

CHINA AND INFRASTRUCTURAL DEVELOPMENT IN NIGERIA, 1999-2023

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**A PROJECT SUBMITTED TO THE DEPARTMENT OF HISTORY AND
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CERTIFICATION

This is to certify that this research project was carried out **OSAGIAMIEGHEMWEN IBUDE** in the Department of History and International Studies, University of Benin, under my supervision.

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DEDICATION

I dedicate this project to Jehovah, the Almighty God who made it possible for the successful completion of this work. I also want to dedicate this work to the Ibude family. Their love, good upbringing, financial and moral support all through the stages of my life made the attainment of this feat a reality.

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**Osagiamieghemwen Ibude
2025**

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ABSTRACT

This study examines China and infrastructural development in Nigeria between 1999 and 2023, with particular attention to the evolution, nature, and impacts of Chinese involvement in key infrastructure sectors such as railways, roads, ports, and energy. It situates the analysis within the broader framework of Nigeria–China relations and the Belt and Road Initiative (BRI), which has significantly expanded China’s infrastructural footprint in Nigeria since 2013. The study adopts a qualitative, descriptive approach relying on secondary sources, including journal articles, policy reports, and official documents. Findings reveal that China has become a dominant external partner in Nigeria’s infrastructure financing and construction, particularly through loans from the China Exim Bank and China Development Bank. Major projects such as the Lagos–Ibadan railway, Abuja–Kaduna rail line, and several highway and port developments demonstrate China’s central role in addressing Nigeria’s longstanding infrastructure deficit. Evidence suggests that these projects have improved connectivity, reduced transportation costs, enhanced trade facilitation, and contributed to job creation and technology transfer. However, the study also identifies significant challenges, including rising external debt exposure, concerns about project sustainability, delayed project execution in some cases, and debates over sovereignty and dependency. Critics argue that while infrastructural gains are visible, Nigeria’s heavy reliance on Chinese loans raises long-term fiscal and policy risks. The study concludes that China’s infrastructural engagement in Nigeria between 1999 and 2023 has been both transformative and contentious: transformative in addressing critical infrastructure gaps, yet contentious due to financial and governance implications. It recommends stronger contractual transparency, improved domestic capacity, and diversified funding sources to ensure sustainable infrastructural development in Nigeria.

CHAPTER ONE

BACKGROUND OF THE STUDY

Introduction

The growing footprint of China in Africa has become a significant subject of academic and policy discourse over the past two decades, particularly in the realm of infrastructure development. Among the countries that have witnessed notable Chinese involvement is Nigeria, Africa's most populous nation and one of its largest economies. The period between 1999 and 2023 offers a compelling timeframe to examine this relationship, as it captures Nigeria's transition from prolonged military rule to democratic governance, and the subsequent economic reforms that opened up opportunities for foreign investment, including strategic partnerships with China.

“China's interest in Nigeria is deeply rooted in both economic and geopolitical considerations. Nigeria, rich in natural resources—particularly crude oil and solid minerals—serves as a vital partner in China's pursuit of energy security and raw materials for its expanding industrial base. In return, China has positioned itself as a key player in addressing Nigeria's daunting infrastructural deficit, which has long been a barrier to sustained economic growth and social development. From roads and railways to airports and power plants, Chinese firms have been at the forefront of major infrastructural projects across the country.”¹

The foundation of this partnership was laid in the early 2000s, shortly after Nigeria returned to democratic rule in 1999. President Olusegun Obasanjo’s administration (1999–2007) initiated reforms that encouraged foreign investment and diplomatic diversification, leading to stronger bilateral ties with China. This relationship was further consolidated through several high-level visits and economic cooperation agreements, including the Framework Agreement on Strategic Partnership signed in 2005. Subsequently, successive Nigerian governments under Presidents Umaru Musa Yar’Adua, Goodluck Jonathan, and Muhammadu Buhari built upon this framework, often turning to China for concessional loans, technical expertise, and turnkey infrastructure projects.

“A central feature of Sino-Nigerian infrastructural cooperation has been the involvement of Chinese state-owned enterprises (SOEs), such as the China Civil Engineering Construction Corporation (CCECC) and China Harbour Engineering Company (CHEC). These companies have been responsible for signature projects like the Abuja-Kaduna railway line, Lagos-Ibadan standard gauge railway, and the expansion of several airports.”² Funding for many of these projects has come through loans from the Export-Import Bank of China (Exim Bank), often tied to contracts awarded to Chinese firms. While this model has accelerated infrastructure delivery, it has also sparked debates over debt sustainability, transparency, and the implications for Nigeria’s sovereignty.

Furthermore, “the period from 1999 to 2023 has witnessed the broader evolution of China’s Belt and Road Initiative (BRI), which Nigeria officially joined in 2018. The BRI

has served as a catalyst for deepening infrastructural ties, aligning with Nigeria’s National Development Plans and aspirations for economic diversification.”³ However, this partnership is not without challenges. Critics argue that Chinese infrastructure projects often lack adequate local content, environmental safeguards, and community engagement. There are also concerns about the quality and longevity of some projects, as well as the broader strategic motivations behind China’s involvement in Nigeria and Africa at large.

In essence, the study of “China and Infrastructural Development in Nigeria: 1999–2023” provides a rich context to explore the dynamics of South-South cooperation, the changing landscape of global development finance, and the intersection of national interests in a multipolar world. It also presents an opportunity to assess how such international engagements can be leveraged to promote sustainable development in Nigeria while safeguarding national interests and enhancing institutional capacity.

Aim and Objectives of the Study

The aim of this study is to examine the impact of China in terms of infrastructural development in Nigeria between 1999 and 2023. While the specific objectives of the study include:

1. To analyze the historical context and evolution of Nigeria-China bilateral relations
2. To identify and evaluate major infrastructure projects in Nigeria financed, constructed, or managed by Chinese entities

3. To assess the socio-economic impact of Chinese-led infrastructure projects on Nigeria's development
4. To examine the financing models and terms of engagement associated with Chinese infrastructure investment in Nigeria
5. To explore the challenges and criticisms associated with Chinese involvement in Nigeria's infrastructure sector

Scope of the Study

The scope of this study encompasses a comprehensive analysis of China's role in the infrastructural development of Nigeria within the period 1999 to 2023. This timeframe is significant as it marks the return of democratic governance in Nigeria, which also coincided with a noticeable intensification of diplomatic and economic engagements between Nigeria and China. The study is primarily concerned with examining the nature, extent, and impact of Chinese involvement in Nigeria's infrastructure, highlighting key projects, financing mechanisms, bilateral agreements, and the geopolitical implications of such engagements.

Geographically, the study focuses on various regions across Nigeria where Chinese-financed or constructed infrastructural projects have been most prominent. These include but are not limited to transportation networks (such as railways, roads, and airports), power generation and distribution facilities, telecommunications infrastructure, and public buildings. Projects like the Abuja-Kaduna Railway, the Lagos-Ibadan Railway, and the

Zungeru Hydroelectric Power Project will be central to the analysis, as they exemplify the scale and ambition of China's infrastructural footprint in the country.

Methodology

This study on China and Infrastructural Development in Nigeria: 1999 - 2023 employs a historical research methodology, utilizing both primary and secondary sources to examine the various infrastructural impacts on Nigeria due to the bi-lateral relationship between Nigeria and China between 1999 and 2023. To do justice to this work, the methodology of this project work will be based on both primary and secondary sources:

Primary Source

This research will adopt the primary sources which include interviews and opinion sampling. Interviews will be conducted with experienced individuals.

Secondary Sources

The secondary sources will include online publications, textbooks, journals as well as other relevant sources. Information obtained from these sources will help to guide and supplement the materials obtained from primary sources. These sources will help to provide materials for accurate historical analysis of the study.

Literature Review

The book *The Political Economy of Nigeria–China Bilateral Relations*⁴ by A. C. Nwokolobia provides a critical examination of the evolving relationship between Nigeria and China, focusing on the economic, political, and strategic dimensions of their partnership. Employing a political economy framework, the study delves into the historical context, trade dynamics, investment flows, and the broader implications of China's engagement in Nigeria. Nigeria and China established formal diplomatic ties in 1971, grounded in principles of mutual respect and non-interference. However, it was in the early 2000s that their relationship intensified, aligning with China's "Go Global" strategy, which encouraged Chinese enterprises to invest abroad. This period saw the formation of the China-Nigeria Strategic Partnership in 2006, emphasizing political communication, cultural interaction, and economic collaboration. The bilateral trade between Nigeria and China has grown significantly, with China becoming Nigeria's largest trading partner. Nigeria primarily exports crude oil, natural gas, and agricultural products to China, while importing machinery, electronics, and consumer goods. This trade pattern has resulted in a persistent trade imbalance favoring China, raising concerns about Nigeria's economic sovereignty and the impact on local industries. Chinese investment has played a pivotal role in Nigeria's infrastructural development. Notable projects include the Abuja-Kaduna and Lagos-Ibadan railway lines, constructed by Chinese enterprises and financed by Chinese financial institutions such as the Export-Import Bank of China. These projects have enhanced connectivity and facilitated trade within Nigeria. Despite the benefits, the

relationship has not been without challenges. The influx of cheaper Chinese goods has adversely affected Nigeria's local industries, leading to job losses and stunted growth in the domestic manufacturing sector. Furthermore, the book exposes that Nigeria's rising debt to China, which stands at over \$3 billion, raises concerns about debt sustainability and economic stability. To ensure a mutually beneficial relationship, the study recommends that Nigeria diversify its export base beyond oil and gas by investing in sectors like agriculture, technology, and services.

In her 2019 scholarly article, *Nigeria-China Trade Relations and the Development of the Nigerian Economy, 2007–2015*⁵, F. O. Ifedi delves into the complexities of the bilateral trade dynamics between Nigeria and China during a pivotal period of economic transformation. Employing the theory of economic liberalization, Ifedi examines how trade liberalization policies influenced Nigeria's economic trajectory and its engagement with China. Ifedi's analysis is grounded in the theory of economic liberalization, which posits that reducing trade barriers and encouraging open markets can stimulate economic growth. She utilizes secondary data sources and descriptive analysis techniques to explore the nature and impact of Nigeria-China trade relations within the specified timeframe. The article therefore highlights a significant increase in trade volume between Nigeria and China, particularly from 2010 to 2015. This surge is attributed to China's growing demand for Nigeria's crude oil and other natural resources, as well as Nigeria's importation of Chinese manufactured goods. Beyond trade, the period witnessed a notable rise in Chinese FDI in Nigeria.

The book *Understanding the New Dynamics of China–Nigeria Bilateral Economic and Security Relations*⁶ is authored by I. G. Araraume and C. Enwere, researchers from the Department of Political Science and International Relations at Nile University of Nigeria, Abuja. Published in July 2024. This scholarly work delves into the evolving economic and security partnership between China and Nigeria from 2013 to 2022. The authors maintained that in the contemporary global landscape, the bilateral relationship between China and Nigeria has undergone significant transformation, marked by deepening economic ties and collaborative security efforts. The book offers a comprehensive analysis of this evolving partnership, highlighting the multifaceted dimensions that define the interactions between these two nations. The authors underscore the substantial growth in trade and investment between China and Nigeria during the period under review. Chinese enterprises have increasingly established a presence in Nigeria, channelling investments into critical sectors such as infrastructure, energy, and manufacturing. Notable projects include the construction of railways, roads, and energy facilities, which have not only bolstered Nigeria's infrastructural landscape but also facilitated job creation and technology transfer.

