnessed in as much harmony with local cultural aspirations as possible, hence socio-cultural diversity guarantees sustainability because it binds universal developmental goals to credible and definite moral visions. While biological diversity provides an enabling environment for it (Boulanger, 2010).
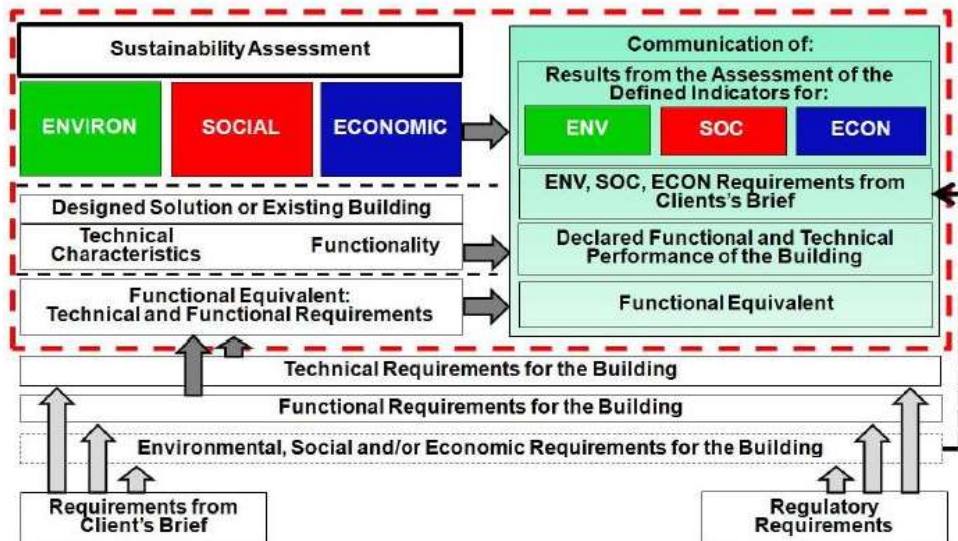
Figure 1: EN15643 Concept of Sustainability Assessment of Buildings

Source: British Standards Institution. Bs En 15643-1:2010

5. GREEN AGENDA RESPONSE TO SBS AND BRI CONCERNS

Buildings are homes for people and the quality of the home strongly influences the health and well-being of its residents. Quality is an emergent asset of the interaction between many factors in both natural and built environments (Okali, Okpara, & Olawoye, 2001). In the built environment, quality is derives from all of the processes, expertise, technologies, and values that are employed in design, construction, operation and maintenance of a building. The materials, facade, siting, location, and land use features are all components of the building as experienced by its occupants (Bohm, & Dietsche, 2008). Research and theory show that the features and elements of buildings, from thermal and air quality conditions to acoustics can support or reduce human behaviour resulting in health issues like Sick Building Syndrome (SBS) and Building Related Illnesses (BRI). In SBS and BRI, measuring pollutants, stressors, occupant health and performance are linked because they affect how environmental conditions and IEQ affects the building occupants. In Domestic Architecture to balance human needs with its responsibility to the immediate environment is a challenge. The 4th Assessment Report from the Intergovernmental Panel on Climate Change (IPCC) has shown that buildings have the highest potential to reduce carbon emissions. With the right design and green technologies, a considerable amount

of health and wellness can be achieved. In response to broad concerns of SBS and BRI caused by emissions from building materials, Green Buildings are becoming increasingly demanded by building environment practitioners (Bell, *et al.,* 2006). Green Building Designs are a key part of green agenda/sustainable development that has become a must to achieving health standard. To create an all-inclusive green building design, it is important to explore integrated green building design, in which the design team work closely and consider each aspect of a building in an integrative and holistic manner. The role of passive design features, e.g. reduce energy consumption building form and envelope, the adoption of energy efficient strategies such as natural ventilation, building greenery, use of renewable energy, building systems, indoor environmental quality and choice of materials can have profound environmental and health benefits. So whether renovating, planning an extension or provision of new buildings, your choices matter. Six aspects of sustainable construction includes: Reducing operational energy (90%), Reducing embodied energy (10%), Reducing transportation energy, Reducing waste energy, Increasing the biodiversity of the site once in use and Ensuring the health & social interaction of people using the site. (Hacker, et al. 2008)

6. METHODOLOGY

The paper addressed the use of green agenda to tackle health issues caused by SBS and BRI in domestic architecture employing qualitative approach, policies, proposal, actions plan and descriptive frequency table. The geographical extent of the strategy was in Africa. The strategy focus on core elements of green agenda and was developed in collaboration with adjoining authorities and its dispatch extended beyond the local authority boundary to ensure it captured significant green spaces and communities. The strategy was practical and deliverable with measurable targets/outcomes and a statement of policies and recommendations to shape future planning, design, management and maintenance of African urban neighbourhood. The strategy established a framework for socio-cultural priorities, activities and action plan, and identified delivery agents.

