

## Infrastructure Inadequacy and Fisheries Development in Nigeria

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### ABSTRACT

One of the major challenges facing fisheries development in Nigeria is infrastructural inadequacy in all its ramifications. Nigeria's under-investment in infrastructural development has blurred her vision to be among the World's 20 largest economy by 2020. The persistent self-insufficiency in fish production in Nigeria despite the immense natural and human resources could be attributed to infrastructure inadequacy especially in the area of modern fishing inputs, post-harvest technologies, roads, housing, water and sanitation, hospitals, airports, seaports, transport, fish marketing facilities and energy. This paper gave a historical review of fisheries in Nigeria. The need for soft and hard infrastructural facilities in Nigerian fishing industry was highlighted. Recommended solutions to the current status of infrastructure deficit include policy stability, improved funding of infrastructure, research and development, Public-private sector collaboration and good maintenance culture. The philosophy of 'Developmentalism' which considers the sociocultural needs and environment of Nigerians should be adopted in infrastructural development. The local content of the Public Procurement should also be improved using local experts of proven and verifiable performance records.

**Keywords:** Infrastructure, Fisheries, Developmentalism, Procurement, underinvestment, Research and Development

### INTRODUCTION

Nigeria as one of the biggest economies in Africa still suffers from vast infrastructure deficit, hence the retarded economic growth. Infrastructural development contributes significantly to human development, poverty reduction and attainment of the Millennium Development Goals (MDG). It is a key driver for progress in any nation. It is a critical enabler for productivity and sustainable growth contributing significantly to national development (OTA, 1991; Otaha, 2013; NPC, 2015).

Investment in infrastructure accounts for over half of the recent improvement in economic growth (Olufemi et.al, 2013; ICTSD, 2015). One would expect Nigeria with a huge population of 177 million and a centre of sub-Saharan Africa's growth story with a US\$587 billion in 2015 to take the issue of infrastructural development more seriously (CBN, 2011; NPC, 2015). The fisheries sector of the economy (especially the artisanal fisheries) has long suffered from infrastructural inadequacies as

reported by various workers (Omitoyin and Fregene, 2008; Adeleke, 2014; Bolarinwa, 2016).

Williams (2006) reported substandard level of living among the rural populace of the fishing communities in Nigeria. The bulk of poverty-stricken Nigerians are in the coastal areas characterized by intense anthropogenic activities and dearth of infrastructural facilities, hence the need for better funding of infrastructure in the coastal waters of Nigeria. Fish constitutes majority the source of animal protein in Africa. 21% of global fish is output of consumed by Africans despite the fact that the continent is the lowest producer of fish in the World (FAO, 2012). Presently, the demand for fish for outstrips the supply of food. Most of the production are also poorly handled and marketed after harvest resulting in fish of doubtful, quality inadequate processing and marketing infrastructure are main handicaps and these have been held responsible for the erratic change in price. Fish is no more a cheap source of protein especially in Lagos where an average man can hardly afford to buy fish. There is

therefore a need to get out of subsistent level of fish production (Balogun, 2015).

The large shortfall in supply as against the demand for fish could be partially attributed to inadequacy of infrastructural facilities especially in the coastal waters of Nigeria where artisanal fisheries is mainly practiced. The demand for fish estimated at 1.8 million metric tons far outstrips supply of 0.4 million metric tons, the major challenge for the fisheries sectors is bridging the gap between demand and supply of fish. In 2002, Nigerian total domestic output was 511,720 metric tons while in 2006, supply of fish was 519,393.2 metric tons. This could only satisfy 43.71 % of demand by consumer. The shortfall was met by massive importation of fish which is a great drain on Nigerian foreign reserves (Adewumi and Fagbenro, 2009). The situation therefore calls for more governmental intervention in the artisanal fisheries sector (especially in the area of infrastructure) which has long been the major contributor to the domestic fish output in Nigeria. Artisanal fisheries (traditional small-scale fisher folks) contribute about 80% of domestic output Fishing industry supply 75% of their annual protein intake and over 98% of the population depend on fishing and ancilliary fishing-related activities (FDF, 2007; FAO, 2012).

In this review paper, relevant information were collected from various reputable secondary sources. The current status of infrastructural development in Nigeria was discussed after defining the different types of infrastructure relevant to the needs of Nigerian fishing industry. Recommendations on how to improve infrastructural development in Nigerian Fisheries sector were made by the authors.

