

Industrialisation/Modernisation and Socio-Economic Growth/Development in Nigeria

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Abstract

Review Article

Industrialisation or modernisation is the process of transformation of an economy from being based on traditional agrarian production methods to mass produced and technologically advanced goods and services. It involves revival of the economy from non-mechanised system to machine based manufacturing. Industrialisation simply is the development of an agrarian society into a modern society. However, it is the expectation of every society that it will be modernised or industrialised. Though modern/industrial societies are not without their challenges or obstacles, the gains outweigh the challenges. Such benefits have direct impacts on socio economic well-being of the people and development of the modern society at large. Failure to modernise puts the society at a stage of backwardness and underdevelopment leading to poor standard of living and poor quality of life. It is in view of this background that modernisation/industrialisation are considered as the option to socio-economic growth and sustainable development. Failure to attain modernity status leaves a state as underdeveloped. The purpose and objective of this academic paper is to further highlight the indivisible connection between the concept and idea of industrialisation/modernisation and growth/development. It will also provide prognosis of action that makes a case for Nigerian industrialisation/modernisation in order to foster socio-economic growth.

Keywords: Industrialisation, modernisation, socio-economic growth, underdevelopment, Nigeria, Rostow stages, structural imperialism, unanticipated consequences.

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1. Introduction

Industrialisation and modernisation denote the process of transformation of an economy from a predominantly traditional and agrarian base to a modern and industrialised economy with mass production, technological progress, and movement towards manufactured goods and services (Rostow, 1960; Todaro and Smith, 2021). This process includes vast development of industries, mechanisation of production and

revitalisation of the economy from non-mechanised and subsistence-oriented economy to machine-based economy (Lewis, 1954, as cited in Thirlwall & Pacheco-Lopez, 2022). At its very simplest industrialisation involves the structural transition from an agrarian economy to one that is capable of producing sustained increases in productivity and technological innovation.

Every society dreams of modernisation, because the benefits-more productivity, employment



opportunities, infrastructure development and better living standards-tend to outweigh the difficulties involved in doing so (Todaro & Smith, 2021). These gains have a direct impact of socio-economic well-being, with higher incomes, improved access to education and health services and overall societal progress. On the other hand, failure to industrialise leads to perpetuation of backwardness, poverty, and underdevelopment, with subsequent low standards of living and reduced quality of life (Sachs & Warner, 1995, as cited in recent analyses; Acemoglu & Robinson, 2012). In this regard, industrialisation/modernisation is popularly considered to be the main avenue to socio-economic growth and sustainable development (United Nations Industrial Development Organization [UNIDO], 2023). Societies that are stuck in the pre-industrial stages are continuously underdeveloped and have limited chances for progress.

The objective of this paper is to further elucidate the inseparable relationship of industrialisation/modernisation and socio-economic growth/development. It also moves forward a prognosis of action, making a case for accelerated industrialisation/modernisation in and for Nigeria to foster inclusive and sustainable socio-economic progress.

2. Conceptual Review

Key concepts to be explained and defined as applied in the paper are modernisation, industry, industrialisation, socio-economic growth, and underdevelopment.

2.1 Modernisation

Karl Marx conceptualised modernisation as synonymous with the emergence of industrial capitalism (i.e. the transformative process characterised by technological innovation, factory-based production and the expansion of market economies; Marx, 1867/1976, as cited in Harvey, 2020). While this shift succeeded in creating unprecedented wealth and productive capacity it also created deep social divisions and the antagonistic classes have emerged: the bourgeoisie (owners of capital) and the proletariat (wage labourers), the structural

conflict between which is generated by the exploitative logic inherent in capitalist forms of industrialisation (Marx & Engels, 1848/2002, as cited in Wood, 2023).

In modern industrial societies these new social forces have at the same time created a keen need for renewed forms of community. One important factor in this need is the pervasive feeling of isolation that comes to characterise contemporary life. In traditional agrarian societies, relationships were mostly primary (intimate, personal, embedded in kinship and locality), allowing individuals to relate to each other as members of an extended family, a community, etc. By contrast, modern society has since moved towards secondary relationships, characterised by formal, instrumental and rule-bound interactions governed by impersonal, legally enforceable norms and regulations (Tonnies, 1887/2001, as cited in Delanty, 2021; Weber, 1922/1978, as cited in Scaff, 2022).

