The Role of Sustainable Finance in the Achievement of Sustainable Development Goals in Nigeria: A Focus on Chinese Foreign Direct Investment

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Abstract: Due to globalization, the great diversity that prevails requires more innovative concepts of businesses, Foreign Direct Investments (FDI), and ventures that consider economic and environmental aspects of sustainable development that facilitate the growth of communities, towns, cities, and countries at large. As such, for a country like Nigeria to attain sustainability and significantly achieve the 17nr. Sustainable development goals (SDGs): Complete diversification of the economy is needed through adequate infrastructure, planned and executed without harming the environment. In China, African countries like Nigeria found a partner whose FDI is directed towards infrastructural projects that is adequately financed between China (Financier) and Nigeria (Host). These affirm that Nigeria needs Chinese financing for its projects to achieve its SDGs while China needs resources from Nigeria for its manufacturing. However, despite these mutualisms, sustainable funding agreements for developments, it is impacted by factors that hinder or promote such arrangements. Hence, this study examined the role of Chinese FDI in infrastructures across various sectors that enable achieving SDGs in Nigeria. Desk research concept was adopted as the sole research method by reviewing secondary sources of data from existing and publicly available data, which enable identification of projects by sectors that Chinese finances are playing a development role in Nigeria. The results show that Chinese FDI in development projects in countries like Nigeria enable Chinese companies to function properly on one hand, while Nigeria benefits from projects that drive growth and sustainable development that rhymes with its SDGs.
1. Introduction
Sustainable development is a holistic approach in the three areas: economic, social, and environmental aspects of developments [1]. As humanity faces numerous sustainability challenges [2], the planet is being affected by climate change, change in land use, depletion of natural resources, and a biological loss [3]. Poverty, famine, and lack of health care illustrates that many people live under fundamental social expectations. Sustainable development means having resources like food, water, and health care without over stressing the earth's natural processes. Then our society will change socially. The United Nations (UN) has created the 2030 Sustainable Development Agenda to direct the transition into a sustainable, inclusive economy [4]. The financial system's primary role is to allocate funds to the most productive use. Sustainable Finance explores the relationship between Finance (investment and lending) and fiscal, social and environmental problems. At their core, both Finance and sustainability look to the future, so there is scope for a new alignment [5].

Sustainable Finance (SF) helps provide sustainable growth and economic value creation. It means that, on a long-term basis, the economic and social functions and peoples' way of life is certain and improved, while cultural and social diversity is preserved. Sustainable development in the financial sector is a means to achieve sustainable objectives that must include Environmental, Social, and Governance (ESG) factors in the value evaluation and risk management process [6]–[8]. SF is likely to evolve and help investors seek high-value investment opportunities due to its concern for social responsibility by combining environmentalism and maximizing sustainable growth [9]. SF is an increasingly important component of investors/banks' risk management policies [10]. It also includes impact investments and socially responsible investments by integrating social and environmental considerations in financial decisions and performance [11]. Due to globalization, the great diversity that prevails requires more innovative concepts of businesses, Foreign Direct Investments (FDI), and ventures that consider economic and environmental aspects of sustainable development that facilitate the growth of communities, towns, cities, and countries at large [12], [13].

Nigeria (a west African Country) is at the forefront of planning to move to a sustainable future. However, its economy depends heavily on fossil fuels [14], [15], which makes Nigeria an almost mono economic country. As such, for Nigeria to attain sustainability and achieved the 17nr. Sustainable development goals (SDGs): Complete diversification of the economy is needed through adequate infrastructure, planned and executed without harming the environment [16]. However, infrastructural development needs sufficient and sustainable funding to sustain development through infrastructure projects that will drive balanced growth of the built environment in tandem with the social, environmental, and economic aspects of the physical and built environment. In China, African countries like Nigeria found a partner whose FDI is directed towards infrastructural projects through adequate financing between China (Financier) and Nigeria (Host) for sustainable development [13].

This study focuses on the critical sustainability challenges, finances, and investments related to Nigeria's economic growth as an emerging economy. Nigerian leadership has yet to make significant progress in environmental sustainability. Over the last few decades, China has had a remarkable rise in its economy. The average growth rate for China in the previous 15 years is 10.1% per year [17]. China now has the second-largest economy globally. Large foreign direct investment and increasing trade have facilitated the country's integration into the global economy [18]. China's rapid economic development, industrialization places high pressures on China's natural resources, which places a burden on health and the environment [19]. Chinese authorities have recognized the harm of environmental deterioration and promote a more balanced economy, including greater science use. Their plans emphasized national economic and social development and environmental management. Environmental legislation strengthened environmental institutions, improving conservation and protection of natural resources. These affirm that Nigeria needs Chinese financing for its projects to achieve its SDGs while China needs resources from Nigeria for its manufacturing. However, despite these mutualisms, sustainable funding for developments is impacted by factors that hinder or promote such arrangements. Hence, this study aims to examine the role of Chinese financial investments in achieving Sustainable Development Goals in Nigeria.
2. Sustainable Development Goals (SDGs) in Nigeria