7. FINDINGS AND DISCUSSION

The success of an Agenda is dependent on both the intensity and extent of relevance that its contents has for a diversity of communities. The range of users reflects the variety of ways in which the document can be used; as a catalyst for funding, a record of the most pressing needs of the building community and a source of research topics and pathways. Findings from the IEQ research were fed into the building design, construction, maintenance and operations, creating a "virtuous circle" that connects all the systems addressed in green agenda. The intentions for the Agenda are that; it might inspire decision makers to move the plan and subject areas to the top of its funding priorities, and that it may provide researchers with an organized basis for planning research and collaborating across areas of expertise. A critical task of the Agenda is discussions that facilitate productive talks among the stakeholders and contribute to its impact and evolution. The Agenda has become a "living document" that grows and changes as the body of green agenda research evolve, facilitating transformative rise in building performance. The three main aspects of green agenda was discussed to show results of findings

7.1 Identifying Local Values,

Sustainable development requires that community local values be controlled in harmony with possible local cultural targets. Cultural diversity guarantees sustainability because it binds universal developmental goals to definite local values. The environment relies on the maximum diversity of such local values, since; biodiversity requires the proliferation and protection of many ecological regimes and environmental balances. Human beings are the key movers in such balances, and if diversity is gradually reduced, so are the local values linking moral and material well-being. Hence local values are a dominant guarantee of environmental sustainability. Together, the two are opposition to ideological and technological uniformity. Cultural diversity is more than cultural difference; it expresses values like creativity, dignity and community and recognizes that differences in human societies are parts of systems and relationships which are communally related and equally supportive. UNESCO places a fixed value upon cultural diversity because of its intimate tie to the entire assemblage of values. Without these values, no vision of development can be sustainable because of

communities' cultural peculiarities. There is a wide respect today of mutuality between environmental sustainability and local values (Aguirre, 2002).

7.2 Green Agenda: Process, Participation and Document

Green Agenda has two goals: first, a participatory process through which common agreement, communication and cooperation of various local actors can be achieved. Second, the outcome of the process is equally an important action plan to improve the quality of life by means of sustainable development (OECD 2010a). The method consists of several steps divided into phases, as shown on a schematic drawing in figure 2. The coordinator and initiator of the process is the local civil society organization (CSO). The main work is carried out by working groups involving all the different sectors in a local community. The working groups involve local stakeholders' representatives (local authorities, companies, CSOs and individuals). Because it involves many participants, the process takes time. Depending on the size of the community, number and size of working groups and motivation of the participants' results may be achieved within 10 to 18 months. It is a cyclical process: the ending of one process can mean the beginning of a new cycle based on the previous experience and results.
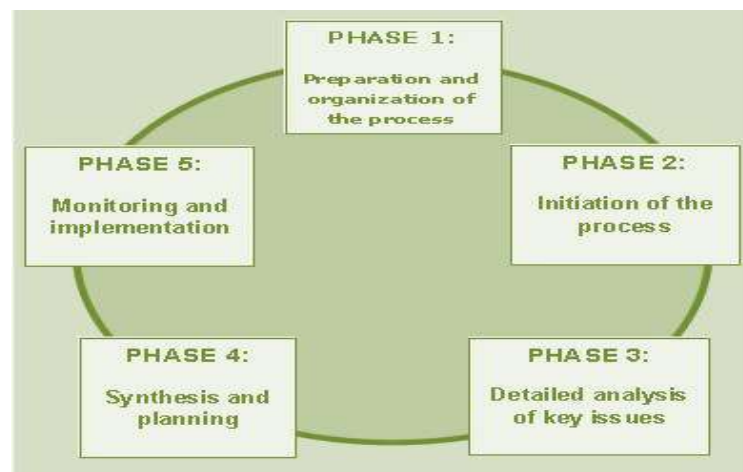

Figure 2: Schematic Drawing Consists of Several Steps Divided into Phases
Source: Kessler, 2003

Therefore, the new Phase one is the appraisal of the previous cycle. New citizens and participants can be invited for the 'start up meeting' of a new cycle and existing working groups can convolute on their values/new working groups can be established. This way Green Agenda can keep including citizens in the

definition and implementation of policies on sustainable development in community. Green Agenda document is an agreement among the citizens to bind limits in time and budget. Both the initiating and coordinating civil society organization and the working groups are supported by trainers and experts. They provide expert knowledge on issues, coaching of the working groups and training on communication, project development and result based programming. This capacity building component of our Green Agenda projects is pivotal in ensuring local ownership and in empowering local people towards being able to take responsibility for their own sustainable development, thus improving the quality of lives for unborn generation (Gordon, & Hays, 2008). On the national level, communities assemble with each other, national stakeholders and experts in a National Platform Council. The Council meets to share experiences, provide new ideas and motivate each other and new communities to step in. On the international level, communities talk through the website www.greenagenda.net, international meetings and exchange visits. Green Agenda has an enormous impact on community activities. The implementation activities of communities that have adopted a Green Agenda includes: Campaigns on waste separation, Determination of collection points suitable for waste separation, Bicycle route through the locality, Botanical garden, Street lights and maps of local cultural heritage locations, Exhibition on local architecture, Children's contests on Green Agenda themes, Building playgrounds for children, Park restoration, Installation of a water pump improvement of drinking water supplies, Ecological fashion parade (clothes made from waste), Water and soil testing, with participation of local people, Rehabilitation of dried natural lake, Afforestation actions and Restoration of river banks (Allen, et al., 2002). It finds participative approach to be effective in decision making decentralisation, accountability and meaningful, acceptable and lasting solutions. This may also give a sense of ownership and responsibility to deal with issues over a longer period of time. It further adds knowledge from the stakeholders' diversity and brings together varied perception and experiences along with traditional and contemporary practices to deal with issues of concern (Hordijk & Baud, 2011). The local communities, in many cases may lack detailed understanding of regional or global challenges, such as climate change

