

ASSESSMENT OF CONSTRUCTION INDUSTRY'S ROLE IN ACHIEVING SUSTAINABLE DEVELOPMENTS AND AGENDA 21

*Olufunke A. Fasuyi¹ and Bamidele Fasuyi²

^{1*} *Department of Quantity Surveying, The Federal Polytechnic, Ado-Ekiti, Ekiti State, Nigeria*

² *Department of Building and Quantity Surveying, Joseph Ayo Babalola University, Ikeji Arakeji, Osun State, Nigeria.*

ABSTRACT

The paper reviews critically the concept of sustainable development and the outcome of the United Nations Conference on Environment and Development held in Rio de Janeiro in 1992, which was the genesis of Agenda 21. The study further reviewed the activities of construction industry leaving a devastating effect on the environment, as this affects people's health and well – being. Factors likely preventing the sector/ industry from achieving the developmental goals were identified. Suggestions were made in form of useful recommendations especially to redeem the dented image of the industry and improve its activities in all ramifications in order to achieve its sustainable role as stipulated by the Agenda 21. All the stakeholders in both public and private sectors of the economy including professionals/ consultants, contractors, sub – contractors, suppliers, building material manufacturers and merchants have crucial roles to play.

Keyword: *Agenda 21, Environment, Development, Sustainable Development, Environmental Concern, Resources.*

1. Introduction

The world development had at several times in the past been defined by many authors in term of economic growth (Rabie, 2016; Shelly, 2017; Reem, 2018) [13] [14] [15]. Others have looked at development in a wider sense to include social and environmental concerns. Development when applicable to many nations goes beyond economic parameters alone, this is because it is possible for the economy of a nation to grow appreciably and yet still see suffering individuals. Economic growth alone can even lead to eventual threat of the natural resources base of any nation as a result of industrialisation, pollution and resource depletion which may likely have adverse effect on the future development of any nation. Aina and Salisu (1992) opined that rapid economic growth has increased the pace of population growth, social dislocation, moral decay and environmental degradation in this country [3]. The issue of sustainable developments then means a rethinking on how best the available resource base of a nation can be productively used for the emancipation of the people from disaster likely to be caused both now and in future as a result of manhandling or mismanagement of such resources.

There are over seventy (70) definitions of sustainable development. However, the most commonly cited is development, which meets the needs of the present without compromising the ability of the future generations to meet their own needs (Behrooz, 1996; Adogbo & Chindo, 2009; Akhtaruzzaman, Bari & Anwar, 2011) [1] [4] [6].

Robert Goodland of the World Bank however defines sustainability as the “maintenance of capital” of which there are three. They are human made capital (houses, roads, buildings – the built environment), human capital (people’s capability and knowledge) and natural capital (natural resources). For the purpose of this paper, development focus is on the human made capital which is built environment and its producing sector i.e the construction industry. The construction industry is associated with a lot of problems and the failure to quickly come together by the stakeholders to address them may affect its sustainability and development in the nearest future.

1.1 The Conceptual Basis for Sustainable Development

Even though sustainable developments became so prominently made in the eighties, this call drew on the experience of several decades of developmental effort. For example in the 1950s and 1960s, the focus of economic progress was on growth and increased in output. By the early 1970s the development paradigm had shifted towards equitable growth. Lately (from the eighties) the protection of the environment has now become the third major objective of development. The concept of development has therefore encompassed three major points of view – Economic, Social and Environment (Munasingbe, 1992; Nwokoro & Onukwube, 2011) [11] [12]. The concept of sustainable development begins to have international recognition and usage following the emergence of a publication titled Our Common Future and the United Nations Conference on Environment and Development (UNCED) at Rio de Janeiro, Brazil in June, 1992 (Behrooz, 1996) [6]. The concept is an international environmental concern boarded on the need to address global threats perceived by several changes that have occurred in the global environment, such as:

- Depletion of the ozone layer through excessive use of chlorofluorocarbons (CFCS).
- An increasing concentration of greenhouse gasses leading to the possibility of global warming.
- Decreasing biodiversity e.g man, animals and plants.

Aside the Rio conference on sustainable development is the Stockholm Conference of 1972. This conference led to the concern that plundering and degrading of resources has inter-generational equity implications. Sequel to the conference was the establishment of a Governing Council for Environment Programme tagged United Nations Environmental Programme (UNEP). UNEP has a global jurisdiction with the headquarters in Nairobi, Kenya. Since its inception in 1980, it has provided guidance on the environmental assessment of development proposals and supported research on environmental issues (Umeh and Smart, 1997) [16]. Following these summits is the emergence of New Partnership for Africa’s Development (NEPAD) which is an African led strategy directed to the achievement of sustainable development and poverty reduction in Africa. The new African initiative document on which NEPAD is based was endorsed by the African Union (AU) at its Lusaka summit in July, 1992, Nigeria being one of the key sponsors alongside four other African States including South Africa, Senegal, Egypt and Algeria.

