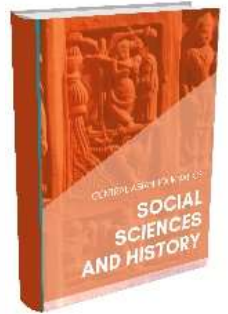




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The Path to Nigeria's Industrialization

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Abstract:

The quagmire of industrialization in Nigeria can be traced to structural disarticulation. This in other words refers to lack of compatibility among various sectors of the economy. The problem of compatibility is weak industrialization. This paper argues based on socio-economic development approach, that agriculture should play the decisive role for industrialization to take effect. Nigeria's problem is low agricultural productivity and to resolve the problem of low agricultural productivity, the remedies are the potentialities of socio-economic development. These include: re-designing of agriculture, overhauling of agriculture, mechanization of agriculture, food production, moving from subsistence to commercial farming, meaningful development in rural areas, structural adjustment programme (SAP); industrial technology, corporate co-operative activities, sourcing of funds for business, diplomatic relations and economic integration, globalization, adult education programmes and curriculum and instructional technology research etc.

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INTRODUCTION

How Africa can raise production, was the theme of a Europe – Africa summit held at Annecy, France in 1996 (Utomi, 2015). According Utomi, much of that production would depend on industrialization. In the past, emphasis was on economic development, measured in terms of gross domestic product (GDP) per capita. Today, emphasis has shifted to socio-economic development – a new development paradigm. The socio –economic development approach requires changes not only in the industrial sectors but in

other sector of the economy for industrialization to take effect. Agriculture is viewed to be strong in exerting influence on development (USAID, 2008). However, a major barrier in going through this path is structural disarticulation. Structural disarticulation can be described in different ways. Here, it is the lack of compatibility among sectors of the Nigerian economy.

Manufacturing is the leading industrial sector. A breakdown of the index of industrial production between 1970 and 1995 indicates that the manufacturing index fell from 178.1 in 1991 to 136.3 in 1995, while the total industrial index fell from 138.8 in 1991 to 128.7 in 1995 (Anyanwu et al, 1997).

The federal government has adopted several strategies to remedy this situation, but all failed. These are:

- (1) Import substitution, which aims to achieve industrialization through lessening over-dependence on foreign trade and its implications.
- (2) Export promotion, which focuses on expansion of production and exportation of raw products as well as inputs.
- (3) Balanced development which seeks to achieve industrialization by establishing linkages between industrial sectors, thereby increasing inter-industrial business.
- (4) Local resource development, which is based on sourcing raw materials locally.

What is responsible for the failure of these strategies and what is the solution?

Concept of Socio-Economic Development

Socio-economic development is difficult to define as it lends itself to different concepts and is better understood in terms of its context. Ehiazu (2016:55) defines socio-economic development as follows:

The process of growth in a country's gross domestic production (GDP) and per capita income (PCI) accompanied by fundamental changes in the particular country's economy, such changes (sometimes referred as indices of socio-economic development) would induce less dependence on foreigners/loans, it must involve transition from primary to secondary production.

It is a broader view of development that emerged in response to the weakness of the growth approach (Ake, cited in Wordu 2019), to resolve it, through distribution of benefits to members of the society, through engaging a wide range of goals. This is to be achieved through change in the vital sectors of the economy, including agriculture, manufacturing, construction, infrastructure, education, health care as well as participation and their interrelationships. According to Wordu (2019) economic growth mediates in it and eases economic advancement. It is geared towards increase in productivity and improvement in people's wellbeing.

The Problem of Compatibility in Nigerian Economy

The problem of compatibility in Nigerian economy is weak industrialization. This is a situation in which industries import tangible goods from other countries to create a new product which has little or no local content (Anyanwu et al., 1988). This means that manufacturing is in the form of assembling of intermediate products from other countries.

For instance, Fadahunsi & Igwe (1989) observed that manufacturing of motor vehicles has been carried out by inefficient assembly plants, some of which have wound up operation (such as Leyland and National Trucks manufacturing company plants at Ibadan and Kano respectively). This has contributed to the failure of backward integration (Utomi, 2015). It also poses tremendous difficulties for the economy through closing up the possibility of generating local industries that could provide the inputs locally (Fadunshi and Igwe, 1989).

What is Industrialization?

