

"MANAGING THE CHALLENGES OF INFRASTRUCTURE DEFICIT IN NIGERIA: A CROSS - COUNTRY ANALYSIS OF CONTEMPORARY ROLES OF ENGINEERS IN ECONOMIC DEVELOPMENT" BEING A PAPER DELIVERED BY HON. (ENGR.) SETONJI DAVID, FNSE, FNICE, FNIM ON THURSDAY SEPTEMBER 22<sup>ND</sup> 2016 AT THE 2<sup>ND</sup> REV. (ENGR.) ETTE I. ETTEH'S ANNUAL DISTINGUISHED LECTURE SERIES ORGANISED BY NIGERIAN INSTITUTION OF CIVIL ENGINEERS HELD IN SHERATON HOTEL, IKEJA

Protocols

### 1.0 Introduction:

It is indeed a great honour and privilege to be given the opportunity to speak at this very auspicious and important occasion, especially in front of my colleagues, moreso my very Senior colleagues who are eminently qualified to handle today's topic titled, "Managing the Challenges of Infrastructure deficits in Nigeria: A Cross - Country Analysis of the Roles of Engineers in Economic Development. I also congratulate the National Chairman of the Nigerian Institution of Civil Engineers (NICE) and the entire EXCO for consistently driving the body towards mindboggling issues.

Infrastructure is the basic requirement of economic growth and development. It does not directly produce goods and services but facilitates production in primary, secondary and tertiary economic activities by creating external economics. By the latter I mean the benefits that arise from general growth in the economy. For a nation to develop, it must have an infrastructure on ground. The word 'infrastructure' connotes different meaning to different people. Infrastructure, most generally, is the set of interconnected structural element that provide the framework for supporting the entire structure.

It is a well-known fact that the level of economic development in any country directly depends on the development of infrastructure. The developed countries have made massive growth and progress due to the tremendous investment they have made over the years in social and economic infrastructure. Human development is about meeting and satisfying basic human needs and aspirations, protecting their freedoms and rights, hence, infrastructure is central to sustainable development and economic competitiveness of any nation. A nation without basic infrastructure is like a body without anatomy. Today, inadequate infrastructure is holding back Nigeria's economic growth.

## **2.0 Current State of Our Infrastructure**

The largest deficit in infrastructure can be found in power and transportation sectors. In the case of the former, only a few of the country's population have access to electricity, whereas the transport sector which is key to the movement of goods and services is in a dismal state, and can be described as calamitous. The transportation sector includes roads, air transport facilities, railways, maritime infrastructure (inland waterways and ports) and urban transportation (which spans across the other sub-sectors). A transport sector with adequate infrastructure in good condition is critical for any nation's success. In particular, transport infrastructure plays a critical enabler role, increasing the impact of nearly all other sectors of the economy. Against this backdrop, Nigeria's current transport infrastructure is not aligned with the country's aspiration to become one of the world's 20 largest economies by 2020. As stated earlier, adequate road infrastructure is central to Nigeria's economic growth; it is at the core of good governance and public welfare. Any improvement in road infrastructure positively impacts the nation's Gross Domestic Product (GDP). It was estimated sometimes ago that Nigeria has a national road network of about 200,000km. Of this total, federal roads make up 18 per cent (about 35,000km), State roads 15 per cent (about 17,000km),

and local government roads 67 per cent (about 150,000km), with most local government roads being unpaved.

The road sector accounts for about 90 per cent of all freight and passenger movements in the country. Although the federal road network constitutes 18 per cent of the total national network, it accounts for about 70 per cent of the national vehicular and freight traffic. As at 2014, an estimated 40 per cent of the federal road network were in poor condition (in need of rehabilitation); 30 per cent in fair condition (requiring periodic maintenance); and 27 per cent in good condition (requiring only routine maintenance). The remaining 3 per cent consists of unpaved trunk roads that need to be paved.

In the case of state roads, 78 per cent is in poor condition, with 87 per cent of local government roads also considered to be in poor condition.

The poor state of Nigerian roads can be attributed to the following challenges:

The current institutional structure for the management of roads is grossly inefficient because of the following:

- (a) Federal Road Maintenance Agency (FERMA), which was established as an interim measure or a stopgap before instituting more substantive sector reforms, has become the main road maintenance institution without a proper structure. It is just an extension of the Federal Ministry of Works, hence another bureaucratic toothless bulldog because it continues to rely on traditional general budget allocations to fund road maintenance and rehabilitation, which has become archaic.
- (b) Current maintenance levels are insufficient to preserve the quality of the existing road infrastructure, resulting in annual deterioration. Ample resources have been allocated to federal road rehabilitation, but not enough of these resources are reserved for preventive maintenance.
- (c) A historical trend of prioritizing new road construction over maintaining existing roads further exacerbates deterioration of existing road infrastructure.
- (d) A shift in inland transportation from rail and waterways to roads has increased the burden on roads as they have

become the nation's primary mode of passenger and goods transport. For example, the high volumes of petroleum products transported on the national roadways, which was meant to be transported via pipelines, diminish the already limited lifespan of the roads, resulting in higher maintenance needs.

- (e) The budgeting cycle in Nigeria limits the use of funds during the dry season (the season most favourable for construction and maintenance).
- (f) Overloading, blocked drainage structures and the parking of heavy axle vehicles on carriageways contribute to additional deterioration of road infrastructure.

We have all agreed that infrastructure adequacy in this country is far below average, but if the truth must be told, we also lack maintenance culture and that has always been the bane of our infrastructure challenge apart from inadequacy.