2.1 Level of Achievement of SDGs in Nigeria

Sustainable Development Goals focus primarily on poverty, an inclusive economy, health and wellbeing, education, gender equality, and partnerships (SDG-2 and 16). (SDG-17). It is based on Nigeria's current situation and President Muhammadu Buhari's administration's priorities. In response to the current pandemic's enormous challenges, Nigeria's public health systems are being tested, and oil prices are collapsing. Oil and gas still account for more than 86% of the vast majority of revenues in the economy. The 2017 Voluntary National Review (VNR) outlines the governmental institutions needed to create an enabling policy environment to implement the SDGs through the Economic Recovery and Growth Plan (ERGP) (2017-2020). The ERGP is designed to help countries with poor economic, social, and environmental conditions[20].

While Nigeria's life expectancy is lower than the global average, the under-five mortality rate has improved significantly. The recent global pandemic causes public health concerns[21]. To protect the public, hygiene and clean water are essential. Nigeria's access to drinking water stands at about 64%. Support and funding must be increased for everyone to have access to resources. Workforce and education challenges have to do with kids without jobs or a high school education and kids who are getting jobs without high school degrees (SDG-17). There are significant regional disparities in 200 million people. 66% of Southwestern children can read complete or partial sentences, while only 18% of North-eastern children can.

Despite less than 1.6% of GDP being spent on education, the country needs more resources to provide quality education[20]. Nigeria has one of the major informal economies among the continent's countries. Youth have an unemployment rate of about 55.4 percent or over 24.5 million[22], [23]. Helping youths get the education and training they need to transition to a digital economy will help reduce poverty SDG-1 and diversify the economy[24], [25]. Good strides have been made in Nigeria's SDGs' domestication process. Nigeria can accelerate its transition to e-government to improve its social protection for the poor and vulnerable population. The country's 2020 VNR report has drawn on past evaluations across the Seven priority SDGs and has an ongoing assessment of its performance in SDG 3&4[26].

2.2 China's Involvement in Nigeria's Sustainable Development Through Sustainable Project Finance

China has now emerged as Nigeria's leading trade, development, and investment partner[27]. In recent years, Chinese investment has increased significantly, making it account for 10% of outward world FDI in 2008, up from 7% in 2007. Since 2003 China has become an international investment hub, and its companies have exported many investments. Nigeria receives a large amount of foreign investment in Africa. Over the last decade, foreign direct investment inflows to Nigeria have been steadily growing from $1.14 billion in 2001 to $11.5 billion in 2009[28]. China became one of the essential foundations of FDI to $10 billion in 2003. China's government used $1.1 billion in Nigeria's infrastructure as low-interest loans [29]. The Nigerian hosting economy expects Chinese inward FDI to include capital, efficient technology, and knowledge to help create new competitive advantages for domestic industries and, eventually, sustainable development [30]. FDI is an essential instrument for sustainable economic growth and reducing poverty in developing countries. Foreign direct investment is one of the instruments for foreign capital inflows, and it is used to boost manufacturing and trade [31]. OFDI was attracted to a poor institutional environment and a large endowment of natural resources [32].

The global tool for measuring Environmental Sustainability ranks China among the highest on the global ecological footprints. Therefore, China presents a paradigmatic test case for environmental sustainability studies[33]. Chinese activities in Nigeria have increased social, economic, and technical associations. China has established more than 30 joint venture or entirely owned. Chinese FDI private investors are in the oil industry, then the solid minerals in Nigeria. A small fraction of the investors are in the manufacturing industry. State-owned companies dominate Chinese FDI in Nigeria[28], [34].
The Chinese green energy policy to sustain the environment influences investment ethics of sustaining the environment through financial sustainability. Table 1 below shows major Chinese organizations in Nigeria and their investments across various sectors.

**Table 1. Chinese Companies and their Investments in various sectors in Nigeria**

| Organizations | Industry / Workers | Area of Investment |
|---------------|--------------------|--------------------|
| CNPC          | Oil and gas       | About 1.6 million  |
| SINOPEC       | Oil and gas       | Over 373,375       |
| ZTE           | Telecom           | Over 19,756        |
| SEPCO         | Electric and Power Construction | Over 85,232 |
| HUAWEI        | Telecom           | About 51,000       |
| CCECC         | Construction      | Over 70,000        |
| CNOON         | Offshore oil and gas | Over 21,000     |
| CSCEC         | Construction and real estate | About 121,500 |

Source: Author's 2021 based on modification of [35]

3. Methodology

This study used the desk research concept as the sole research using and reviewing secondary sources of data from existing and publicly available data. Data was sourced from various recognized databases such as the United Nations (UN), United Nations Environment Programme (UNEP), China statistical bureau, Central Bank of Nigeria (CBN), National Bureau of Statistics Nigeria (NBS). The secondary data was also sourced from archival materials, published books or scholarly works, the internet, international organization official documents, journals, press releases, newspapers. These enable identifying projects by sectors that Chinese finances are playing a development role in Nigeria.

