INDUSTRIAL DEVELOPMENT CHALLENGES FOR THE DEVELOPING COUNTRIES

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ABSTRACT

Various factors have mitigated against industrial progress in developing countries, resulting in an increasing ridge between the Advanced North and the Less Developed South. Conventional economic factors aside, the historical legacies of colonial rule including enhanced neo-colonial tendencies of the recent decades have become the antithesis of industrial advancement in the developing world.

This paper has identified some of the constraining factors and the challenges they pose to the industrialization process in Developing Countries. The paper submits that a strategy of flexible but appropriate industrialization enshrined in time and size dimensions is one of the greatest industrial challenges for the Developing Countries. Regional and global policy and institutional commitment are also considered essential for a successful industrialization.

KEYWORDS: *Proto-industrialization; Colonial factor, infrastructure and input resources, market size, appropriate industrialization policy commitment.*

1. GENERAL ISSUES

Industrialization is the process of building a country's infrastructure, raw material and allied resource capacity with the intent to manufacture goods for final consumption and also to facilitate further production.

Throughout history, industrialization has been accepted as the most expedient means of achieving economic growth and development (2). The economic history of the Advanced Countries of today provides a clear evidence of the transition from and the linkages between rural agrarian societies and the highly industrial economies. The experience of Great Britain, specifically England and Wales, which pioneered the industrial revolution, gave credence to the concept of "proto-industrialization" which Mendal (12) has described as industrialization before industrialization. In Britain, the pre-industrial revolution's industrialization was basically agro-based. It rallied around England's cotton and textile operation with raw materials drawn from the rural areas where production techniques, the form of energy used, and the ideas and concepts employed were traditional and characteristically crude. This situation prevailed in England for a greater part of the eighteenth century until 1760 when cotton spinning was developed and mills were revolutionalised to utilise the new spinning machines. In other words, the cotton industry in Britain during the industrial revolution only pioneered new ways of doing the old and traditional things under the proto-industrialization era.

The post proto-industrialised order was one of machine manufacturing with the focus on the development and production of small-scale machinery and equipment. Finally, subsequent developments in science and technology including state craft induced an authentic state of mass industrial production.

It is in the light of the historical experience, as per the industrial revolution of Britain, that the Developing Countries of Asia, Africa and Latin America have come to consider industrialization as the main engine of growth and development. Not only are they saddled with low living standards, higher rates of population growth; but also Developing Countries, generally, experience unstable governments. The regime of political instability created by dictatorial military and regimented governments in Developing Countries often tends to hinder a smooth industrial process and economic development.

Because they are politically unstable and economically weak, Developing Countries have tended to depend on the advanced industrialised world economically and technologically (7) despite the growth

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awareness in the developing world that industrialization or "modern economic growth," a term preferred by Kuznets (10), is the sure way of increasing production, fashioning new and quality products as well as increasing the relative ratios of expenditures on capital formation and consumption, inter alia.

One major compelling reason for Developing Countries to industrialise is due to the fact that manufacturing activities redress the problem of unemployment, be it general, seasonal or disguise unemployment. As employment increases, incomes rise, and this creates an expansion of the market which in turn allows for further processing of a variety of manufacturing activities.

Industrialization also provides the impetus for developing economies to achieve diversification. This is particularly true for those countries which traditionally depend on single or very narrow range of exports such as cocoa in Ghana, coffee in Kenya and, until recently, rubber and palm oil in Malaysia. Industrialization allows these traditional export commodities to be processed into various products in order to add greater value to exports.

Industrialization also provides the stimuli for promoting non-traditional goods and services. In West Africa, for example, non-traditional export crops like pineapples, green peas and a varieties of okro have been promoted; and in Kenya, and Zimbabwe, cut-flowers are now air-freighted to European supermarkets on daily basis. Allied services like tourism have also flourished in developing countries which have stepped-up manufacturing and industrial activities.

It is also true that the performance of macro-economic variables like income, investment, employment and prices are much better in the industrially developed economies of the North than in the Developing Countries. In fact, continuous price instability and double digited inflation rates are usually associated more with Developing Countries than the developed ones. Between 1965 and 1980, for example, the inflation rate in the industrially advanced world was 7.7%, and during the 1980-1990 period the rate fell to 4.4% (19). In contrast, the rate of inflation in the developing world grew from 16.7% for the 1965-1980 period to 61.8% during 1980-1990 period.

Given that industrialization is the propulsion of growth in the developed economies of the North, and given the benefits that can accrue from increased manufacturing activity in the Developing Countries, it is pertinent to question Developing Country's inability to achieve greater strides towards industrialization. Several considerations and constraints abound.