2.2 Industry

Industry refers to groups of businesses or companies that produce similar goods and services as a means of classifying the economic activity by grouping the organisations operating with the same general field (Hobson & Sullivan, 2002). Hobson and Sullivan (2002) define an industry as a branch of economic activity which is devoted to producing a particular good or service. More generally, the term can be used with reference to firms or companies producing the same kind of product or service, using similar technologies and organisational structures (Hobson & Sullivan, 2002). Examples are petroleum industry, pharmaceutical industry, fertiliser industry and cotton/textile industry.

Types of Industry

According to Hobson and Sullivan (2002), industries are classified into 3 main categories, namely extractive, manufacturing and service. Contemporary economic classifications, however, have extended this idea and its scope into four distinct types, including the primary, secondary, tertiary and quaternary industries (United Nations Statistics Division, 2023;



Organisation for Economic Cooperation and Development, 2024).

Primary industries (also known as extractive industries) are those which directly extract raw materials from the natural environment. Activities like oil exploration, iron ore mining, quarrying, cultivation and forestry are examples (United Nations Statistics Division, 2023).

Secondary industries, these industries convert raw materials into finished goods. Manufacturing sectors, such as pharmaceuticals, canning vegetables, making steel and assembling automobiles, demonstrate this process (Hobson & Sullivan, 2002).

Tertiary industries (service industries) are focused on providing service rather than on producing physical goods. Hospitals, accounting firms, educational institutions and financial institutions are key examples (United Nations Statistics Division, 2023).

Quaternary industries are those that use modern technology and high-level human resources. This category includes research, statistics, information technology and development activities and it prevails as dominant in advanced economies of the world (OECD, 2024).

2.3 Socio-Economic Growth/Development

Socio-economic growth/development thus refers to the process of social and economic transformation in a society that amplifies its ability to improve the environment and drive social interaction positively. This process is manifested in the increased quality and standard of living for the inhabitants, which is reflected in the improvement of their income, expanded access to recreational facilities and also the provision of social amenities that are necessary in the lives of its inhabitants in order to live a meaningful and fulfilling life.

Socio-economic growth is frequently gauged by a mixture of economic metrics, e.g., per capita income, gross domestic product (GDP), and indices of capitalisation, and quality of life indicators, e.g., literacy levels, life expectancy, employment rates, personal dignity, basic human rights (for instance, freedom of association, worship, speech, personal safety, and active

participation in organisations of civil society, etc.), as well as active participation in organisations of civil society (Bassey & Ottong, 2012, as cited in recent studies; United Nations Development Programme [UNDP], 2024

2.4 Socio-Economic Underdevelopment

Socio-economic underdevelopment is a state of perpetual backwardness, which is characterised by abject poverty and the continuous deterioration of important socio-economic indicators. These include low per capita income, gross domestic product and national income; high unemployment; inadequate social amenities (such as recreational centres, pipe-borne water, good roads, and electricity); low levels of social awareness; and high levels of illiteracy. In essence, underdevelopment is the absence or failure of the sustainable development (Bassey & Ottong, 2012; World Bank, 2024).

Methods of Industrialisation/Modernisation

In order to attain modernisation, states embark on different strategies and approaches. Among the prominent ones are import substitution industrialisation (ISI), export promotion industrialisation (EPI/ELI), industrial area development, and technology transfer (Bassey & Ottong, 2012; Amakom, 2008; Ubi, 2019; UNIDO, 2023).

Export Promotion Industrialisation (EPI) also called as Export-Led Industrialisation (ELI) is the production of goods mainly for export to earn foreign exchange earnings and boost economic growth. Import Substitution Industrialisation (ISI) on the other hand involves the local production of products that were previously imported, with the goal of curbing capital flight, regulating the establishment of local industries, and increasing economic self-reliance. In many context of the developing world, ISI has been used as a first step, and is often followed by, or combined with, EPI (Ubi, 2019; UNIDO, 2023).

