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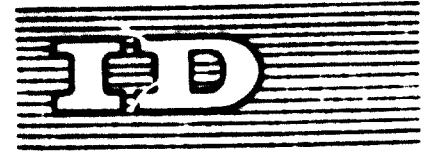
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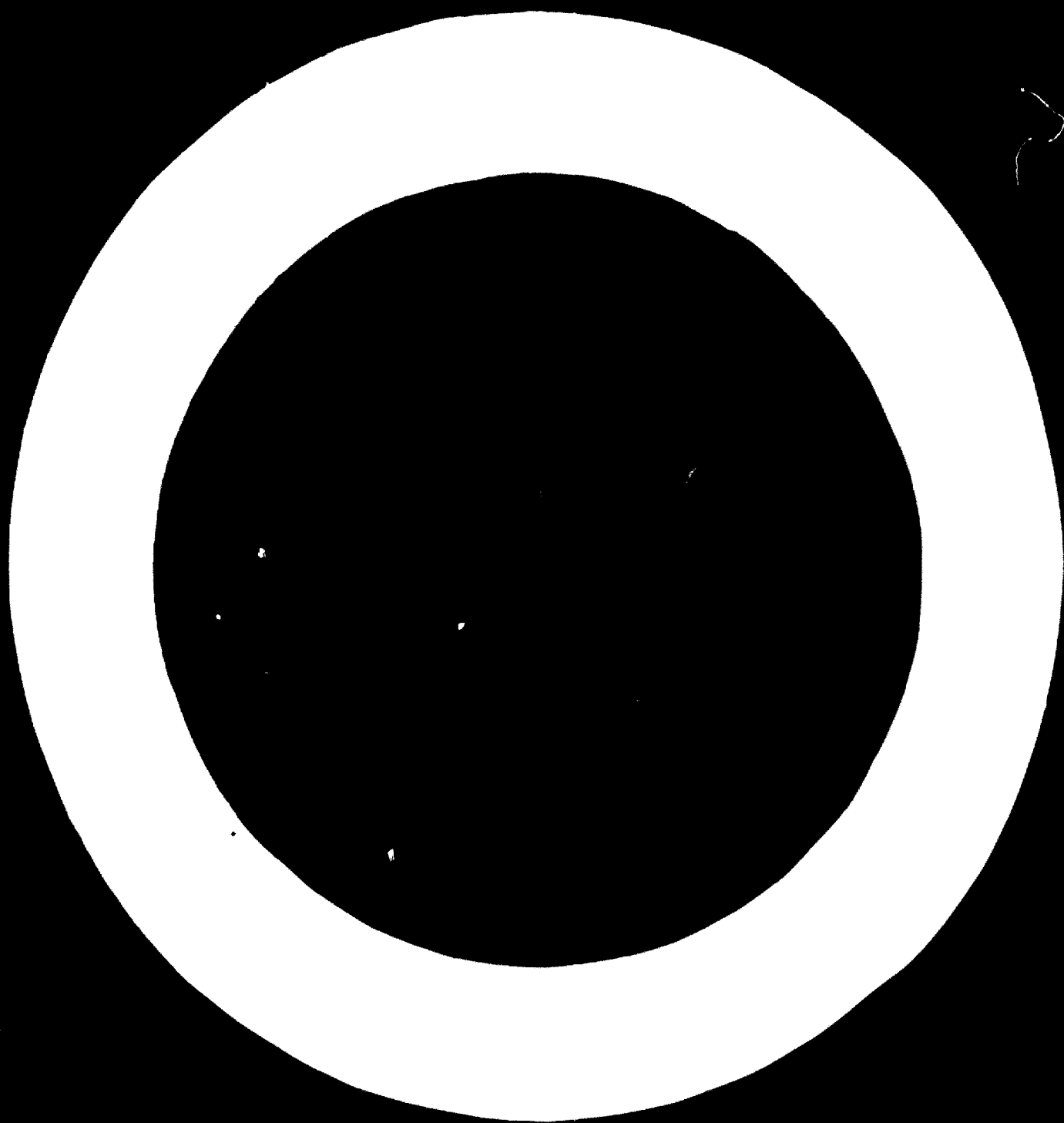
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INDUSTRIAL LOCATION AND REGIONAL DEVELOPMENT IN GHANA 1/

Prepared by the Ministry of Economic Affairs
Accra, Ghana

1/ The views and opinions expressed in this paper are those of the author and do not necessarily reflect the views of the secretariat of UNIDO.

