



Next Level Agenda: Engineers and Challenges of Infrastructural Development

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Abstract

The Next Level Agenda of this present government is a re-awakening call to all professionals' especially engineers in partnering with the government in improving the slow economic development often attributed to its infrastructural deficit. Governments have been continuously blamed for thrusting the building of physical infrastructure on foreign expatriates through the politicians that do benefit from them. The economy of this country that has become moribund can be grown and sustained through cultural intelligence and indigenous nuances, which is possible if engineers can involve themselves also in policy formulations and implementations. This paper argues that the engineers' involvement in policymaking is critical to the success of the Next Level Agenda of this present government as engineers have roles to play in the development of an economy that benefits and sustains all Nigeria. The full integration of engineering communities in policymaking at all levels is recommended and engineers to be involved in the making of the decisions that affect the profession.

Keywords: Engineers, Government, Infrastructure, Policy, Next Level Agenda

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1. Introduction

Engineer's participation in politics may look illogical as the ethics of profession may negate what Politics is all about. Politics is anchored on conciliation and concession, no permanent friends and permanent enemies. A politician is expected to compromise his/her beliefs for gainful advancement as shown in how politicians are cross carpeting from one party to another in order to be in the good book of any present government and this is contrary to the core values that every engineer must imbibe (<https://bucharthorn.com>). That notwithstanding, active participation of engineers in governance and policy making will be immensurable

Many of the infrastructural challenges the government is facing required inputs from experts and most often these inputs can only be got from engineers as it necessary that decisions on infrastructural development ought to be made by technical oriented professionals if indeed the government is sincere any monumental development. In any talk on infrastructure, it is worth noting that infrastructure can be extensively classified into two: physical (roads, power, media transmission, and so forth) and social (education, wellbeing, entertainment, housing, and so forth.). In some clime, physical infrastructure is frequently alluded to as financial infrastructure Infrastructure is an umbrella term for some exercises for the most part alluded to as "social overhead capital" by improvement financial experts. Specifically, infrastructure refers to a network of transport, communication, and public (social) services – all functioning as a system or as a set of interrelated and mutually beneficial services provided for the improvement of the general well-being of the population (Ogbuozobe, 1997)

Since the country gained independence, successive governments whether military or democratic, have devoted efforts to infrastructure which are essentials to the social and economic well-being of the citizens unfortunately, it is obvious that the nation is still plagued with a lot of infrastructural challenges. Therefore, it is important that engineers be involved in government as the world is now technologically advanced, engineers are in the best position to drive infrastructural growth as they have the experience and expertise to contribute significantly.

Infrastructure development sparks economic growth and improvements in quality of life but the extent to which Nigerian engineers are responding to the engineering challenges of achieving infrastructural development is now of national concern but Engineers not only have commitment to open assistance yet in addition a duty to their locale and their nearby government. The quick development of the economy as of late has put expanding weight on physical infrastructure, for example, power, railroads, streets, ports, air terminals, water system, and urban and rustic water flexibly and sanitation, all of which as of now experience the ill effects of a significant shortage from the past regarding limits just as efficiencies in the delivery of basic infrastructure services.

According to Fidelis O. N, Jude O. O. and Ighata J.A. (2014), infrastructure contribute to improved quality of life by creating amenities, transport, energy and communication services and contributing to macro-economic stability. In Nigeria in particular traffic congestion, power outages in major cities, bad quality of roads, inadequate telecommunication services, shortage of drinking, irrigation and industrial water, all bear witness to the inadequate existing infrastructure facilities which some of the menace the change agenda of the present government wants to eradicate or minimized.

It has been found that infrastructures attract certain levels of industrial activities, in that wise, infrastructure provision facilitates investment in less developed areas. Infrastructure provision is therefore pertinent for successful rural transformation and agricultural development provided professionals like engineers are involved so that such plans are not derailed by ordinary politicians that may just be interested in the money allotted for such project.

2. Engineers, Government and Policies

Engineers are seen by the public as useful experts who keep away from legislative issues and by dodging the political procedure, engineers neglect the urgent relationship that exists between engineering and government in light of the fact that political choices are frequently seen as nonsensical or vague and are affected by variety of factors

The united states of America as a model had benefited from the foundational endeavours of people such as George Washington, the first president of the United States, who is generally regarded as the country first engineer for promoting the field of Engineering, Herbert Hoover, the 31st and Jimmy Carter, the 39th presidents of America were engineer. Through them, many engineers have also served in other elected offices through the years bringing their technical expertise, rational thinking, and passion for making the world a better place to their political process.