These developments signify China's role as a pivotal partner in Nigeria's quest for economic diversification and industrialization. Beyond economic ventures, the book delves into the security dimension of China-Nigeria relations. The authors detail collaborative efforts in combating terrorism and participating in peacekeeping missions, reflecting a mutual commitment to regional stability. In sum, Araraume and Enwere's analysis provides valuable insights into the implications of China-Nigeria relations for both domestic policy

and broader geopolitical dynamics. The partnership serves as a model for South-South cooperation, demonstrating how emerging economies can engage in mutually beneficial collaborations. However, the authors also caution against potential challenges, such as dependency risks and the need for equitable agreements that safeguard Nigeria's national interests.

The article titled *Nigeria-China Bilateral Relations: Trade, Investment and Political Influence*⁷ authored by M. G. Idrees, A. A. Bashir, A. M. Zurkallaini, S. D. Abubakar, and M. R. Fauziyya. The article delves into the historical evolution, economic engagements, and political collaborations that define the bilateral relations between China and Nigeria. Initially characterized by cautious engagement, Nigeria-China relations have transformed into a robust partnership over the decades. The authors trace this progression, highlighting key milestones that have solidified the alliance. The establishment of diplomatic relations in 1971 marked the beginning of a journey that has seen both countries navigate the complexities of international politics and economics to foster mutual cooperation. Trade has been a cornerstone of Nigeria-China relations. The article notes a significant increase in bilateral trade volumes, with China emerging as one of Nigeria's top trading partners. However, the trade relationship is marked by a notable imbalance, favoring China. Nigeria primarily exports raw materials such as crude oil and agricultural products, while importing manufactured goods from China. This dynamic raises concerns about Nigeria's over-reliance on Chinese imports and the potential stifling of local industries.

In the book *China and Africa: Economic Growth and Structural Transformation* by A. Oqubay and J. Y. Lin (eds.)⁸, the book discussed China's engagement with Africa, with specific case studies, including Nigeria. The book explores how China's infrastructural investments have supported structural transformation through roads, railways, energy projects, and industrial parks. In the Nigerian context, the authors highlight landmark projects such as the Abuja-Kaduna Railway, Lagos-Ibadan Railway, and several power generation contracts. The book emphasizes how China's non-conditional financing mechanisms helped Nigeria fill critical infrastructure gaps during a period when Western aid was limited or tied to reform conditions. However, the book also notes challenges such as debt sustainability, lack of local content, and environmental concerns. In summary, the book provides a balanced account, applauding the scope and impact of Chinese engagement while urging more transparency and better governance in project execution.

D. Brautigam's book titled, *The Dragon's Gift: The Real Story of China in Africa*⁹ remains a foundational text for understanding China's role in African development, especially in infrastructure. In this book, Nigeria is discussed as a key case in examining the model of resource-for-infrastructure deals and concessional loans. Brautigam challenges the dominant Western narrative that China is engaged in a neo-colonial quest in Africa. Instead, she argues that Chinese investments are demand-driven and often aligned with African development plans. In Nigeria, she underscores the benefits of projects such as airport expansions, telecommunications, and hydroelectric dams, which were realized through pragmatic government-to-government partnerships. Nevertheless, the book does

not ignore the political and economic risks, including corruption, cost overruns, and dependency. The review recognizes Brautigam's deep field research and clarity in dismantling stereotypes, making this a vital resource for students and scholars studying China-Nigeria relations.

In *China in Nigeria: A Study of Chinese Investment in Nigeria's Infrastructure*¹⁰ by I. C. Okoye, the book offers an in-depth look at the patterns, sectors, and impacts of Chinese infrastructural projects in the country from 1999 to 2023. The author draws on interviews, government documents, and media reports to chart the trajectory of Chinese involvement. Okoye analyzes critical sectors such as transport, energy, and construction, pointing out that Chinese firms, particularly through the Belt and Road Initiative (BRI), have become dominant players in Nigeria's infrastructural landscape. Projects like the Zungeru Hydropower Dam and Lekki Deep Sea Port are explored in detail. The book is particularly strong in assessing the socio-economic outcomes of these projects, including employment generation, skills transfer, and urban transformation. However, it also cautions that opaque contracting processes and concerns over loan repayment must be addressed. This review finds Okoye's book a comprehensive and Nigeria-centered analysis of a complex bilateral relationship.

In the book titled, *China-Africa Economic Relations: The Case of Nigeria*¹¹ by C. Alden, the book provides an early but insightful exploration of China's growing economic footprint in Africa, using Nigeria as a focal point. He argues that China's engagement is

driven by a mix of resource diplomacy and strategic partnerships. The author critically evaluates infrastructure-for-resources deals, particularly highlighting Chinese investments in Nigeria's railway and energy sectors. Alden raises concerns about transparency, labor practices, and the sustainability of debt financing. His work remains foundational for understanding the motivations behind China's infrastructural commitments in Nigeria.

*China's Belt and Road Initiative in a Global Context*¹² by D. Dollar, was also reviewed. This book situates China's Belt and Road Initiative (BRI) within global geopolitics and examines Nigeria as a strategic partner in West Africa. The authors explain how Nigeria's infrastructural needs align with BRI objectives. Specific projects like the Abuja-Kaduna railway and Lekki Deep Sea Port are examined as case studies. The book critiques the BRI's lack of environmental and social safeguards, yet acknowledges its transformative potential for connectivity and trade in Nigeria. It also discusses the long-term economic dependencies that such partnerships may foster.

M. Akpan and J. Y. Lin's book titled, *Infrastructure Development in Africa: The Role of China*¹³ presents diverse perspectives on the impact of China-led infrastructure development in Africa, with Nigeria receiving a dedicated chapter. The authors discuss the dualities of opportunity and risk—improved transport systems and power supply versus debt exposure and governance concerns. The book argues that while Chinese projects have accelerated infrastructure delivery in Nigeria, they also expose structural weaknesses in policy coordination and accountability. Importantly, it calls for a more nuanced

understanding of China-Nigeria relations beyond simplistic debt-trap narratives. Together, these works paint a complex but informative picture of China's infrastructural influence in Nigeria. While opportunities abound in the form of roads, railways, and power projects, challenges related to governance, debt, and strategic autonomy remain. The books reviewed underscore the importance of local agency in negotiating better terms and ensuring sustainable development.

Chapterization

Chapter One: Background to the Study

This chapter focuses on the background of the study as well as the entire work.

Chapter Two: History of Infrastructural Development in Nigeria

This chapter focuses on the history of infrastructural development in Nigeria, shedding light on the projects over the years.

Chapter Three: China and Infrastructure Development in Post-Colonial Nigeria

This chapter focuses on the China and infrastructure development in Post-colonial Nigeria after the independence in 1960.

Chapter Four: Funding and Challenges of China-Nigeria Infrastructure Development Partnership

This chapter focuses on the challenges encountered during the China- Nigeria Infrastructure development.

Chapter Five: Conclusion

This chapter concludes the entire project work

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CHAPTER TWO

HISTORY OF INFRASTRUCTURAL DEVELOPMENT IN NIGERIA

Introduction

Infrastructural development plays a pivotal role in the economic growth, social advancement, and political stability of any nation. In the context of Nigeria, the history of infrastructural development reflects the complex interplay of colonial legacies, post-independence ambitions, economic policies, and international partnerships. Nigeria, Africa's most populous country and one of its largest economies, has undergone significant transformations in its physical and institutional infrastructure from the colonial period to the present day. These transformations have influenced various sectors such as transportation, power, water supply, telecommunications, education, and health.¹

The roots of Nigeria's infrastructural development can be traced back to the colonial era, when the British administration constructed roads, railways, and ports primarily to facilitate the extraction and export of raw materials. These early investments were often uneven and concentrated in regions of economic interest to the colonial powers. Following independence in 1960, successive Nigerian governments embarked on ambitious national development plans aimed at expanding infrastructure to promote industrialization and national integration. The oil boom of the 1970s provided a temporary boost in funding for large-scale infrastructural projects, but economic mismanagement, corruption, and political instability often undermined these efforts. In more recent years,

Nigeria's infrastructural landscape has been shaped by public-private partnerships, foreign investments—particularly from China—and multilateral development support.² Despite these efforts, the country continues to face significant challenges such as poor maintenance, inadequate funding, policy inconsistencies, and regional disparities. Nevertheless, the story of infrastructural development in Nigeria is one of both progress and persistent struggle, reflecting broader trends in governance, economic planning, and international engagement.

This project therefore, seeks to examine the historical trajectory of infrastructural development in Nigeria, analyzing the key phases, actors, and outcomes from the colonial era to the contemporary period. By understanding the past, this project aims to provide insights into the challenges and prospects of infrastructure as a foundation for sustainable national development. As we delve deeper into the historical evolution of infrastructural development in Nigeria, it is essential to understand that the process has not occurred in isolation. It has been influenced by various internal and external dynamics, including political transitions, economic fluctuations, global partnerships, and technological advancement. From the rudimentary railway networks of the early 20th century to the modern expressways, power plants, and digital connectivity projects of the 21st century, Nigeria's infrastructural journey mirrors its broader national development narrative. During the post-independence era, particularly in the 1960s and 1970s, there was a strong emphasis on building national unity and economic self-reliance through massive infrastructure expansion. Federal and regional governments initiated programs aimed at improving road networks, constructing bridges, expanding educational and healthcare facilities, and

enhancing energy supply.³ However, these efforts were often hampered by military interventions, economic downturns, and inconsistent policy frameworks.

The Structural Adjustment Program (SAP) introduced in the 1980s, while aiming to stabilize the economy, led to cuts in public sector spending that negatively affected infrastructure development and maintenance. Consequently, many public facilities deteriorated, and the private sector was not yet mature enough to fill the gap.⁴ In the late 1990s and early 2000s, democratic governance brought renewed efforts to revitalize infrastructure, marked by reforms, international collaborations, and the introduction of privatization and public-private partnerships (PPPs) in key sectors such as telecommunications and power.

In recent decades, Nigeria has increasingly turned to international partners, especially China, for funding and technical expertise in infrastructure development. Projects such as the Abuja-Kaduna railway, Lagos-Ibadan expressway, and various power generation plants reflect this trend. However, questions of debt sustainability, transparency, and the long-term impact of these partnerships remain subjects of national discourse. Thus, the history of infrastructural development in Nigeria is characterized by periods of progress and regression, driven by the vision or lack thereof of its leaders, the availability of resources, and the country's integration into the global economy. Understanding this history is vital not only for appreciating how far Nigeria has come but also for identifying lessons that can inform more effective and inclusive infrastructure planning in the future.

Types of Infrastructure

Infrastructure forms the backbone of any society, facilitating economic growth, social interaction, and the overall functioning of a nation. It encompasses the physical and organizational structures needed for the operation of a society or enterprise.”⁵ Broadly speaking, infrastructure can be categorized into various types depending on its function and role in development. In this project work, five major types of infrastructure will be discussed extensively: transportation infrastructure, energy infrastructure, water and sanitation infrastructure, communication infrastructure, and social infrastructure.

Transportation Infrastructure

Transportation infrastructure is one of the most critical elements in the development of any country. It refers to the framework that supports the movement of people and goods from one place to another. This includes roads, railways, airports, seaports, and bridges. Efficient transportation systems promote trade, reduce travel time, and enhance access to markets, education, and healthcare. In Nigeria, for example, road networks serve as the dominant mode of transportation, linking rural and urban areas. However, many of these roads are in poor condition due to inadequate maintenance and poor funding. Railways, though historically significant, are undergoing revitalization with the involvement of foreign partners like China. Airports and seaports also play key roles in international trade and connectivity. A strong transportation infrastructure leads to economic integration and national cohesion, serving as a catalyst for regional development.