### **3.0 Our Present Predicament**

One in two Nigerians lives in poverty. Our roads and rail systems are disgraceful monuments. Less than 30% of our people have access to electricity, and most of those who have it, suffer epileptic power supply. Many manufacturing companies have relocated to other neighbouring countries because of this disgraceful infrastructure deficits. Sometimes in year 2014, the former administration recalibrated the Gross Domestic Product (GDP) almost doubling it so that Nigeria was then adjudged as the largest economy in Africa - on paper. A claim that had no positive bearing on the quality of life of the people. The economy supposedly grew in one momentous leap. But did the unemployed get jobs? Did those who have jobs see wage increase? Did the quality life of the people improve? The answer to these and many more questions is "NO". That tells us in clear terms that merely changing GDP figures on a sheet of paper will not improve the actual living conditions of anyone.

Furthermore, there is no argument that infrastructure development both economic and social is the major determinants of economic growth of any nation. Direct investment on infrastructure creates, production facilities which ultimately stimulates economic activities, reduces trade costs and improves competitiveness, provide employment opportunities, alleviates poverty and improve quality of life. While lack of infrastructure causes production bottlenecks for sustainable growth and also engenders poverty. It is a truism that massive investment in infrastructure is a catalyst economic growth and poverty eradication.

The fiscal instruments and policies that ginger the economy into greatness lie with the Federal Government. This is so because we practice a pseudo unitary system, which we call "federation". Most of the fiscal instruments and policies that drive the economy are in the exclusive list of the Nigerian constitution. This means only the Federal Government and by extention the National Assembly can legislate or take any meaningful action on these matters. It means no state can come up with any major fiscal policy which can have overbearing effect on that state. It is obvious therefore that only the Federal Government has the fiscal might and wherewithal to lead us out of the doldrums.

In all the countries that have transformed from poverty to prosperity, from underdevelopment to development, the national government has been the booster and the financial muscle behind the infrastructure development that literally constitutes the foundation for economic growth and jobs. The Federal Government must initiate more expenditure for infrastructural projects, which will definitely have a positive multiplier effect on the nation.

Every nation needs to harness her human and material resources for the development and growth of her citizens and her environment. Resources are nothing if value is not added to them. The value-added

to the resources endowed to nations by God is the difference between the developed and underdeveloped nations of the world. Most underdeveloped economies have natural resources but they are not able to develop the technologies required to add value to these; thus they remain in a vicious circle of poverty.

It is in order to stem the tide whereby most of the world's population lives in abject poverty and a few of the world's population swims in wealth and opulence that made the United Nations to declare the Millennium Development Goals (UN-MDGs) in September, 2000. In the UN-MDGs, 189 nations pledged to achieve the following by 2015:

- eradicate extreme poverty and hunger;
- achieve Universal Primary Education;
- promote gender equality and empower women;
- reduce child mortality;
- improve maternal health;
- combat HIV/AIDS, malaria and other diseases;
- ensure environmental suitability; and
- develop a global partnership for development.

The success of these laudable programs depends on a viable infrastructure base, which on the other hand depends on the existence of a sustainable and functional engineering infrastructure.

#### **4.0 Nigerian Engineers and Infrastructure**

Engineers are technically skilled professionals who are responsible for solving problems. Their main focus is on making things work efficiently and effectively by applying the theories and principles of sciences and mathematics to research, and develop economic solutions to technical problems. The Engineers who are also scientists differ from the core scientist by the nature of their training. While the core scientists try

to explore the natural world and discover new knowledge about the universe and how it works, engineers apply that knowledge to solve real problems, often with an eye toward improving cost and efficiency. The purpose of engineering is to innovate, design, create and maintain products, system and equipment for the benefit and wellbeing of humans. Their works are the link between the perceived social needs and economic applications. They are the bridge between science and art. Engineers are the backbone of nation building and the purpose of engineering is to innovate, design, create and maintain products, systems and equipment for the benefit and wellbeing of humans.

Taking a cue from the above, it is incomprehensible and inconceivable that a developing nation like Nigeria can be having a good number of qualified engineers scattered all over the country who are unemployed. Drawing from this, the reason for our present state of development is therefore not farfetched.

Furthermore, the greatest challenge the Nigerian Engineers have been bedeviled with in this country is largely lack of adequate patronage by our governments and by extension our political Leaders. The penchants for foreigners in areas where we have adequate skill and competence have greatly affected the engineering practice and development in this country. The governments at all levels; especially the Federal and States have always given preference to foreign engineers and contractors even where we have competence and required skill. Ironically, the foreigners after securing the contracts always turn around to employ local engineers to execute these projects.

However, emerging facts over the years have revealed unequivocally that the penchant for foreign engineers and contractors by our leaders were not born out of patriotism but in most cases out of selfishness, capital flight and other nefarious activities.

The preference for foreign experts, contractors, goods and services has to be tackled if we as people are desirous of moving forward. It is

also noteworthy to state that, some of the so-called "experts" are actually "quacks in white skin". I have personally come across a Syrian who claimed to be an engineer secured a multimillion-naira engineering project in Abuja, but after interaction, I later discovered he was just a craftsman with no skill in any branch of engineering.

## **5.0 Conclusion**

Engineering has been and still is the forerunner for the infrastructure development and progress of any nation and our country is no exception. Engineers are creators, designers, fashioners and builders. You will also agree with me when I state that all engineers have a key role to play in the development of infrastructure in our country. This key role is not limited to power and energy, water supply, transportation or the environment. The role of the engineer as we all know extends to housing, railways, roads, highways and bridges, irrigation, telecommunications, airports and harbours, information technology and scores of other specializations and sub-sections therein. This role is far reaching and beyond the vistas of human thinking and imagination. It is therefore an aberration for a developing country like Nigeria to have thousands of Engineers in the unemployment market.

Thank you.