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Introduction

1. Experience in the field of industrial location policies in Ghana may be traced back to 1943 when a West African Institute of Industries, Arts and Sciences was established in Ghana. One of the functions of the Institute was to conduct research and experiment into the location of secondary industries and the training of Africans for their management. Although the Institute was rather short lived, by 1945 it had succeeded in establishing a brick and tile factory, a pottery manufacturing industry and a cotton and textile industry in Ghana.

2. A more fundamental step was taken in 1947 by the Government of Ghana when it established an Industrial Development Corporation (I.D.C.) to conduct feasibility studies into potential industries and to aid African businessmen in industrial ventures. Although the I.D.C. was instrumental in fostering the establishment of a few industries in the country, it was only later, in 1953, with the publication of a report^{1/} for the Government of Ghana on the industrialization policy of the country that more positive industrial location policies began to emerge.

I. INDUSTRIAL LOCATION POLICY

3. Briefly, the report outlined three categories of manufacturing activities that could be profitably undertaken in the country and the locational factors that should be taken into account with regard to each group of manufacturing activities. The first group deals with the processing of basic raw materials for export, the second group considers manufacturing products for the home market and the final category concerns manufacturing for export.

4. For the processing of basic raw materials for export, the report emphasized that, apart from low costs of labour, transport and fuel that should be considered in the location of industry, the decisive factor should be whether or not the raw material would lose weight in the manufacturing process. If the raw material should be such that there would be no loss of weight during manufacture, it might be more profitable to export the material in its raw

^{1/} W. Arthur Lewis, Report on Industrialization and the Gold Coast, Government Printing Department, Accra, 1953.

state. In the Ghana context, there would be loss of weight in the timber industry through sawmilling, in the palm oil industry through processing before export and in the minerals field by removing the precious stones from the ore.

5. In the case of manufacturing industries producing for the home market, the factors to be taken into account with regard to the location of a new industry would be low wage cost, the size of the market in relation to the minimum size at which production could be economically undertaken and the transport factor. The transport factor becomes decisive if the industry uses heavy raw material that is available on the spot and if the local manufacture is protected against imports to the extent of the cost of transporting the raw material. Examples of industries of these types are the cement and beer industries. Another field in which the transport factor becomes important is in the case of a manufactured good that is more bulky than the materials from which it is made, whether or not these materials are imported, and there is similar protection against imports. The furniture industry and most assembly works are good examples.

6. With regard to the final group of manufactures, manufacturing for export, the determining factors for the location of such industries would be cheap fuel, weight-losing raw materials and low labour cost.

7. In summary, the factors that were recommended as vital in decisions regarding the location of new industries were: low labour cost; low transport cost; low fuel cost; availability of local raw materials and the size of the market in relation to the production capacity of the industry. It is true to say that the pattern of industrial development that has emerged in Ghana both in the public and private sectors has been influenced considerably by the proposals of the report just referred to. However, of all these factors, three have been most dominant, namely, the availability of local raw material on the spot, the transport factor and urbanization economics. This is not to argue that political considerations have also not been responsible for the location of industries in Ghana.

II. INDUSTRIAL LOCATION PRACTICE IN GHANA

8. An attempt is now made to consider those industries that have been located because the raw material was available on the spot, transport costs were low and because it was economic to take advantage of the forces of urbanization operating at a particular area.

