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CO-ORDINATED INDUSTRIAL DEVELOPMENT IN WEST AFRICA :
SUGGESTIONS FOR FURTHER ACTION

Note by the Secretariat

The 6th Session of the Economic Commission for Africa decided that the report of the West Africa Coordination Mission (E/CN.14/246) should be examined by the Bamako Conference and that, in addition, revised proposals should be prepared for coordinated industrial development, drawn up in the light of further studies subsequently carried out and comments by governments. It should be recalled that a Conference held in Lagos (see below) had already requested a meeting on industrial coordination in West Africa to be held in 1964. The purpose of this note is first to recall briefly the origin of preparations made for the Conference; secondly, to set out briefly the guiding principles adopted in the formulation of a scheme of coordinated industrial development; thirdly, to present in summary form revised proposals for coordinated industrial development (with appropriate cross references to other documents); and, finally, to put forward suggestions for further action.

Origins

The origin of the Bamako Conference lies in two separate initiatives. The first was taken by the President of Niger who convened a "Conference on the Harmonization of Programmes of Industrial Development in West Africa" in Niamey in July 1962. This was followed by a second meeting in February 1963 and a third meeting in Lagos in December 1963. The countries who attended one or more of these conferences were: Algeria, Cameroun, Ivory Coast, Dahomey, Ghana, Guinea, Upper Volta, Liberia, Mali, Mauretania, Niger, Nigeria, Senegal, Sierra Leone, Chad and Togo. It was agreed that if cooperation in other areas

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was to be successful industrial development was essential. It was also agreed that basic industries which increased productivity in other sectors were a condition of industrialization and that they could only be set up on a cooperative basis. The development of agriculture required an iron and steel industry and fertilizers. A comprehensive scheme of development had to be drawn up, particularly in order to ensure balanced development between the coastal countries and those of the interior. Three introductory reports were prepared and, step by step, were accepted as the basis of the work of the series of conferences. The first report set out the reasons for and criteria underlying cooperation in industrial development and was concerned particularly with transformation industries. The second report examined the role of basic industries in economic development, made forecasts of steel consumption and fertilizer consumption from 1972, and established the possibility of setting up such industries in West Africa. Some data were given on, for example, investment costs and appropriate scales of output for such industries as cement, textiles and packaging. A methodology for the analysis of industrial location was suggested. The third report was concerned particularly with possibilities of iron and steel production in West Africa, and also analyzed the cost of transport of finished steel products.

The other parallel initiative was taken by the Economic Commission for Africa. The first step was the presentation to the Standing Committee on Industry and Natural Resources in December 1962, of the provisional version of "Industrial Growth in Africa", subsequently revised and published in 1963 (United Nations, Sales No.: 63.II.N.3). This study, after setting out a growth framework for industrial development in Africa, put forward a strategy of industrial development, the essential feature of which was concentration on the building up of basic industries as quickly as possible, necessarily serving the markets of several countries and therefore coordinated sub-regionally. The study examined the possibility of building up sub-regionally iron and steel production, non-ferrous metals, basic chemicals and fertilizers, engineering and textiles. The next step was the preparation of a report entitled "Iron and Steel in West Africa" (E/CN.14/IS/2) which was presented to a conference held in Monrovia in October 1963. It was agreed during this meeting that one coastal iron and steel works with an initial capacity of 400,000 ingot tons should be set up in either Liberia, Ghana,

Nigeria or Gabon, the final location to be determined after further detailed study, and that in addition one smaller iron and steel works should be set up in the interior.

A further step was the sending of a mission on industrial coordination to West Africa in the second half of 1963, the final report of which was discussed at the 6th Session of the Economic Commission for Africa, held early in 1964 (E/CN.14/246). The decisions taken at the 6th Session on the basis of recommendations made at the 2nd Session of the ECA Standing Committee on Industry, Transport and Natural Resources held in 1963, and also of course the decisions taken at the Lagos Conference in December 1963, have governed the preparation of all the papers presented to the Bamako Conference.^{1/}

It is important to note that in the same way as the Bamako Conference has been convened by both the Executive Secretary of ECA and by the "Conference on the Harmonization of Programmes of Industrial Development in West Africa", so the papers have been prepared jointly by the two groups concerned whose approaches, as will be evident from the preceding paragraphs, have steadily converged. Each group adopted initially its own approach and its papers were prepared independently but all the papers for the Bamako Conference were reviewed in a joint session and both groups subscribed to the substance of them.