Industrialization originated in Europe around 18th century as a result of the industrial revolution. It is marked by high productivity and incomes and associated with modernization and national economic power (Barns & Feldman, 1972). The major stepping stone is the rationalization of agriculture, according to a school of thought. To them, industrialization involves a reduction in agriculture's share of GDP while the share of manufacturing increases in the economy. Also, agriculture's share of total labour force falls while share of manufacturing increases. According to USAID, (2008), this theory has not been found to be relevant or applicable in the experiences of developing countries.

Rather, a growing body of literature views agriculture as playing a crucial role in industrialization. According to USAID (2008), Shultz reveals that productivity-led agricultural transformation can make meaningful contributions to economy-wide transformation than just providing surplus labour and savings to support industrialization (USAID, 2008). Still on the need for agriculture, Utomi (2015) stresses that the issue of industrialization lies between manufacturing and agriculture.

Role of Agriculture

Agriculture has direct and indirect effects on the economy. The direct effect is the supply of food for all category of worker's thereby ensuring food security. Agriculture also supplies manpower to boost production in the industrial sector (Todaro and Smith, 2009). The indirect effect of agriculture is linked to agro-processing and input production. Also, direct effect of agriculture, is the "wage good effect".

This is a situation whereby lower food prices emanating from increased production leads to an increase in savings potential (capital accumulation) of the agricultural sector which in turn stimulates demand for goods produced by the industrial sectors (Chauvin et al, 2012).

Nigeria's Problem

Nigeria's problem is not strictly based on manufacturing or the industrial sector. Rather, it is situated in agriculture. It is low agricultural productivity. Ake (1981:98) reflects on this when he argues as follows:

The current trend is that agriculture contributes about 30% of the Gross Domestic Products (GDP) of African economies but remains the means of livelihood for over 90% of the population. The implication of this is that the productivity of agriculture is very low.

Nigeria's agriculture contributed 14.63% of GDP in 1983 (Anyanwu et al, 1997). forty years later, that is 2023, Agriculture's contribution to GDP only slightly increased to 23.35%.

This low productivity of agriculture negates industrialization. UNESCO (1980) points out that food importation arising from low productivity of food weighs heavily on trade balance and on the process

of industrialization itself and its labour and national requirements. Low productivity leads to decrease in workers incomes thereby stifling the domestic market for manufactured goods. Limited domestic markets will in turn result in export-driven production while limiting the possibility of forward and backward linkages between the industrial sectors.

The Problem of Low Agricultural Productivity

The problem of low agricultural productivity in Nigeria is poor farm techniques. There are three conditions which warranted this problem. One, only small area can be cultivated using traditional tools such as short handled hoe, axe, knives, shovels etc. Two, shifting cultivation is no longer effective, Hence, farmers are likely to cultivate an area for unusual period of time, leading to diminishing returns to increased labour inputs which lowers productivity of labour. The third is that during the non-farm season labour is abundant and scarce when the main farming season starts. In spite of these realities, production is still based on the usual techniques which are inconsistent with the present situation (Todaro & Smith, 2009).

How Can the Problem of Low Agriculture Productivity be Tackled?

The solution involves the potentiality of socio-economic development which include:

Re-Designing of Agriculture

Re-designing of agriculture is a critical factor for achieving higher productivity levels. This involves focusing on the small-scale farmers because they constitute the majority, rather than on the few wealthy persons involved in agriculture. The current agriculture design in Nigeria is in tandem with British colonial policy, which sought to ensure that colonies served as sources of cheap raw materials for British industries as well as market for their products (Deedam 2022).

Agriculture could be re-designed to elicit the greater involvement of the rural labour force. This has the advantage of making agriculture attractive to youths and young graduates in various fields and ensure that credit and other incentives reach the small farmer as a result of which they will be encouraged to adopt innovations and technology in their agricultural practices.

Overhauling of Agriculture

The entire system of agriculture in Nigeria can be overhauled towards making agriculture a business and not a mere economic activity of the poor. In this light, farmers could be seen as entrepreneurs and, therefore, operate as joint venture. Examples of countries that have recorded success could serve as a reflection and learning resource.

Equal attention could be paid to both male and female agriculturist to eliminate gender disparities. This is because, although woman play important roles, their part in development process is not considered important. This could be by prioritizing food crops more than cash crops because the former are mostly grown by women.

Mechanization of Agriculture

Mechanization of agriculture is the use of machines in farm operation. Machines and equipment can bring about sustained improvements in output and productivity (Todaro & Smith, 2009). For example, one person using a machine such as a huge combined harvester or tractor can in one hour do the work which would require more than one hundred workers to accomplish using traditional methods. Machine does work faster and is more effective than man using his physical strength. Machine does not need to rest in order to be ready to work as men do. The advantages of mechanized farming are possible where there is availability of land for expansion.