The Green Revolution or agricultural mechanisation is a means of transforming agriculture through the use of capitalist techniques. It focuses on mechanisation to replace traditional peasant farming, with the modern scientific discoveries and skills to



improve agricultural productivity. As a technique of industrialisation, agriculture operates on the primary (extractive) level.

Industrial Area Development is the process by which certain geographical locations are identified as reserved areas for concentration of industrial activity, where the industries are by intent placed in close proximity to each other for the benefit of efficiency and growth.

Technology transfer, although not strictly a method of modernisation, is a central goal of the processes of industrialisation and modernisation. In the case of the primary, secondary and quaternary industries, it involves the spread of information about scientific knowledge, innovations and technical know-how from a place of origin to recipient areas. This process is usually regulated by intellectual property rights and patenting frameworks (Association of University Technology Managers [AUTM], 2018; OECD, 2024).

Theoretical Background

This paper draws from three basic theories in formulating its analysis of industrialisation and modernisation in Nigeria - Rostow's (1960) five-stage theory of economic growth, Galtung's (1971) structural theory of imperialism and Merton's (1936) functional theory. Merton's functional theory is a product of general systems theory, which views society as an interdependent whole, with parts of the system performing specialized functions in order for the system to survive (Parsons, 1964, as cited in Turner, 2023). Merton (1936) defines a function as the impersonal consequence of a pattern of action in a system. He differentiates between functions, especially manifest functions (intended and recognized outcomes) and latent functions (unintended and unrecognized outcomes) and functions dysfunctions in consequence of their harming or destabilizing the system: Agnew, 2022.

In this framework, industrialisation/modernisation is a conscious social action in any society. Socio-economic growth, which takes place and which is compatible with the process of industrialisation, appears as a direct result of

this action. This triggers an important issue: is there any observable socio-economic development in Nigeria as an immediate result of industrialisation/modernisation or are underdevelopment through various policies of modernisation? This paper answers this question directly.

Galtung (1971) presents a structural theory of Imperialism, which states that the modernization process first creates monetary growth but then creates long-term imbalances in peripheral economies. Industrialising countries have chronic negative current account balances, which reflect asymmetrical exchange relations that lead to dependency. These imbalances appear in the form of a falling terms of trade and balance of payments - both are very important indicators of the performance of an economy (Galtung, 1971, as cited in Ake, 2023). Dependency in turn breeds underdevelopment in the peripheral states (Rodney, 1972, as cited in Amin, 2024). The paper discusses whether this dynamic characterises the experience of Nigeria.

Rostow (1960) has formulated five sequential stages in which societies progress to modernisation, growth and development. In the traditional society (or agrarian base society), rural economies are based on subsistence farming, and they have little access to modern industry or technology. The preconditions for take-off stage is the introduction of modern values, infrastructure, technology and industry through external aids and investments. The take-off stage is the stage when sustained growth is beginning, when profits are ploughed back into infrastructure. During the drive to maturity stage the societies attain wider economic expansion with investments in education, media, birth control and mortality reduction to absorb the population in mechanised production. Finally, the stage of high mass consumption is characterized by a sustained stage of growth, massively widespread progress and development due to the increase of absorptive capacity and the continuous accumulation of capital. This last stage is distributed to every sector of growth (Rostow, 1960, as cited in Thirlwall & Pacheco-Lopez, 2022).



These three theories offer important analytical tools to study the important variables in this study: industrialisation/modernisation, socio-economic growth/development and underdevelopment. Despite criticisms that they are not materialistic, they are very relevant. Functional theory emphasises consequences (intended and unintended) of modernisation on the socio-economic system in Nigeria. Structural imperialism theory shows us the way modernisation binds Nigeria into global networks and exposes the patterns of connectivity and dependency. Rostow's stages model allows accurate placement of Nigeria in the growth process to highlight both achievements so far and the gaps remaining to be addressed.