1.2 Environment and Development

As stated earlier, the issue of development and environment cannot be divorced from one another. A clear understanding of the environment, what it is and its components will give meaning to the development to be sustained. The environment is the geographical and physical location in which we live, work and practice and is therefore a local specific. Common knowledge informs that man’s activities over the years have produced changes on the environment. Such activities may bring disequilibrium. Man’s action in restoring the ecosystem to equilibrium is itself sustaining the environment.

Development activities rely on the ecosystem or environment in three specific ways:

- As a source of raw materials and energy (non – renewable resources) such as oil, minerals and so on.
- As a provider of services such as the maintenance of climatic stability and ecological cycle (renewable resources) including forests, agricultural land, etc.

2. The Agenda 21 and Sustainable Development

The Rio summit launched the concept of sustainable development and set up machinery in motion for the awareness about environment and development and subsequently led to many policy initiatives by individual nations, agencies and the global world. This world conference of 1- 12th June, 1992, at Rio de Janeiro, Brazil had in attendance,

representatives from 178 countries including 114 heads of government and over 1400 non – governmental organisations (Behrooz, 1996) [6]. The conference report, “Our Common Future” of the Brundtland Commission was as a result of the call by the Nations of the world in a General Assembly Resolution 44/228 held on the 22nd December, 1989, for a Conference on Environment and Development and on the acceptance of the need to take a balanced and integrated approach to environment and development questions.

Agenda 21 is therefore the consensual agreement reached at the conference and the process marks the beginning of a new global partnership for sustainable development (Development, 2002). The Agenda lays the plans of action for progress towards the general goal of sustainable development.

2.1 The Agenda 21 Goal/ Objective

The main goal of the Agenda is to address the pressing problems of today and also aim at preparing the world for the challenges of the future. It reflects a global consensus and political commitment at the highest level to developmental and environmental cooperation. The Agenda identifies the need for the world to fulfil basic needs, improved living standards for all, better protected and managed ecosystem (Agenda 21, 1999) [2]. In general, the Agenda 21 looks up to a major objective of ensuring a sustainable improved social, economic and environmental quality of development and environment globally. This will ensure the fulfilment of basic needs, improved living standards for all, better protected and managed ecosystems and a safer, more prosperous future.

2.2 Global Environmental Issues Highlighted in Agenda 21

The items listed below include some of the issues raised in Agenda 21 for which global partnership is required towards a sustainable development:

- Promoting sustainable human settlement and development
- Combating poverty
- Integrating environment and development in decision making
- Integrated approach to the planning and management of land resources
- Changing consumption patterns
- Demographics and sustainability
- Protection of the atmosphere
- International cooperation to accelerate sustainable development in developing countries and related domestic policies (Agenda 21, 1999) [2].

Each of the environmental related issues outlined are further sub – divided into programme areas. The programme areas are subsequently described in terms of basis for action, objectives, activities and means of implementation. For the purpose of this paper however we shall focus on the construction industry related portion of the environmental issues of the Agenda 21, and this has to do with the promotion of sustainable human settlement development.

2.3 Overview of Sustainable Human Settlement Development

According to the Agenda, the expected areas to be covered are as follows:

- Providing adequate shelter for all
- Improving human settlement management
- Promoting sustainable land use planning and management
- Promoting the integrated provision of environmental infrastructure, water, sanitation, drainage and solid waste management.
- Promoting sustainable energy and transfer system in human settlements
- Promoting human settlement planning and management in disaster prone areas
- Promoting sustainable construction industry
- Promoting human resource development and capacity building for human settlement development.

2.4 The Construction Sector/Industry

This is a sector of an economy saddled with the responsibility of producing shelter, basic infrastructural facilities and of course employment generation to a very large part of the economy. Gould (2000) classified the activities of the construction sector into four major categories according to its end products as follows [7]:

- Residential buildings
- Public buildings
- Infrastructure and Heavy Engineering
- Industrial sub – sector/ buildings.

Hornby (2000) defined the word ‘construct’ as to build or make something such as road, building or machine, also defined as to form something by putting different things together [8]. It incorporates two processes of design which is visionary and the construct or builds which is real and actual. The putting of these different things together to form a structure also requires, Bamishile (2004), opined that a disparate collection of professionals, sub – contractors, craftsmen, artisans, labourers and suppliers within the industry and outside. This proliferation of organisations and specialists has aggravated the existing problems of coordination, communication, motivation and management both within the industry itself and in its relationship with the clients [5]. These problems are capable of militating against achieving the human settlement goals.