In essence, transportation infrastructure forms the backbone of economic development and daily life in modern societies. It comprises the networks and facilities that enable the efficient movement of people and goods across regions and countries. At its core, transportation infrastructure includes roads, bridges, rail lines, airports, and seaports. These physical assets are essential not only for personal mobility but also for commerce, connecting rural areas with urban centers and facilitating international trade.⁶ It should be noted that Investments in transportation infrastructure often leads to a ripple effect of economic benefits by reducing travel times, lowering transportation costs, and fostering regional development. Moreover, the evolution of transportation infrastructure is closely linked to technological advancements and environmental considerations. Modern systems increasingly integrate sustainable practices, such as energy-efficient vehicles and resilient construction materials, to reduce their ecological footprint while meeting growing demand.⁷ From the above, it can be seen that transportation infrastructure is more than a network of routes; it is a dynamic framework that supports societal progress and enhances the overall quality of life.

Energy Infrastructure

Energy infrastructure is the foundation upon which modern economies are built. It includes power plants, transmission lines, fuel pipelines, and electricity distribution systems. This type of infrastructure provides the energy needed to operate industries, power homes, and fuel transportation systems. In many developing nations, especially in sub-

Saharan Africa, inadequate energy infrastructure is a major barrier to development. Nigeria, despite being rich in oil and gas, continues to face chronic power shortages due to aging power stations, vandalism, and poor management. The development of renewable energy sources such as solar, wind, and hydroelectric power is gaining momentum as a sustainable alternative. Investing in energy infrastructure not only enhances industrial productivity but also improves the quality of life for citizens by powering schools, hospitals, and households.

Energy infrastructure refers to the system of physical structures and facilities that are essential for the production, transmission, distribution, and storage of energy. It forms the backbone of a country's ability to power its industries, homes, transportation, and public services.⁸ This infrastructure includes power generation plants (such as hydroelectric dams, thermal stations, wind farms, and solar parks), electricity transmission lines, substations, fuel pipelines, storage tanks, and distribution networks. Together, these components ensure the steady and reliable flow of energy from sources to end users. It should be noted that the development and maintenance of energy infrastructure are crucial for national development and economic growth. Without efficient energy systems, industrial activities slow down, households suffer from power shortages, and essential services such as healthcare and education are disrupted. Furthermore, modern energy infrastructure plays a key role in transitioning to cleaner energy sources, thus addressing climate change and environmental sustainability. In essence, energy infrastructure is not just about electricity or fuel; it is the foundation that supports every sector of the economy. Investments in this sector are vital

for achieving energy security, improving quality of life, and fostering long-term development.⁹

Water and Sanitation Infrastructure

Water and sanitation infrastructure is essential for public health and environmental sustainability. It includes water supply systems, drainage networks, dams, sewage treatment plants, and sanitation facilities. This infrastructure ensures access to clean water and safe disposal of waste, which are vital for preventing diseases and promoting well-being.¹⁰ In many parts of Africa, including Nigeria, access to clean water and proper sanitation remains a significant challenge. Urban areas face issues such as water shortages and sewage overflow, while rural communities often rely on contaminated water sources. Improving water and sanitation infrastructure requires coordinated efforts between governments, international organizations, and private sectors. When properly developed and maintained, this infrastructure supports human dignity, reduces healthcare costs, and enhances agricultural productivity through irrigation systems. Water and Sanitation Infrastructure refers to the systems, facilities, and services that ensure the supply of clean water and the safe disposal of human waste, sewage, and wastewater. It is a critical component of public health and environmental sustainability, especially in both urban and rural settings.

Water infrastructure includes all the elements required to collect, treat, store, and distribute water. This involves dams, reservoirs, boreholes, pipelines, pumping stations,

and water treatment plants. These systems ensure that communities have access to safe, potable water for drinking, cooking, hygiene, and agriculture.¹¹ Sanitation infrastructure, on the other hand, deals with the collection, treatment, and disposal of sewage and other waste materials. This includes sewer systems, latrines, septic tanks, sewage treatment plants, and drainage systems.¹² The main aim is to prevent the spread of diseases caused by human waste and to maintain a clean and healthy environment. It should be noted that the importance of water and sanitation infrastructure cannot be overstated; It helps prevent waterborne diseases like cholera and typhoid, reduces child mortality, and improves overall quality of life. More so, it is essential for sustainable development, as clean water and proper sanitation are linked to education, gender equality, and economic productivity. Hence, water and sanitation infrastructure forms the foundation of healthy communities and is vital for national development. Investing in these systems ensures public health, environmental protection, and social well-being.

Communication Infrastructure

Communication infrastructure includes all systems and services that facilitate the exchange of information. These include telecommunication networks, internet services, radio and television broadcasting facilities, satellite systems, and postal services¹³ It should be noted that this type of infrastructure is increasingly important in the digital age, enabling instant communication and the transmission of data across vast distances. In Nigeria, the telecommunications industry has witnessed rapid growth, with mobile phone usage

expanding dramatically. The internet has revolutionized business, education, and governance, making digital infrastructure crucial for national development. However, disparities still exist between urban and rural areas in terms of connectivity and access to ICT services. A robust communication infrastructure enhances transparency, supports innovation, and connects people to global opportunities.

Communication Infrastructure also refers to the systems, technologies, and physical structures that enable the transmission and exchange of information across distances. It includes both hardware and software components that facilitate communication among individuals, organizations, and governments. At the core of communication infrastructure are networks such as telephone lines, fiber-optic cables, cellular towers, satellite systems, and internet connections that transmit voice, data, video, and other forms of communication. Key facilities also include broadcasting stations, data centers, routers, switches, and communication satellites. It also comprises software protocols and digital platforms that support services like email, messaging, video conferencing, and social media. This infrastructure is essential for modern societies, as it supports economic activities, education, healthcare, security, governance, and social interaction. A well-developed communication infrastructure promotes access to information, accelerates innovation, enhances productivity, and fosters national and international connectivity. In developing countries, improving communication infrastructure is crucial for bridging the digital divide and driving inclusive development.¹⁴

Social Infrastructure

Social infrastructure refers to the facilities and services that support the provision of social services such as education, healthcare, housing, and recreational activities. Examples include schools, hospitals, public housing, sports complexes, and community centers. This infrastructure is essential for fostering social equity, human development, and national identity.¹⁵ In Nigeria, the need for improved social infrastructure is pressing, especially in rural areas where access to quality education and healthcare is limited. Overcrowded classrooms, understaffed hospitals, and inadequate housing are common challenges. Investment in social infrastructure not only improves living standards but also promotes economic growth by developing a skilled and healthy workforce. It also plays a critical role in reducing poverty and promoting inclusive development.

Social infrastructure refers to the foundational services and facilities that support the quality of life and well-being of a population. Unlike physical or economic infrastructure such as roads, bridges, and power plants, social infrastructure is primarily concerned with the institutions and systems that enable communities to function effectively and equitably. These include educational institutions, healthcare facilities, social housing, recreational centers, and public safety institutions like police and fire services.” At its core, social infrastructure plays a vital role in human development. Schools and universities empower individuals with knowledge and skills, while hospitals and clinics provide essential healthcare services that ensure a healthy and productive society. Amenities such

as parks, libraries, and community centers foster social cohesion and inclusivity, creating environments where people can connect, learn, and thrive. Governments often invest in social infrastructure to reduce inequality, promote economic mobility, and improve social outcomes. For developing countries, strengthening social infrastructure is crucial to achieving sustainable development goals, as it lays the groundwork for a stable and prosperous society. In essence, social infrastructure is indispensable for building resilient communities. It not only enhances the quality of life but also contributes to the social and economic progress of a nation by ensuring access to essential services for all.

In all, infrastructure is a key driver of national development and societal well-being. The five types of infrastructure discussed—transportation, energy, water and sanitation, communication, and social infrastructure are interdependent and collectively contribute to the overall progress of a nation. For countries like Nigeria, addressing the gaps in these infrastructure sectors is essential for sustainable development. Strategic investment, good governance, and international cooperation are necessary to build resilient and inclusive infrastructure systems that meet the needs of the present and future generations.

Importance of Infrastructure in National Development

Infrastructure forms the bedrock of any nation's socio-economic and political advancement. It comprises the fundamental systems and services such as transportation, energy, water supply, sanitation, telecommunication, and housing that enable a society to function efficiently. The role of infrastructure in national development cannot be overstated,

as it directly affects the productivity, inclusivity, and sustainability of a country's growth. In essence, robust infrastructure is a critical enabler of development, influencing every sector from education and healthcare to agriculture and industry. Let us now consider some importance of infrastructure in national development.

Economic Growth and Industrialization

One of the most significant contributions of infrastructure to national development is its capacity to stimulate economic growth. Good roads, efficient rail systems, reliable energy supplies, and advanced telecommunications create the necessary environment for businesses to thrive. With reduced transportation costs and improved logistics, industries can distribute goods more efficiently and reach broader markets. Power infrastructure, for instance, fuels industrial activities, while telecommunications enable businesses to access global markets, improving competitiveness and innovation. As infrastructure expands, it attracts both domestic and foreign investments, thereby creating employment opportunities and enhancing economic productivity.

Social Development and Quality of Life

Infrastructure is also indispensable to social development. Access to clean water, electricity, education, and healthcare services depends heavily on the existence of efficient infrastructural systems. For example, “good road networks allow rural populations to access hospitals and schools in urban centers, thereby reducing mortality rates and improving literacy levels. Water and sanitation infrastructure help prevent the spread of

diseases, while housing infrastructure provides shelter and promotes social stability. Furthermore, telecommunications enable access to information and connect citizens to educational and social opportunities, reducing inequality and enhancing national unity.¹⁸

Regional Integration and National Unity

Infrastructure facilitates regional integration and promotes a sense of national identity. Through transportation networks such as highways, railways, and air routes, remote and marginalized communities are linked to major urban centers, encouraging internal trade, communication, and cultural exchange. This connectivity reduces regional disparities and fosters a sense of inclusion and belonging among all citizens. When every region is connected and developed through infrastructure, it becomes easier to implement national policies, promote equity, and maintain political stability.

Agricultural Transformation and Food Security

In developing nations where agriculture remains a primary economic activity, infrastructure is key to transforming the agricultural sector. Rural roads, irrigation systems, storage facilities, and energy supply are essential for increasing agricultural productivity. Improved rural infrastructure allows farmers to transport their produce to markets more efficiently, reduces post-harvest losses, and gives them better access to farming inputs and extension services. This contributes to food security, poverty reduction, and overall rural development.¹⁹

Environmental Sustainability and Climate Resilience

Modern infrastructure development increasingly incorporates sustainability and resilience against climate change. For instance, green energy infrastructure such as solar, wind, and hydroelectric power reduces dependence on fossil fuels and contributes to cleaner environments.²⁰ Similarly, sustainable urban planning and efficient waste management infrastructure mitigate the environmental impact of rapid urbanization. Resilient infrastructure is also vital in disaster-prone areas, where proper drainage, flood defenses, and emergency response systems can save lives and prevent economic losses.

Governance and Institutional Efficiency

Infrastructure also plays a vital role in strengthening governance and institutional performance. For instance, digital infrastructure supports e-governance platforms that enhance transparency, accountability, and efficiency in public service delivery. Well-developed administrative infrastructure, including courts, police stations, and municipal offices, ensures that government functions effectively across all regions.²¹ Moreover, access to electricity and the internet empowers citizens to participate more actively in democratic processes, such as elections and civic discussions, fostering stronger national institutions.