Food Production

Increase in food production is required to lesson food importation, but it can also bring improvement in the farming populations incomes. This could lead to expansion of the domestic market for manufactured goods. It also has other positive effects, such as increase in the labour supply to industry and improvement in savings to support industry (USAID, 2008). Also, food is needed in order to avoid malnutrition, thereby increasing spending on investment.

Moving from Subsistence to Commercial Farming

This goes beyond adaptation of the farm structure to meet the demand for increased production to embrace changes in the entire socio-economic system. It involves improvement in the rural environment through the development of infrastructures, training women and provision of credit for poorer farmers, etc. These factors have a positive impact on level of output and productivity.

Meaningful Development in Rural Areas

Meaningful development in rural areas requires improved, access to income generating activities, increased employment opportunity, increased health care delivery, opportunity for people to acquire skills, increased opportunity of women to participate in economic, social and political activities, improvement in the provision of economic (road, market, irrigation, fertilizers, seed etc.) and social (schools, hospitals and health centres, power, water) infrastructure) (Todaro and Smith 2009). These measures have the potency for raising agricultural productivity. This is because they discourage rural-urban migration thereby retaining capital in rural areas while providing a favourable climate for business.

Structural Adjustment Programme (SAP)

Structural Adjustment Programme (SAP) was introduced in Nigeria between July 1986 and June 1988 to achieve specifically objectives which include to restructure and diversify the productive base of the economy in order to reduce dependence on revenues from oil and imports; and to achieve fiscal and balance of payment, in order to lay a solid base for sustainable non-inflationary or minimal inflationary growth and to improve the efficiency of investments in the public sector while encouraging the growth potential of private sector (Odita, 1989).

These objectives are valid for the development challenges of the Nigerian economy and in particular its agricultural sector. This is because restructure and diversity of the productive base of the economy permit new factors of production to be used in the production process thereby leading to increased productivity.

Industrial Technology

Industrial technology in the agricultural sector leads to production of various types of farm tools and materials needed for efficient and effective farm operations (Fadahunsi and Igwe, 1989). It can bring about a positive shift in production technique, stimulate indigenous learning processes, help in diffusing such learning and generate ideas needed for adaptation of foreign technology.

Corporate Cooperative Activities

Corporate cooperative activities impact positively on agricultural productivity in many ways including:

- i. Through providing credit to farmers which enables them to purchase inputs, which credit is not possible if they are to depend on commercial banks. For example, the Grameen Bank – a non-governmental organization in Bangladesh - exploited the existence of corporate cooperative activities to provide credit for the poor, mostly women. And this had positive impact on poverty reduction (Art Wood & Sick, 2008).
- ii. By providing equipment and machineries which farmers need for their productive activities.
- iii. Involving farmers in decision-making at local, state and national levels, directly and indirectly through local participation in their organization's activities.
- iv. Involvement in productive activities such as farming, fishing, processing and so on.
- v. Through educational activities which help to enlighten them on the principles and operations of co-operatives. Success largely depends on how well they understand them.

They fall into six divisions, including consumers, agricultural, housing, artisanal and industrial service and fishery corporate cooperatives. There are various types of corporate cooperatives, associated with each category. Under agricultural corporate cooperative, we have thrift and credit type, produce corporate cooperative and agricultural purchase corporate co-operatives. Craftsmen cooperatives, small traders' cooperatives, workers' productive cooperatives and urban credit cooperatives are grouped under artisanal and industrial corporate cooperative activities. Transport services, health and medical services and insurance services corporate co-operatives are grouped under service corporate cooperatives.

Sourcing Funds for Business

The most important means of raising agricultural productivity is sourcing of funds. Funds are possible through borrowing from cooperatives, micro-credit and through personal savings. This has proved effective in raising productivity. The most effective sources of funds for the small farmer are through micro-credit and cooperatives. The Grameen Bank's micro-credit scheme in Bangladesh testifies to the efficacy of this source. There are also many success stories of associated with corporate cooperative activities. Nigerian Government can draw lessons from such success stories. They can use the services of development banks to provide financial support and rural credit to small farmers just as it is done in Thailand. Thailand government support for agriculture exceeded investment in irrigation to include its financial sector, (USAID, 2008)

Diplomatic Relations and Economic Integration

Countries that establish diplomatic relations as well as regional economic groupings can influence developments in their economies Todaro and Smith (2009) view that regional groupings of small nations

can lead to the extension of their domestic markets. They believe that the future holds better prospects in this wise. Fadahunsi and Igwe (1989) hold that economic integration is a means by which member countries tackle small capital, low technology and limited markets characteristics of their economies. Free trade and other agreements can be exploited by the agricultural sector to boost production. Nigeria can exploit its membership of ECOWAS and diplomatic relations with China, to foster increased productivity.