It is worthy of note that infrastructural planning is a recurring phenomenon in governance The Nigerian governments have sought to accomplish improvement using different kinds of plans, in particular short term (Yearly Spending plan), medium- and long-term plans.

The Transformation Agenda is an outline or an agenda of the Jonathan Organization to accomplish adjusted development and all-encompassing national advancement of Nigeria. The Plan, coasted not many months after the inauguration of the Jonathan Administration on May 29, 2011, depended on the Vision:2020, which itself was a subordinate of the Millenium Development Goals, MDGs, was planned for focusing on totally concurred

approaches, projects and ventures of the administration in the four years' tenure, 2011 through 2015, but one can only point to Mrs. Omobola Johnson Olubusola from Ondo who had a degree in Engineering in his cabinets. The absence of engineers in such administration was inimical to fully achieving the transformation agenda because engineers are the driving force in infrastructural development and no meaningful development can be seen without the inclusion of engineers.

President Muhammad Buhari "Change Agenda" means a country that citizens get the basics that any nation ought to give: infrastructure that works, health care services that is reasonable, even free; regard for the earth and manageable turn of events, training that is serious and result situated in an information economy. Engineers participation is germane to achieving these especially the boosting of the economy. President Muhammadu Buhari had in his cabinet during the "Change Agenda" Dr. Ogbonnaya Onu, Engineer Suleiman Hussaini Adamu, Senator Hadi Abubakar Sirika, who had an aircraft engineering maintenance certificate. Involving Engineers in governance will help in bringing to reality the needed reforms that will bring infrastructural development to the nations. The focus and doggedness of engineers are the required traits that are essential for development and unfortunately, these are missing in most nowadays politicians. The "Next Level Agenda" can be fully achieved if tagged the "engineers' agenda" as engineers can no longer stand aloof leaving the stage to politicians and other professionals that have little or no technical know-how on how to drive infrastructural development.

The covid-19 pandemic has impacted negatively on not the nation's economy only but also on that of the entire world there mitigating adversely on the policies aimed at achieving infrastructural development. Therefore, at this particular time, engineers are not only to fully be involved in the making of further policies that can take the world economy out of this present conundrum but more actively involved in their executions if any infrastructural development is still to be achieved during this change agenda tenure and this is a wakeup call to Nigeria engineers that it is not yet late to participate in their local politics

3. The Role of Infrastructure in Economic Development

Infrastructure is a wide idea that grasps open interest in physical resources and social administrations. Ogun T.P (2010) contended that the inclination to build open interests in urban territories comes from the view that they are key determinants of long-term sustainable development and the limit of the poor to profit by the development procedure. Development Analysts usually categorised any social overhead capital under an umbrella term "infrastructure". Infrastructure refers to a network of services that are all functioning as a system or a set of interrelated and mutually beneficial services provided for the improvement of everyday living of the populace (Ogbuozobe, 1997)

Open or social administrations allude to those administrations or offices implied for the regular merchandise of the individuals. Infrastructure encompasses water supply, medical care delivery, training, postal and media transmission offices, power, and so on. Adequate infrastructural administrations are vital for monetary turn of events. The ampleness of infrastructure assists with deciding a nation's prosperity or disappointment in expanding creation, adapting to populace development, decreasing neediness, improving ecological conditions, and so on.

In fact, financial advancement can be encouraged and quickened by the nearness of infrastructure. If these offices and administrations are not set up, the improvement will be troublesome and actually, can be compared to a scant item that must be made sure about at an extremely significant expense and cost. Sufficient access to social government assistance administrations, for example, clinical administrations, training, consumable water supply, roads, power, work/employment openings, and so forth, are solid indices of improvement and development (Adeyemo, 1989). Aigbokhan (1999) gives instances of physical infrastructure as open utilities,

for example, power, media communications, water supply, sanitation and sewage, solid waste assortment and removal just as public works which incorporate streets, significant dam and trench work for water system and seepage, and other transport ventures like urban and inter-urban railroads, urban vehicle, seaports and conduits, and air terminals.