For the rest of this papepr, two main objectives are addressed. First, the key limitations to a meaningful industrialization in the Developing Countries are identified. The second aim is to assess the challenges that the identified constraints pose to the industrialization process in the Developing Countries.

2. IDENTIFYING THE LIMITATIONS TO INDUSTRIALIZATION

Some of the factors which have constrained the smooth process of industrialization in Developing Countries are identified below.

2.1 The Colonial Legacy

It is pertinent to contend that the historical legacies of the colonial rule in most Developing Countries, have been antithetical to the industrial advancement of these countries. The imperialists or colonial masters like Britain, France, Belgium and Germany who also initiated and nurtured the industrial revolution during the eighteenth and nineteenth centuries, depended largely on the so called "overseas colonies" for basic raw materials and tropical produce. Basically, these were processed and refined for end use in the "master" countries to generate and sustain their advanced economic and social standards.

The colonies also served as ready markets for European manufactured goods. Thus, the trade relationship between the colonies and their colonial master, at the time, was designed, purposefully to serve the dominant, if not the exclusive, interest of the latter. Under the policy of assimilation endorsed by France, for example, it became easy for France to convert her colonies into natural, easy and cheap market reservoirs for French manufactured and industrial product.

It is true that in most Developing Countries today, some negative colonial structures and super-structures have been shed away, and that continuous inroads are being made to promote industrialization on the fast lane, as evident by the "tiger" economies of South-East Asia. But it is also very true that in recent times the advanced industrial economies of the North have turned their developing counterparts into dumping grounds for cheap and shoddy products in addition to health hazard-prone contaminated as well as waste products. The colonial legacy of the very past has thus orchestrated itself in new ways to stifle industrial progress in Developing Countries.

2.2 Poor and Inadequate Infrastructure

One of the problematic factors of plant location in the industrialisation process is inadequate infrastructure. The initial provisions of infrastructure including communication and transport networks in Developing Countries were designed to satisfy the exploitative goals of the colonial powers. The provision of infrastructure facilities were non-comprehensive and inadequate; and those that were available were built at strategic locations and regions to facilitate the repatriation of precious minerals and other valuable resources. The absence of adeqauate infrastructure facilities since colonial times has undoubtedly exerted a heavy toll on the industrialization efforts of Developing Countries. Because of inadequate and poor roads, for example, distribution, transportation as well as marketing costs tend to be prohibitively high to the extent that expansion and new investment in plant, machinery and factories often become unprofitable. Whilst countries like Nigeria, Brazil and India enjoy comparatively better developed transportation and communication systems than other countries like Liberia or Ghana, for example, one must however hesitate to conclude that the relatively better infrastructure facilities in the former are necessarily serviced and sustained properly, efficiently and timely.

Notably in India, the Nehru-Mahalanobis long term policy model for industrialization, for the (1951-1956) and (1956-1961) periods identified and recommended the establishment of an infrastructure base for power and transport as an integral part of a modernisation strategy. But power and transport are not exhaustive requirements. Jain Ashot [1] has indeed pointed out that the sub-continent (India) would need investments in Science and Technology (S&T) and Research and Consultancy (R&C) capabilities in order to achieve an industrialisation strategy capable of maintaining a self-reliant and sustainable development.

In Ghana, the much publicised Economic Recovery Programme (ERP) of the 1980's was essentially and implicitly set at rehabilitating the country's deteriorated infrastructure. Instead of embarking on new investments ventures therefore, the government of Ghana found it expedient, at the initial stages of the ERP, to raise the capacity utilisation of the existing manufacturing establishments [5]. It is easy to understand as per the Ghanaian experience, that a thorough and regular maintenance of existing infrastructure facilities is required to keep the process of industrialisation alive. In many Development Countries, the common practice has been to adopt the "maintenance by crises" approach to industrialization, which only restores, maintains and sustains the existing infrastructure. This strategy will have to give way to a flexible approach based on planned and periodic maintenance so as to provide a solid platform for innovation in infrastructure and hence industrialization.

2.3 Underutilisation of Raw Material Endowment

The usual argument that the inadequacy of raw materials in developing countries presents a major barrier to the process of industrialisation may hold true for individual countries such as those constrained by natural, climatic and geographical factors; but one cannot claim a generalisation for all Developing Countries. What cannot be gainsaid, however, is that there exists scanty and imperfect knowledge of the volume and quantum of raw mateirls and other resources endowment available in the Developing Countries. Unlike the Advanced Countries, comprehensive surveys on the geology, hydrology, soil and land use potentials in Developing Countries are lacking. Partly as a result of the untapped potential of their raw material resources, Developing Countries have remained enviable and significant sources of raw materials for the industrially developed markets, thus making it difficult for the Developing Countries to substantially disengage their economies from the Advanced Countries.

