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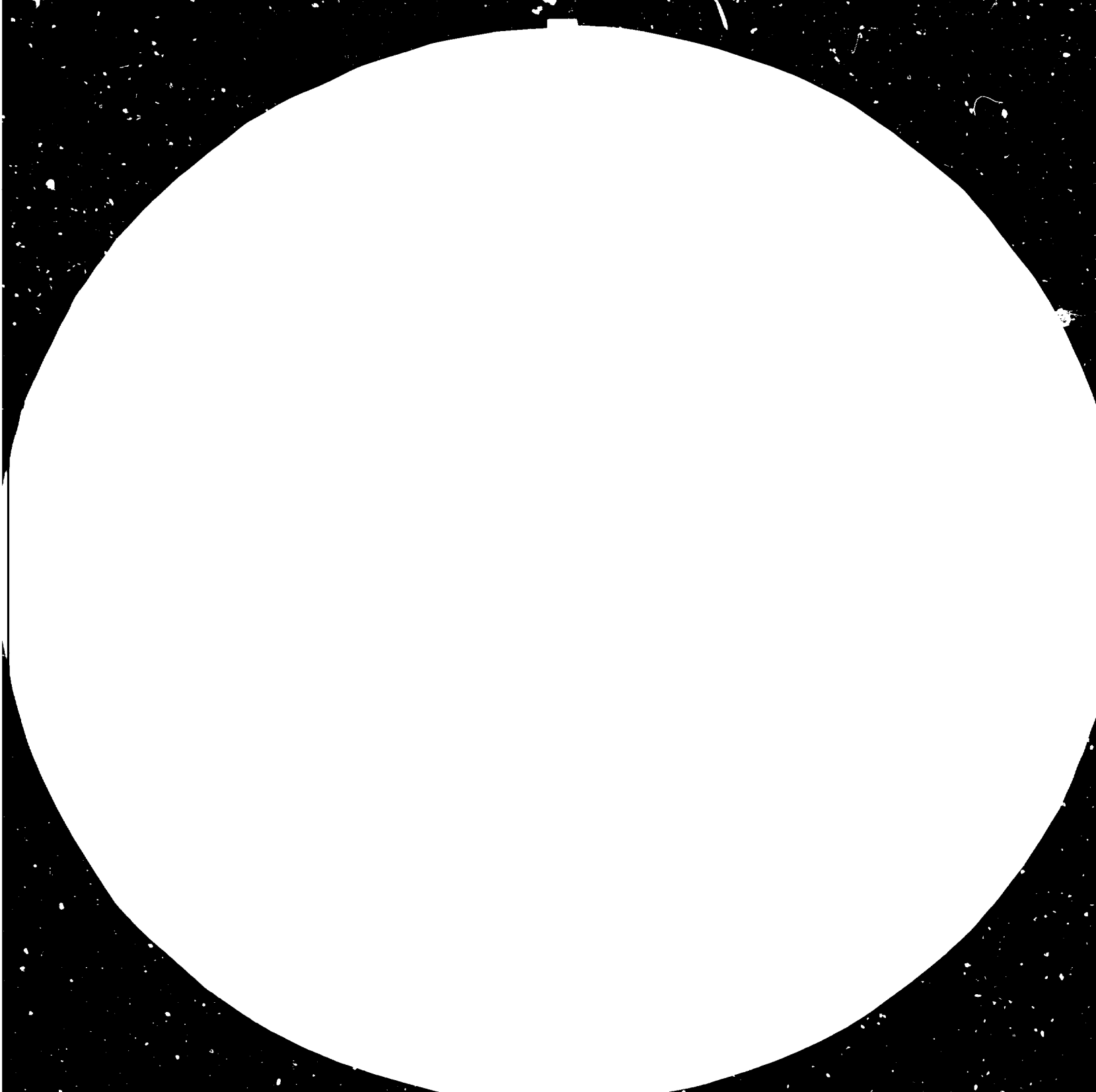

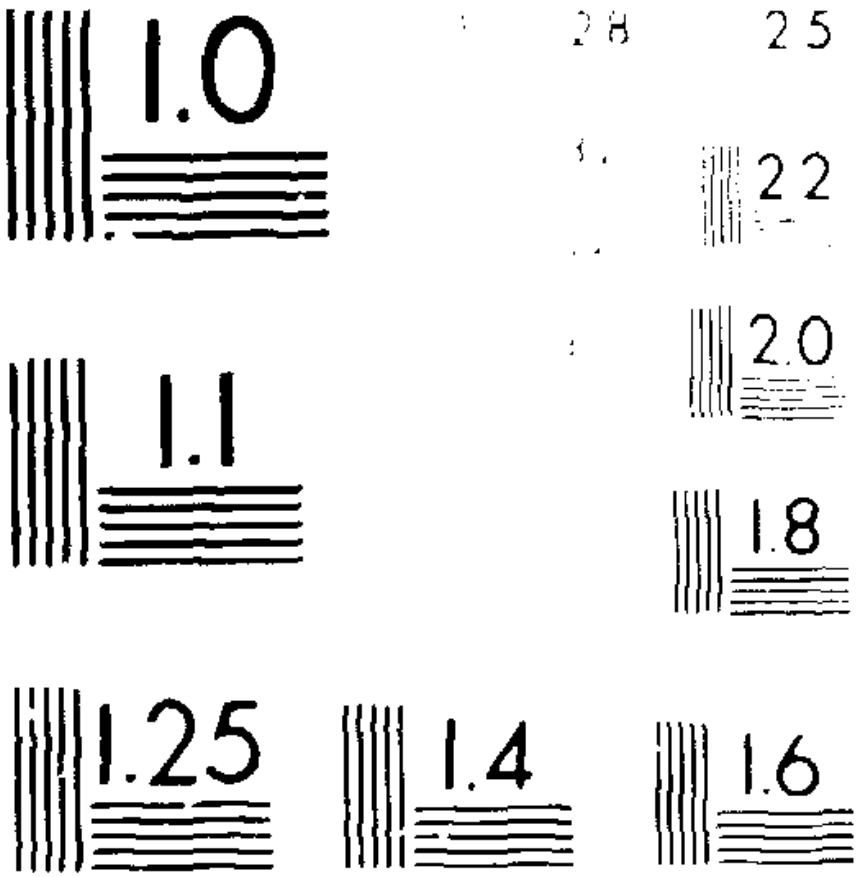
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Subregional Meeting on the Promotion of Intra-African Industrial Co-operation within the Framework of the Industrial Development Decade for Africa*

