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POPULATION AND INDUSTRIALIZATION : SOME ASPECTS OF RECENT AFRICAN EXPERIENCE

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A. INTRODUCTION

This paper, in a sense, is a by-product of extensive activities (research, promotional and developmental) in the area of industry carried out at and by the ECA secretariat since 1960. The attempt here, however incomplete, is at understanding the complex, intertwining factors at work as African cultures and societies whether Anglophone or Francophone; independent or under colonial rule; and whether socialist, quasi-socialist or capitalist in terms of their economic orientation - have become successfully supportive of a large-scale process of industrialization over the last two decades. The emphasis eschews the history of industrial growth and concentrates on an analytreal framework which separates elements and specific coaggulations of relevance.

The analytical framework is however incomplete in several senses. In the first place, it ignores many important supportive factors which have accompanied and abetted the emergence of a more or less wholly committed and reasonably stable industrial labour force, such as the support by the state and national leaderships; legislation; administrative policy and action; trade union activities; the amendment (which has yet a long way to go) of the extended family pattern; and the enhanced role (this also has a long way to go) of women as decision-makers in relation to the buying behaviour of increasingly and more durably urban industrial worker families. In the second place, the negative elements which have facilitated the process, such as the rural push and the dramatic increases in expatriate wage and salary levels reflective of trends in their home countries in Europe are also likewise ignored. Finally, there is a conscious attempt, in the interests of brevity, at limiting the scale of proof and the extent of supportive data presented.

The balance of the paper is divided into four parts. Part B provides an overview of the industrial effort of Developing Africa during the 1950s and the 1960s. Part C is devoted to a statement, at a global level, of the main aspects of the employment situation. In Part D, an analytical presentation is made of the constraints which have limited the employment possibilities directly capable of arising within the manufacturing sector. Part E provides a summing up of the employment achievements in the African industrial development process.

B. INDUSTRIAL DEVELOPMENT DURING 1950 - 1970: AN OVERVIEW

In 1950 the output of the manufacturing sector in the countries of developing Africa was estimated at 2,771 million US dollars. In a more or less constant price sense (in 1963 prices), the ECA secretariat have estimated the output in 1969 as a first approximation, at 11,900 million US dollars. During the same period, the supply of imported manufactured goods, assessed in terms of ex-importers' warehouse prices increased from 2,367 million US dollars in 1950 to 8,600 million US dollars in 1969. Alternatively, domestic production of manufactured goods, grew at an annual compounded rate of around 8.5 per cent, and imports (some of which are used as intermediate products by the manufacturing sector in Africa) increased at around 7 per cent per year, compounded.

The overall supply of manufactured products per caput, without making an allowance for exports from Africa, was somewhat less than thirty US dollars in 1950 and around seventy US dollars in 1969.

The increase in domestic production was matched by an investment of 3,000 million US dollars in the 1950s: and a further 7,000 million US dollars in the 1960s. If the investment in existence in 1950 is placed, rather arbitrarily, at 4,000 million US dollars in current prices, the current approximate book value (undepreciated) of industrial investment in the countries of developing Africa might be placed around 15,000 million US dollars.

The expansion of output has been accompanied by a widening and deepening of the product base. Thus, at the end of the 1960s, the staples of African industrialization comprise, among others, petroleum refineries, petrochemical complexes, metallurgical and heavy engineering industries, manufacture of automobile tyres, cement plants and paper mills, as much as they do of the cheap perishables and simple, bulky products. To put it alternatively, African industrialization is no longer confined to small and medium-sized industrial activities. Thus, at the end of 1969, at least six industrial plants and/or complexes requiring an investment of more than 100 million US dollars each were under construction or had just been established.

Nonetheless, the value added contributed by the manufacturing sector to the gross domestic product in 1968 was probably around 13 per cent, and is unlikely to exceed 14 per cent in 1970. This rate of course varies from country to country - 1 to 19 per cent - and may be contrasted with the parallel range in Latin America in 1965: 12 to 34 per cent: and the corresponding range for developing countries in Asia: 6 to 28 per cent.

C. EMPLOYMENT ASPECTS AND TRENDS

In 1960, out of an estimated labour force of 94 million in the countries of developing Africa, less than 2 million or about 2 per cent were in average daily employment inside of factories. By 1970, first indications are that the total labour force in factories has increased to somewhere between 2.5 to 2.8 million. In other words, in terms of organized factory work alone, the proportion of factory workers in developing Africa, treated as a whole, is not very dissimiliar to the corresponding Indian position in 1968.