Guiding principles

At this stage, it would seem convenient to set out systematically, if in summary terms, the principles which have guided the authors of the various reports and studies:

(1) Industrialization is an essential pre-requisite of economic development if Africa is to break away from over-whelmingly agricultural economies, with large numbers of people living at the subsistence level, widespread poverty and marked dependence on exports of primary commodities to unstable and slowly expanding world markets. The first step forward lies in import substitution and there are immense possibilities, partly owing to the low level of domestic output and partly heavy dependence on foreign trade. Exports are about one-fourth and imports about one-third of African output. If all the items imported at present were to be produced

^{1/} Reference should also be made in this connexion to a relevant report on transport in West Africa, circulated at the end of March 1964 (E.CN.14/TRANS/17), and also a report on building materials which has been prepared for the ECA Standing Committee on Housing and Physical Planning.

domestically, the volume of manufacturing output could increase three or four-fold without adding to the total availability or the range of those products on the continent. To reach present levels of output in Western Europe, and assuming a per capita growth rate for agriculture of between 1.5 and 2%, and for industry of about 6%, less than half a century is required. However, if such growth rates, in themselves by no means extravagant, are to be attained, there must be a deliberate policy of faster development of heavy than light industry. This requires deliberate co-operation in the setting up of these industries and the marketing of their products, largely through sub-regional cooperation.

(2) Industrialization is more than the establishment of a series of industries, but a process of changing the structure of the economy necessarily also requiring profound social change. Ninety per cent of the population of the African region are engaged in agriculture, and the first step must be to increase the productivity of labour of the peasant. This requires an evolution of the structure of agriculture and, therefore, the provision of agricultural equipment and tools, fertilizers, fungicides and insecticides. Agricultural development in its turn is an indispensable condition for the development of industry, partly because agriculture provides the first outlets for new industries, and partly because with the modernization of agriculture, living standards rise and hence purchasing power grows and provides a cumulatively expanding market for all forms of industry. The industries which have to be created to develop agriculture based on iron and steel and chemicals have the characteristic that they furnish capital and stimulate the training process which is an essential condition of further development.

(3) The setting up of large-scale industries takes time. Meanwhile there are two essential tasks. The first is to reorganize the structure of agricultural production, and the second is to begin to set up transforming industries based on imported or domestically produced steel based on scrap or imported billets.

(4) Since industrialization is a long-term process, it is essential that short-term action is consistent with long-term solutions being sought. With this end in view it is possible to envisage where technically feasible and economically viable small and medium scale units designed to prepare for the setting up of large scale enterprises and the utilization of their products.

(5) The need for cooperation between neighbouring countries stems from two related principles, the economies of scale and the advantages of international specialization. In the distribution of industries between countries in concordance with the principles of international specialization, location should normally be governed by lowest cost, taking into account the cost of transport. The optimum use of natural resources is also an important factor and may mean the exploitation of resources not suitable for export. In certain cases, however, it may be necessary to resort to freight absorption.

(6) It is essential to seek consciously throughout a double equilibrium. First, industries must be rationally shared throughout the region, if African countries are to rely increasingly on buying and selling from each other. A principle has to be worked out and further research is therefore necessary. One possibility would be equality of value added per capita in new industries established. In addition, however, particular efforts have to be made to strike a fair balance between the coastal countries which enjoy known advantages, and the less favourable zones of the interior whose natural resources have been less fully explored. Without deliberate policy measures the inequalities between these two groups of countries will grow. It does not follow, however, that every country should, at this stage, seek on its own territory a major industrial centre, which is costly to set up and can lead to internal inflation. It should also be borne in mind that the establishment of a fair and rational equilibrium within the sub-region is a long-term process and it is not possible to achieve an exact balance between all countries at each stage in time.