Physical infrastructure has played a noteworthy positive role in the development performance of nations as of late. Where improvement of economic infrastructure has followed a reasonable, very much organized and fit way, development and advancement would have got a major lift. Inside the setting of Nigeria's vision 20:2020 program, subsequently, the acknowledgment of the sum total of what that has been imagined would depend to an enormous degree, on the accessibility of the fundamental infrastructure in the correct amount and quality. This is so on the ground that infrastructure represent the “wheels” of economic action.

It is worth noting that that only a small percentage have been set aside as capital expenditures especially since the advent of democracy in 2009. Figure 1 shows the capital expenditure against the total budget nation. The fraction allocated to capital expenditure comprising infrastructural projects in the power, roads, rail e.t.c. are too small for significant progress in infrastructural development which undoubtedly is inimical to the achievement of the various schemes of the government in which one of such is the Next Level Agenda.

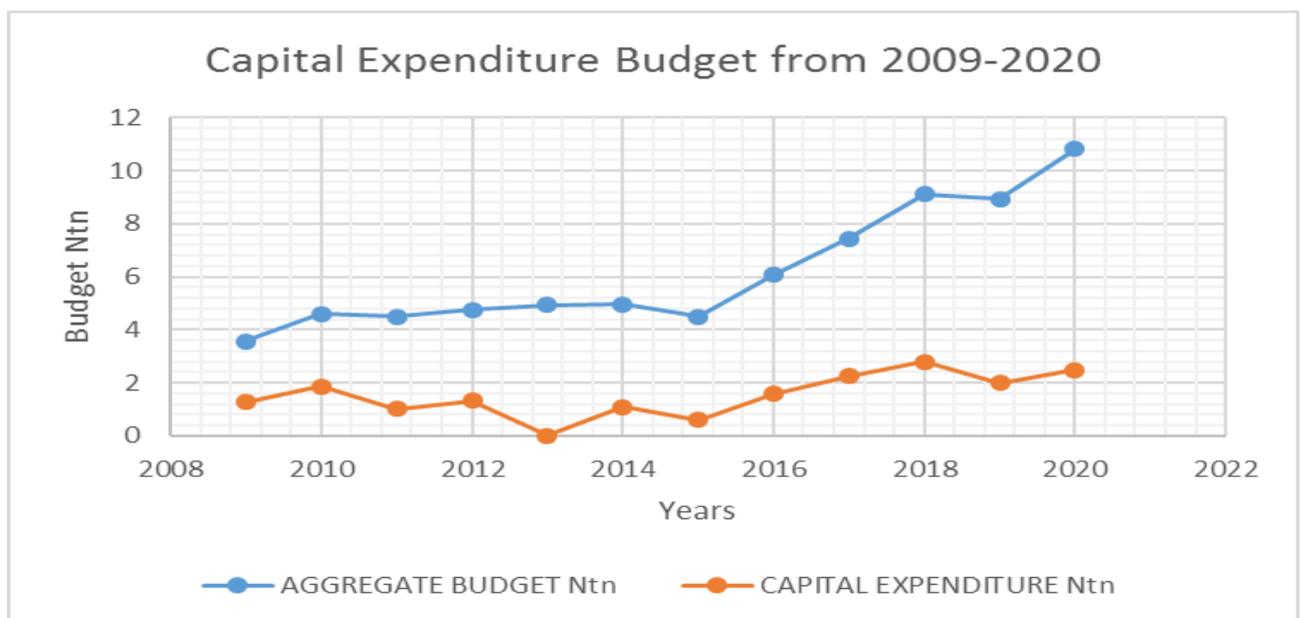


Figure 1: Capital Expenditure Allocation against the Aggregate yearly Budget

4. Engineering and Implementation of The Next Level Agenda

For the “Next Level Agenda” to be fully achieved, the engineering profession has a pivotal role to play. The Nigerian engineers should apart from being furnished with the applicable aptitudes to be a piece of the blast that will accompany the economic change of the nation; engineers should likewise figure out how to offer their callings to the political chain of importance. In the coming years of this tenure, Nigeria will require to improve power, fabricate a huge number of housing units, create massive road and more rail transport frameworks, develop more food through motorized rural frameworks, produce diverse buyer merchandise locally, construct

and prepare more clinics and medicinal services infrastructure, bring together and equip more schools and so forth.