Alternatively, the net increase in the labour force, which is unlikely to exceed 40/45 per cent during the 1960s, has to be matched against an increase in excess of 100 per cent in industrial output.

Table 1 presents country-wise estimates of the share of manufacturing in non-agricultural wage employment as distinguished from total employment, which is bound to reflect the dominance of agriculture in developing Africa and the large role of subsistence farming therein.

Table 1: Share of manufacturing in non-agricultural wage employment

Country	Year of estimation	Share of manufacturing in non-agricultural wage employment (%)
Algeria	1954	16
Libya	1954	11
Morocco	1952	17
Tunisia	1956	13
UAR	1960	24
Kenya	1961	15
Malagasy Republic	1961	12
Malawi	1961	16
Mauritius	1962	23
Tanzania	1962	15
Uganda	1963	17
Zambia	1961	11
Chad	1961	5
Congo (Kinshasa)	1955	18
Gabon		24
Dahomey	1961	12
Ghana	1960	14
Guinea	1954–1955	25
Ivory Coast	1961	32*
Liberia	1961	3
Mali	1961	5
Mauritania	1963	1
Nigeria	1962	15
Sierra Leone	1963	8
Upper Volta	1961	6

Source: "Size and characteristics of wage employment in Africa: Some statistical estimates", by Kailas C. Doctor and Hans Gallis, International Labour Review, International Labour Office, Vol.93, No.2, February 1966, pp.149-173. The quality of the estimates varies from one country to another.

* Includes construction and public utilities.

The employment trends have of course varied as between countries, industries and locations. However, there is no question that in all countries the net creation of additional, direct employment has been moderate in relation to investment or the scale of expansion in output. If the crude figures of additional investment and additional employment were to be juxtoposed, every 1 per cent of additional output is seen to be matched by net additional employment which is less than two-fifths as large. Even in countries like Ethiopia, which has had a favourable employment experience, the trend is now clearly established. Thus, between 1966/67 and 1968/69, industrial output in current prices increased by 31 per cent, whereas industrial employment in Ethiopia grew by only 6 per cent.

In other words, recent African development plans have visualized the increment in industrial employment to be between 45 to 55 per cent, and in the case of Ghana the proportion has been placed as high as 85 per cent. However, experience in recent years has confined actualities to between 20 to 35 per cent of the rate of increase in output.

In very broad terms - which are likely to be utterly irrelevant in a few specific cases - the evolved industrial labour force of Africa might be described in terms of the following characteristics: male; relatively young; educated in an elementary school sense; and mostly urban, in a few locational clusters in each country. With the exception of Egypt, Southern Rhodesia, and the Lagos area in Nigeria, the industrial labour force is however more widely dispersed, primarily in response to the road orientation of African industry, which is different from the railway station orientation characteristic of other countries which built their arterial transport systems earlier.

D. CONSTRAINTS ON THE EMPLOYMENT POTENTIAL OF AFRICAN INDUSTRY

The moderate capacity of African industrialization to create direct, net, additional employment has already been noted. The analysis in this section presents the main factors involved, although no order of relative or absolute significance attaches to the following arrangements.

i) The overall volume of investment in manufacturing industry is modest by any absolute standards, in line with the unavoidably diminutive scale of the total African investment effort. The total investment in manufacturing industry in the 1960s amounted to 7,000 million US dollars as seen earlier. This implies an annual investment of not much more than 2 US dollars per person during each year of the First Development Decade.

ii) In response to several factors, the average investment required per each (net) additional industrial job has increased rapidly. In recent years, for developing Africa as a whole, US dollars 15,000 might be an underestimate of investment requirements per additional work place. A comparatively less sophisticated production structure, as in Ethiopia required fixed capital investment of E$16,500 per additional job between 1966/67 and 1968/69. This might be contrasted with the average fixed capital expenditure, per permanent worker, which amounted only to E$7,900 at the end of 1968/69.

iii) The widening and deepening of the product base has brought in its wake industries which universally require massive amounts of capital, and are irrelevant in terms of direct employment.

iv) The existence of considerable excess capacities and the failure (sometimes for cultural reasons) to resort to multiple-shift working, are contributory factors.