In the area of primary commodities production, the Developing World exert a near monopoly. According to IMF sources, Developing Countries have monopoly in food beverages with Brazil and Columbia dominating in coffee production, La Cote d'Ivoire, Brazil and Ghana are the major producers of cocoa beans, whilst India dominates the green and black tea production [3]. For agricultural raw materials, Malaysia and Indonesia dominate in log production of tropical hardwood whilst Brazil and China are noted for sawwood production. China also dominates in leaf tobacco production whilst Indonesia and Malaysia are notable traditional natural rubber producers, Jute production and consumption have become the traditional preserve of India and Bangladesh whilst China again dominates in the production and consumption of cotton [9].

In the production of minerals and metals, the IMF statistics put Chile on top in mine production of copper (the USA is the largest producer of refined copper). The Republic of Guinea follows after Australia in the world's bauxite production and China comes next after the USSR in iron ore production. The mine production of tin is dominated by Brazil, and refined production of tin remains the domain of Malaysia. [9]. In Sub-Saharan Africa, Zaire and Zambia are famous for copper mining; the oil production and prospects in Nigeria have remained unsurpassed; whilst the Ashanti Goldfields Mining Company in

Ghana has expanded in production and acquisition.

Since 1985, the Ashanti Goldfield Company (AGC) has raised its yearly production from about 220,000 ounces to over 900,000 ounces; and in 1996, it became the first African Company to be fully listed on the New York Stock Exchange [15]. But much more, AGC keeps finding more gold in the ground than it takes out.

Despite the untapped potentials of raw material and mineral wealth in the Developing Countries, their economies have remained largely not industrialised mainly as a result of exploitation, wasteful mismanagement and in many other cases, the mineral wealth is simply squandered.

There is also the unjust world economic order as regards the down-trend prices of primary commodities and the up-trend prices of foreign manufactured goods, which coupled with the problem of drought, desertification and famine, create additional problems in the industrialization efforts of Developing Countries. Thus although it is till necessary to increase raw agricultural production and processing activities, there is even a greater need to expand the markets within and between Developing Countries for their produce to make up for the financial losses that they incur in Western Advanced markets. The promotion of a general socio-political goodwill among Developing Countries augurs well for global peace, and favours economic growth and development in the region.

2.4. Labour Resource

Labour is an essential input in the process of industrialization. In the world of works labour is the most important factor, be it skilled or unskilled; and Developing Countries have a lot of the latter. Labour constitutes the human power and ability, and has versatile utility in industry including designing and operation of machinery and equipment.

The relative scarcity of skilled labour which may be defined to include entrepreneurial ability, is a grave impediment to successful industrialisation in Developing Countries. According to UNESCO statistics, the density index of scientists and engineers per million inhabitants in 1980 for example was 49 for Africa, 127 for all Developing Countries (or so called Third World) but 2,586 for the industrialised advanced countries of the North. These figures show a very wide disparity; and this gap between the North and South has not narowed in recent years.

In Developing Countries, labour is predominantly rural, unskilled and semi-skilled, and therefore needs training and education so as to develop and acquire the necessary skills and expertise for industrialisation. But mere training or education per se, however is not sufficient to open the doors of industrialisation. Many Developing Countries, especially those in African, have pursued vigorous and expansionist educational policies to the extent that some have trained, standard, adequate and employable human power resources to trigger the take-off to industrialisation. Under such circumstances, what is required is proper and effective supervision and management of the trained personnel in addition to instituting incentive measures to boost performance and to safeguard job security so as to avoid brain drains into the already saturated market of the industrially advanced economies. There is thus the need to cultivate a culture which does not only derive entrepreneurial and managerial skills and abilities in the Developing Countries but also retain them for local use.

There are measures that can help narrow the widening economic as well as social ridge between the Advanced Countries and the Developing Countries. These include the growing awareness of the need to **stepup** South-South socio-economic co-operation. Research and Development (R&D) must be funded adequately, and there must be separate funding to generate qualitative improvement in Science and Technology (S&T) with the view to strengthening the intellectual resource capacity in Developing Countries.

It has also been suggested that Developing Countries should spend less on the military and Defence but spend more on Social Services like education and health [6]. According to the African Academy of Science sources, in 1990, Developing Countries spent between 0.2% and 0.3% of their GNP on Research and Development compared to 2.1% - 2.5% for the Developed Countries. On health services, Developing Countries spent 1.4% of their GNP whilst the Developed Countries health service expenditure was 4.8% of their GNP. In contrast, the military and defence expenditure in Developing Countries constituted 3.7% of their GNP, a mere 2.1 percentage points below the defence spending ratio in the Developed Countries [6].