### TYPES OF INFRASTRUCTURE

Infrastructure is the basic physical and organizational structures and facilities such as roads, buildings, water supply, sewage plants, housing, cable networks, bridges, airports, sea ports, railways, food supply and marketing facilities, power, building/schools, hospitals etc needed for the operations of a society or a business entity(Wikipedia).

These capital assets/facilities and services are needed for a nation's economy to be functional. (Ibbs and Echeverry, 1988; Grant and Lemer, 1993).

Infrastructures could be hard if assets are capital or physical such as vehicles, highways, utilities,

dams, airports, bridges contributing indirectly to production of goods and services. Soft infrastructure is the delivery of specialized services to people. It includes human capital and institutions producing the human capital. These institutions could be educational, financial, and medical or law-enforcing are needed to maintain the economic and social standards of a nation. These are non-physical assets, body of rules and regulations governing the various systems, (OTA, 1991; Dibner and Lemer, 1992).

Social infrastructures include hospitals, educational/research institutions and insurance. According to National population Commission (2015), infrastructures could be categorized as public, green/grey, soft and government. Green infrastructure is an ecofriendly approach to water management that protects restores and mimics the natural water cycle; it involves planting of trees and restoring wetlands rather than building a costly new water treatment plant. It is effective and economical capable of enhancing quality of life and community safety by building with nature to solve urban and climatic challenges. It uses vegetation, soils and other elements and practices to restore some of the natural processes required to manage water and create eco friendly and healthier environment (NSF, 1993; Benedict and McMahon, 2006; EPA, 2011).

Grey infrastructure includes pipes, pumps, canals, ponds engineered by people to control storm waters. Blue infrastructure refers to urban infrastructure relating to water (Dibner and Lemer, 1992; CERF, 1993; Grant and Lemer, 1993).

### CURRENT STATUS OF INFRASTRUCTURAL DEVELOPMENT IN NIGERIA

Generally, Nigeria's huge gap in infrastructure has over the years diminished economic growth and competitive. At present, the value of Nigeria's infrastructure was about 35% of GDP which is so insignificant when compared with 70% recorded for advanced nations. Infrastructural Concession Regulatory Commission (ICRC) reported that US\$100 billion would be required to provide quality infrastructure in Nigeria over the next 6 years (CBN, 2011; Olufemi et.al, 2013). Out of the \$100 billion, about 60% goes for oil and gas sector which is the major foreign exchange earner, 20% goes to the power sector, 14% for roads and the balance for rail and tracks.

African Finance Corporation (AFC) report of 2017 showed US \$3trillion would be needed for infrastructural development in the next 30 years. Extracts from the Nigerian Economic Recovery and Growth Plan 2017-2020 showed that Federal Government medium term fiscal framework forecasts deficit of N7.6 trillion from 2017 to 2019, an evidence of the limited government resources. This amount far exceeds the Federal and State government fiscal inflows, hence the need for concession and more public-private partnership (NPC, 2015; ICRC, 2017).

According to the National Planning Commission report of 2015, there is infrastructure deficit in the area of transportation. Nigeria's aspiration to become one of the largest economies in the world by 2020 is unrealistic in view of the current level of infrastructural development. There is therefore a need for increased maintenance and capacity expansion (CBN, 2011; NPC, 2015).

These include roads, railways and sea ports apart from urban transportation. Adequate transport infrastructure in good condition is critical to any nation's success. It has great impact on all other sectors of the economy (CERF, 1993; Fletcher et.al, 2013). Various forms of available transport needs to be linked so as to strengthen the intermodal transport of goods and passengers to improve the safety, convenience, travel time and cost of Nigerian transportation and reduced particulate emissions.

About 68% of Nigerian roads are in deplorable state. Only about 18% of Nigerian federal roads are paved despite the fact that road infrastructure accounts for about 90% of all freight and passenger movements in Nigeria (NPC, 2015).

Any improvement in road infrastructure would have a positive impact on our Gross Domestic Product (ICTSD, 2015). Currently, Nigeria has a road network of about 200,000 km with Federal roads accounting for 18%, State roads 15% and Local government unpaved roads 67%. As at 2012, 40% of federal road network is in poor condition, hence the need for good maintenance culture. (Olufemi, et. al., 2013).