Agenda 21 (1999) warned the activities of construction industry in providing human settlement goals are capable of causing environmental damages through depletion of the natural resource base, degeneration of fragile eco – zones, chemical pollution and the use of building materials harmful to human health [2]. The construction sector stakeholders and agencies both private and public sectors therefore have a lot of roles to play without procrastination in ensuring that these problems are dealt with in order to ensure sustenance and satisfaction of its numerous customers throughout the world so that the industry can reap the benefit of becoming the world leader.

2.5 Implementation of Agenda 21

Since the consensual agreement to the Rio declaration on sustainable development, a lot has been done by various countries of the world at ensuring success of the debates at various levels of individual countries. John (1996) opined that a commission on sustainable development, with delegates from 50 states representing all continents of the globe was formed to consider reports from all governments on how they are proceeding with the implementation of the Agenda 21 [10]. Even though the analysis of countries progress in implementing the Agenda was not made available by the world body, observation shows that these countries have seen needs in the attainment of sustenance and have started formulating policies towards this. It should be noted that the World Bank has constantly warned about the alarming rate of environmental destruction and its implications on world development since 1985. As a result of this, it is now mandatory for borrowers from World Bank to undertake environmental assessment in relation to proposed projects or programmes.

The implementation of Agenda 21 is primarily the responsibility of the government of individual nations. International, regional and sub - regional organisations as well as the general public and non – governmental organisations are also saddled with this responsibility. Government are expected to achieve the goal of the Agenda through national strategies, policies and processes according to plans, and with full respect for all the principles contained in the Rio declaration on Environment and development. The Global Environmental Facilities (GEF) of the World Bank in 1990 namely, the United Nations Development Programme (UNDP) and United Nations Environmental Programme (UNEP) are being used as a vehicle to administer the implementation of the Agenda 21. USA was the first to adopt the Environmental Impact Assessment (EIA) policy as early as 1969 even before the Rio declaration on Environment and Development of 1992. The United States passed the National Environmental Policy Act 1969, while Nigeria in 1992, through a decree No 86 on Environmental Impact Assessment (EIA) as a legal backing to the Environmental policy already in practice since 1988.

2.6 Efforts by Nigerian Government at Ensuring Sustainable Construction Sector

Nigerian government ever before the Rio declaration has adopted many policies and strategies at ensuring quality of the industry. However, amongst such policies are the enactment of the Environmental Impact Assessment (EIA) decree 86 of 1992 and the recent establishment of the “Due Process Unit” in the year 2001 to monitor the conduct of

public procurement of contract work in the country. Other policies and strategies include: the National Construction Policy Act 1991, National Housing Policies and establishment of professional practice regulatory bodies backed with decrees and acts for various professional bodies in the industry, the Builders Registration Council decree 45 of 1989 (now Act Cap 40) being the latest. The 1st, 2nd, 3rd and 4th national development plans of 1960 – 1985 respectively and the National Housing Policy and National Housing Fund Decree of No 3 of 1992, the Land Use Act 1978 are all relevant in the promise of ensuring the achievement of these sustainable development goals.

3. Looking Inwards to Finding Solutions to the Construction Sector's Problems

For the construction sector to be able to achieve the developmental goals of sustainable developments, it must overcome its problems of image degradation as failure of the industry usually results in a lot of economic loss and even loss of lives. Ways to do this are highlighted below:

3.1 Redeeming the Image of the Construction Sector

As a result of the outsourcing of construction workforce in many countries by contractors, the implications for the security, health safety and skill formation of workers have been serious. In an attempt to find lasting solutions to solving the image problem of the sector, ILO (2001) observed that the industry is wanting in under listed areas [9]:

- **Right at Work:** The industry has flouted basic labour rights. For example, in many countries, construction workers are outlawed from trade unionism. Discrimination between men and women, local and foreign and , temporary and permanent employees with regards to their terms and conditions of employment is highly manifested in both developing and developed countries.
- **Social Protection:** The construction workers are usually denied their social protection (income security or social security) as a result of their temporary status.
- **Employment Provision:** The construction sector is providing employment for a large section of the society; however, the quality of work in the industry is not good. Lack of skill also poses a threat to employment in the future.

3.2 Promoting Health and Safety

According to ILO (2001), the appalling safety record of the industry which have painted its image black as perceived by the populace could be improved, updating construction and labour laws in line with the provisions of the safety and health in construction convention of 1988 (no 167), the most important outlines are as follows [9]:

- There should be cooperation between employers and workers in taking appropriate measures to ensure that workplaces are safe and without risk to health.
- All parties to construction contract have responsibilities including those who design and plan projects.
- The principal contractor is responsible for coordinating the prescribed measures and each employer is responsible for their application in respect of workers under his authority, and
- Workers have the duty to report risks, but the right to remove themselves from imminent and serious danger is reserved.