Bangui, Central African Republic, 18-22 February 1984

INITIAL INTEGRATED INDUSTRIAL PROMOTION PROGRAMME FOR THE CENTRAL AFRICAN SUBREGION**

Prepared by

the secretariats of ECA, OAU and UNIDO

* Organized jointly by ECA, OAU and UNIDO in co-operation with the Government of the Central African Republic and the Customs and Economic Union of Central Africa (UDEAC).

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CONTENTS

INTRODUCTION

1. This paper, which has been prepared in connexion with the ECA/OAU/UNIDO ad hoc expert group meeting on intra-African industrial co-operation, comprises five chapters. It is designed to initiate a continuing process of discussion among Governments in the Central African subregion on priority areas and projects for multinational co-operation. The countries covered by this subregional programme are: Angola, Burundi, Cameroon, the Central African Republic, Chad Congo, Equatorial Guinea, Gabon, Rwanda, Sao Tome and Principe, and Zaire. The first chapter summarizes the economic situation in Africa and outlines the objectives of the Industrial Development Decade for Africa. The second chapter describes the industrial situation in the subregion, indicating the need for the reorientation of industrialization policies and strategies as well as the major institutional arrangements for economic co-operation in the subregion.

2. Proceeding from a definition of core industries, the third chapter identifies the strategic industrial subsectors in the subregion and describes those areas and services that support industrial development. The fourth chapter presents an initial integrated industrial promotion programme for the subregion. It introduces a series of core projects in priority subsectors and gives details of support projects supplementing the process of integration. Project profiles are used to provide data relating to raw materials, infrastructure, markets, demand and investment requirements. The fifth chapter proposes a plan for the implementation of the integrated programme. It is anticipated that the meeting will make recommendations in respect of both the integrated programme and the plan for its implementation.

I. ECONOMIC STATE OF THE REGION AND THE INDUSTRIAL DEVELOPMENT DECADE FOR AFRICA

The current economic situation

3. As pointed out in the preamble to the Lagos Plan of Action, Africa is unable to point to any significant growth rate or satisfactory index of general well-being in the past 20 years. Whatever socio-economic indicator is used - be it per capita income, the share of primary activities in total production, school enrolment ratios, access to safe water, mortality or health - most African countries can be seen to be lagging behind other developing countries. The number of African countries listed as "least developed" by the United Nations recently increased to 26 out of a world total of 36, while 20 out of 33 countries classified by the World Bank as "low-income" developing countries are located in Africa. The share of manufacturing in the region's GDP is still appreciably lower than the comparable average for all other developing countries, while agricultural performance has dropped badly, bearing little comparison with the previous decade or with performance in other developing regions. Given the close link between agriculture and industry, poor performance in the agricultural sector has devolved negatively upon manufacturing.

4. These economic difficulties are compounded by the persistent balance of payment deficits faced by most countries in the region: the external debt of the region increased five-fold during the past decade while external reserves dropped to critically low levels. The expansion of manufacturing output in the region is also hampered by sluggish domestic markets, inadequate raw material supplies for key industries, the absence of skilled and experienced industrial manpower, and shortage of imported materials, spare parts and machinery. The situation is further aggravated by major difficulties stemming from the energy problems facing the region despite its substantial energy potential. The inadequacy of the region's transport and communications infrastructure coupled with the inefficiency of the services sector are also recognized as major obstacles to the socio-economic development of the region.1/

5. The generally stagnant nature of the domestic economies has inevitably depressed industrial investment and, in turn, future expansion. The fact that the typical African economy is still at an early stage of development means that certain 'structural' features come into play and condition the environment in which industry operates. Seen from a positive angle, the fact that these economies start from a small industrial base offers potential scope for industrialization, as does the rich natural resource endowment of many African countries. On the negative side, however, the small populations and low levels of income in most African countries mean that existing domestic markets for consumer goods are limited - far too small to permit the attainment of maximum economies of scale in many branches of industry.

6. With the effects of unfulfilled promises of global development strategies being more sharply felt than in other continents of the world, Africa took steps towards the basic restructuring of the economic base of the continent. Despite the varying structure of industrial ownership, the main objective of economic development in most African countries since independence has been to achieve a sustained increase in the standard of living for an increasing proportion of the population. In order to achieve this, the composition of output must shift from primary production to secondary activities, i.e. to industrialize. To this long-term strategy of industrialization can be added the shorter term goals of an accelerated growth in output and the creation of employment opportunities so as to reduce unemployment or under-employment and contribute to the elimination of mass poverty.