Power infrastructure constraint is another area where Nigeria is lacking behind despite her huge population. Over 75% of businesses operating in Nigeria, with about 10,000 MW power generation capacity, between 2,500-3500MW is available for consumption.

This is grossly inadequate when compared with South Africa which generates 50,000MW for a population of 50 million (CBN, 2011; ICRC, 2017).

Other areas of inadequacy include housing infrastructure, airports, seaports, water and sanitation apart from low internet coverage, hence the need for more aggressive Public-Private Participation in Nigeria.

### SPECIFIC INFRASTRUCTURAL NEEDS IN FISHERIES SECTOR OF NIGERIAN ECONOMY

Various authors have attested to the fact that there is dearth of infrastructural facilities in the coastal waters of Nigeria where artisanal fisheries is mainly practiced (Omitoyin and Fregene, 2008; Bolarinwa, 2016).

The areas that need government and private sector participation with respect to the Fishing industry include power supply, municipal water, post-harvest gadgets, storage facilities, roads, jetties/seaports, marketing facilities, housing, silos, outboard engines, water analytical kits, oxygenation pumps, ultra-filtration systems, paddled aerators, incubators, boats/trawlers, fishing nets, fuels etc. Social/soft infrastructures are Hospitals, Insurance, Law enforcement, Educational and Financial Institutions.

The creeks are generally difficult terrain, thus making it inaccessible for extension workers and fisher folks to operate because of inadequate road infrastructure. This accounted for the high post-harvest losses (fish being a highly perishable item).

The inadequacy of power infrastructure, water and sanitation system and post- technological infrastructure such as cold room, smoking kilns in the coastal communities further compound the heavy spoilage, thus making fresh fish unaffordable to an average Nigerian.

Restricted access to credit is a common challenge in Fisheries especially to artisanal fisheries, hence the need for preferential allocation of loan able funds by Infrastructure Bank Plc, Abuja sector. Allocations within the agricultural budget have been done with bias (Bolarinwa, 2014). Fisheries sector is being treated as an 'underdog', that deserves only the crumbs the way this sector has been treated and the apathy towards its infrastructural financing by the relevant financial institutions among other management reasons have been responsible for the insignificant contribution of fisheries to Gross National Income in the past.

### CONCLUSION AND RECOMMENDATIONS

It is obvious that there is under-investment in infrastructural development in Nigeria, virtually all sectors of Nigerian economy; power, roads, railways, seaports, sanitation/sewage plants, food supply, housing, cable network/internet penetration, safety, public space, financial infrastructure. The fiscal inflows were inadequate to match the pace of investments required in infrastructure, hence the need to strengthen the Infrastructure Bank Plc, a specialized development finance institution which provides financial solutions to support key long-term projects. It should focus on infrastructural development especially under a Public-Private partnership.

More Public-Private Partnership (PPP) in infrastructural development should be encouraged. More private sector capital in form of infrastructural bonds is needed to give infrastructure a facelift i.e. contract sanctity. The government must build a track record of PPP performance to attract large funds.

Example of the Qua Iboe Power Project (collaboration between Akwa Ibom government, Dangote Plc and a multinational company) should be encouraged. The recent Zion Ltd deployment of optic-fibre for seamless communication to increase broadband width in collaboration with some multinational width is another initiative that needs to be encouraged. Opaqueness in public procurement is a challenge to infrastructural development in Nigeria, hence the need for a more transparent public procurement policy that promotes accountability.

There should be a clear legal and regulatory framework in public procurement apart from improved and efficient competitive bidding procedure. Consistent policies on infrastructural development should be made and fully implemented. Strengthened management of fiscal obligations and supportive regulatory environment are crucial issues that need to be addressed. More funds should be allocated to academic institutions for research and development of infrastructural facilities. The Triple Helix model that ensures better interaction / handshake among the stakeholders (Government / Academia/ Industry) should be used. Products developed by the research institutes should satisfy the industrial needs. The philosophy of developmentalism that ensures our infrastructures are adapted to our social

needs and environment must be adopted like the Asian tigers. By and large, the Nigerian fisheries sector could be a major contributor to the much-needed foreign exchange in view of the vast and diverse ichthyofauna resources of our territorial waters if all the required hard and soft infrastructural facilities are provided.

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