Globalization

Globalization is a force that can propel change in an economy developed or developing. USAID (2008) notes that rapid growth in Asian countries has accelerated the demand for African primary commodities. This can result in increased level of agricultural output and productivity through expansion of production by the farming populations. Globalization of technology may also have positive impact on learning and application of innovation in production of African economies. For example, through the role of internet and communication technology (ICT).

Adult Education Programmes

Adult education programmes are avenues for training of people in various skills related to agriculture. This leads to acquisition of skills and abilities for effective performances. Productivity increases can be achieved in various areas, such as crops, fishery, aqua-culture poultry etc. The relevant adult education programmes include basic literacy education, vocational, extension education, computer education, fundamental education, entrepreneurship education, etc.

Role of Adult Education in Social Mobilization

The role of adult education in social mobilization is to help ensure that people are not only well informed but also participate actively and gainfully in social, economic, politically and cultural activities. Adult education helps people to understand development plans and programmes targeted at the whole society or a group within it.

The Regenerated Freirean Literacy for Empowering Community Technique (REFLECT) is the best strategy for achieving mobilization as a majority of population are not only illiterate but are also marginalized (Wordu, 2018). REFLECT was introduced in Nigeria by Action Aid in 1999 and adopted by the National Commission for Mass Literacy, Adult and Non-Formal Education (NMEC), as a way to achieving literacy education. This approach links literacy with development, be it social, economic, political or otherwise.

Re-Designing of Distance Education

Distance education in Nigeria favours mostly urban dwellers, especially those seeking higher education. Distance education can be re-designed towards addressing the needs of the agricultural population most of which resides in rural areas. Radio programmes can be designed to organize large-scale campaigns in subjects or areas related to agriculture. Television and computer are also important modes of delivery for distance education, but they are not accessible to majorities of the rural population.

Cross National Research

Gross national research is a study that seeks to compare specific issues in two or several countries based on the socio-cultural settings. The importance of this type of research in providing examples for a nation desirous of improvements in its social, economic and political system cannot be overemphasized. They are useful to reflect on other nations' experiences in forming one's nation's policies and local practices. Such researches will make for comparisons in terms of the strategies adopted, problems and their solutions. It would help them in making the best choice of options.

Curriculum/Instructional Technology Research

Curriculum/instruction technology research explores the problems and challenges of teaching and learning as well as the means of tackling them through examining and re-examining the theories, principles, delivery method and techniques for effective teaching and learning. Some of the emerging reforms in learning resulting from curriculum/instructional technology research include tools such as: digital learning, flipped classroom, blended learning, experiential learning, concept mapping and computerized learning. The use of these learning tools is likely to bring about better results not only in terms of knowledge but also tangible outcomes such as change in productivity and output levels (Amadi, 2022).

Conclusion

A major conclusion of this study is that we must look beyond the industrial sector to embracing the agricultural sector for solutions to our problems. Our challenge is to raise agricultural productivity and output levels. This is because it is the pathway to widening the domestic market for manufactured goods. Import substitution will not succeed unless there is wider domestic market for manufacturers. A wider domestic market for manufactured goods stimulates the emergence of industries that produce inputs needed by other industries, thereby lessening dependence on the importation of inputs which have negative impact on balance of payment. This will have the effect of backward and forward integration of industries.

To achieve increased agricultural productivity and output levels, the answers are the potentialities of socio-economic development such as re-designing of agriculture, over-hauling of agriculture, mechanization of agriculture, food production, moving from subsistence to commercial farming, meaningful development in rural areas, corporate co-operative activities, adult education programmes, role of adult education in social mobilization, cross national research, curriculum/instructional technology research, globalization, diplomatic relations and economic integration, among others.

Based on this, one can conclude that industrialization requires fundamental changes in the social and economic landscape of the nation. It can also be said that industrialization involves state influence. China and Japan are good examples of states that participate in industrialization.

Unless the state is fully involved in development, industrialization is but a mirage. Lastly, we conclude that neglect of the rural sector means failing to industrialize. This is because that is where the important resources we need are located. It is in the rural sector that agriculture is mostly carried out. That is where the development journey should start. This calls for a more serious commitment on the part of the government towards strengthening of our institutions, values, leadership, at various levels and so on.

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