Global Competitiveness and Integration

In the globalized world economy, infrastructure is a determinant of a country's competitiveness. Nations with superior infrastructure attract more foreign direct investment (FDI) because of lower operational risks and better business environments. Efficient ports, airports, and logistics systems enable participation in international trade, while modern ICT infrastructure facilitates knowledge sharing and collaboration across borders.²² More so, infrastructure also enhances a country's attractiveness for tourism, which can be a significant revenue earner.

In all, it should be noted that infrastructure is the backbone of national development. It catalyzes economic growth, improves social welfare, promotes national integration, ensures environmental sustainability, and enhances global competitiveness. Without adequate infrastructure, development efforts are hampered, and national progress remains uneven and unsustainable. Therefore, strategic investments in infrastructure must be a central focus of any government committed to achieving long-term development goals. As nations navigate the challenges of the 21st century including urbanization, climate change, and digital transformation, the importance of resilient, inclusive, and sustainable infrastructure will only continue to grow.

Indigenous Infrastructure Systems

Indigenous infrastructure systems refer to the traditional methods and practices developed by native or local communities to support their social, economic, and environmental needs before the advent of modern technological infrastructures. These systems include locally adapted methods of water supply, transportation, housing, energy generation, waste management, and land use. “Rooted in centuries of cultural knowledge, environmental understanding, and communal cooperation, indigenous infrastructures are not merely functional; they are deeply embedded in the values, beliefs, and worldviews of the communities that created them.”²³ In recent times, scholars and development practitioners have increasingly recognized the importance of these systems, especially in discussions surrounding sustainability, climate change resilience, and cultural preservation.

One of the most prominent features of indigenous infrastructure is its ecological compatibility. Unlike many modern systems that often disrupt natural ecosystems, indigenous infrastructure tends to work in harmony with the environment. For example, the use of *zai pits* by farmers in the Sahel region of Africa to capture rainwater and rehabilitate degraded land is a testament to indigenous ingenuity. These pits, dug into the dry earth and filled with compost and seeds, enhance water retention and improve soil fertility without relying on chemical inputs.²⁴ Similarly, the terraced farming systems found in regions such as the Philippines, Peru, and Ethiopia prevent soil erosion and maximize

land use on steep terrains, demonstrating sustainable land management practices tailored to specific geographical challenges.

In the domain of housing and architecture, indigenous infrastructure showcases deep understanding of local climate and materials. The traditional mud huts in Nigeria, adobe homes in Latin America, and yurts in Central Asia are all built from locally sourced, biodegradable materials that provide insulation and ventilation suited to local weather conditions. These dwellings are not only cost-effective and environmentally friendly but also culturally symbolic, often reflecting the social structure, spiritual beliefs, and aesthetic preferences of their builders.²⁵

Transportation systems within indigenous settings also reflect a pragmatic adaptation to local terrains. In parts of Nigeria, for example, indigenous communities relied on footpaths, canoes, and animal-drawn carts for movement across forests, rivers, and plains. These methods were well-suited to the existing infrastructure and environmental realities and minimized ecological damage. Even today, many rural communities depend on these systems due to their affordability and accessibility, particularly in areas where modern roads and vehicles are scarce or unreliable.

Water management is another area where indigenous infrastructure excels. The *qanat* systems in Iran, the *subak* irrigation systems in Bali, and traditional wells in West Africa all illustrate how ancient communities engineered effective ways to harvest, store, and distribute water.²⁶ These systems were often maintained communally and

regulated through social norms and traditional governance structures, ensuring equitable access and long-term sustainability. However, despite their ingenuity and sustainability, indigenous infrastructure systems have historically been marginalized or overlooked in favour of modern, often Western-inspired infrastructure models. Colonialism, modernization, and globalization contributed to the erosion of traditional practices, sometimes labelling them as "primitive" or "inefficient." In many cases, modern infrastructure projects have displaced or destroyed indigenous systems without adequately evaluating their value or integrating their insights. The consequence has often been environmental degradation, social dislocation, and the loss of valuable cultural heritage.

Today, there is a renewed interest in re-evaluating indigenous infrastructure within the broader context of sustainable development. Development agencies, governments, and scholars are increasingly recognizing that indigenous knowledge offers crucial insights into resource management, climate adaptation, and community resilience. Integrating traditional and modern systems through participatory approaches can lead to hybrid solutions that are both effective and culturally respectful. For example, combining modern engineering with indigenous water harvesting techniques has proven effective in parts of India and sub-Saharan Africa.

In summary, indigenous infrastructure systems represent a rich legacy of human ingenuity, environmental stewardship, and cultural identity. Far from being relics of the past, they hold important lessons for the present and future, especially in an era of

environmental uncertainty and the search for more sustainable ways of living. Embracing, preserving, and innovatively integrating indigenous infrastructure into modern development efforts not only enhances technical outcomes but also promotes cultural continuity, social inclusion, and ecological balance. As the world continues to grapple with the dual challenges of infrastructure deficits and environmental crises, indigenous systems offer an indispensable resource worth understanding, preserving, and celebrating.

Infrastructure under British Colonial Rule

The development of infrastructure under British colonial rule in many African and Asian territories, including Nigeria, India, Kenya, and others, was a complex process shaped by the economic, political, and strategic interests of the colonial powers. While infrastructure such as roads, railways, ports, and communication systems were established and expanded during this period, these developments were primarily driven by the colonial agenda rather than the needs and aspirations of the indigenous populations. The infrastructure built under colonial rule often served to facilitate resource extraction, consolidate imperial control, and link colonial economies to the global capitalist system dominated by Europe.

In British colonies, infrastructure projects were designed mainly to support the export of raw materials such as minerals, agricultural products, and timber to the United Kingdom and other parts of Europe. Railways were one of the most significant infrastructural legacies of British rule.²⁷ In Nigeria, for example, the colonial

administration constructed rail lines that connected inland agricultural and mining zones to coastal ports like Lagos and Port Harcourt. These railways did not interconnect local economies in a way that would promote internal economic integration; instead, they functioned as "colonial pipelines" aimed at funnelling goods outward. Similarly, roads were built not with local mobility in mind but to serve colonial administrative centers and to facilitate military operations when needed.

Furthermore, Ports and harbors were also developed extensively under British colonial rule. These ports, including those in Accra, Mombasa, Calcutta, and Lagos, became essential nodes in the export-import trade that underpinned colonial economies.²⁸ However, port infrastructure was generally focused on serving foreign shipping companies and did little to promote indigenous maritime commerce. Even communication infrastructure such as the telegraph, postal services, and later telephony were oriented towards enhancing administrative efficiency and military communication rather than democratizing access to information for the colonized peoples.

Urban infrastructure witnessed some advancement during British rule, especially in major colonial administrative capitals. Cities like Nairobi, Lagos, and New Delhi saw the establishment of colonial government buildings, European residential quarters, sanitation systems, and electricity grids. Yet, these benefits were unevenly distributed, often excluding the indigenous population or relegating them to poorly developed outskirts. The planning and architecture of these colonial cities reflected racial and class segregation,

which shaped the social geography of many post-colonial cities.²⁹ It is important to acknowledge that while the colonial period did introduce modern infrastructure to many parts of the colonized world, this development was deeply exploitative. It often ignored local knowledge systems and disrupted existing indigenous infrastructure and trade networks. The infrastructure that was built seldom empowered local economic development or social welfare; instead, it served as a tool of domination and extraction. Furthermore, the maintenance of this infrastructure depended heavily on forced or poorly paid local labor, contributing to social discontent and, in many cases, long-term underdevelopment.

Conclusively, infrastructure under British colonial rule was a double-edged sword. On one hand, it laid the groundwork for modern systems of transport, communication, and urban planning. On the other hand, it was fundamentally shaped by the exploitative logic of colonialism, serving the interests of the British Empire while marginalizing the needs of the colonized populations. The legacy of this infrastructure continues to affect post-colonial states, influencing patterns of development, economic dependency, and spatial inequality well into the 21st century.

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CHAPTER THREE

CHINA AND INFRASTRUCTURAL DEVELOPMENT IN POST-COLONIAL NIGERIA

Introduction

The history of China–Nigeria relations is deeply rooted in the broader narrative and quest for development partnership. Africa’s post-colonial search for development partners and the reconfiguration of global power alignments. Nigeria gained independence in 1960, at a time when the Cold War rivalry between the United States and the Soviet Union was shaping the direction of development aid and international cooperation. China, then a relatively marginalized player in global politics, sought to establish solidarity with newly independent African states by presenting itself as a partner distinct from both Western capitalist powers and the Soviet bloc. In 1971, Nigeria formally recognized the People’s Republic of China (PRC), shortly before China was admitted to the United Nations. This recognition marked the beginning of diplomatic and economic exchanges that would gradually mature into more robust cooperation in subsequent decades.¹

During the 1970s and 1980s, Nigeria’s infrastructural ambitions were primarily financed by oil revenues, given the oil boom of the 1970s. However, mismanagement, corruption, and the collapse of global oil prices in the 1980s left the country unable to sustain large-scale projects. Western financial institutions, especially the International Monetary Fund (IMF) and the World Bank, prescribed structural adjustment programs (SAPs) that emphasized fiscal austerity, trade liberalization, and privatization, but offered limited direct investment in infrastructure. In this context, Nigeria’s infrastructural deficit

widened, with decaying road networks, poor electricity supply, and inadequate transport systems stalling industrialization. China at this stage was still consolidating its domestic reforms under Deng Xiaoping's open-door policy and had not yet fully extended its economic outreach to Africa. Nonetheless, the symbolic ties established in this period laid the foundation for more substantive engagement in later decades.²

The turning point came in the 1990s and early 2000s, when China's "going out" strategy coincided with Nigeria's renewed search for alternative development partners. With the return to democratic governance in 1999 under President Olusegun Obasanjo, Nigeria intensified efforts to modernize its infrastructure and diversify its economy. Western partners, however, remained reluctant to provide large-scale concessional loans without stringent conditions tied to governance and macroeconomic reforms. China, on the other hand, presented a different model of partnership: one that combined financing with the direct involvement of Chinese state-owned enterprises in construction, often tied to resource-backed agreements.³

The 2006 establishment of the Nigeria–China Strategic Partnership elevated bilateral ties, opening avenues for multi-sectoral cooperation, especially in infrastructure. This partnership was reinforced through forums such as the Forum on China–Africa Cooperation (FOCAC), which institutionalized Chinese commitments to African development. In Nigeria, Chinese companies such as the China Civil Engineering Construction Corporation (CCECC) became household names, handling flagship projects

in rail, road, and airport construction. Projects such as the Abuja–Kaduna railway, Lagos–Ibadan standard gauge line, and the expansion of the Abuja International Airport showcased China’s capacity to deliver large-scale infrastructure in record time.⁴ Colonial legacies left Nigeria with a limited, uneven, and fragile infrastructural base, most of which was designed to serve the extractive needs of the British Empire rather than promote balanced national development. Railways, roads, seaports, and power systems were concentrated in areas that facilitated the export of raw materials to Europe, while vast regions remained underdeveloped.⁵

It should be noted that China’s involvement in Nigeria must be understood within the broader context of China-Africa relations in the post-Cold War era. Since the 1990s, China has emerged as Africa’s largest bilateral trading partner and one of its most important financiers of infrastructural projects. Through instruments such as concessional loans, grants, and engineering contracts, China has positioned itself as an indispensable player in addressing Africa’s infrastructure financing gap.⁶ In Nigeria, Chinese infrastructural engagement has manifested across critical sectors such as transportation, energy, communication, and housing. Notable projects include the rehabilitation and modernization of railways such as the Abuja–Kaduna, Lagos–Ibadan, and Warri–Itakpe lines; road construction projects like the Abuja Airport Expressway; hydroelectric power stations such as the Zungeru Dam; as well as telecommunications expansion led by companies like Huawei and ZTE.⁷ It should be noted that these interventions have reshaped Nigeria’s developmental trajectory by providing vital infrastructure that underpins

economic activity, enhances regional connectivity, and stimulates job creation. Unlike Western development models that often prioritize structural adjustment, privatization, and governance reforms, China's approach is characterized by what scholars describe as the "Beijing Consensus": a pragmatic, state-driven, and non-interventionist model that emphasizes infrastructure as a foundation for long-term development.⁸

Thus, the study of China and infrastructural development in post-colonial Nigeria opens up critical debates about dependency, sovereignty, and the nature of globalization in the 21st century. It raises questions about whether Chinese involvement represents a genuine pathway to sustainable development or a reconfiguration of neo-colonialism in new forms. By examining historical antecedents, contemporary projects, and their socio-economic impacts, one gains deeper insights into how external partnerships shape Nigeria's post-colonial development struggles. This discourse also situates Nigeria within wider African and global power dynamics, where China's rise challenges Western dominance and reshapes the geopolitics of development.