3.3 Training and Development

Skill and training developments of the construction workforce will improve the image of the industry, reduce wastes, enhance improvements of the health and safety record of the industry and this will go a long way in reducing incidence of building collapse. The labour contractors are expected to sponsor their workers for training and are also expected to provide workplace training.

3.4 Improving the Quality and Efficiency of the Construction Sector

This can be achieved through:

- A focus on the customers and focus of efforts at delivering the value that customers or clients required.
- Promotion of a quality driven agenda in order to challenge the waste and poor quality arising from the industry's existing structures and work practices.

- Committed leadership
- Integrated processes and teams in order to avoid fragmentation and ensure that clients and other teams work hand in hand to ensure customers satisfaction commitment to people.

4. Conclusion

The construction sector despite its complexity is very dynamic. It will continue to play a key role in the national economy. It has endless opportunities and has a highly sustainable future. The industry has capacity to achieve the goals of sustainable environment and development of Agenda 21 through increased technological innovations, new relationships across the disciplines, improved image and skill development of the workforce generally.

5. Recommendations

The industry will achieve the goals of sustained development contained in the Rio declaration on Environment and Development by providing sustained shelter and infrastructure if the following recommendations can be considered and implementation.

- The government and all the construction stakeholders in various countries must in accordingly provide the basic requirements outlined in the Agenda 21 in consonance with the situations, capacities and priorities of individual nations.
- The United Nations (UN) agencies e.g UNDP, UNEP etc. involved in the implementation of the Agenda 21 as it affects the construction sector must perform their roles without undue influence or favour to any particular nation.
- The improved image of the construction sector must not be compromised.
- Skill acquisition and empowerment for site workers must be improved with a view to elongating their employment prospects.
- Infringement on fundamental human rights and social security of the workmen should be discouraged
- There should be adequate provision of safety and decent working environments.
- Promotion and improvement of health and safety measured in terms of quality and efficiency should be emphasised.
- All the above could only be achieved by the combined responsibility and effort of all construction stakeholders in both public (governmental) and private (professional/ consultants, contractors, sub – contractors, suppliers, building materials manufacturers and merchants).

6. References

- [1]. Adogbo, K. J., and Chindo, P. G. (2009). Promoting Sustainable Construction Industry Activities. *Na,na*.
- [2]. Agenda 21. (1999). United Nations Division for Sustainable Development – Agenda 21.
- [3]. Aina, A. T. and Salisu, T. A. (1992). The Challenges of Sustainable Development in Nigeria, West Africa – An NGO report prepared for the United Nations Conference on Environment and Development, Rio de Janeiro, West Ibadan, Nigeria.
- [4]. Akhtaruzzaman, M., Bari, S. S. M., and Anwar, F. (2011). Engineers' Obligations towards Sustainable Environment. In *2nd International Conference on Professional Ethics and Education in Engineering 2011 (ICEPEE)* pp85-92.
- [5]. Bamishile, Ayo (2004). Building Production Management. 1st Foresight Press Limited, Lagos, Nigeria.

- [6]. Behrooz, M. (1996). Environmental Policy Planning Sustainable Development, The Environment and Development Debate 1st NCEMA, Ibadan, Nigeria.
- [7]. Gould, E. F. and Nancy J. (2000). Construction Project Management, Pretence Hall
- [8]. Hornby, A. S. (2000). Oxford Advanced Learner Dictionary 6th ed. University Press UK.
- [9]. ILO, (2001). The Construction Industry in the Twenty First Century, Its Image, Employment and Skill Requirement Prospects, Geneva.
- [10]. John, Egan (2000). Re-thinking Construction. Report of the Construction Taskforce on the Scope for Improving Quality and Efficiency of Construction in UK.
- [11]. Munasingbe, M. (1990). Environmental, Economic and Sustainable Development. International Reconstruction and Development, Washinton, D.C. USA.
- [12]. Nwokoro, I., and Onukwube, H. N. (2011). Sustainable or Green Construction in Lagos, Nigeria: Principles, Attributes and Framework. *Journal of Sustainable Development*, 4(4), 166-175. <http://doi.org/10.5539/jsd.v4n4p166>
- [13]. Rabie, M. (2016). Meaning of Development. A Theory of Sustainable Sociocultural and Economic Development. Palgrave Macmillan, New York.
- [14]. Reem, A. (2018). Traditional Development Theories have Failed to Address the Needs of the Majority of People at Grassroots Levels with References to GAD. *International Journal of Business and Social Science*, 9 (9) 115 -119.
- [15]. Shelly, S. (2017). Development: Meaning and Concept of Development. Sociology Discussion www.sociologydiscussion.com Accessed on 6/01/2020.
- [16]. Umeh, C. L., and Smart, N. U. (1997). Principles and Procedure of Environmental Impact Assessment (EIA). 1st ed. Computer Publishers, Lagos, Nigeria.