1/ For further details see Economic Commission for Africa, ECA and Africa's Development 1983-2008 (Addis Ababa, April 1983).

Lagos Plan of Action and the Industrial Development Decade for Africa

7. In more recent years, two new concepts - self-reliance and self-sustainment - have been incorporated in the long-term economic development strategies described above. Introduced into the Monrovia Declaration of Commitment of the Heads of State and Government of the OAU in July 1979, they were re-affirmed in the Lagos Plan of Action and the Final Act of Lagos in April 1980 [2/] and have since become the key features of the Industrial Development Decade for Africa. In the Lagos Plan of Action, a major role is accorded to industry reflecting the commitment of the region to change the economic structure of Africa and to satisfy the basic needs of its peoples by exploiting local natural resources and establishing a base for the development of other economic sectors.

8. Quantitative and qualitative targets are also set in the Lagos Plan of Action for industrial integration at the subregional and regional level. A minimum share of at least 1.4 per cent in world industrial production is to be achieved by the year 1990, while African countries will do everything in their power to achieve self-sufficiency in the food, building materials, clothing and energy sectors. Furthermore, during the first half of the decade, the countries in the region, individually and collectively, will endeavour to lay the foundation for the phased development of the following basic industries essential to the achievement of self-reliance: food and agro-industries, mechanical industries, metallurgical industries, electrical and electronic industries, chemical industries, forestry industries and energy industry. Moreover, in the Final Act of Lagos the industrial sector was selected as one of the priority sectors for subregional and regional integration during the current decade.

9. Likewise derived from the Monrovia Declaration and incorporated in the Lagos Plan of Action, the proclamation of the Industrial Development Decade for Africa by the General Assembly of the United Nations is seen as a means of focusing greater attention and evoking greater political commitment and financial and technical support, at the national, regional and international level, for the industrialization of Africa. It also instigated the preparation of a programme for the Decade which was adopted by the African Ministers of Industry at their Sixth Conference in November 1981.[3/]

2/ Organization of African Unity, Lagos Plan of Action for the Economic Development of Africa 1980-2000 (Geneva, 1981)

3/ ECA/OAU/UNIDO, A Programme for the Industrial Development Decade for Africa, ID/287 (United Nations, New York, 1982).

10. The programme identifies the key requirements at both the national and subregional level. The essence of the programme lies in the fact that the stimulation of the economic growth of Africa comes, first and foremost, from within. It not only requires the effective exploitation, processing and utilization of domestic natural resources at the national and multinational level, but it is also based on an integrated development strategy linking industry with agriculture, energy, human and physical infrastructure, trade and other sectors.

11. The programme calls for a firm rejection of the isolated piecemeal planning of the past and a clear shift away from over-preoccupation with foreign exchange problems external to the region. The new approach is predicated upon a decisive move towards the integrated development of the human resources, institutional mechanisms and technological capabilities required to develop and utilize effectively the natural resources and material endowments of the region, expanding local markets, enlarging the range of complementarities and strengthening links between industry and other sectors of the economy.

12. The programme also emphasizes the importance of national, subregional and regional markets for the supply of such factor inputs as raw materials and machinery, technical as well as managerial, and project planning skills. It maps out actions for both the preparatory (1982-84) and implementation (1985-1990) phases at the national, subregional, regional and global level. Each country is urged to adopt a national strategy based on a set of carefully selected strategic "core" industries appropriate to its resources and raw materials (in particular, energy), complemented by strategic support projects. Although the key to the success of the Decade will depend, in the final analysis, on steps taken at the national level, intra-African co-operation is essential to the attainment of self-reliant and self-sustained development. In the programme for the Decade, emphasis is placed on the need to:

(a) Prepare sectoral policies and programmes within strategic industrial branches.

(b) Identify major industrial projects of interest to the countries in the subregion or region.

(c) Strengthen or establish institutions in the subregion or region aimed at promoting industrial integration.

13. African countries will thus have to strengthen or establish regional institutional arrangements for the preparation, promotion, implementation and monitoring of multinational industrial projects. They will also have to ensure complementarity of the raw materials and factor inputs needed for industrial development and take steps to facilitate intra-African trade in

industrial raw materials and finished products while introducing suitable mechanisms for promoting and financing multinational industrial projects. Carefully planned, this strategy of collective self-reliant and self-sustained development should lead to a mutually reinforcing system of production in the region in keeping with the objectives of the Lagos Plan of Action and the Final Act of Lagos.

II. INDUSTRIALIZATION IN THE CENTRAL AFRICAN SUBREGION

Population, natural resources and economic growth

14. The population of the 11 countries in the subregion totalled 62.7 million (or 14.8 per cent of the total population of the OAU Member States) in 1980 with forecasts of some 84.5 million by 1990 and 112.7 million by the end of the century.