Drivers of China's Involvement in Nigeria's Infrastructural Development

China's deepening role in Nigeria's infrastructure landscape is the product of layered, mutually reinforcing motivations — economic, political, strategic and commercial shaped by both Beijing's long-term national priorities and Nigeria's perennial development needs. What looks, at a surface level, like a steady flow of loans and construction contracts is better understood as the intersection of (1) China's search for markets, resources and

outlets for industrial capacity; (2) a foreign-policy design to expand influence and secure trade corridors under the Belt and Road architecture; (3) commercial incentives that favour Chinese state-owned banks and builders; and (4) Nigerian political and economic incentives that make Chinese capital and speed attractive. Below I unpack these drivers, illustrate them with concrete project examples, and consider the attendant benefits and risks.⁹

From Beijing's standpoint, the economic calculus is straightforward. Rapid industrialization produced excess savings, surplus construction capacity and large engineering firms that needed projects outside domestic China. Exporting firms, equipment and capital to countries with large infrastructure gaps allowed China to keep factories busy, deploy its national champions, and secure new markets for goods and services. In practice this has translated into finance and contractors for ports, roads, railways and power in Nigeria — projects that simultaneously generate income for Chinese firms and promote trade linkages that benefit China's export-oriented economy. Analysts who study the Belt and Road dynamics emphasize these pragmatic economic motives. That is, to utilize Chinese capital and capacity while expanding trade ties.

It should be noted that strategic and geopolitical drivers complement economic ones. Since the launch of the Belt and Road Initiative (BRI) in 2013, Chinese policy has explicitly sought infrastructure partners across Africa to build more resilient trade and energy routes, reduce dependence on chokepoints controlled by other powers, and expand diplomatic

influence. Infrastructure finance and high-visibility projects create long-term relationships and political goodwill that can pay off in diplomatic support, access to resources, and geoeconomic leverage. China's pattern of financing major Nigerian projects — from deep-water ports to standard-gauge railways is consistent with a BRI logic that views connectivity projects as instruments of both economic integration and influence.¹⁰

China's approach is enabled and amplified by its financing institutions and construction firms. State banks (China Exim Bank, China Development Bank) provide concessional and commercial loans; state-owned contractors (CRCC, CCECC, China Harbour) supply turnkey engineering, procurement and construction capacity; and Chinese equipment providers supply materials and concessional technology packages. This “finance-plus-built-by-Chinese” model shortens project timelines relative to non-Chinese alternatives for many Nigerian decision-makers, and is attractive where domestic technical capacity or attractive private finance is limited.¹¹

Also, Nigeria's domestic incentives are equally important. This is because Nigeria suffers from decades of underinvestment in transport, power and logistics; poor connectivity constrains commerce, raises ferrying costs, and depresses growth. Political leaders, seeking rapid visible development and job creation, have therefore been willing to accept Chinese loans and contracts that promise faster delivery. Nigerian elites also gain politically from headline projects that can be presented as national modernization wins. From the government's perspective, Chinese finance and turnkey construction often look

like the most feasible option to reduce infrastructure bottlenecks quickly, even when the deals carry long repayment horizons. Recent approvals of large Exim Bank and CDB financing packages for roads and rail demonstrate the continuing appetite in Abuja for Chinese-backed infrastructure.

Resource and commercial considerations complete the picture. While the “infrastructure-for-resources” barter model (whereby infrastructure is exchanged directly for commodities) has been more prominent in some African states than in Nigeria, the presence of energy and raw-materials in Nigeria and the need for reliable export and domestic logistics mean that Chinese projects also secure supply lines and business opportunities. Chinese construction and manufacturing firms benefit commercially from long contracts, equipment exports, and follow-on maintenance work. Moreover, building major ports, roads and power plants can be a prerequisite for expanded trade between China and Nigeria, and for Chinese companies seeking to participate in local markets (assembly, processing, logistics). Project trackers and media coverage of investments such as Mambilla hydropower, Lekki Port and major rail links show how Chinese finance links to broader commercial objectives.¹²

These drivers, however, raise critiques and risks that shape the political economy of Sino-Nigerian infrastructure. Observers voice concerns about debt sustainability, “debt-trap” narratives, lack of local content and employment, environmental impacts, and the quality and transparency of procurement. While many Chinese loans are concessional and

some projects deliver clear economic benefits, the concentration of debt to a single bilateral creditor and opaque contract terms can constrain recipient policy space. Nigeria's growing stock of Chinese-sourced debt and the concentration of large projects has provoked debates in Abuja and civil society about long-run fiscal effects and sovereignty trade-offs. Independent researchers and policy centers have documented these risks while also acknowledging the development gains such projects can deliver when well governed.

In sum, China's involvement in Nigeria's infrastructure is multi-dimensional; it satisfies Chinese economic needs (markets, use of excess capacity, industrial exports), advances strategic objectives through a connectivity and influence agenda, leverages state finance and corporate capacity to deliver large projects, and responds to Nigerian imperatives for rapid infrastructure expansion and political dividends. The relationship produces significant development opportunities for Nigeria but also carries fiscal, governance and strategic risks that require robust negotiation, transparent contracting, and careful project selection by Nigerian authorities. For policymakers in Abuja, managing the China partnership successfully means maximizing technology transfer, enforcing local-content and environmental standards, diversifying finance sources, and strengthening public accountability so that infrastructure built today under foreign finance delivers long-term, broad-based growth rather than mid-term fiscal vulnerability.

Major Infrastructural Projects Undertaken by China in Nigeria

China's involvement in Nigeria's infrastructural development has become one of the most defining aspects of the bilateral relations between both countries in the twenty-first century. Nigeria, being Africa's most populous nation and one of its largest economies, has consistently faced challenges in providing adequate infrastructure to support its rapidly growing population, urbanization, and industrial expansion. China, on the other hand, through its Belt and Road Initiative and broader Africa engagement policy, has positioned itself as a strategic partner willing to bridge this gap by funding and constructing large-scale projects that have transformed Nigeria's landscape. These infrastructural projects, spanning across transportation, energy, and public works, are not only symbols of Sino-Nigerian cooperation but also instruments through which China consolidates its influence in Africa's largest market.¹³

According to Prof. Benson Osadolor, "in the first 8 years of Obasanjo's regime, his concern was towards infrastructural development in Nigeria."¹⁴ Prof. Benson Osadolor also maintained that efforts were made to ensuring that Nigeria did not spend much money to achieving that, hence, the partnering with China.

One of the most significant areas of Chinese infrastructural intervention in Nigeria is the transport sector, especially railways. For decades, Nigeria struggled with an outdated railway network inherited from the colonial era, which had largely collapsed due to underfunding and neglect. China's entry revitalized this critical sector with modern standard gauge railways. The Abuja-Kaduna railway, completed in 2016 by the China Civil

Engineering Construction Corporation (CCECC), was the first modern standard gauge line in Nigeria and has become a model for safe, reliable, and efficient transport in the country.¹⁵ Following its success, China embarked on even larger projects, most notably the Lagos-Ibadan railway, completed in 2021, which is part of the broader Lagos-Kano standard gauge railway designed to connect Nigeria's economic nerve center to its northern hinterlands. This project, also handled by CCECC, has significantly reduced travel time, boosted trade, and facilitated the movement of goods and people. The rehabilitation of the Itakpe-Ajaokuta-Warri railway further underscores China's strategic role in reviving Nigeria's moribund rail transport system, positioning rail as an alternative to road transportation, which has long been overburdened and unsafe.

More so, the energy sector is another domain where Chinese infrastructural projects have made a profound impact. Nigeria's economy has been consistently hampered by an unreliable power supply, making investments in electricity generation and transmission essential. Chinese firms, backed by Chinese loans and investments, have been central to Nigeria's efforts to improve its energy capacity. The Zungeru Hydroelectric Power Plant, one of Nigeria's most ambitious energy projects, is a product of Chinese engineering and financing. Constructed by Sinohydro with support from the Export-Import Bank of China, the project is expected to provide 700MW of electricity, contributing significantly to Nigeria's power generation mix. Similarly, China has supported the Mambilla Hydroelectric Power Project, which, though still under development, is projected to generate over 3,000MW, making it the largest hydroelectric power station in Nigeria upon

completion.¹⁶ In addition to hydro projects, Chinese companies have also been involved in upgrading Nigeria's transmission infrastructure, thereby strengthening the backbone of the national grid and reducing systemic inefficiencies that often result in power outages.

It should be noted that China's footprint is also visible in Nigeria's urban development and aviation infrastructure. For example, the Abuja Light Rail Project, inaugurated in 2018, stands as a landmark achievement in urban transportation and symbolizes China's commitment to reshaping Nigeria's cities into modern metropolises. Built by CCECC and financed through Chinese loans, the project made Abuja the first city in West Africa to boast a light rail system, connecting the airport to the central business district. In the aviation sector, China has played a vital role in constructing and upgrading airport terminals. Notably, the new international terminals at the Nnamdi Azikiwe International Airport in Abuja, the Murtala Muhammed International Airport in Lagos, the Port Harcourt International Airport, and the Mallam Aminu Kano International Airport were financed and constructed by Chinese firms.¹⁶ These projects have enhanced Nigeria's capacity to handle rising passenger and cargo traffic, while also improving the nation's global image as a hub for business and tourism. According to Prof. Benson Osador, the loans China gave to third world countries provided for them access to the territories of such countries to actually establish their company which in turn improve on the infrastructural development of the countries."¹⁷

China has also left its mark on Nigeria's road and port infrastructure. The Lekki Deep Sea Port, developed with significant Chinese financing and expertise, is one of the most important port projects in West Africa. Designed to handle massive cargo volumes, the port is expected to decongest existing ports in Lagos and position Nigeria as a maritime hub for the region. Similarly, Chinese firms have been active in road construction, improving critical highways that connect Nigeria's commercial and industrial centers. These road and port projects, though less publicized compared to the railways, are fundamental to boosting Nigeria's trade competitiveness and integrating the country more effectively into global supply chains.¹⁸

Beyond transportation and energy, Chinese projects have also extended into telecommunications and public service infrastructure. China has been instrumental in expanding Nigeria's ICT backbone through Huawei and ZTE, companies that have built communication infrastructure, fiber optic networks, and contributed to Nigeria's digital revolution. Furthermore, Chinese contractors have been involved in the construction of schools, hospitals, and government buildings, further embedding China in Nigeria's social development landscape.