and its immediate impacts. A participatory approach can help to identify the local needs and efficient ways to deliver them. In areas of complementary agendas spreading awareness is more critical for hazard mitigation. Similarly, in areas of competing agendas, there is an opportunity to involve community to conserve natural resources. Government policies should also take care of environmental concerns along with urban needs for integrated solutions. Apart from hazard mitigation, an understanding of spatial inter-relationships of agendas may help local people to overcome fears/resistance for top-to bottom rules and help people to have an extensive perception on equity issues for both current and future generations. However, such understanding is also needed to be supported by other technical and infrastructural support. Despite several benefits, the participative approach has been contested on the basis of its participant's dominant influence (Gopinath & Gopinath, 2008). Tackling a range of green and brown issues in an integrated manner will allow stakeholders to participate, and thus help to overcome the antics of influential participants at the sub-city scale.

7.3 Genuinely Owned Result.

Residents of communities have created their own strategy for sustainable development of their communities. They initiated, raised funds and implemented pilot activities, due to commitment and responsibility (Bohm, & Dietsche, 2008). In many cases citizens found NGO by joining efforts within the Green Agenda process. Civil societies in several countries has improved relations with and within communities during the work on Green Agenda and have gained better insight into the values, needs and wishes of the local community. Coordinating local CSOs gained support as a result of great media interest. The media interest for Green Agenda process presented a broader image of the importance of the environment and nature (McGrahanan, & Satterthwaite, 2001). Donors see that Green Agenda is an excellent tool for community development. International donors appreciate the concept, and local, provincial and national donors have financially supported the activities and strategic plans. The project Green Agenda was evaluated in 2005 (OECD, 2009i). The conclusions were: Local people were genuinely involved in the

design of many activities and there was a clear connection between the awareness raising activities realized and the success of later pilot projects, for instance in the area of waste separation; local people designed both long-term and short-term projects (Pollin, & Wicks-Lim, 2008). The long-term projects seem more viable in those communities in which the local authorities have a clear commitment and involvement from the beginning (Gold, et al. 2001). Short-term activities fall within the capabilities of the local NGO and local working groups easily realized (without active support of the local authorities), clear results on the themes and become visible, but the working groups established materials produced, education and training provided (OECD, 2011b). The fact that first steps have been taken have created a huge local commitment to seeing the plans through, this include; Setting up a Local Agenda 21 Forum and/ working groups, Discussion and analysis of the main local issues, Identification of goals and ideas for action for the sustainable development of the local area, Integration of the goals and ideas into a Local Agenda 21 action plan that is adopted by the local authority and others, and implementation of the action plan, with the involvement of all relevant players.

8. CONTRIBUTIONS TO RESEARCH

Green Agenda is an adaptation of the concept of Local Agenda 21, thus local green agenda aspect would help building owners, architects, engineering consultants, and all the parties in a building industries to have informed discussions and decisions as a team, to design, implement and execute an all-inclusive building's design that would enhance healthy living, economical and sustainable.

9. CONCLUDING REMARKS

Sustainability and sustainable construction is an issue of increasing importance to everyone. Sustainability assessment needs to be in environmental, social and economic terms at the building level. Green and brown agendas are both relevant for a sustainable urban development. A spatial assessment of the two agendas shows varied inter-relationships of supremacy, balance and competition over space which can be mapped and planned. These inter-relationships reflect varied systems and vulnerability, the understanding of which can help to find

integrated solutions for the two agendas and accordingly plan mitigation strategies. It can aid the use of participatory approach not only by informing people about integrated brown and green issues but also by enhancing local acceptance and participation in finding ways for integrated solutions for effective mitigation and governance. Most aid comes from bilateral aid agencies of governments in high-income nations, either directly or through multilateral banks and agencies, and tends to go to national governments. Creative institutional rethinking is needed, for large centralized "foreign" agencies to support diverse local processes that are best able to benefit the urban poor. For big international funders and national governments to look in this direction, citizen groups and local governments demonstrating alternative models that show their strengths and capacities, including greater capacity to negotiate appropriate external support. The international philanthropic community has enormous potential to support this within Africa. Criticising urban programme in Africa can be avoided, by having an "urban, rural and their interconnections" focus which includes attention to smaller urban centres and peri-urban areas. Perhaps the single most important issue for external assistance to Africa's urban areas is to show how to support the development of stronger local organizations that really deliver for poorer groups, are accountable to and can work in partnerships with them, and have the potential to scale up through a multiplication of locally driven initiatives.

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