2.5 Capital Resources

Capital accumulation and industrialization may be considered as identical processes. There is a historical evidence to this. Through the net inflow of capital to Britain from its non-white dependent colonies and eventually into the white colonies of the new world (USA and Canada), Britain pumped more

investment into the latter. The ultimate result today is clearly demonstrated by the highly industrialised status enjoyed by the USA at the expense and neglect of Africa and the Developing World as a whole.

In essence Developing Countries have capital problems, and these limit the industrialisation process. Physical capital like equipment and machinery is scarce and expensive. Access to financial capital is also problematic in so far as the income levels of Developing Countries have remained relatively low, and their currencies not convertible. In fact, capital has become such a controversial factor in the sense that its deficiency constrains development, whilst excessive capital often results in misuse and other abuses. The implication is that a certain critical level of capital is needed, given the unique circumstances of a country, to properly stimulate the industrial development of that country.

The sources of financial capital usually include taxation, foreign loans and investment and direct government provision. The mobilisation of domestic capital through savings is relatively low in the Developing Countries; and the problem is compounded by the deficiency of private initiatives and ambitions for industrial pursuits. Most people in Developing Countries are generally more disposed towards investing in commercial (trade) activities and also in land and cash crops rather than in manufacturing and other industrial ventures. It is thus common practice for accumulated private savings to be used to purchase imported consumable items for commercial purposes; whilst in fact the same money could have been used to set up business enterprise to produce the consumable items and thereby benefit from the relatively abundant cheap domestic labour.

The capital requirement for establishing a manufacturing unit in Developing Countries is often larger than that of a similar concern in a highly industrialised economy, where advantages due to externalities and other forms of industrial concentration abound. To set up a manufacturing firm in a Developing Country one must import the plant, that is the capital equipment and machinery from a developed and industrialised country. Often times, foreign experts are contracted to install, monitor and service the plant and machinery at considerable cost, at least until local experts are trained to take over. Also, a stock of duplicate plant and machinery parts have to be imported to maintain existing equipment; in addition to holding sufficient stock of raw materials to ensure continuity in the chain of production. It is thus important to stress that a substantial portion of the capital input for industrial use in many Developing economies is imported. In other words, the volume and value of the import-content of a newly established manufacturing concern in a developing country are prohibitively high. All these provide the rationale for a greater need to grant newly industrial establishments tax-holidays and other incentive and subsidy facilities in the Developing Countries.

There are also risk factors in the acquisition of capital from foreign sources. In most Developing Countries, financial institutions and intermediaries such as the Stock Exchange and Capital Markets are either not available or not well developed; and foreign financial capital do not thrive well under such environment. The risk factor is also shrouded in political instabilities. The frequency of abrupt and discretionary changes of governments in Developing Countries is not conducive to sound and sustainable industrial and economic development. Political instability creates increased risks and uncertainties in economic activities and indeed deters foreign investment.

It must be mentioned also that the distribution of foreign capital investment in developing countries is not evenly spread. In 1995, for example the 47 countries of Sub-Saharan Africa attracted a mere 3% of the total Foreign Direct Investment (FDI) in-flow to the Developing World. But Latin America and the Carribbean received 2%, whilst Asia and the Pacific region received as much as 59% [15]. Unlike Sub-Saharan Africa, the Arab states of Africa bordering, the Mediterranean Sea, are much closer to Europe and therefore tend to benefit easily from the crumbs that spill out of the Europena economic basket.

2.6 Market and Regional Groups

The availability and size of the market still provide a fundamental guide to industriliasation. The age-old thesis of Adam Smith that division of labour is constrained by the extent of the market, actually referred to the specialisation of jobs and skills within the production process. In many Developing Countries, the size of the domestic market is small largely because per capita incomes are low. There is also a highly skewed pattern of income distribution which does not benefit the relatively lower income earners. Though they constitute a greater percentage of the working population, this group receives less spendable money.

Ironically, the relatively larger population size of the Developing World constitutes a greater market avenue for the manufacturing and service products of the advanced and industrialised countries. In 1979, there were 3,245 million people in the Developing Countries as compared to 671 million in the advanced

industrialised countries [18]. The respective population figures for 1990 were 4,145.8 million and 816.4 million for the Developing and Developed Countries; and the projections for the year 2030 are 7,441 million and 919 million for the Developing and Developed Countries in that order [19]. Thus between 1990 and the year 2030, the population of the developing world will grow by more than 3 billion, and industrial output and energy as well as food production will have to increase several fold especially in the developing countries in order to maintain the population pressure. It is thus assumed that if there are increased manufacturing and ndustrial activities within the group, developing countries can utilise their potential market size, and hence effective market demand to advantage.