It should be noted however that while these infrastructural projects represent progress and opportunity, they are also entangled in broader debates about dependency, debt sustainability, and geopolitical influence. Critics argue that Nigeria's reliance on Chinese loans risks trapping the country in long-term debt obligations, with implications

for sovereignty and economic independence. Yet, for many Nigerians, the visible transformation of railways, airports, power plants, and ports reflects tangible benefits that decades of reliance on Western aid and investment had failed to deliver. This tension underscores the complex nature of China's infrastructural engagement in Nigeria, blending economic pragmatism with strategic diplomacy.

Economic and Social Impacts of Chinese Infrastructure Development

The economic and social impacts of Chinese infrastructure development in Nigeria and across Africa represent one of the most significant transformations in contemporary international relations and development studies. China's engagement in infrastructural development has been far-reaching, encompassing roads, railways, airports, seaports, energy projects, and communication networks. These projects have produced profound consequences for both the economic growth and social dynamics of the countries involved. Economically, Chinese infrastructure development has been instrumental in bridging the gap in capital investment that African countries, including Nigeria, have struggled to fill for decades due to weak domestic revenues and limited access to Western financing. China, through its policy banks such as the Export-Import Bank of China and the China Development Bank, has provided loans and investments that enabled governments to embark on ambitious infrastructure projects that would otherwise have been unattainable. The Lagos-Ibadan railway, the Abuja-Kaduna rail line, and numerous road expansions across Nigeria illustrate the scale of Chinese involvement.¹⁹ These developments have

improved transportation networks, reduced travel time, enhanced trade efficiency, and lowered the cost of moving goods and services, thereby fostering a more integrated national economy and linking previously isolated regions to centres of commerce.

Beyond macroeconomic benefits, Chinese infrastructure projects have spurred direct and indirect job creation in Nigeria. The construction sector, in particular, has absorbed a significant number of workers, ranging from unskilled labourers to engineers. Although debates persist about the extent to which these opportunities benefit local workers vis-à-vis imported Chinese labour, it is undeniable that the projects have generated employment and skill transfer in several cases. More importantly, infrastructure development stimulates the private sector, as better roads, reliable power supply, and modern transport facilities reduce the cost of doing business, attract foreign direct investment, and enhance competitiveness. More so, small and medium enterprises, which constitute the backbone of Nigeria's economy, often flourish in regions where infrastructural bottlenecks are removed. Thus, Chinese infrastructure contributions have acted as catalysts for broader economic activities that ripple through multiple sectors, from agriculture to manufacturing and services.

On the social front, the impacts are equally profound. Improved infrastructure translates directly into enhanced quality of life for citizens. For instance, better transportation systems not only facilitate commerce but also improve access to healthcare, education, and social services, particularly in rural and underserved areas. A farmer in

Northern Nigeria can now transport agricultural produce to urban markets more easily, reducing post-harvest losses and increasing income, while a student in a remote area can reach educational facilities more conveniently. Similarly, projects in the energy sector, such as hydroelectric dams and power plants constructed with Chinese assistance, hold the potential to reduce chronic electricity shortages in Nigeria, thus improving living standards and enabling technological advancement. These developments contribute to greater social mobility, reduce inequality between urban and rural populations, and strengthen the fabric of society.

However, the social impacts are not without their complexities. While Chinese projects bring modernization and development, they also introduce new dynamics that can generate social tensions. Critics argue that some infrastructure contracts lack transparency, leading to public suspicion about corruption or exploitative terms that may burden future generations with unsustainable debt. More so, local communities sometimes express concerns about environmental degradation, displacement, or the dominance of Chinese companies in construction projects, which can marginalize domestic firms and limit opportunities for local innovation. There is also the cultural dimension, as increasing Chinese presence in Nigeria contributes to new patterns of social interaction, economic dependency, and cultural exchange. These interactions sometimes lead to friction, particularly when local workers perceive wage disparities or unfair treatment compared to their Chinese counterparts.

From a broader developmental perspective, the economic and social impacts of Chinese infrastructure development intertwine with Nigeria's aspirations for modernization and industrialization. Infrastructure is the bedrock upon which long-term economic growth rests, and without roads, power, and transportation, no meaningful development is possible. China's role in filling these gaps has accelerated Nigeria's progress in ways that Western aid and investment often failed to deliver due to stringent conditions. The social benefits of this progress, including better access to services, greater interconnectivity, and job opportunities, suggest that Chinese infrastructure development is reshaping not just the Nigerian economy but also the daily lives of millions of citizens. Nonetheless, the long-term success of these projects will depend on Nigeria's ability to manage debt responsibly, ensure transparency in agreements, and harness the infrastructural gains to diversify its economy beyond oil dependence. If properly managed, the partnership with China could serve as a steppingstone toward sustainable economic growth and social development, but if mishandled, it could reinforce dependency and create new forms of inequality.

From the above, it can be seen that the economic and social impacts of Chinese infrastructure development in Nigeria are far-reaching and multifaceted. They have injected vitality into a struggling economy, improved connectivity, fostered business growth, and enhanced social welfare. At the same time, they have raised questions about sustainability, sovereignty, and equity. The balance between these opportunities and challenges will ultimately determine whether Chinese infrastructural development

becomes a foundation for Nigeria's renaissance or a source of new vulnerabilities. What remains clear is that the footprint of China's infrastructure projects is indelibly shaping both the economic trajectory and the social realities of Nigeria in the twenty-first century.

Challenges of China's Infrastructural Development

The infrastructural development projects spearheaded by China across the globe, particularly in Africa and other developing regions, have become a defining feature of its international engagement in the twenty-first century. While these projects have undeniably brought about new opportunities in terms of roads, railways, airports, power plants, and telecommunications, they are not without significant challenges. China's infrastructural development strategy, largely anchored in the Belt and Road Initiative (BRI) and bilateral agreements, has encountered economic, political, social, environmental, and cultural obstacles that complicate its effectiveness and sustainability. These challenges raise critical questions about the long-term viability of Chinese investments and their actual benefits for host countries, as well as for China itself.

It should be noted that one of the foremost challenges lies in the financial sustainability of China's infrastructural development model. Most of these projects are financed through concessional loans and credit facilities provided by Chinese banks, particularly the Export-Import Bank of China and the China Development Bank. While this financing model appears attractive at first, it often creates debt burdens for recipient countries whose economies are already fragile. The challenge emerges when countries are

unable to repay the loans, leading to fears of debt dependency and accusations of “debt-trap diplomacy.” The case of Sri Lanka’s Hambantota Port, which had to be leased to China for 99 years due to loan repayment difficulties, is frequently cited as an example of the risks involved. In Africa, Nigeria, Kenya, and Zambia have expressed concerns about rising external debt linked to Chinese loans, highlighting how debt sustainability has become a major stumbling block in the relationship between China and its partners. For China, this also poses risks since defaults and repayment challenges undermine its financial returns and complicate its image as a developmental partner rather than a neo-colonial power.²⁰

Political and governance-related issues further complicate the implementation of China’s infrastructural projects. Many recipient countries grapple with corruption, weak institutions, and unstable political environments, which directly affect the effectiveness and transparency of project execution. In some cases, funds meant for infrastructure are mismanaged, or projects are poorly implemented due to collusion between local elites and Chinese contractors. More so, political instability in certain regions exposes Chinese investments to risks of sabotage, violent conflict, or abrupt policy reversals when governments change. For example, in places where anti-Chinese sentiment is fuelled by opposition parties or civil society groups, projects may be delayed, renegotiated, or outright canceled. Such political challenges undermine China’s strategic aim of projecting itself as a reliable and long-term partner in global development.

It should be noted that beyond politics, social and cultural challenges also shape the reception and impact of Chinese infrastructural development. A frequent criticism is that Chinese projects tend to prioritize Chinese labour, materials, and expertise over local participation. This limits technology transfer, job creation, and capacity building in host countries. Local workers often complain of poor working conditions, wage disparities, and discriminatory practices, leading to labour disputes and strained relations between Chinese firms and local communities. Moreover, there is often a cultural disconnect, as Chinese contractors and local populations do not always share common languages, customs, or work ethics, which results in tensions and misunderstandings. This lack of integration into local socio-economic contexts reduces the potential for inclusive development and fosters resentment that can threaten the sustainability of the projects.

Furthermore, environmental concerns constitute another formidable challenge in China's infrastructural development efforts. Many of the large-scale projects, such as dams, railways, and mining-related infrastructure, have significant ecological footprints, often disrupting ecosystems, displacing communities, and causing long-term damage to biodiversity. Critics argue that Chinese companies, driven by speed and cost-effectiveness, sometimes downplay environmental assessments or bypass them altogether. This has led to accusations that China is exporting environmentally unsustainable practices to vulnerable regions, undermining global efforts to promote green development. As climate change becomes an increasingly urgent global issue, China faces mounting pressure to

ensure its infrastructural projects adhere to international environmental standards, yet balancing rapid development with sustainability remains a profound challenge.

Geopolitical dynamics also complicate China's infrastructural ventures. The expansion of Chinese projects is often perceived by Western powers as a strategic maneuver aimed at extending China's global influence. Consequently, recipient countries sometimes find themselves caught in the middle of great power rivalries, particularly between China and the United States. This external pressure can result in diplomatic tensions, reduced international cooperation, or even sanctions that affect the flow of investments.²¹ Moreover, some countries are wary of becoming overly dependent on China, fearing that infrastructure projects are a means to exert political leverage rather than purely developmental initiatives. This suspicion often breeds resistance or pushes governments to diversify their partnerships, thereby reducing the dominance of China's infrastructural agenda.

Another layer of difficulty is technological and operational sustainability. While China is praised for delivering projects rapidly, questions remain about the quality and durability of some infrastructures. Reports of roads, bridges, or buildings deteriorating shortly after completion have raised concerns about construction standards and oversight. If infrastructure cannot be sustained or maintained, the long-term costs of repair and rehabilitation become even more burdensome for already struggling economies. This perception of "cheap but fragile" infrastructure challenges the credibility of China's

development model and undermines the very foundation of trust upon which future collaborations rest.

Conclusion

The challenges of China's infrastructural development are multi-dimensional, spanning financial, political, social, environmental, and geopolitical domains. While China has played a transformative role in reshaping infrastructural landscapes across developing regions, the sustainability and inclusiveness of these projects remain in question. For China, addressing these challenges is not only about safeguarding its economic interests but also about reshaping its global image as a responsible power. For recipient countries, the challenge lies in negotiating partnerships that balance immediate infrastructural needs with long-term economic sovereignty, environmental sustainability, and social welfare. Ultimately, the success of China's infrastructural development will depend on whether these challenges are confronted with genuine dialogue, mutual accountability, and a commitment to development that benefits all stakeholders.