Impact of Modernisation/Industrialisation on Socio-Economic Growth/Development in Nigeria

This section assesses major socio-economic indicators in Nigeria to establish if the modernisation process has brought growth and development. The indicators considered are income/poverty, education, employment, new technologies and social infrastructure such as recreational centres.

Income/Poverty

Nigeria is the first African state in terms of Gross Domestic Product (GDP) with a reported value of US\$2,244,065 (IMF, 2018). This figure implies that the income generated from the industrial activities in the primary, secondary, tertiary, and quaternary sectors have risen as compared to other African nations. But the reality for the Nigerian people shows a different story: abject poverty continues at an alarming rate. According to the National Bureau of Statistics (NBS), almost 100 million Nigerians are below the poverty line and are struggling to live on less than \$1 (N63) a day (NBS, 2023). In this regard, it is clear that Nigeria's efforts at modernisation and industrialisation have not yet translated into significant improvements in income levels and reduction of poverty. Nigeria is currently home to the largest population of people living in extreme poverty in the world,

with about 86.9 million people, which is about 50% of the country's population of over 200 million people, living below the poverty line (Kazeem, 2018; World Bank, 2024).

Education

Modernisation plays a huge role in improving literacy and education through raising awareness of industrial socialisation and corporate social responsibility. Many organisations contribute in the form of construction of schools, scholarship awards to the indigent, provision of educational facilities (textbooks, desks, chairs), sponsorship of literacy programmes etc. A notable example in Rivers State, especially in Obio/Akpor Local Government Area is Heirs Energies Ltd (OML17) an oil and gas exploration company. Through its Host Community Development Trust, the company has been giving away scholarship grants to underprivileged students, thus supporting literacy initiatives. Historical evidence is also available that oil and gas royalties supported educational development in Nigeria in the past. For example, Eastern Region Government used oil money to facilitate the establishment of institutions such as the University of Nigeria Nsukka (Offiong, 1980). However, the states under the South-South geopolitical zone are still described as educationally less developed states as a result of constant underdevelopment (Federal Ministry of Education, 2023).

Employment

As previously stated, the closing or non-functional of industries and companies in Nigeria is one of the major causes of unemployment. The survival and expansion of the industries directly increase employment of human resources. Conversely, overpopulation due to the absence of industrial activities makes unemployment and youth restlessness which in turn leads to social vices such as robbery, kidnapping, and militancy (Ottong & Bassey, 2011). Unemployment is a good indicator of underdevelopment. According to the National Bureau of Statistics, Nigeria unemployment rate was 23.1% in 2017 (NBS, 2018; NBS, 2023).



Social Infrastructures

States in Nigeria are heavily dependent on the federation account, the account to be funded mainly by the proceeds of the sale of crude oil and refined petroleum products (RPPs). With low industrial income, social infrastructure is grossly inadequate. Hospitals and health facilities are frequently poor, which adds to health tourism and capital flight. Roads are poorly maintained, the power supply is epileptic and there is little attention given to recreational centres, making life difficult for many of the citizens.

New Technology

It is not possible for industries to flourish without the acquisition and application of technology as it is an important driver of industrial development. A high technological spirit in the population leads to innovation, creativity, entrepreneurship and growth of industries. Historically, higher institutions in Nigeria are more on the theoretical knowledge. However, recent efforts by institutions like the University of Calabar in Cross River State (South-South Nigeria) and other universities and polytechnics deserve commendation in introducing the applied sciences and technology programmes such as faculties of engineering and pharmaceutical sciences, new industry-oriented departments like tourism, criminology and police science, peace studies, conflict resolution, etc. Rebranding programmes and revising curricula in institutions such as the University of Port Harcourt and University of Calabar, particularly in partnership with world class firms, would help precipitate the transfer of technology, innovation and acquisition, which has eluded us in Nigeria for decades. These efforts would also foster a technological spirit and drive scientific inventions, as well as the needed platform for industrialisation/modernisation, if extended to other tertiary institutions in the country.