Already, stepwise efforts at economic as well as political integration in Developing Countries are being pursued. Existing Regional Co-operations include the Economic Community of West African States (ECOWAS), the Southern African Development Community (SADC) and the MAGHREB Group, all in Africa. In Latin America, there is the Latin America Integration Association (LAIA), the Latin American Free Trade Area (LAFTA) and the Carribean Economic Community (CARICOM). There is also the Association of South East Asian Nations (ASEAN) in Asia. Regional grouping like the Afro-Caribbean-Pacific Group (ACP), and the Organisation of Petroleum Exporting Countries (OPEC) have been implicitly patterned to neutralise the trade and economic exploits of the industrialised countries in the European Community, North America and Japan. In very recent times, a group of eight Developing Countries, including Nigeria, has constituted itself into the D8 Group to counter the unilateral policies and exploits of the G7 Group of the Developed World.

Thus, given the extent and size of the market, the regional economic co-operations in Developing Countries can trigger an expansion in large scale manufacturing and industrial activities, with implication, for trade creation and trade diversion. In the former case, countries with higher cost sources of production will be replaced by those with lower sources of production via changes in tariffs, quotas and other trade restrictions.

It is also worthy of note that under the existing order, the Trans-National Companies (TNC) which originate from the industrialised countries have "discovered" and used the so called Newly Industrialised Countries (NIC) like Singapore, Hong Kong, Taiwan and South Korea and recently Malaysia, Thailand and Indonesia, as cheap platforms for exporting manufactured goods to the rest of the world. Cheap, because the TNC offers low wages and utilises the locally available and regimented labour force in these countries to gain competiveness in the world market.

Compared to the economies of Sub-Saharan Africa, there is no doubt, however, that the Newly Industrialised Countries (NIC) of Asia have succeeded in their import substitution and export-oriented industrialisation strategy. But the point must be made that within the NIC group, basic disparities exist as regards the degree of political stability, the effects due to fragile nature of primary commodity market, the degree of cheap labour and the extent of automation in manufacturing activities among others. It is therefore critically important to be country-specific when comparing the industrial capabilities of Sub-Saharan Africa for example, with the Newly Industrialised countries (17).

3. THE INDUSTRIAL CHALLENGE

3.1(a) The Need for Agricultural Expansion

Severaltheses have been advanced on industrialisation and development of the Developing Countries. The two basic and relevant theses are those propounded by Arthur Lewis (1954) and Paul Prebish (1964) (also associated with Singer) [14]

Arthur Lewis perceived a classical two-sector development model which emphasised that agriculture should be developed by virtue of the natural characteristic of Less-Developed Countries, as a means to chart a smooth transition to industrialisation. Agriculture essentially provides food for the population and it also provides raw materials to feed local industries. It was argued that in both circumstances, a sizeable level of income and employment could accrue to each sector, and cause additional expansion in manufacturing and industrial activities.

The Prebish-Singer thesis originally provided the rationale for Latin America's effort at industrialisation. Disoriented by the secular decline in terms of trade of their primary products, the Latin America countries embarked on an import restriction policy through import substitution. Though one cannot claim a complete success, the import substitution strategy was able to reduce the deep depression in Latin America's commodity exports and hence its Balance of Payment crises at least to some degree. In more recent times, Latin American Countries are faced with the challenge of how to recover sustainable growth, and have identified specific and logical stages, namely, the macroeconomic stability phase; the phase of incentive system and liberalisation and investment restoration phase. Patronising the logical sequence of

stages, according to Marcelo Selowsky [14] can lower the external debt burden of these countries.

In general, import substitution as a direct policy of industrialisation for Developing Countries failed in the past because factor inputs like capital, raw materials and skilled labour (including entrepreneurship) had to be imported. The direct result was that production costs escalated and product prices also went up creating non-competitiveness besides poor product quality. The unstable political feature in some part of the Developing World, especially Sub-Saharan Africa, and the prevalent socio-cultural imperatives in these countries do not encourage a successful agricultural and hence industrial development. According to FAO sources, the per capita food production in the Sub-Saharan African region fell by 12% between 1961 and 1995, (1961 = 100), whilst an increase of 70% was recorded for the Developing Countries of Asia [15]. The great challenge to industrialization in Sub-Sahran Africa for example, is for the region to step up its food and raw material production, to feed the people and to provide the inputs, including labour, needed for industrial expansion.