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CHAPTER FOUR

FUNDING AND CHALLENGES OF CHINA-NIGERIA INFRASTRUCTURE

DEVELOPMENT PARTNERSHIP

Introduction

Infrastructural development remains a critical driver of economic growth and social transformation in developing countries. For Nigeria, Africa's largest economy, the quest to modernize infrastructure, particularly in transportation, energy, and telecommunications—has necessitated strategic partnerships with foreign investors and development partners. Among these, China has emerged as a dominant actor, offering substantial financial assistance, technical expertise, and project execution capacity. The China–Nigeria infrastructural development partnership has therefore become a cornerstone of Nigeria's broader development agenda, reflecting the deepening economic and diplomatic relations between the two nations since the late 1990s.¹

China's involvement in Nigeria's infrastructure sector is largely characterized by concessional loans, grants, and credit facilities provided through Chinese financial institutions such as the Export–Import Bank of China (Exim Bank) and executed by major Chinese state-owned enterprises. Projects like the Abuja–Kaduna railway, the Zungeru Hydroelectric Power Plant, and various road and airport reconstruction projects illustrate the scope and ambition of this collaboration. However, while Chinese funding has filled crucial gaps left by domestic financing limitations and Western donor fatigue, the

partnership is not without challenges. Issues of debt sustainability, project transparency, local content participation, and environmental and social impacts have generated intense debate within policy and academic circles.²

Consequently, understanding the dynamics of funding and the accompanying challenges of the China–Nigeria infrastructural development partnership is essential for assessing its long-term sustainability and developmental impact. This study therefore seeks to examine the nature, sources, and structure of Chinese funding for infrastructural projects in Nigeria, as well as to identify and analyze the challenges that hinder optimal outcomes in this bilateral cooperation. The analysis will contribute to a broader discourse on Africa–China relations and their implications for sustainable development in emerging economies.³

Sources and Mechanism of Funding

The partnership between China and Nigeria in infrastructural development is largely characterized by significant financial flows that have transformed the country’s physical landscape, particularly in sectors such as transportation, energy, and telecommunications. Funding serves as the lifeblood of this partnership, as it determines the scale, pace, and sustainability of various infrastructural projects. The sources and mechanisms of funding in the China-Nigeria infrastructural development partnership are rooted in a combination of bilateral loans, development assistance, commercial financing,

and direct investments, all of which reflect China's broader economic diplomacy strategy in Africa.⁴

One of the primary sources of funding for China-Nigeria infrastructural projects is concessional and non-concessional loans provided by Chinese financial institutions, particularly the Exim Bank of China and the China Development Bank. These banks serve as the main channels through which the Chinese government finances large-scale infrastructure projects in Nigeria. The loans are often extended under favorable terms, such as low interest rates and long repayment periods, making them attractive compared to conventional Western financing. For example, the construction of the Abuja–Kaduna railway and the Lagos–Ibadan standard gauge railway were financed through concessional loans from the Exim Bank of China, with the Nigerian government providing counterpart funding. Such arrangements demonstrate how China's financial institutions operate as vehicles for implementing the Belt and Road Initiative (BRI) in Africa.⁵

Another important funding source is foreign direct investment (FDI) from Chinese state-owned and private enterprises. These investments often take the form of joint ventures or public-private partnerships (PPPs) in which Chinese companies finance, build, and sometimes operate infrastructure projects before transferring ownership to the Nigerian government. The Lekki Deep Seaport and the Zungeru Hydroelectric Power Project are notable examples of this funding mechanism. In such arrangements, the Chinese firms bear part of the financial risk while ensuring the transfer of technology and managerial expertise

to Nigeria. Additionally, funding is often facilitated through bilateral agreements and framework arrangements between both governments. These agreements define the modalities of financial cooperation, repayment conditions, and project supervision. A common feature of such agreements is the use of Nigeria's natural resources—particularly crude oil—as collateral for repayment. This mechanism, sometimes referred to as resource-backed loans, allows Nigeria to access funding while ensuring repayment through guaranteed commodity exports. Although this approach provides immediate capital for infrastructural development, it has raised concerns about transparency and long-term debt sustainability.⁶

China also utilizes grant aid and technical assistance as part of its funding mechanism, especially for smaller-scale projects or capacity-building initiatives. These grants, though less frequent compared to loans, are designed to foster goodwill and strengthen diplomatic ties. In some cases, they support feasibility studies, training programs, and technological transfer that complement larger infrastructural investments.⁷ Furthermore, mechanisms of disbursement and monitoring are often project-tied, meaning that funds are released in phases based on project milestones. This ensures accountability and efficiency but also gives Chinese contractors and financiers considerable control over project execution. The majority of Chinese-funded infrastructure projects are executed by Chinese companies such as the China Civil Engineering Construction Corporation (CCECC), which helps streamline the funding and implementation process under a single framework.

The sources and mechanisms of funding in the China-Nigeria infrastructural development partnership reveal a complex web of financial, political, and economic arrangements. Through a blend of concessional loans, direct investments, resource-backed financing, and grants, China has positioned itself as a key partner in Nigeria's infrastructural transformation. However, while these mechanisms have facilitated the completion of many strategic projects, they also raise questions about Nigeria's debt exposure, the balance of benefits, and the sustainability of such funding models in the long term. Thus, understanding the sources and mechanisms of funding is essential to evaluating both the opportunities and the challenges embedded in the China-Nigeria infrastructural partnership.⁷

Major Infrastructural Projects under the Partnership

The partnership between China and Nigeria in infrastructural development has produced several landmark projects that have significantly shaped Nigeria's economic landscape. These projects, primarily financed through Chinese loans and investments, are central to the discourse on the "Funding and Challenges of China-Nigeria Infrastructural Development in Nigeria." They not only demonstrate the depth of bilateral cooperation but also reveal the complex dynamics of funding mechanisms and sustainability concerns in Nigeria's infrastructural growth.

One of the most prominent projects under this partnership is the Abuja–Kaduna Railway, completed in 2016. Financed by the Export-Import Bank of China (China Exim

Bank) and executed by the China Civil Engineering Construction Corporation (CCECC), this project marked Nigeria's first modern standard gauge railway. It cost about \$874 million, with 85 percent funded through a Chinese loan and 15 percent by the Nigerian government. The railway has significantly improved connectivity between the Federal Capital Territory and northern Nigeria, reducing travel time and boosting trade. However, the project also underscores Nigeria's growing debt exposure to China, raising questions about long-term repayment and the viability of such loan-funded infrastructure.⁸

Similarly, the Lagos–Ibadan Standard Gauge Railway, inaugurated in 2021, stands as another major product of the China-Nigeria partnership. This \$1.5 billion project, also financed by China Exim Bank and constructed by CCECC, connects Nigeria's commercial hub to key industrial zones in the southwest. It represents a strategic effort to decongest road networks and enhance cargo movement from the Lagos ports. Despite its success in improving transport efficiency, the project's funding structure—based on concessional loans—highlights the dependency of Nigeria on external borrowing for critical infrastructure, a trend that poses sustainability challenges.⁹

Another notable example is the Zungeru Hydroelectric Power Project in Niger State. Valued at approximately \$1.3 billion, this project was jointly funded by China Exim Bank (covering 75 percent of the cost) and the Nigerian government (providing the remaining 25 percent). Upon completion, the dam is expected to generate 700 megawatts of electricity, contributing to Nigeria's energy stability and industrial growth. Yet, the

project also faced delays and cost overruns, largely attributed to bureaucratic inefficiencies and the COVID-19 pandemic, which underscore the operational challenges inherent in such large-scale international collaborations.

The Abuja–Light Rail Project, launched in 2018, is another major initiative aimed at urban mobility. Funded through a \$500 million loan from China Exim Bank, it became West Africa’s first light rail system. While the project demonstrates the tangible impact of Chinese funding on Nigeria’s infrastructure, its underutilization due to poor maintenance and low ridership reflects one of the central challenges of the partnership—the sustainability and operational efficiency of completed projects.

Beyond transport and energy, China has also invested heavily in telecommunications and free trade zones such as the Lekki Free Trade Zone (LFTZ) in Lagos State. This zone, developed through a joint venture between the Lagos State Government, the Nigerian Government, and Chinese investors, has attracted several manufacturing firms and is closely linked to the Lekki Deep Sea Port, another flagship project financed and constructed by Chinese firms. These investments symbolize the diversification of infrastructural cooperation beyond traditional sectors, yet they also raise issues of local labor participation, transparency, and environmental compliance.¹⁰

The major infrastructural projects under the China-Nigeria partnership represent milestones in Nigeria’s quest for modernization and economic diversification. They have expanded the country’s transport, energy, and industrial base, showcasing the benefits of

Chinese funding and technical expertise. Nonetheless, these projects also reveal persistent challenges, including debt sustainability, project maintenance, and limited local capacity involvement. The success of future collaborations, therefore, depends not only on financial inflows from China but also on Nigeria's ability to ensure transparency, efficient management, and strategic utilization of these infrastructures for long-term national development.¹¹

Challenges Facing the Partnership

The partnership between China and Nigeria in infrastructural development has significantly transformed the economic and physical landscape of Nigeria. Through initiatives such as road construction, railway modernization, and energy projects, China has become a key development partner in Nigeria's infrastructural growth. However, despite the apparent successes, several challenges continue to hinder the smooth implementation and sustainability of these projects. These challenges revolve around issues of funding sustainability, transparency, debt dependency, local content development, and socio-political constraints.

One of the major challenges facing the China–Nigeria infrastructural development partnership is the issue of debt sustainability. Most of the projects are financed through concessional loans from Chinese financial institutions such as the Export-Import Bank of China. While these loans have made large-scale projects possible, they have also led to concerns about Nigeria's rising external debt profile. The repayment obligations,

denominated in foreign currency, often strain Nigeria’s fiscal position, especially when oil revenues—Nigeria’s main source of foreign exchange—decline. Critics argue that this financial dependence risks creating a form of “debt trap diplomacy,” where the inability to repay loans could compromise Nigeria’s economic sovereignty or lead to the concession of strategic assets to China.¹²

Another challenge lies in project transparency and accountability. Many China-funded projects in Nigeria lack full disclosure regarding contract details, funding terms, and repayment conditions. This opacity fuels suspicion about corruption and mismanagement, as local stakeholders are often excluded from monitoring and evaluation processes. The absence of open competitive bidding also means that contracts are sometimes awarded under opaque conditions, resulting in inflated costs or substandard work¹³. Such practices undermine public confidence and raise questions about the long-term value of the partnership to ordinary Nigerians.

Additionally, the limited transfer of technology and skills remains a serious concern. While Chinese firms execute most infrastructural projects efficiently, they often rely heavily on imported materials, labor, and expertise from China. This reduces opportunities for Nigerian engineers, technicians, and contractors to acquire relevant technical knowledge. Consequently, local industries benefit minimally from the infrastructure boom, and the capacity of Nigerian professionals to maintain or replicate such projects remains

low after completion¹⁴. This lack of local content development creates a dependency loop that weakens Nigeria's ability to sustain infrastructural growth independently.

Moreover, bureaucratic inefficiencies and political instability pose recurring obstacles to the partnership. Project delays due to administrative bottlenecks, changes in government, and policy inconsistencies have hampered timely implementation. Political interests sometimes dictate project location and execution rather than genuine developmental priorities. In some cases, corruption and lack of coordination between federal and state agencies further slow down progress, leading to abandoned or poorly maintained projects.¹⁵

Finally, social and environmental concerns have emerged as significant challenges. The construction of roads, railways, and power plants has sometimes led to the displacement of local communities without adequate compensation. Environmental impact assessments are not always thoroughly conducted, resulting in ecological degradation and social discontent. Such issues create friction between local populations and project implementers, threatening the sustainability and acceptance of the projects. While the China–Nigeria infrastructural development partnership has contributed immensely to Nigeria's economic modernization, it is encumbered by several challenges that must be addressed to ensure mutual benefit. To overcome these obstacles, Nigeria must strengthen transparency in contract negotiations, promote local participation, improve debt management strategies, and enforce environmental standards. Only through such measures

can the partnership transition from dependency to a sustainable model of infrastructural growth that truly empowers Nigeria's development trajectory.¹⁶

Policy Recommendations

In light of the persistent funding and implementation challenges characterizing China-Nigeria infrastructural development, it becomes imperative to outline pragmatic policy recommendations aimed at enhancing the sustainability, transparency, and mutual benefit of this partnership. The China-Nigeria infrastructural cooperation, while instrumental in addressing Nigeria's infrastructural deficit, has been marred by issues such as debt sustainability, project delays, lack of local content participation, and inadequate institutional oversight. Therefore, addressing these shortcomings requires strategic policy interventions from both the Nigerian government and its Chinese partners.