15. The countries in the subregion possess a large resource base: this offers an enormous potential for industrialization and thus needs to be efficiently exploited and developed. The agro-industrial resources include timber, coffee, tea, sisal, coton, meat, hides, fish, and sugar. The mineral resources are mainly: aluminium (Cameroon, Angola, Zaire); iron (Zaire, Angola, the Congo, Cameroon, and the Central African Republic); manganese (Gabon, Zaire, Angola); nickel (Burundi, Zaire); chromium (Zaire); cobalt (Zaire); copper (Zaire and the Congo); lead and zinc (the Congo and Zaire); tin (Rwanda and Zaire); phosphates (Angola, the Congo, Zaire, and the Central African Republic); uranium (Gabon, Zaire, and the Central African Republic); and petroleum (Angola, Cameroon, Chad, the Congo, Gabon, and Zaire). Energy resources include natural gas, methane gas, coal, Jurassic oil shale, heavy oil and tar sands, as well as hydro-electricity.

16. During the period 1975 - 1980, gross domestic product (GDP) in the subregion rose from $6,170 million to $ 6,475 million; this corresponds to a subregional growth rate of only 1 per cent as against a regional growth rate of 5.6 per cent. The average per capita income dropped from $ 131 to $ 122: an annual drop of -1.4 per cent. During the same period, the share of agriculture in the GDP fell from 33 to 31 per cent while that of manufacturing remained unchanged at 25 per cent; the share of the tertiary sector rose from 42 to 44 per cent.

17. Most of the countries' economies are mainly oriented towards agriculture, involving the production of raw materials and primary commodities, most of which are exported unprocessed. Similarly, some of the countries still depend heavily on the export of mineral products either in unprocessed form or after primary processing: the main objective of these exports being to earn foreign exchange. The countries depend on external sources for most factor inputs such as capital goods, intermediate goods, technology, finance and services. They also depend

on huge food imports. As a result of these and other factors, the subregion's economies are acutely vulnerable: this stems mainly from its dependence on the export of a limited number of primary commodities whose fluctuating and rather relatively low prices are determined externally, as well as on the import of increasingly costly industrial factor inputs.

The industrial structure

18. The industrial structure of the countries in the Central African subregion does not match their huge resource endowments. The bulk of the manufacturing industry is devoted to the production of non-durable consumer goods which require only simple processing : Although in certain countries there are large-scale or multinational production units, the manufacturing sector most often comprises industries whose size make it impossible to realize economies of scale. Largely agro-based, the production of consumer goods is confined to the processing of primary (light industry) products such as textiles, footwear, leather products, food and beverages. By way of example, light industries accounted for 86 per cent of manufacturing output in 1976 in the Central African Republic and for 89 per cent in 1977 in Rwanda. Moreover, the production of food, beverages and tobacco alone accounts for a large share in manufacturing output in most Central African countries: no less than 50 per cent in the Central African Republic in 1980.

19. The development of heavy industry has not met with success in the Central African subregion, constrained as it is by a number of factors, including the size of the individual countries' markets and their lack of technical and managerial expertise. The history of several metallurgical projects in Zaire illustrates the difficulties encountered by the countries in the subregion: a steel plant at Maluku which was designed to use energy from the Inga dam is currently operating at only 3 per cent capacity, while a copper and cobalt refinery project has been abandoned.

20. Government participation in manufacturing has increased in most countries irrespective of their political orientation. This trend is attributed to the need to compensate for shortcomings in local private entrepreneurship. In countries, such as the Congo, the public sector is the most important participant in manufacturing and accounts for more than half of the sector's output. However, many State-owned enterprises have incurred heavy losses, owing to such factors as overmanning, underpricing of production and ineffective management. All too often they have not been considered commercial ventures which must cover their costs and produce a return on investment, but social organizations designed to provide jobs and services. In countries such as Zaire, previously "nationalized" industries have even been returned to their former (foreign) owners.

21. Manufacturing in the subregion is concentrated in or around the major cities: it usually has little or no impact on rural development. Indeed, manufacturing is geared mainly towards meeting the requirements of a comparatively small section of the urban population.

22. Manufacturing in the subregion is mostly import-based and poorly linked to agriculture and other economic sectors. The share of manufacturing in the subregion is small, both in absolute terms and in terms of its contribution to GDP. In 1970, the average share of manufacturing value added (MVA) in GDP at constant 1970 prices in the subregion was only 7 per cent as against 9.5 per cent for the whole of Africa. In 1980 it rose to 8 per cent as compared to 9.8 per cent for the whole region. These average figures conceal dispartities in performance between the countries in the subregion, as can be seen from the table below:

Shift in the share of manufacturing in GDP, Central African subregion, 1970-1980

(per cent)

	From	To
Increase		
Central African Republic	13.1	14.0
Equatorial Guinea	3.8	4.2
Burundi	6.8	7.8
Gabon	4.2	10.2
Rwanda	3.5	12.2
Sao Tome and Principe	4.8	5.2
Decrease		
Angola	5.2	4.9
Cameroon	10.0	9.1
Chad	5.5	5.2
Congo	6.6	5.2
Zaire	7.6	6.5

Source: Economic Commission for Africa, Statistics Division

23. Industrialization in the subregion is hampered by a number of constraints, including the inadequate supply of raw materials resulting from both the poor agricultural performance and the unsuccessful development of mineral resources that continue to be exported unprocessed. In addition to these factors, the other constraints upon industry in the subregion include:

(a) Lack of critical raw material inputs for national industries working within limited domestic markets;

(b) Inadequate foreign exchange restricting the procurement of external factor inputs, such as spare parts, raw materials, intermediate products, technology, know-how and services;

(c) Lack of manpower capable of handling complete project cycles, including project planning, implementation and operation, or negotiating the procurement of technology and finance;

(d) Inadequate domestic financial resources and limited foreign investment in industry;

(e) Inadequate infrastructural facilities, including energy;

(f) Ineffectiveness of operational measures for pooling resources and establishing basic industries at the multinational and subregional level;

(g) Inadequate access to and development of technology and subsequent inability to compete in international markets for semi-finished and finished products;

(h) Low priority given to industry by Governments when allocating resources and establishing development policies, programmes and projects.