3. 1(b) Labour-Using Bias Industrialisation

Historically, the pace at which the industrial countries developed was faster than their rate of urbanisation. For instance, in 1870 Germany, 12% of the population lived by cities (defined at the time as 20,000 inhabitants and more) whilst 30% of the people were engaged in manufacturing activities [16]. But the reverse is true for the Developing Countries of today, where the rate of urbanisation has outpaced the rate of industrialisation. The records show that in 1990, Brazil had over 71% of its population living in urban areas (defined as 500,000 and more inhabitants), but only 20% of Brazillians were engaged in the manufacturing sector [16].

Thus, given the demographic and structural economic circumstances, industrial growth in developing countries ought to be biased with a substantial labour using content. Thus, an appropriate policy will be to engage more idle urban labour (which can be trained where possible) into industrial production, and to desist from the existing practice whereby manufacturing enterprises utilise capital intensive techniques resulting in a more urban unemployment problem.

1.2(a) Size, Time Dimension and Related Issues

Perhaps the greatest challenge for industrialisation in Developing Countries is enshrined in the dimensions of time and size. To resolve the host of constraints facing industrialisation efforts in developing Countries, one must be able to specify the appropriate industrial size - either a large scale production or a medium scale production or a small scale production.

The large (mass) production system is usually patronised by the state, and has been pursued by many Developing Countries, not without difficulties. It is rigid, highly costly, inefficient and often entails a low capacity utilisation problems. Since it is rigid, a large size production enterprise is not the ideal size for flexible innovation. On the contrary, the small and medium size manufacturing units are relatively less costly to operate; and they provide the ideal size for continuous innovation. The small and medium size enterprises are thus more efficient and tend to adapt easily to changes in machine design, appropriate technology, market product and raw materials. In addition, small manufacturing units in particular are capable of producing flexible as well as specialised products and therefore benefit from a 'niche' in the market. The challenge to Developing Countries, especially Sub-Saharan African countries, is for them to examine the policy choice and implications of the flexible and specialised small and medium size production units, in terms of appropriate technology transfer, resource and capacity utilisation, product pricing and niche marketing.

Apart from the size dimension, the time frame determination also poses an important challenge to industrialisation in Developing Countries. Admittedly, the process of industrialisation takes time to be sustained, and the long term objective of the firm is growth and development oriented in contrast to the short-run profit maximisation goal. Yet short-run realistic industrial goals can be set on a regular and revised basis, to regulate the industrialisation process. This approach is considered much more useful and progressive than the situation at present which regards industrialisation as a long term development strategy, and which has not achieved any remarkable success given the constraints posed by the existing world economic order.

In the very past, for example, the national agitators for political Independence in Africa were sick and tried of the long years of economic exploitation and humiliation that their countries (colonies) and people were subjected to, which made them nothing but "hewers of wood and drawers of water." The immediate post-Independence Africa thus witnessed an eager and urgent drive to industrialise, irrespective of the time frame, by investing in large scale state industrial enterprises. But this was not beneficial in that global industrialisation efforts hastily emphasised the manufacturing of consumer goods in such a way that the greater proportion of the income and employ-

ment effects due to the global industrial activity did not accrue to the Developing Economies which paid for the bulk of the final products in the world market. The essential point is that the long-term perception of industrialisation for Developing Countries must change; and short-term industrial pursuits which combine with medium or small operations must be patronised for a successful industrialisation in Developing Countries.

It is also noted that Developing Countries' industrialization efforts have been based more on light manufacturing activities like food processing and less on heavy industries. The result is that the impact due to the transfer of skills to the Developing World have been marginal. Thus Developing Countries need to focus on expanding industrial activities that are appropriate, in terms of being unwieldy, flexible, efficient and beneficial. This should be more so especially when the Net Resource Transfer (NRT), which is the balance of goods and non-factor services, as a proportion of the GNP, consistently indicates an increasing transfer from Developing Countries to the advanced industrial economies. It is recorded, for example, that between 1970 and 1982, resource transfer from the Developing Countries to the Advanced Countries, as a proportion of the GNP of the former was 0.15%. The ratio increased to 0.451 between 1983 and 1994 [16]. The net outward resource transfer for the Sub-Saharan African region was rather negative, indicating net resource inflow. As shown in Table 1, the NRT-GNP ratio for Sub-Saharan Africa rose from 3.4% in the early 1970s to 7.3% for the 1983-1994 period.