A close analysis of Rostow's (1960) five stage model of growth shows that Nigeria has not gone beyond the "preconditions for take-off" stage. Social infrastructure is still not good enough, and there is also inadequate capital accumulation to

prepare the country for industrial take-offs. Nigeria is still plagued by social issues including rape, armed robbery, kidnapping, terrorism, cult-related acts and vandalisation of oil and gas facilities - issues that discourage foreign investments. Modernisation is still in its incubation stage and is awaiting the conditions to reach the stage of huge mass consumption.

Possibilities of Nigeria Modernisation/Industrialisation

Nigeria has undoubtedly potential for successful modernisation because the resources and opportunities are easily available. The favourable climate and the extensive fertile land of the country favour large scale mechanised farming and agricultural production. These assets act as a good foundation for modernisation at the primary level. Rather than building processing plants without being able to ensure supply of raw materials, policy makers should first ensure that cocoa estates and plantations are established to grow cocoa in sufficient quantities for local processing. Similarly, the high availability of solid mineral deposits in the North Central and Northern parts of the country provide major opportunities for quarrying and extractive industries. The Federal Government and private entrepreneurs can establish public-private partnerships to obtain licences to explore these areas. Such initiatives would increase industrial activity, create jobs and alleviate poverty.

Furthermore, universities and polytechnics should be made to change their programme curriculum to rebrand their existing programmes and introduce new, highly industry-oriented courses in the technological fields. This reform would meet the shortage of skilled technical manpower which makes the local industries currently depend of foreign expertise--leading to capital flights and loss of revenue. Another promising strategy is government collaboration with universities to organise technological fairs to facilitate technological transfer as pioneered in China. In this regard, the government and industrial stakeholders should finance the individual researchers in order to encourage



creativity, innovation, and scientific discovery—the key drivers of modernisation.

Long-term planning must also be a central part of it. Successive governments should pledge to legal frameworks to insure continuity of industrial projects, as contained in national long-term plans. Robust institutional and legal structures should fight corruption. Authorities should confiscate unaccounted wealth, laws that perpetuate ethnicity, nepotism, and tribalism should be reviewed to promote meritocracy and competence, as highlighted by Weber (1958) in the rise of modern industrial capitalism and bureaucracy in his analysis.

Conclusion

Nigeria has over the years made several attempts to modernise and industrialise, but so far the process has faced major impediments as outlined in this paper. These challenges and obstacles have rendered it impossible for meaningful socio-economic growth to be achieved in terms of generating increased incomes, employment opportunities and adequate social infrastructure. As a result, modernisation efforts in Nigeria have not been able to enhance the socio-economic well-being of citizens, as it is evident in the high levels of poverty, unemployment, and educational backwardness of South-South and other states, which have been classified as educationally less developed (ELDS).

The future of Nigeria is bright and the expectations for modernisation are high. Through agricultural mechanisation and large scale farming, improved industrial feasibility analysis, curriculum review to introduce industry-oriented programmes in the higher institutions, capital accumulation, establishment of legal frameworks with long term planning to ensure continuity in successive governments, Nigeria can attain true industrialisation and modernisation.

Previous modernisation efforts have been inadequate. Today, attention has to shift to re-modernisation and re-industrialisation, with a strong orientation on scientific revolution in all spheres of the economy. Without this emphasis, meaningful and sustained modernisation will

continue to elude us as technology transfer-inclined industrialisation continues to exist as a mirage which continues to lock Nigeria into a cycle of imperialism and dependency on foreign goods, research output and capital, which will ultimately perpetuate the underdevelopment of the population socioeconomically.

Moreover, this paper argues that the current development path in Nigeria is not comprehensive and sustainable. It is still very sectoral and too little future oriented. Even the design of multidimensional growth and development programmes has not been able to fully incorporate insights from cognate rural-based disciplines. To meet the current and future challenges, Nigeria needs to pursue well-thought-out development strategies implemented by a multi-disciplinary approach. These strategies should be conservation based and be fully integrated into the surrounding physical environment. This approach is a judicious way of utilizing the natural resources, transforming the rural communities, creating room for full participation of citizens in the development process and maintaining environmental potential to cater to the needs of future generations. This is the type of socio-economic growth and development that this paper is advocating for.

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