4. Analyses, Discussions and Limitations

Table 2 below shows how the Chinese Companies and their Investments in various sectors in Nigeria that enable the country to achieve its SDGs due to the impact of such projects financed by the Chinese companies/investors.

**Table 2. Leading Chinese organization in Nigeria and their Impact of SDGs**

| Organizations / Industry / Workers | Impact on SDG |
|-----------------------------------|---------------|
| CNPC in the Oil and gas sector with over 1 million employees | SDG no. 1; 7; 8, 9, 11, 12, 13, 14, 15 |
| SINOPEC in Oil and gas sector with about 373,375 employees | SDGs no. 1, 7, 8, 9, 11, 12, 13, 14, 15 |
| ZTE in Telecom and ICT sector with above 85,232 employees | SDGs no. 1, 8, 9, 11, 12 |
| SEPCO in Electric and Hydro-power construction sector with over 19,756 employees | SDGs no. 1, 7, 8, 9, 11, 12, 13, 17 |
| Huawei in Telecom and ICT sector with over 51,000 employees | SDGs no. 1, 8, 9, 11, 12 |
| CCECC in Construction of road, bridges, railways, and airports with over 70,000 employees | SDGs no. 1, 3, 9, 11, 12, 13, 15 |
| CNOON in Offshore oil and gas sector with over 21,000 employees | SDGs no. 1, 7, 8, 9, 11, 13, 14, 15 |
| CSCEC in Construction and real estate sector with about 121,500 employees | SDGs no. 1, 3, 9, 11, 12, 13, 15 |

Source: Author 2021. *All employments are direct and indirect employment.*

Table 2 above shows the various companies into Construction, Information and Communication Technology (ICT), oil and gas, and power sectors from the identified major Chinese investments in Nigeria. The cross-matrix analysis indicates that Chinese investments in the construction sector through financial commitments positively influence SDGs 1; 3; 5; 8; 9; 11; 12; 13; and 15. Construction generates employment irrespective of gender. It bridges gender equality and provides families with an income that removes poverty, hunger, inequality while promoting good health and wellbeing. By extension it enables to provide quality education to families. Families with sustainable
incomes from decent working conditions pay taxes to the government, promoting economic growth. Furthermore, Chinese investments in the ICT sector through financial commitments positively influence SDGs 1, 2, 3, 8, 9, 11, and 12, respectively. The ICT sector creates employment irrespective of gender. It also bridges gender equality and provides families with incomes that help remove poverty, taking many people above the global poverty line, giving Sustainable Cities and Communities; Industry, Innovation, Infrastructure; Responsible Consumption, and Production.

There was a challenge in obtaining information on environmental statistics in Nigeria. This challenge is primarily due to inadequate support for data collection by professionals in related fields due to a lack of understanding of environmental statistics in national development. Furthermore, Nigeria's relevant financial institutions do not have useful information on economic sustainability and how the various Chinese FDIs pursue sustainable development policies through sustainable Finance in Nigeria. Suitable materials and equipment for data collection, processing, storage, and dissemination lack the Ministry of the environment's relevant agencies. Therefore, bureaucratic bottlenecks are used to impede effective data acquisition. Research into sustainable environmental issues cuts across a wide variety of Government agencies and Non-Governmental Organizations (NGOs), including the Nigeria National Petroleum Company (NNPC), the Federal and State Ministries of Environment, Federal Office of Statistics, Federal Ministries of Mines and Power, Petroleum Resources, Solid Minerals, Works, Agriculture, and Rural Development, Water Resources, Health, and National Planning Commission, National Energy Statistics and Research Institutes, University linkage centers, and NGOs. Improved collaboration between academic scholars and relevant agencies and ministries will allow for more efficient access to information. Nigeria should enact a policy that would strengthen investors to choose investment in an environmental and social policy. Investors should invest in an asset related to sustainability, for example, investment in greenhouse gas and emission reduction, provision of clean drinking water. Nigeria should strengthen the evidence-based planning and accountability mechanisms at the State level for accelerating the SDG decade of action. The post-ERGP National Development Plan (2021-2030) will be pivotal in advancing Nigeria's SDGs' achievement.

5. Conclusion
Sustainable Finance can assist in strategic decisions on balancing various sustainable goals. Investors can influence management so that long-term Chinese investors can steer the country into sustainable business practices. Finance through Chinese FDIs also provides solid pricing models for valuing assets and projects. Thus, it can help deal with inherent uncertainty about environmental matters, such as reducing carbon emissions on climate change. Both Finance and Sustainability look to the future, so there is scope for a new alignment as they relate to one another. Researching the topic in Nigeria was difficult. There is a lack of support for environmental statistics, leading to national development problems. Nigeria’s sustainability ambitions requires enacting a socially and environmentally responsible business model that will attract more investors especially Chinese FDI that proves to have a significant performance on the overall infrastructural development in exchange for natural resources. Altogether, this made China invest and finance development projects in countries like Nigeria that enable Chinese companies to function properly on one hand, while Nigeria benefits from such projects that drives growth and sustainable development which rhymes with its SDGs.

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