TABLE 1 :THE NRT-GDP RATIO (IN PERCENTAGES) FOR DEVELOPING COUNTRIES, AFRICA AND SUB-SAHARAN AFRICA, 1970-1994

PERIOD	DEVELOPING COUNTRIES	AFRICA	SUB-SAHARAN AFRICA
1970-73	- 0.4	-1.8	- 3.4
1974-82	0.7	-2.6	-6.1
1983-88	0.3	-0.4	-7.3
1989-94*	0.6	-0.1	-7.3

SOURCE: Compiled from World Economic Outlook IMF Staff Survey April 1989),p. 46 and Statistical Appendix.

*IMF Staff projections (A positive ratio represents resource transfer from the Less Developed to the Advanced Industrial Creditors).

To a large extent, the repayment of external loans especially for heavily indebted countries like Brazil, Nigeria, Mexico and Cote d'Ivoire partly accounted for the outward resource transfer for the Developing Countries as a group. But for Africa, and especially Sub-Saharan Africa, the net resource inflows were essentially due to the high level of official Development Assistance (ODA) programmes for the territory.

Both cases however indicate an imminent need for an appropriate industrialisation strategy in Developing Countries to utilise capital and other resource inflow in order to promote industrialization. The main challenge here is how to monitor resource transfers and movements between developed and developing countries to benefit the latter's industrialization objective.

The challenge to industrialization in Developing Countries is also evident in the group's relative disadvantage position compared to the Advanced Industrial economies in key economic areas. For example, whereas the Industrialised Countries have been reporting stable volume of imports, smaller rates of inflation (and hence relative price stability) and near stable real per capita income, the Developing World is saddled with higher rate of inflation, deteriorating real per capita income and a decline in its proportion of the volume of world output. These observations are illustrated in Table 2 for the 1971-1980 period.

TABLE 2: SELECTED STATISTICS FOR DEVELOPING COUNTRIES AND THE ADVANCED INDUSTRIALISED COUNTRIES

PERIOD & GROUP	1971-1980		1981-1990	
ITEM	Developing Countries	Industrialised Countries	Developing Countries	Industrialised Countries
Volume of Exports (Av. Annual % Change)	3.5	6.3	4.1	4.7
Volume of Imports (Av. Annual % Change)	8.2	5.4	3.0	5.6
World Output (Av. Annual % Change)	5.5	3.2	3.3	2.9
Inflation Rate (Av. of Consumer Price Change in %)	20.5	8.7	61.8*	4.7
Real pr Capital GDP (Growth in %	3.0	2.4	1.1	2.2

Source: Compiled from World Economic Outlook [IMF Staff Survey Statistical Appendix], October , 1989.

*Based on World Bank Development report (1992), and valued for 1980-1990

3.2.(b) Health Hazards and Environmental Challenges

Like the developed world, industrialisation in some Developing Countries have begun to create health and environmental problems. These include water supply contamination and air pollution in the Developing Countries in addition to toxic waste disposals dumped into Developing Countries by industrial giants from the Developed Countries.

In Mexico city, for example, it is claimed that 70% of the children have by the standard of the World Health Organisation (WHO) abnormally high-blood level of lead as a result of high industrial activity [16]. It is significant to note that the health complications due to industrial pollution in Developing Countries, tend to compound the socio-economic plight in these countries where poor nutrition, general ill health and general poverty are already prevalent.

With the appropriate policy choices, however, Developing Countries can achieve better environmental protection such as clean air and clean water supply in the urbanised and industrialised centres, and thus help towards the elimination of squalor and acute poverty. Government policy will thus have to aim at removing subsidies given to government industrial establishments which cause excessive pollution of the environment. The governments of Developing Countries must also clarify the rights and codes on industrial activities especially in the private sector so that the producers of pollution pay heavy penalties or fines. In other words, governments will need to curtail the powers of vested private interests and hold irresponsible industrialists accountable. It is also important to involve the advanced industrialised countries and make them assume primary responsibility in addressing the global environmental problem of which the Advanced Industrialised world are the primary cause.

3.3 Appropriate Policy and Institutional Commitment

One must emphasise that appropriate policy choices and commitment to policies can help redress the limitations to industrialisation in Developing Countries.

First, Developing Countries need to embark on the increased export promotion policy in order to achieve a positive balance in their Balance of Payments (BOP) accounts. It must be mentioned, though, that the BOP crises and the concomitant international indebtedness are problems not only common to Developing Countries. For example, between 1981 and 1990, both the Developing and Developed Countries experienced deficits in their BOP current accounts, averaging 29.7 billion US dollars and 43.5 billion US dollars respectively (8b). In fact the deficit was higher in the Developed Countries. For the same period (1981-1990), the records also indicated that the Developing Countries external debt was about 33% of their GDP, and approximately 13% of their export value (8b). In other words, the external debt accounted for all the export value of Developing Countries, plus an additional amount of approximately one-third of the value of exports, which had to be found elsewhere if the external debt should be fully repaid.