24. As a result of the above, the countries in the subregion are heavily dependent on external factor inputs for their industrialization, the pattern of which continues to be outward-looking.

Industrialization, strategies and policies in the subregion

25. Over the years, the industrialization policies of the subregion have been geared mainly towards the promotion of import substitution and the manufacture of consumer goods. Although import substitution is not fundamentally bad, it should not be predicated upon the importation of raw materials and components, and should not, as is often the case, be a mere assembly operation which does not contribute towards the up-grading of indigenous resources nor to the development of technological potential. That is why in most countries, the establishment of import substitution industries has provided neither support for agricultural development nor effective linkage between the various sectors of the economy. Rather, it has worsened the fragility of national economies which are already extremely susceptible to fluctuations in raw material prices and imported finished goods.

26. These policies have merely prolonged the dependence of the subregion on external sources, while the creation of capital-intensive import-substitution industries (with a high unit cost of investment and no relationship to the factor endowments of the subregion) has distorted cost structures. In many instances, domestic production costs are higher in terms of foreign exchange than the cost of importing finished products. Furthermore, the economic situation of the subregion has deteriorated following the outflow of capital from the subregion to the developed countries in return for commodity and technology imports, repatriation of dividends and consultancy fees.

Industrial co-operation at the subregional level

27. The current economic situation calls for fundamental structural change and a rejection of the traditional fragmented approach to planning adopted in the past, which was dominated by import-substitution strategies. Industrial co-operation at the subregional level would assist in overcoming these economic constraints upon industrialization that stem from limited markets and financial resources, and the fact that single countries cannot dispose of all the

technological and manpower capabilities needed to establish certain industries. Since most of the countries in the subregion have neither all the raw material inputs needed to establish certain industries nor the markets to absorb the expected output, industrial co-operation would permit these countries to deploy their resources to the maximum possible advantage.

28. Similarly, industrial co-operation would also ensure raw material producers in the subregion protected access to the larger subregional market, thus making for the optimal utilization of the agricultural, mineral and other natural resources and installed industrial capacities in the individual countries. It would also lead to subregional economic integration and the achievements of an increasing measure of self-sufficient and self-sustained development, key features of the programme for the Decade.

29. The steps to be taken by each country, ranging from the identification of core projects at the national and subregional level to the detailed assessment of financial requirements, are spelt out in detail in the programme for the Decade. 4/

Institutional arrangements in the subregion

30. Of the multilateral and bilateral industrial co-operation mechanisms in the subregion, the three most important multilateral economic co-operation bodies are the Economic Community of Central African States (ECCAS), the Customs and Economic Union of Central Africa (UDEAC) and the Economic Community of the Great Lakes Countries (CEPGL)

The Economic Community of Central African States (ECCAS)

31. The Community, whose membership corresponds to the eleven countries of the subregion, was established in October 1983 with the main objective of promoting self-reliant and self-sustained economic development in the subregion, so as to satisfy the peoples' needs and reduce the countries' external overdependence. As reflected both in the Treaty and in the Protocol IX on industrial co-operation, industry is given high priority in the Economic Community. The main thrust lies in the establishment of multinational industries based on local resources and other factor inputs so as to stimulate an economic development process based on the twin principles of self-reliance and self-sustainment, the strategy propounded in the Lagos Plan of Action. The priority industrial subsectors are basic industries such as iron and steel, capital goods, engineering as well as fertilizers, pharmaceuticals, pesticides and petrochemicals, and a number of multinational industrial projects have already been identified in the subregion within the framework of such bodies as UDEAC, CEPGL and the Yaoundé and Gisenyi-based MULPOCs.

4/ Ibid, Chapter III, pages 165 - 190

The Customs and Economic Union of Central Africa (UDEAC)

32. UDEAC, whose members are Cameroon, the Central African Republic, Chad, Congo, Equatorial Guinea and Gabon, was established in 1964 with the global objective of strengthening regional solidarity, creating a common market, eliminating trade barriers and raising the living standards of its peoples. In the field of industrialization, the UDEAC treaty stipulates three industrial co-operation objectives: the harmonization of industrial policies, the equitable distribution of joint ventures and the co-ordination of industrial development sectoral plans. These plans aim at promoting industrial growth, specialization and diversification, the optimal exploitation of available resources, increased productivity and efficient utilization of factor inputs, economies of scale, equitable distribution of benefits and balanced regional development.

The Economic Community of the Great Lakes Countries (CEPGL)

33. The community, which encompasses Burundi, Rwanda and Zaire, was established in 1976. The economic objectives include the promotion of co-operation in the design, formulation, preparation and implementation of joint ventures and other activities in various economic sectors including industry so as to meet the needs of the peoples and ensure the optimal exploitation of the natural resources available in the member States. A number of industrial projects have already been implemented and new projects identified, while studies are being carried out on the expansion and rehabilitation of certain national units in order to give them a Community character.