(7) Transport is an essential element if industrialization is to be promoted and, indeed, the economic possibility of improving transport both in the sense of creating new links between countries and improving the efficiency of transport systems, depends on growth of industry. Other elements of an adequate infra-structure are also to be developed. Furthermore, priority should be given to the poorer zones in establishing infra-structure, since this is an additional power of incentive to the establishment of new industries.

(8) As the development process proceeds and each country has increasingly something to sell to its neighbours, steps have to be taken to ensure the freest possible trade. Clearly, there should be no tariffs on the products of those industries deliberately set up to serve a sub-regional market and, indeed, still

more would seem necessary, particularly a system of contractual arrangements for ensuring that adequately guaranteed markets are provided for plants established to serve a sub-regional market, and also that these plants are supplied with raw materials from neighbouring countries. Furthermore, throughout the region conscious efforts should be made to promote freer trade by the progressive reduction of tariffs and elimination of quantitative restrictions. At the same time, external tariffs can be justified against non-African products or even, in certain cases, against the products of stronger neighbours.

(9) The investment costs of setting up large-scale industry are normally heavy and construction takes time. The setting up of large-scale industries requires a series of agreements at sub-regional level. Small industries can normally be set up to serve national markets in all countries, but there are nevertheless arguments in favour of some degree of specialization here too, through cooperation between smaller groups of countries.

A balanced scheme of industrial coordination

The present section of this paper attempts to set out in summary form the possibilities as they now appear of establishing a coordinated scheme of industrial development in West Africa. In the present state of knowledge, the scheme remains provisional and incomplete. Furthermore, it is still confined essentially to large-scale industries, namely iron and steel, aluminium, metal transformation and engineering, chemicals including fertilizers, cement, textiles and agricultural industries.

(1) Iron and steel: Document E/CN.14/INR/55 puts forward a suggested plan of development for iron and steel production in West Africa comprising one integrated iron and steel plant producing a wide range of light steel products, to be located in either Nigeria, Gabon, Liberia or Ghana; a smaller iron and steel plant, again producing light steel products with an initial capacity of 150,000/200,000 tons, to be located in Mali; and a limited number of re-rolling plants, notably in Ghana and Senegal. Heavy and large flat steel would continue to be imported for the next decade or so.

(2) Production of alumina in Cameroun, Guinea and Mali, combined with a joint venture for the manufacture of aluminium metal in Ghana.

(3) The engineering industries are not only basic to economic development but also to the long-run development of the steel industry. Furthermore, availability of domestic steel is a factor in the development of engineering. This group of industries is still in its infancy in West Africa. There are possibilities of a development on a national level and also scope for some regional co-operation. Immediate possibilities lie in the first stage of steel transformation, for example wire products including netting, nuts, bolts, nails and springs; containers; window and door frames; furniture; household goods. Assembly work is already developing based on imported parts and components, including passenger and commercial vehicles, bicycles and tractors. A coordinated scheme is essential here both owing to the economics of scale and the scope for extensive specialization between countries. In the machinery field, there is immediate scope for production of some types of electrical equipment, e.g. transformers, switchgear and domestic appliances and for a wide range of agricultural tools and equipment.

(4) In the field of chemicals and fertilizers, the principal suggestions in document E/CN.14/INR/56 are a nitrogen complex in Ghana, with the principal end products ammonium-sulphate fertilizers and industrial explosives; phosphate fertilizer production in Senegal, Ivory Coast, Mali and Togo; and a salt electrolisis complex in Ghana and later Mali, including caustic soda, polyvinyl chloride and insecticides.

(5) As document E/CN.14/INR/58 shows, cement consumption is expanding rapidly and planned expansion of production capacity falls far short of expected consumption in 1970, thus continuing a heavy drain on foreign exchange and the paying of prices per ton well above feasible costs of production in Africa. The limiting factor is the availability of suitable supplies of limestone. There is a case for development at the national level wherever possible, sometimes by clinker grinding. There is also scope for sub-regional cooperation. Expansion beyond present plans is required in Nigeria. The same is true of Ghana, the solution to whose problems requires both resort to clinker grinding and a joint project with Upper Volta based on the latter's limestone deposits. A cement industry in Upper Volta could also supply part of the requirements of Ivory Coast and Mali. Further expansion of capacity in Guinea and Mali is

required; plans in Niger will cover requirements into the 1970's. Dahomey should consider a large plant of 200,000 tons capacity to supply clinker to Ghana, Nigeria, Ivory Coast and Cameroun. Liberia, Sierra Leone and Togo have no limestone and should erect clinker grinding plants obtained as returned cargo. Senegal's expansion plans fall short of estimated requirements.