v) In common with the developing countries as a whole and the developed countries, labour productivity has in the last two decades increased substantially. In the African context, the stabilization of the labour force generally and the relatively milder incidence of some of the problems associated with early industrialization elsewhere, have additionally played a role. The increased productivity, is reflected in many countries in very high man:machine ratios, for example in the more modern textile plants in West Africa, where allotment of 16 to 32 looms per weaver are standard practice.

vi) A specific feature on the eve of independence was a low wage, geared to bachelor living and high turnover. The arrival of independence dramatically reversed the assumptions underlying, and labour became an expensive input to be carefully screened, selected trained and retained. To put it somewhat differently, African industry in the 1960s has recorded two distinct and dissparate employment trends. The older industries have shed large parts of their work force, at the same time that new units have acquired their own work force. In one large part, the moderate creation of additional employment is thus a balance arrived at after meeting the minuses in the situation.

vii) African industrialization, with its limited stock of skills and its comparatively younger labour force, has not recorded as yet, the desirable scale of skill diffusion which would create the capacity to use machinery discarded by larger units in the community at large, and has not facilitated the setting up of a desirable volume of small workshop and artisan and repair facilities.

viii) The predominance of non-indigenous ownership (as distinguished from financing) and of expatriate predominance in the technical and managerial cadres has had two consequences, both adverse, for employment. Choices of machinery and technology have sometimes been geared to and have reflected the direct, preceding experience of these people in the advanced countries, and inexcusably neglected more valid (and employment oriented) choices. Secondly, expatriate managements new to Africa have some bias in favour of investment and organization choices, which limit the scale and complexity of their labour force management.

ix) The tendency of wages and salaries to increase gets reflected in preventive and ameliorative management decisions, sometimes considerably in advance of actual need. As a result, organizational patterns have become less employment oriented.

x) The industrial structure of Africa presently is capital-expensive, in the sense that plants of similar size, technology and product structure set up in countries of Western Europe and elsewhere are considerably less expensive than those installed in Africa. The comparative inefficiency in the use of investment resources gets magnified further into an extraordinary disparity in capital expenditure for a given capacity in all major staples of African industrialization. Thus, recent cement plants, installed or proposed to be installed during a comparatively small time period, and utilizing well known standard technologies have been known to register investment costs per 100,000 tons of annual capacity varying between US$1.63 million and US$18 million.

Apart from the generalized experience of high costs, most countries have recorded a considerable annual increase in the costs of setting up plants. An ECA study has estimated the average rate of annual increase to have been as high as 7 to 8 per cent in the three East African countries, during 1964 to 1970. Another ECA study recorded the experience of a textile plant in Central Africa, which cost US$952,000 per million square meters of capacity, whereas a similar plant a decade earlier, had cost US$490,000. Inasmuch as national financial resources are limited, the investment cost patterns reduce the scale of feasible industrialization, and therefore of employment.

xi) African industrialization, for a variety of reasons, has been characterized by unusually high salary intensity. The ratio of the average wage to the average salary in East Africa varies between 1:5 to 1:7. This not unusual experience might be contrasted with comparable ratios in developed countries, where they mostly cluster around 1:2. The fact that African industry generates proportionally more salary income than wage income has adverse implications in terms of savings and investment <u>within</u> the economy, and carries a greater bias in favour of the import and consumption of goods produced abroad.

E. SUMMING UP

To sum up, the industrial effort of the 1960s has been matched by the creation of a stable labour force, characterized by a not small commitment to an industrial work ethos. In the process, industry and employment have moved to many and different locations, and in part, this has had the effect of shifting a central, dynamic force for modernization into quasi-urban and rural locations. In some measure, this has had the effect of creating for African society that capacity which covers what the authors of industrialism and industrial man have called "the totality of relations involving workers, employers and society that modern technology has made possible". As a by-product mostly, the shifts in employment locations have added to the capacity of Africans to set up small-scale industrial facilities. On the side of employers, the wage trends have induced greater care and skill in selection and training. The resulting situation is characterized by greater, if not enough, empathy with African traditions and personality patterns. The latter has in turn, facilitated and enabled a sizable reduction in the proportion of expatriates required in industrial operations.

The whole complex web of relationships between industrial investment, output, consumption and the work force is poised in a more positive conjuncture than looked likely only a few years earlier, as a result.