34. The establishment of ECCAS, UDEAC and CEPGL, whose objectives are fully in line with those of the Lagos Plan of Action, the Final Act of Lagos and the programme for the Industrial Development Decade for Africa, not only reflect the political commitment on the part of the member States, but they have also laid the foundation for the integrated development of the subregion.

III. STRATEGIC CORE INDUSTRIAL SUBSECTORS AND AREAS IN THE SUBREGION

Core industries

35. The concept of a core industry is basic to the programme for the Decade. It is used to describe those industries which contribute to the achievement of self-sufficiency in the priority sectors and the satisfaction of basic needs, as well as to the creation of a self-sustained and self-reliant industrial base.

36. A distinction is made between resource-based and engineering-based core industries. The former are defined as those industries utilizing domestically available resources which constitute a nucleus providing basic inputs into industry and other priority sectors and/or producing goods and services to meet basic needs. The latter are defined as the minimum set of engineering industries which enable a country or group of countries to meet its most basic engineering requirements and make optimum use of available resources for the servicing of both industry and other priority sectors (agriculture, transport and communications and energy) in terms of equipment, spare parts and components.

37. Resource-based industries depend primarily on the exploitation and the complete vertical integration of the subregion's natural resources, including energy. Once established, they have significant up- and down-stream linkage effects not only in respect of other industries, but also other sectors of the economy. The engineering-based core industries provide inputs to resource-based industries and all economic activities. Whereas their development depends primarily on their own reproductive ability, it also depends, ultimately, on the products of the metallurgical and chemical (resource-based) industries for the production of tools, implements and capital goods. Some engineering-based core industries require mass production of parts and components. This usually exceeds the scope of a single country's capabilities and markets, and industries of this kind are well suited to subcontracting arrangements and hence to multinational co-operation.

Identification of strategic industrial subsectors and project areas

38. An efficient and balanced economy that satisfies national development needs, within the context of self-sufficiency and self-sustainment in the subregion, requires an industrial structure that ensures : (i) the exploitation, processing, utilization and other general development of natural resources; (ii) linkages between the different industrial subsectors, specifically those producing captial goods, intermediates and consumer goods; and (iii) a link between national industrial productive capacity and other priority sectors. An industrial structure of this kind at the subregional level implies the establishment of core industries, the cost and productive capacity of which might exceed national financial and absorptive capacities. In the Central African subregion, the metallurgical, engineering, chemical, agro- and agro-based and building material industries have been identified as strategic core sub-sectors in protocol IX on industry appended to the treaty establishing the Economic Community of Central African States (ECCAS) and duly reflected in the lists of joint projects adopted by the Heads of State of both UDEAC and CEPGL, as well as at successive meetings of the Council of Ministers of the Yaoundé- and Gisenyi-based Multinational Programming and Operational Centres (MULPOCs). These strategic subsectors were selected on account of their potential contribution to increased productivity in those areas accorded priority in the Lagos Plan of Action and on the bases of the subregion's resource endowment and

market potential. 5/

Agro- and agro-based industries

39. The development of agro- and agro-based industries is critical to the subregion's attainment of self-sufficiency in food production, a priority among the priorities in the Lagos Plan of Action as well as in most national development plans. Th ir development would greatly help to reduce post-harvest losses, increase food availability and contribute to food secutiry in the subregion. The development of this subsector would also help to reduce imports, increase the "value-added" of raw materials, augment export revenues, raise employment levels and improve incomes. It would also increase opportunities for investment in agriculture (farming and stock breeding) and associated processing industries as well as stimulate the development of the allied subsectors, such as engineering and energy.

Metallurgical industry

40. The metallurgical industry provides linkage upstream to industries processing raw materials (mining, energy, water), and downstream to metalworking and engineering subsectors, and it is basic to the industrialization process. The manufacture of metal consumer goods and equipment in the subregion requires accelerated growth of the intermediate industries providing such inputs as iron and steel, aluminium and other metallurgical products which, in turn, depend on the exploitation of the vast mineral resources of the subregion, (see paragraph 15). At present, most of these minerals are exported to the developed countries as raw or semifinished products. The development of metallurgical industries in the subregion would make for the creation of vertically integrated industries from mining through refining to fabrication.

Engineering industries

41. The integrated development of engineering industries in the subregion, such as the metalworking, mechanical, electrical and electronic branches, will ensure the manufacture of basic equipment and machine tools, as well as intermediate and capital goods for use in food production and in such priority subsectors as the agro-based, building materials and metallurgical industries. Engineering industries, through such facilities as foundries, forging and heat-treatment shops, tool rooms, metal fabrication shops, machine shops and metal-

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5/ For supplementary details of the major industrial subsectors and areas see ECA/OAU/UNIDO, A Programme for the Industrial Development Decade for Africa ID/287 (United Nations, New York, 1982), Chapter II, pages 71 - 164.

coating shops, ensure the supply of spare parts, components and accessories to all sectors of the economy. With the establishment of engineering industries in the subregion, natural resources (basic metals from ores) would be increasingly utilized, capital formation accelerated, and the production of essential components, parts, machinery and equipment (that are currently imported) promoted. Through this effective form of import substitution, foreign exchange would be saved for other economic activities, while development of the subsector would also foster science and technology, including research and development activities.