(6) The document on textiles (E/CN.14/INR/57) shows that only about one-fifth of the textile requirements of the West African region are met by local production and moreover about half of this production consists of relatively low productivity hand loom weaving. Given the necessary investment and skills some 40 to 50 medium sized integrated or partly integrated spinning and weaving concerns could be established to supply cloth to the clothing factories and domestic users, and yarn to the knitting mills. The technical and marketing problems involved in the finishing of cloth to the variety required, especially in printing where style and design enters, may present less difficulty if undertaken on a regional basis and if assisted by the efficient West African merchanting and distribution system. A number of important issues are involved in the establishment of these factories. First of all, in accordance with the principles outlined above, since textile factories are not tied from a location point of view either to raw material or to markets, they should preferably be located in countries which have less opportunity of developing the more strongly located industries such as iron and steel. Secondly, the maximum use should be made of locally produced fibres, supplementing their relatively inferior quality either by imported natural fibres or by locally produced synthetic fibres. Moreover local cotton can be standardized and improved. A number of steps may have to be taken to safeguard the development of the industry. The finishing of textiles which might usefully be carried out initially on imported cloth, should not be allowed to obstruct the subsequent development of spinning and weaving, and import policy for the region should safeguard the industry from the disruptive effect of end of season dumping of textiles and clothing from Europe and America. At the same time the clothing industry which makes an equal contribution to the economy of the region should be encouraged to use local textiles as its raw material and not to build up a dependence on imported supplies.

(7) As document E/CN.14/INR/59 shows, enquiries conducted by FAO reveal that most countries in the sub-region now have or are contemplating the development of new agricultural industries to serve national needs, e.g., sugar, rice, gari (derivative of manioc), vegetable oils, sisal, hides and skins, animal feeding stuffs, fruits and vegetables, fishing and fish-processing, tobacco, grain milling. Several problems arise from these efforts which require urgent attention, from the point of view of the possibilities of a sub-regional market. At the level of production, biological factors in some countries set limits to the possibilities of expansion or of quality improvement. This in turn sets limits to the extent to which the economies of scale in processing and distribution can be exploited. Clearly, some degree of specialization within the sub-region is required. On the basis of available but limited data and analysis, the following projects appear to call for early attention:

- (i) the establishment (following a review of existing facilities in the sub-region) of at least two institutes dealing with the processing of agricultural products, mainly for food and dealing with all questions of food processing methods, nutritional aspects of food processing (including additives), preservation, packaging, transportation, etc. One of these Institutes should be located in an inland country and should pay particular attention to meat and dairy products, other animal by-products, processing problems of varieties of hard wheat, sorghum, maize and other sub-saharan cereals (including mixtures).
- (ii) the expansion of one or two existing centres of manufacture of animal vaccines on a commercial basis to serve the sub-region as a whole.
- (iii) In view of the tendency for tobacco consumption to rise as income and urbanization grows, consideration should also be given to the possibility of establishing a centre for tobacco research and development possibly in Ivory Coast.
- (iv) An Institute of Marine Biology and Oceanography to accelerate and place on a scientific basis the exploitation of the rich West African deep-sea fishing grounds. The possibility of greater exploitation of the fishing of rivers also arises.

- (v) A study of the prospects of expansion of sugar production and manufacture in for example Tchad and Niger. As a first step it is sometimes possible to produce gur and khand.
- (vi) A study of the economics of production and distribution of animal feeding stuffs in the sub-saharan zone of the sub-region. This study should be associated with current work on pasturage and animal nutrition.
- (vii) A review of the possibilities of cattle ranching in the Saharan zone of the sub-region.
- (viii) An investigation of the possibilities of production of sacks using locally grown material in the Saharan zone, to meet the needs of the sub-region.
- (ix) Expansion of rice production in the main producing countries with a view to meeting the growing sub-regional demand.
- (x) The principle of exporting food products from the Sudanese zone to North Africa will arise when a route across the Sahara is constructed.