9. Table 1 shows industries whose location was influenced by the availability of raw material on the spot.

Table 1

Raw material-oriented industries

<u>Industry</u>	<u>Raw material</u>	<u>Location</u>
Glass Factory	glass sands	Tarkwa
African Timber & Plywood Co.	timber	Samreboi
Akuse Sugar Factory	sugar cane	Akuse
Komenda Sugar Factory	sugar cane	Komenda
Meat Processing Factory	cattle	Bolgatanga
Pineapple Processing Factory	pineapple	Nsawam
Tomato Processing Factory	tomatoes	Pwalugu
Mango Processing Factory	mangos	Wenchi
Rubber Tire Factory	rubber	Bonsaso
Gold Refinery	gold	Tarkwa
Ceramics Factory	clay	Saltpond
Vegetable Oil Mill Corp.	copra	Denu
Vegetable Oil Mill Corp.	Palm Oil	Esiana
Brick & Tile Factory	clay	Aocra
Match Factory	timber	Kade
State Boatyard Corporation	timber and sea	Sekondi
Coir Fibre Factory	fibre	Saltpond
Coir Fibre Factory	fibre	Axim
Coir Fibre Factory	fibre	Half Assini
Bamboo Factory	bamboo	Axim
Rattan Factory	cane	Knawkaw
Rattan Factory	cane	Bobikuma
Rattan Factory	cane	Opon Valley
Rattan Factory	cane	Asanwinso
Alumina* ^a		Kibi
Pulp and Paper Factory*	bagasse	Akuse
Nanli Cement Factory*	limestone	Nanli
Ferro-Manganese Factory*	iron ore & manganese	Tarkwa

^a/ An asterisk indicates a planned industry

Although the location of these factories was influenced dominantly by the availability of raw materials on the spot, cheap transport costs, cheap labour costs and cheap fuel costs were also taken into account in the location of these industries.

10. The facilities provided by the two principal ports of Ghana have been responsible for the location of certain types of industries that must import their raw materials or export their finished products. In table 2 is shown the port-oriented industries of Ghana.

Table 2

<u>Port</u>	<u>Industry</u>	<u>Raw material</u>
Tema	Valco Smelter	bauxite
	Vertical Integrated Textile Mill	grey bath
	Textile Printing Factory	grey bath
	Ghana Electronics Products Corporation	parts
	Asbestos Cement Factory	clinker
	Television Assembly Plant	parts
	Solo Motor Assembly Plant	parts
	Aluminium Cutlery Factory	aluminium sheets
	Steel Drum Factory	steel
	State Steel Works	scrap
	Oil Refinery	crude oil
	Cocoa Products Corporation	cacao
	Takoradi	Cement Factory
Paper Conversion Factory		pulp
Pioneer Tobacco Factory		tobacco
Cocoa Products Corporation		Cacao

In addition to these port-oriented industries, which must import their basic raw materials, some factories have been located at the ports of Ghana to facilitate the export of their products. An example is the cocoa products corporation located in Takoradi and Tema, which manufactures cocoa butter and chocolates for export.

11. Apart from the port-oriented and raw material-oriented industries, there are others whose location has been influenced by the existence in certain urban areas of auxiliary industries and services that render the location of new industries profitable. The three main towns that have provided these urbanization economics are Accra-Tema, Kumasi and Sekondi-Takoradi. These urban centres attract new industries because they have reasonably reliable infra-structural facilities and social services such as good transport and telecommunications, water supply and power, schools and other cultural facilities. In addition, these towns command the best of the country's labour supply, both skilled and unskilled. Examples of such types of industries are the garment factory in Accra, the mattress factory in Tema, and the Pioneer Biscuit Factory and the Jute Bags Factory in Kumasi.

12. It is not in all instances that locational factors have been taken into account in the siting of industries in Ghana. Purely political considerations and the desire to raise the standard of living of a backward area have also been reasons for the location of industries. A classic example of a locational policy based on political considerations is the location of a tannery about 400 miles from an existing meat factory in the northern part of Ghana and 200 miles from an existing shoe factory. The obvious thing would have been to establish an integrated factory that would process meat, tan hides and manufacture shoes at one and the same spot.