Chemical industry

42. Chemical industries provide products directly related to the satisfaction of basic needs, primarily food and health. As mentioned earlier, the decline in agricultural production and growing populations in the subregion caused an increasing amount of resources to be diverted to food imports (especially cereals), thereby reducing the amount of foreign exchange available for the import of industrial inputs required to assure full utilization of installed capacities. Production in the subregion of essential chemicals such as fertilizers, pesticides, pharmaceuticals and petrochemicals based on domestic resources (natural gas, coal, phosphate, potash, electric energy, etc.) would stimulate the development of agriculture, industry and other sectors, whose viability could not be assured using imported chemical inputs. In this connexion, it should be noted that the more advanced the stage of economic development, the more critical the role of the chemical industries and the higher the degree of linkage with other key subsectors and sectors.

Building materials industry

43. Promotion of the building materials industry in the subregion would contribute to the satisfaction of one of the population's basic needs - housing. It would also contribute to the exploitation of local natural resources and create a solid base for self-sustained industrialization in the subregion. In addition to meeting the requirements of the other sectors and subsectors, the building materials industry also provides inputs to the construction industry which, for its part, is not confined to the construction of dwellings, but to the creation of major infrastructural works, such as dams, irrigation schemes, airports and harbours. The construction industry literally paves the way for the establishment of conditions conducive to socio-economic development. This it achieves not only by providing improved physical facilities, but also by employing a large labour force, thereby generating additional purchasing power and widening the subregional market for the products and services of other subsectors and sectors of the economy.

Areas and services supporting industrial development

Agriculture

44. Although agriculture still remains the major source of employment and foreign exchange for the majority of countries in the subregion, its inadequate growth and, in some countries, its decline have aggravated the storage of food. This has had to be offset by substantial imports of food which increase the drain on limited foreign exchange reserves. Fluctuating performance in the agricultural sector is due to the vagaries of weather, in particular drought, locust raids, poor farming methods and problems related to the procurement and distribution of agricultural inputs, such as fertilizers, pesticides, insecticides and agricultural equipment. Additional difficulties in the subregion are the loss of livestock and encroaching desertification, culminating in the alarming fact that the subregion as a whole is unable to feed itself and has to import huge quantities of food. This is contrary to the concept of self-reliance contained in the Lagos Plan of Action.

45. Furthermore, the neglect of agriculture has led to foreign exchange shortages and a reduced investment surplus so that many industries now face difficulties in obtaining imported spare parts or finding adequate financing for investment. This situation must be corrected so as to allow a transformation of the present negative linkages between industry and agriculture into positive ones and for industry and agriculture to grow together in harmony.

Mineral resources

46. Mining and quarrying are important activities. However, given the sector's domination by multinational enterprises and its entire dependence on markets outside the subregion, to which the minerals are exported unprocessed, the subregion is highly susceptible to international price fluctuations.

Energy

47. Most countries in the subregion depend on imported oil[6/] to meet their energy needs, particularly in the transportation and industrial sectors. However, they are endowed with other important sources of energy, mainly petroleum, natural gas, coal, peat and hydroelectric power (such as the Inga dam in Zaire), as well as new and renewable sources of energy, the development and distribution of which will require major investments far beyond the scope of individual countries. Given this situation, the subregion will need to intensify co-operation in the development and utilization of its energy resources, if its dependence on imported oil is to be reduced.

6/ Local refining capacity is limited and the bulk of locally produced petroleum is exported as crude.

Transport and Communications

48. The transport and communications system in the subregion will have to be improved significantly, given its importance to accelerating the process of development and supporting the subregional industrial promotion programme. At present, transport and communications in the subregion feature several constraints which impinge negatively upon the economic integration of the subregion. These constraints include :

(i) The external orientation of the present system which is not commensurate with domestic needs since it is essentially designed to suit external requirements;

(ii) The relative isolation in which member States still find themselves because of inadequate inter-State links (no road-rail links, in particular);

(iii) Difficulties in operating the present system, owing to poor maintenance as well as the dilapidated state of both the infrastructure (roads, railways, ports, harbours and airports) and equipments;

(iv) Shortage of skilled manpower; and

(v) Lack of co-ordination between the different means of transport and disparities in fares which affect inter-State trade adversely, etc.

49. Given the external orientation of both the transport and communications systems, improvements are called for and imbalances need to be rectified so as to reduce the dependence of the countries in the subregion on external countries. The relatively high cost of constructing and equipping certain central infrastructural facilities such as ports and their impact on other means of transport make their joint development and utilization indispensable. Subregional initiatives are therefore necessary in order to rationalize usage of the various transport and communications facilities at the regional level, as part of the guidelines set out in the Lagos Plan of Action and the Programme for the United Nations Transport and Communications Decade for Africa.

Mobilization of financial resources

50. Implementing the projects retained in the subregional programme will call for major investments - a basic factor determining the complete production process, the transfer and choice of technology, product selection, corporate form and, above all, the negotiating position vis-à-vis the outside world. In most countries in the subregion, the investment of domestic resources is inadequate and this problem is aggravated by the oft precarious state of the country's balance of payments, public finances and budgets, as well as the low level of transactions, particularly in the agricultural sector. It would therefore be advisable for Governments and financial institutions in the subregion to mobilize internal and external financial resources and optimize their use through a variety of measures, including fiscal and other policies designed to stimulate savings and investment. These should be matched by such institutional arrangements as the strengthening or establishment of national or subregional industrial development banks. Particular attention should be paid to the better preparation of bankable projects and feasibility studies. The assistance of such organizations as UNIDO is requested in this regard.