Proposals for further action

Proposals for further action fall into two broad categories - further research of various kinds through different media as indicated below; and the establishment of machinery for regular and continuous negotiations between governments. The further studies suggested are as follows:

- (1) Further studies in depth are required of industries or groups of industries which have so far been treated in fairly general terms, notably metal transformation and engineering, the agricultural industries and the whole range of small and medium-scale industries producing mainly consumer goods which are capable of being set up mainly to serve national markets. Plastics should be mentioned particularly in this connexion. These groups of industries are of the kind where immediate import substitution is feasible and where, therefore, action can be anticipated at an early stage.

- (2) The stage has been reached with iron and steel, aluminium, chemicals and fertilizers, cement and textiles where, on the assumption that preliminary agreements are reached at the Bamako Conference on a location pattern, detailed specific feasibility studies are required. Such feasibility studies could be carried out by the United Nations Special Fund provided that the countries concerned make specific application, or within the framework of bilateral aid programmes. The ECA Secretariat is in a position to assist the governments concerned to draw up the necessary dossiers for application for feasibility studies, either to the United Nations Special Fund or to the countries giving bilateral aid. It is suggested that this next phase should be embarked upon with the minimum of delay.
- (3) Apart from the special arrangements which may be required to set in action feasibility studies for certain major industries, there should be permanent machinery in West Africa for carrying out feasibility studies for a whole range of industries, for verifying or promoting feasibility studies of a more complex character carried out by outside consultants and, in general, providing documentary and advisory services. There would seem to be a case therefore for establishing an industrial development centre for West Africa, perhaps with the assistance of the United Nations Special Fund.
- (4) The next stage, after preliminary and market studies, agreement between countries concerned and feasibility studies is, of course, execution and this, in turn, requires extensive financing. Both detailed studies of the specific financing problems and exploration of financing possibilities should now be initiated. It would also be useful, in this connection, to attempt to draw up and agree upon a common investment code for West Africa. It would also seem essential to examine problems of joint management of new industries serving several countries.
- (5) Coordinated industrial development requires a suitable framework of cooperation in the monetary, payments and trade field, including arrangements for ensuring adequate guarantees of sales outlets in neighbouring countries for the products of the new industries. Specific studies in this area should now be initiated. ✓

- (6) No more than the first indications of an industrial map of Africa are beginning to emerge. Elaborating and keeping up to date this map must be a continuous process and will naturally be one of ECA's major preoccupations. Apart from studies of individual industries and industrial problems, further research is required. In the first instance, criteria should be developed on the basis of which the relative benefits to different countries can be measured, perhaps by comparing the value added per capita of new projects established. Beyond this, however, estimates have to be made of the impacts of all major industrial projects on the economies throughout the sub-region, so that all countries can fully appreciate the importance of cooperation and coordinated development. This means, therefore, estimating capital requirements, the effect on employment, the effect, direct and indirect, on economies, and the contribution to (and cost of) new infra-structural facilities. The inputs in a given country will be partly contributed by neighbours, the benefit from new output will be felt outside of the boundaries of the country concerned. The task of elaborating and keeping up to date the industrial map will require not only further research in depth, but also a continuous process of contact with countries. In this process it is intended to bring in the service of high-level experts drawn from countries with bilateral aid programmes.

Turning finally to the establishment of permanent negotiation machinery:

- (7) It is suggested that the Conference should consider establishing machinery along lines somewhat similar to that now in operation in North Africa but adopted, of course, to the particular requirements of the sub-region.^{1/}

^{1/} It may be useful to recall the arrangements made in North Africa consisting of an annual meeting of ministers supplemented by a number of working commissions serviced by the ECA Secretariat and experts from the countries concerned on industry; mining and energy; transport; trade and payments; and manpower, education and training.