13. It is important to point out that, although the pattern of industrial location that has emerged in Ghana throughout the years may be considered as a pattern that has been guided by rational locational considerations, the centralized nature of the planning machinery in that country has made it possible for the Government to determine where a particular industry should locate. In effect, no industry can establish in the country without the prior approval of the Government.

III. REGIONAL DEVELOPMENT POLICY

14. In the field of industrial location policy in Ghana, it has been possible to discern, to some degree, certain distinct patterns of development. This has not been the case with regard to regional development policy in Ghana. This might be due to the fact that regional development as a technique for over-all economic development planning in developing countries is a relatively new concept. This does not, of course, mean that resource region development or river basin development is a completely new idea in Ghana.

IV. THE VOLTA RESOURCE BASIN DEVELOPMENT

15. After the discovery of large deposits of bauxite in Ghana in 1913, the then Ghana Government drew up a plan in 1924 for the construction of a dam across the Volta River and for the generation of hydroelectric power for the manufacture of aluminium from the local bauxite. The 1924 plan also considered the possibility of lake transportation on the Volta, the irrigation of the Accra plains and the construction of a harbour at Ada at the Volta estuary for ocean-going ships. Apart from the multi-purpose approach that was adopted towards the development of the Volta Basin, nothing concrete was started until 1956, when a more comprehensive development programme was prepared for the Volta Basin.

16. The 1956 plan for the Volta project covered practically all aspects that a multi-purpose river basin development project should cover. Apart from the main project of power production, the planners also considered the associated industrial and agricultural possibilities that could result from the construction of the dam. These included irrigation agriculture on the Accra plains, Volta lake transportation, resettlement of flood victims, fishing on the Volta lake and the health problems that would arise from the formation of a new lake in Ghana's interior.

17. On the project of power production, five constituent elements were considered:

- (a) The bauxite mines and the mining village;
- (b) The railways linking the bauxite deposits with the smelter and the smelter with the port;
- (c) The dam and power project at Akosombo;
- (d) The smelter at Tema which was originally to be sited at Kpong; and
- (e) The port at Tema.

The development that has taken place since the 1956 plan is that a dam 370 feet high has been constructed in Akosombo for the generation of 512,000 kW; a new harbour has been built in Tema as well as a smelter for the production of 135,000 tons of aluminium and the extension of Volta power from Akosombo to cover the whole of the southern parts of Ghana.

18. However, in addition to the purely engineering achievements of the Volta project, the resettlement of 80,000 flood victims of the Volta Basin presented the planners with the opportunity to introduce regional planning techniques in the location of new towns and villages and the planning for modern forms of agriculture, industry and transportation. For the location of the new towns and villages, seven planning areas were proposed in the Volta Basin, and each planning area was to have three types of settlements, namely, a central town, a service centre village and satellite village. The central town, with a population of 10,000, was to play the functions of industry, trade, service and government of each of the seven planning areas. Each central town was located where there existed the best combination of bulk water supplies for industry, road transportation, water transportation, accessible minerals and agricultural raw materials. The service centre villages, which hold an average population of 8000 and not less than 5000 were to be the local centre of trade, education, post and indigenous industry. Each village would serve a radius of ten or fifteen miles of smaller settlements and perform service functions for the surrounding agricultural and marine industries. The satellite villages were to be located in areas of intensive agricultural activities. These would be the places where some secondary agricultural processing industries drawing upon the areas' local agricultural raw materials would be established. Six of these satellite villages would have populations of 4000.

19. On the basis of these regional locations of new settlements, 52 resettlement towns and villages were located across the Volta Basin. Although the physical location of the 80,000 flood victims in the new resettlement sites have been completed, the industrial and agricultural programmes have not been as successful as planned because of lack of finances.^{2/}

^{2/} C.D.K. Kudiabor, Volta Resettlement Planning and Development, The Regional Context Ghana Trade Journal, August 1965.