Engineers participation in government or policymaking cannot be compared to other professionals as they felt no compelling reasons to be. Socio-economically, others have benefited from the time they spend in the political world, gaining relevant practice and connections. In this present dispensation of next level agenda, most of the technical appointments key such as works and housing, power, transportation, mines and Steel development, aviation, environment, water resources and communication are filled with people with no or little engineering background. The same can be said of the Change Agenda of 2015-2019 where a lawyer was made to be in charge of two key portfolios that required professional presence of engineers.

No meaningful infrastructural development can be made in a nation like ours where engineers are always relegated, and their voices not heard. Unfortunately, engineering bodies are not being forceful in ensuring that if meaning progress is to make, engineers should be considered for technical posts. The divide between politics and the technical public highlights a root cause of why politicians dominate every sphere of politics, engineers need to rise up and bridged the divide if the “Next Level Agenda” of this present administration is to become a reality It is saddening that engineers have been snubbed in highly technical appointments that required the professional touch of engineers. Engineers jobs are being given to non-engineering professionals. Less than 13.8% of the present governors have engineering background and the same applies to the current serving ministers.

The President, Mohammadu Buhari, towards the end of his “Change Agenda” administration signed some bills such as Engineers (Registration, and so on) Amendment Act, 2019 and the executive order 7 of 2019 which will inadvertently help the government in achieving its program. The time is now right as the bill will ensure local content development, which can only be ensured by the engineers through their participation in policy making and execution. and the stage is set for engineers to take their positions in policymaking and governance as no significant infrastructural development can be made without their technical inputs. According to the Royal Academy of Engineering in 2016, there is strong, positive link between engineering strength and the two indicators of economic growth which are Gross Domestic Product (GDP) per capita and investment per capita.

According to Akinwunmi M.A. (2016) in one of his research, he used the Penn World Table (2007) and World Development Indicators (WDI) 2015 to postulate that since the independence of Nigeria in 1960, the average growth rate of its per capita GDP has been 1.7 percent per year. Average real GDP per Capita had risen from US\$1477.71 during the Nnamdi Azikiwe (1960-1966) regime to US\$2548.17 during the Muhammadu Buhari change agenda era, an Average Annual Growth of real GDP per Capita (%) from 1.10 to -0.01. The dynamics of political system and regimes in the country contribute to the level of economic growth and infrastructure development performance (Akinwunmi M.A. 2016). A pertinent question that has become worrisome is why some political systems enhanced the level of economic growth while others slow down the growth pace; and what make some government regimes better in terms of economic performance than the other? One of the solutions to these will be the involvement of engineers in politics as they will be involved in the making and execution of decisions that will enhance infrastructural development. The huge difference noted in the money allocated for infrastructural development may be attributed to the absence of engineers in the decision and policy making in the country because only those that understood the importance of infrastructural development to economic emancipation of a nation can truly be influential in ensuring tangible fraction of the yearly budget is committed to capital expenditures.

It is therefore saddening that since the return of democracy in 1999, the number of personnel with engineering background has been an eyesore as seen in figure 2 below. No wonder significant infrastructural progress has been an illusion because non-engineering personnel have been made to be in charge of critical portfolios that ought to be filled by Engineers.