Firstly, there is a need for greater financial transparency and accountability in all bilateral infrastructural agreements. The Nigerian government should ensure that loan contracts and project financing details with China are subjected to public scrutiny and legislative approval. Transparency will not only reduce corruption and mismanagement but will also strengthen public trust in the partnership. Furthermore, independent monitoring agencies should be established to evaluate project implementation and ensure that funds are utilized effectively for their intended purposes.¹⁷

Secondly, Nigeria must diversify its sources of infrastructure funding rather than relying predominantly on Chinese loans and grants. This can be achieved by encouraging

private sector investment through public-private partnerships (PPPs), attracting multilateral funding from institutions like the World Bank and the African Development Bank, and improving the investment climate for foreign direct investment (FDI). A diversified funding structure would reduce the risks of debt dependency and enhance Nigeria's bargaining power in future negotiations with China.¹⁸

Thirdly, the Nigerian government should prioritize capacity building and technology transfer in its engagement with China. Many of the Chinese-funded projects are executed almost entirely by Chinese firms and labor, limiting opportunities for Nigerian engineers, technicians, and construction companies. Policies that mandate a higher level of local content participation and skills transfer would ensure that Nigerians benefit from knowledge and technology acquisition, thereby fostering long-term national development beyond the lifespan of specific projects.¹⁹

Moreover, there is an urgent need to strengthen institutional and regulatory frameworks governing foreign investments and infrastructural development. Nigerian institutions responsible for project evaluation, contract negotiation, and monitoring should be empowered with adequate technical expertise and autonomy. Weak institutions often result in poorly negotiated agreements that favor external partners at the expense of national interests. A stronger institutional base will ensure that infrastructural projects align with Nigeria's development priorities and fiscal sustainability goals. Additionally, the Nigerian government should adopt a results-based monitoring and evaluation system to

track the performance of China-assisted projects. This will help identify inefficiencies, prevent delays, and promote accountability in project delivery. Regular joint reviews between Nigerian and Chinese officials should also be institutionalized to assess project progress, resolve disputes, and improve coordination.

Lastly, both nations should promote mutual economic cooperation grounded in sustainability and reciprocity. The partnership should move beyond a donor-recipient framework toward a model that encourages industrial collaboration, trade balance, and shared prosperity. By investing in sectors such as manufacturing, renewable energy, and digital infrastructure, China and Nigeria can create a partnership that supports economic diversification and sustainable growth. In conclusion, the success of China-Nigeria infrastructural development depends on deliberate policy reforms that promote transparency, inclusiveness, and accountability. If Nigeria strengthens its institutional frameworks, diversifies funding sources, ensures local participation, and fosters a balanced partnership with China, the infrastructural collaboration can become a catalyst for sustainable national development rather than a source of economic vulnerability.²⁰

Conclusion

The funding and challenges of China-Nigeria infrastructural development in Nigeria reflect both the opportunities and complexities inherent in international development partnerships. China's active involvement in Nigeria's infrastructural sector—through loans, grants, and direct investments has significantly contributed to the

construction of vital projects such as railways, highways, power plants, and communication networks. These initiatives have enhanced connectivity, stimulated economic growth, and created employment opportunities, marking China as a key player in Nigeria's modernization efforts.

However, the partnership is not without its challenges. Issues such as debt sustainability, lack of transparency in loan agreements, unequal bargaining power, and limited local content participation have raised concerns about the long-term implications of Chinese funding. Moreover, bureaucratic inefficiencies, corruption, and weak institutional capacity within Nigeria often hinder the proper execution and maintenance of these infrastructural projects. Environmental and social concerns also emerge when projects fail to adequately consider local communities and sustainability principles.

Despite these obstacles, the China-Nigeria infrastructural partnership remains a vital component of Nigeria's development agenda. To maximize its benefits, Nigeria must strengthen governance structures, ensure accountability in the use of funds, and negotiate terms that prioritize national interests. Additionally, fostering technology transfer and encouraging local participation in project implementation will enhance capacity building and reduce dependency. When managed prudently, the collaboration with China can serve as a catalyst for sustainable infrastructural development and socio-economic transformation in Nigeria.

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CHAPTER FIVE

CONCLUSION

The development of infrastructure remains one of the most crucial drivers of national growth and modernization. In the context of Nigeria, infrastructural development has historically mirrored the country's socio-economic trajectory from colonial exploitation to post-independence struggles for self-reliance and modernization. However, despite Nigeria's enormous natural and human resources, the country has continuously battled with infrastructural deficits that hinder industrialization, economic diversification, and improved living standards. Against this backdrop, foreign partnerships have become vital, especially in recent decades. Among these, China has emerged as a major actor in Nigeria's infrastructural landscape, offering loans, expertise, and project execution capabilities that fill critical gaps left by Western institutions.

This study begins by providing an overview of Nigeria's infrastructural conditions, tracing them to the colonial era, when most developmental projects were designed to serve British economic interests. The chapter explains that roads, railways, and ports built during that period were primarily intended to facilitate the extraction and exportation of raw materials rather than to promote domestic development. Following independence in 1960, successive Nigerian governments sought to reverse this legacy by prioritizing infrastructural expansion as a means of achieving modernization and national integration. However, persistent problems such as corruption, weak institutions, and inadequate

planning continued to obstruct progress. The chapter also introduces the rationale for seeking foreign partnerships, highlighting that Nigeria's dependence on oil revenues and recurrent fiscal crises have made it increasingly reliant on external actors for infrastructural funding. This naturally led to stronger engagement with China, whose model of development cooperation differs significantly from that of Western institutions like the World Bank or IMF. The background chapter thus provides not only a historical and economic basis for the study but also situates it within theoretical perspectives such as dependency theory and political economy. By doing so, it establishes that understanding China's role in Nigeria's infrastructural development requires examining both the opportunities and vulnerabilities embedded in such partnerships.

Furthermore, the study looks into the historical evolution of infrastructural development in Nigeria, providing a comprehensive account of how it has transformed over different political and economic periods. The chapter begins with the colonial era, during which the British constructed basic infrastructure such as railways, roads, and ports mainly to facilitate the export of raw materials and the import of manufactured goods. This approach left a legacy of uneven infrastructural distribution, as regions rich in exportable commodities received more attention than others. Following independence, Nigerian leaders recognized that infrastructural development was essential to achieving national unity and economic self-sufficiency. The oil boom of the 1970s presented an unprecedented opportunity for infrastructural investment. The government initiated ambitious projects in energy, transport, and housing, aiming to transform Nigeria into a modern economy.

However, these projects were often mismanaged or abandoned midway due to corruption, poor governance, and shifting policy directions. By the 1980s and 1990s, Nigeria's economy faced a severe downturn, and structural adjustment programs imposed by international lenders curtailed public spending on infrastructure. This study highlights the return to democratic governance in 1999 reignited interest in infrastructural development through public-private partnerships and international collaborations. It is within this period that China emerged as a major partner. Nigeria, like many African countries, began to look eastward for development models and financing alternatives that were less conditional and more pragmatic. Thus, Chapter Two serves as a historical foundation, explaining why Nigeria's infrastructural challenges necessitated cooperation with China in the 21st century.

Next, the study focused on the growing role of China in Nigeria's infrastructural development after independence, particularly from the 2000s onward. It begins by discussing the evolution of diplomatic relations between both countries, which officially began in 1971 but intensified in the early 21st century under China's Belt and Road Initiative (BRI). The chapter explains that China's increasing involvement in Nigeria aligns with its global economic expansion strategy — one that emphasizes trade, investment, and infrastructure as tools for mutual benefit. In practical terms, the chapter outlines several notable infrastructural projects executed by Chinese firms in Nigeria. These include the Abuja-Kaduna railway, Lagos-Ibadan railway modernization, the Zungeru hydroelectric power project, airport renovations in Lagos and Abuja, and road construction projects linking key cities. Through these initiatives, China has positioned itself as Nigeria's leading

partner in infrastructure financing and implementation. The chapter further explains that China's model differs from that of Western institutions by focusing on tangible, visible projects rather than policy-driven assistance.

However, the study also presented a balanced view by acknowledging the criticisms associated with China's involvement. While Chinese loans and construction expertise have accelerated project completion, concerns persist about Nigeria's growing indebtedness, the limited use of local labor, and minimal technology transfer. Some scholars and policymakers fear that the relationship may reproduce a new form of dependency, where Nigeria exchanges natural resources for infrastructure without gaining sufficient economic autonomy. Nonetheless, the chapter concludes that China's participation has undeniably transformed Nigeria's infrastructural landscape and offers a crucial opportunity for national development if managed responsibly.

The study also examined the financial structures, operational models, and challenges that define the China-Nigeria infrastructural partnership. It begins by outlining the various funding mechanisms adopted in these collaborations. Most Chinese projects in Nigeria are financed through concessional loans, credit lines, or build-operate-transfer (BOT) agreements facilitated by Chinese state banks like the Export-Import Bank of China. These arrangements have made it possible for Nigeria to undertake large-scale projects without immediate budgetary strain. However, the chapter warns that such funding structures carry long-term implications, particularly regarding debt repayment and

resource-backed loan agreements. Beyond financial challenges, the chapter identifies several operational and institutional barriers. Bureaucratic inefficiency, corruption, and lack of transparency often delay project execution and inflate costs. There are also concerns over local content participation, as many Chinese companies import labor, machinery, and materials from China, leaving limited room for domestic capacity building. Additionally, security threats in various parts of the country, particularly in the Niger Delta and northern regions, disrupt project timelines and increase operational risks.

The study further explored social and environmental concerns. In some communities, construction projects have led to displacement, environmental degradation, and tensions between local workers and Chinese contractors. Despite these difficulties, the chapter acknowledges that the China-Nigeria partnership remains a key catalyst for infrastructural expansion. It calls for better governance, transparent financial management, and stronger bilateral oversight mechanisms to ensure that these partnerships serve Nigeria's long-term developmental goals rather than short-term political gains.

Ultimately, the study concludes that the China-Nigeria partnership should not be dismissed as exploitative nor idealized as purely beneficial. Instead, it must be managed strategically to balance foreign interests with national priorities. The Nigerian government must strengthen institutional capacity, enforce transparency, and negotiate more equitable terms to maximize the benefits of such cooperation. If guided by sound policy and

accountability, the China-Nigeria infrastructural partnership holds the potential to drive Nigeria toward the long-envisioned goal of sustainable national development.

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Iweze, D. O.	60	Senior Lecturer	Benin City	06/05/25
Osarumwense, C.	43	Lecturer	Benin City	07/05/25
Erhagbe, E.	68	Professor of History	Benin City	07/05/25
Onwara, K.	43	Businessman	Benin City	06/05/25
Akpata, D.	51	Businessman	Benin City	09/05/25
Ujene, E.	49	Civil Servant	Benin City	07/05/25
Osazee, I.	44	Civil Servant	Benin City	06/05/25
Ikponwosa, F.	63	Professor of History	Benin City	05/05/25

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