20. The most important lesson that has been learned from the Volta Basin development exercise has been that it has offered Ghanaian planners the opportunity to experiment with the techniques of regional development planning in their country. Apart from the regional approach adopted in the resettling of 80,000 flood victims, it has been possible, within the framework of regional development, to identify potentially viable projects that were committed for further detailed feasibility studies. Some of these studies include a study on lake transportation on the Volta lake; on irrigation agriculture on the Accra plains; on a charcoal industry in the Volta Basin; on an alumina plant; and a study on the fisheries industry in the Volta Lake. Although some of these projects have not yet been implemented, the fact that detailed studies have been conducted on them makes them eligible for financing, either through local or international financial resources. The greatest experience from the Volta Basin exercise, therefore, is that it has permitted the identification of potentially viable projects within the context of regional development planning.

V. NEW MACHINERY FOR REGIONAL DEVELOPMENT PLANNING

21. It is this kind of experience from the Volta Basin development that the Ghana Government has been attempting to transfer from the resource development region of the Volta to the rest of the nine administrative regions of Ghana. And since the change of government in 1966, regional planning committees have been established in the various administrative regions of the country. The policy of regionalization is part of an over-all government policy to decentralize development planning work in Ghana. In line with government policy on decentralization, sector programming units have been established in the key ministries of the Government to prepare programmes for the key sectors of agriculture, industries, mining, power, transport, housing, education, health, forestry and communications. The programmes of these sectors and the regions would become the basis for future development plans of Ghana.

22. The objective behind the setting up of these regional planning committees has been to ensure that the process of decentralization would be extended beyond the establishment of ministerial sector programming units in Accra to the respective regions of the country. In addition, the regional planning exercise is meant to supplement the sectoral programming work of the operating ministries.

The system of planning which is being evolved through the new measures is a two-way channel; a vertical system involving the major ministries of the Government and a horizontal system consisting of the respective regions of the country.

23. The membership of the regional planning committees is made up of both private citizens in the regions together with the regional representatives of the Government agencies and departments in the various regions. Other members of the committee include university lecturers not necessarily resident in the region, farmers, private businessmen with sufficient regional patriotism, and private professionals such as engineers, lawyers, doctors, bankers and teachers. The primary aim of making the membership of these committees so diverse is to arrive at a consensus on local needs and objectives by bringing together both government officials and technicians and individual leaders of the local population. It is hoped that a forum would thus be created through these committees at which government technicians and the local people could discuss all matters affecting the development of their region.

24. The chairman of the regional planning committee is the present political leader in the region. The secretary of the committee is a professional regional planner posted to the region from the Ministry of Economic Affairs, the Central Planning Agency in Accra. The regional planner is the main link between the rural areas and the Ministry of Economic Affairs. It is anticipated that in due course similar administrative measures would be extended to the various districts in each region.

25. Very broadly, the functions of the regional planning committees are to co-ordinate development planning work for the key sectors of the regional economy, to keep an eye on the implementation of all public and private projects in the region so as to detect all possible bottlenecks that might retard the execution of development projects and to find means for speeding up the implementation of these projects. More specifically, the committees are to collect data on all local resources, submit proposals for the utilization of these resources to the Ministry of Economic Affairs and the ministerial programming units, and to report regularly, on a quarterly basis, on all development activities of the region to the Ministry of Economic Affairs.

VI. METHODOLOGY FOR REGIONAL DEVELOPMENT PLANNING

26. As has been pointed out above, regional development planning, as it is evolving in Ghana at present, is directed toward creating machinery through which development can be effectively co-ordinated at the regional level and also at creating a framework within which projects can be easily identified. Most planners in Ghana today now accept the fact that the slow progress or even the outright failure of Ghana's national development plans has been due, not so much to any inherent weaknesses in the formulation of the previous development plans, but rather to the fact that the plans were deficient in identifying sufficiently feasible projects for development. It is also being recognized increasingly that individual projects are the building blocks of any aggregate national plan. It is for this reason that the new ministerial programming units have as their primary function the identification of viable projects within their respective sectors, and the regional planning committees, in addition to policing and co-ordinating development projects at the regional level, also have responsibility for identifying new projects.