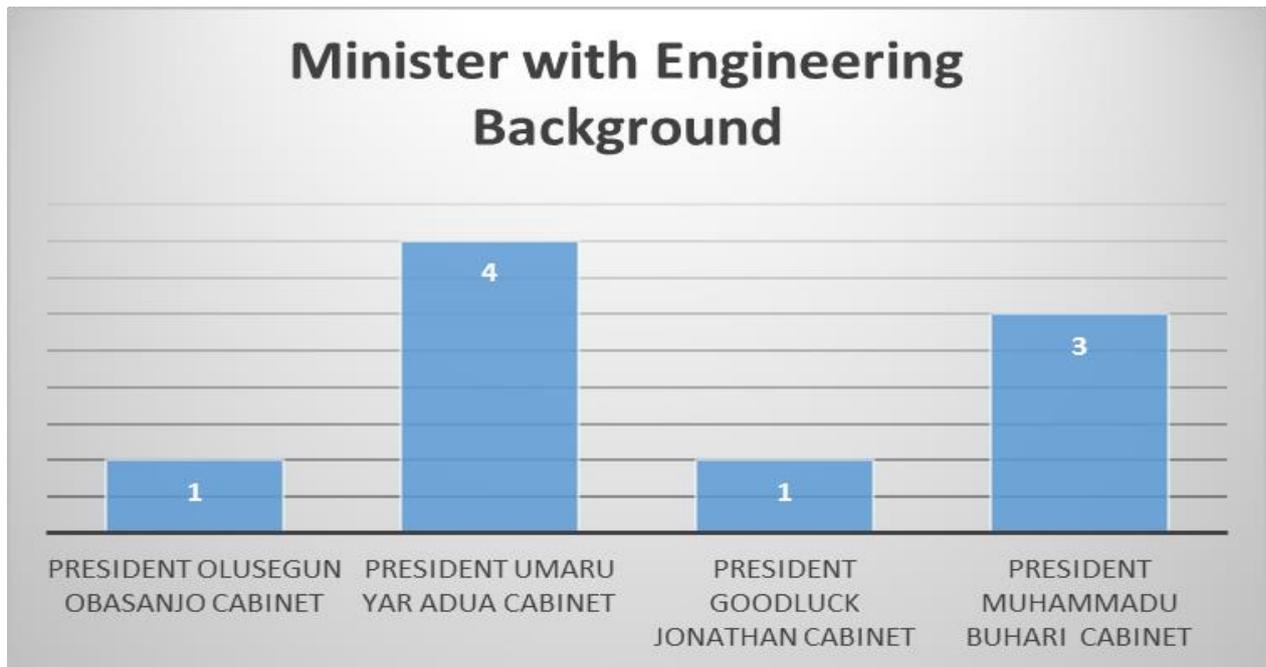


Figure 2: Number of Ministers with Engineering Background

5. Conclusion

That the Engineering profession has a basic task to carry out in the improvement of the country is a verifiable actuality. There is a requirement for the legislature to understand the pressing requirement for contribution of Engineers in policy making so as to fulfil the infrastructures need for the achievement of the Next Level Agenda. Investing adequately in the advancement of local capacity that will bolster future necessities will prompt the improvement of a strong engineering base for the nation. All things considered; engineering is at the core of the improvement of a cutting-edge country. Engineering is indeed development.

In accomplishing the Next Level Agenda, the present administration in partnership with the engineering communities need to concentrate on the nature of competence of graduates that have or graduating from our engineering schools as the engineering educational plan of the twentieth century is not, at this point adequate to address the engineering difficulties of the 21st century.

The Nigerian Society of Engineers must rise to these challenges and that of politicking and not see politics as a messy business because the nexus between infrastructure and next level agenda is the key to achieving global sustainability and the engineers are the essential resource that needs to become more proactive in achieving them and to play less insular role in policymaking



References

- Adeyemo, A. M. (1989). Spatial Variation in Accessibility to Secondary School Facilities in Oyo State, Unpublished Thesis, Geography Department, University of Ibadan, Nigeria.
- Aigbokan, B. E. (1999). Evaluating Investment on Basic Infrastructure in Nigeria. Proceedings of the Eighth Annual Conference of the Zonal Research Units (Organised by Research Dept., Central Bank of Nigeria, at Hamdala Hotel, Kaduna, 11 –15 June 1999). 208.
- Akinwunmi M.A. (2017) Nigeria’s Economic Growth: Past, Present and Determinants. *A Journal of Economics and Development Studies*, 5(2), 31-46, ISSN: 2334-2382 (Print), 2334-2390 (Online).
- Fidelis O. N, Jude O. O. and Ighata J.A. (2014) Infrastructural Development and Economic Growth in Nigeria: Using Simultaneous Equation. *Journal Economics*, 5(3),325-332.
- FGN. (2009a). Report of the Vision 2020 National Technical Working Group on Urban and Rural Development, Federal Government of Nigeria.
- FGN. (2009b). Report of the Vision 2020 National Technical Working Group Transport, Federal Government of Nigeria.
- National Planning Commission. (2009). Nigeria's Vision 20:2020, Report of the Vision 2020 National Technical Working Group on Employment.
- Ogbuozobe. (1997). Infrastructural Development in Nigeria in 2010. Phillips, A., & Titilola, S. T. (Eds), *Nigeria Institute of Social and Economic Research*, Ibadan. 163-193.
- Ogun, T. P. (2010). Infrastructure and Poverty Reduction: Implications for Urban Development in Nigeria, United Nations University-World Institute for Development Economics Research, Working Paper 43 1-14.
- World Bank. (2007). The World Bank Annual Report 2007, DC.