There is thus the need to increase total output, including industrial output, in Developing Countries especially since production performance has fallen in recent decades (See Table 2).

It is also noted that whilst the world prices of primary products like cocoa, coffee and copper have generally declined, the cost of machinery, equipment and technology have risen. Thus, industrial establishments, including agro-based industries, have to adopt cost savings techniques by way of reducing the physical capital content of production in favour of human labour, as a short-term measure.

Diversification policies can also be pursued with institutional backing and commitment. The period 1981-1990 for example, was declared by the United Nations Economic Commission for Africa (ECA) as the Industrial Development. Decade for Africa (IDDA), by focussing on the extent to which the industrial sector could achieve economic growth in Africa. The period 1991-2000 was also set aside by the ECA as the second IDDA to examine specific issues related to development of entrepreneurship, market integration, human resources and technological capabilities among other industrial initiative [3].

Another institutional policy effort is the Lagos Plan of Action which was targeted to the industrial development of Third World countries as a whole. The Africa Priority Programme for Economic Recovery (APPER) for the 1986-1990 period also sought to reduce external debt and raise agricultural support for Africa, whilst the IMF and World Bank have basically supported Structural Adjustment Facility (SAF) and its Enhanced Counterpart (ESAF) towards addressing the particular needs of African countries. Generally, the facility is seeking to encourage currency devaluation explicitly or implicitly and to set Developing Countries on economic and political liberalisation courses [4].

In Ghana the Structural Adjustment Programme (SAP) has been used to divest the economy by partially or fully disengaging the public or state enterprises in favour of privatisation.

In the promotion of small scale private business in Ghana, the National Board for Small-Scale Industries (NBSSI) has played a vital role in the area of textiles and leather products, oil extraction, coconut fibre products, beads among others. The NBSSI has assisted small-scale manufacturing units by mobilising funds for their operation, and by developing the entrepreneurial, managerial and technical skills and capabilities of the small-scale industrialists. As already emphasized in this paper, it is the small and medium size manufacturing units which can provide the flexibility, the efficiency and hence profitability that Developing Countries need for their industrialisation programmes.

Outside Africa, there are international, regional and national institutional policy efforts which address the problem of industrialisation in Asia, Latin America and other Developing Countries. Also the economic and political developments towards restructuring of the Eastern European Countries, and the disintegration of the former Soviet Union into the Commonwealth of Independent States (CIS), are on-going processes which can liberate these societies of their essential basic rights and privileges, and thus affect global industrial and economic relations.

4. CONCLUSION

This paper has identified some of the key constraints which militate against successful industrialization in Developing Countries. Besides colonial legacy as a factor, there are problems due to poor and inadequate infrastructure; there are basic input resource constraints and market limitations.

Even in situations where industrial units have easy and ready access to the basic inputs, the technology used may not be appropriate, and therefore a productive management style may be non-existent.

As a matter of challenge, industrialisation in Developing Countries needs to focus on the appropriate size or scale of operation. In this case, it is suggested that the industrial unit must be of smaller or medium size to ensure flexibility, efficiency and profitability and thereby avoid material wastes, rigidities, undue standardization and unwieldy management associated with large scale industrial production. Also, times have changed, and the long-term perception of industriliasation regarded by Developing Countries, will have to give way to short and medium term dustrial policy objectives in order to derive ach able and rapid results.

Given the general notion that the rich countries rich because they are industrialised, and that p countries are poor because they are not industriali Developing Countries need to increase their R&D S&T expenditure ratios (to the GDP) to help t develop their human and material resource capa ties. But more important, the improved resou must not be placed at the convenience of the alr Developed Countries. In other words, the brain d into the Advanced Industrialised Countries from Developing Countries must be discouraged. skilled labour in the latter thus requires adequat centives and remuneration to keep it within the mestic setting so as realise its contribution to in trial and economic development.

Finally, it is suggested that Developing Countries embrace and promote the concept of 'Business l sionaries'. This is the idea of giving new skill the 'old hands'; and allows old and retired pe with a wealth of accumulated experience in busi and technical know-how to be re-engaged, loca (or even abroad through official international c tracts) so that their valuable skills are not wasted p manently post-retirement. Similar arrangements ist in the Industrialised Countries in the form of British Executive Services Overseas (BESO) in B ain and the International Executive Services Cor ration (IESC) in the United States of America. industrialisation process in Developing Countries also benefit from the above arrangement.

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