27. The methodology that has been adopted so far for regional development has been the co-ordination of development of the various sectors of the regional economy by reporting quarterly on both the financial and physical progress of all public sector development projects in each region. This method has been dictated more by lack of experienced regional planners for the various regions of Ghana. To date, each of the nine regions of Ghana has only one professional regional planner posted to it from the Ministry of Economic Affairs. As more regional planners become available it will become possible to take on more fully the responsibility for identifying viable projects that can be incorporated into the development plans of the country.

28. In spite of this handicap, some of the working committees of the regional planning committees have already taken the initiative to review the development problems affecting their respective regions and to prepare tentative programmes for the development of their regions. In the Upper Region of Ghana, for example, the regional planning committee outlined its pressing development need as the lack of sound infrastructural base for both agricultural and industrial growth in the region. It therefore recommended that during the two-year development plan period from July 1968 to June 1970, the emphasis in the Upper Region should be on the provision of: good transportation facilities;

good postal and telecommunication facilities; construction of small dams for purposes of irrigation; provision of good drinking water; improvement in the existing health and educational facilities; provision of electricity facilities; provision of good housing for the growth centres (Bolgatanga, Bawku, Tumu and Wa).

The committee is of the opinion that the realization of the above proposal would, by the end of the plan period, have created an economic atmosphere conducive to the development of industry and its ancillaries.^{3/}

29. In the Volta Region, on the other hand, where infrastructural facilities are not as backward as in the Upper Region, the main objective of the regional planning committee has been to intensify agriculture and the establishment of small-scale industries based on either local or imported raw materials. The idea of introducing small-scale industries in the area is based upon the availability of local craftsmen and metalworkers in certain areas of the region. Within the context of the whole region the regional planning committee has identified projects such as a shell button factory in Keta based on sea-shells from the area; a small metal factory at Alavanyo based on a number of enterprises manufacturing guns, brass, musical instruments etc.; a brick and tile factory based on local clay; a starch factory based on cassava and a possibility of developing industrial alcohol from the cassava starch.

30. The proposals from the Volta Region Planning Committee for the 1968-1970 plan period to the central government is that budgetary allocations be made for detailed feasibility studies to be made on the projects identified within the region. On the basis of these studies, a decision would then be taken as to whether or not to go ahead with the projects. It is the conviction of the committee that a viable project would attract its own investors.

31. In order to give sufficient encouragement to the work of the regional planning committees the Government is setting aside a certain proportion of the development budget for 1968-1969 and subsequent budgets for the sole use of the regional planning committees for projects evaluated as feasible. It is also proposed to reserve some funds to be used as loans to co-operative societies for development in the regions.

^{3/} Regional Planning Committee of the Upper Region, Feasible Development Projects, 1968-1970, Annual Plans - Upper Region, Ministry of Economic Affairs, February 1968.

VII. CONCLUSION

32. In conclusion, it may be pointed out that the experience of Ghana in the field of industrial location and regional development policy has not in the past been an integrated policy of the Ghana Government. Policy for industrial location has been based more on taking advantage of location factors operating in particular places such as the availability of local raw materials at a particular spot and the presence of certain basic infrastructural facilities and services such as transport, communication and harbour facilities.

33. Experience in regional development in relation to industrial location in Ghana can be regarded as still in its infancy. This is because the integration of regional development planning with national economic development planning started in Ghana only after the change of government in 1966. It would appear, however, that the institutional arrangements that have already been made and the functions being performed by the regional planning committees should make it possible for an integrated policy for industrial location and regional development to evolve and become part of the planning machinery of Ghana.

34. Although it is still too early to forecast what the eventual pattern of regional development in Ghana will be, it is becoming evident that the future role of regional development in relation to industrial location policy in that country would consist of locational studies of potentially viable projects identified within the various regions, especially for the sectors of agriculture and of mineral resources. In this way regional development would play an important role of identifying new areas of economic activity that could be expected to grow into new centres of population concentration.





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