Water

51. The subregion has an abundance of water in the form of numerous lakes and rivers, as well as the ocean. Properly expoited, these water resources could provide suitable zones for the development of industrial complexes as well as irrigation schemes.

Trade

52. Trade between the countries in the subregion is negligible compared with total trade with countries outside Africa. The factors contributing to this low volume of trade within the subregion include :

(i) The underutilization of compensation arrangements in the Central African subregion, primarily the non-participation of certain countries in the subregion, and the lack of requisite information for economic agents;

(ii) Inadequacy of communications;

(iii) Paucity and/or inadequacy of information on market and manufactures available in the subregion;

(iv) Presence of tariff and non-tariff barriers aimed at protecting local markets;

(v) Inefficiency of, and lack of co-operation between, such institutions as chambers of commerce;

(vi) Lack of surplus industrial products for export; and

(vii) Lack of production complementarity among countries in the subregion.

However, these obstacles can be overcome and economic interdependence between the countries in the subregion enhanced through the vehicle of such economic groupings as ECCAS, UDEAC and CEPGL. The intergovernmental organizations and Governments in the subregion have placed particular emphasis on promoting trade within the subregion, and numerous bilateral and multilateral agreements have been concluded between countries in the subregion.

Human resources

53. The implementation of an initial integrated industrial promotion programme in the subregion, similar to that of the programme for the Decade, hinges on the development of human resources at various levels in the industrialization process, ranging from policy-makers and industrial entrepreneurs through technologists and technicians to skilled labourers. The subregion disposes of adequate human resources; their training and skills, however, are wanting. University courses and industrial needs are mismatched as are vocational training opportunities, there being only an infinitesimal number of courses aligned to the requirements of the priority subsectors, support areas and services. This merely perpetuates reliance on expatriate technicians.

54. Although the educational infrastructure must be expanded, more immediate improvements could be obtained by rationalizing current programmes and strengthening their links with industry. New forms of education involving the rural population and women, new teaching/learning processes and, above all, recognition of science and technology as fundamental components in self-reliant and self-sustained industrialization: all these are essential to the effective development of human resources.

Technology

55. Establishing the core industries identified in the programme will call for major technological inputs. Consequently, three major considerations apply. First, linking technology to the industrial development of the subregion can only be successful if relevant measures are adopted by Governments: thus, technology policy and planning become important elements. Secondly, the development of technological capabilities in each country is a prerequisite for the selection, acquisition, adaptation, absorption or development of industrial technology. This involves, inter alia, the more efficient utilization and strengthening of technological institutions and, failing this, the creation of new institutions for the training of industrial and technological manpower. Thirdly, the appropriate choice of technology is of crucial importance, since an inappropriate choice will not only incur unnecessary major expenditures, but it will also distort the pattern of development.

56. It should be noted that most countries in the subregion do not dispose of the personnel, in quantity or quality, to evaluate, acquire, adapt, diffuse and absorb foreign technologies, which is a highly technical and sophisticated discipline. Only very few countries have taken steps to develop the institutional machinery needed to promote the development and upgrading of local technology or the acquisition and regulation of foreign technologies. In many countries, Government agencies and private enterprises have been left to their own devices or given biased advice when deciding whether to invest in technology. As a result, they have purchased defective products or plant that were reconditioned or overpriced, technologies that were inappropriate in terms of labour, capital or resource endowments, or processes unsuited to local raw materials or environment Action should thus be taken to control such deficiencies as: (i) inadequate purchasing and procurement policies; (ii) lack of information on sources and prices of major factor inputs and technologies; and (iii) disorganized negotiating and contractual practices. Consequently, particular emphasis must be placed on mastering the assessment, selection and transfer of technology and its acquisition through appropriate policies and practices.

Industrial institutional infrastructure

57. The successful implementation of the subregional programme will require the better utilization, strengthening or the development of an effective industrial institutional infrastructure which, at present, is inadequate in most countries. Certain institutions exist at the national level, but they rarely suffice to cover all the critical functions essential to a major forward thrust. These functions are outlined in that section of the programme devoted to multinational support projects (see paragraph 85), and a distinction can be made between: (i) those institutions primarily responsible for such activities as the organization of raw material supplies, including energy, the development of factor inputs for production and marketing; and (ii) those performing supplementary services, such as information, banking and insurance, material and product testing, and project preparation.

IV. INITIAL INTEGRATED INDUSTRIAL PROMOTION PROGRAMME

58. The initial integrated industrial promotion programme presented in this chapter is derived from two sources: national projects requiring multinational co-operation submitted by countries in the subregion to UNIDO and ECA, and the subregional industrial programmes developed within the framework of UDEAC, CEPGL the Yaoundé and Gisenyi-based MULPOCs or the UNIDO investment promotion services. Following a careful and thorough review of those projects, project proposals and project concepts, 30 strategic core projects together with seven support projects were selected to constitute the initial programme. The projects were selected on the basis of the criteria contained in annex 1: all of them are fully in accordance with the priorities of the subregion, the Lagos Plan of Action and the programme for the Decade.

59. It should be emphasized at this juncture that the aim of the programme is not to present core projects for each country in the subregion, but to present an integrated programme that promotes collective self-reliance and self-sustained development through joint efforts. It is envisaged that each country will benefit from the core projects, the impact of which will vary depending on the country's participation. Since the identification of these core projects is a continuous and permanent process, the programme will be revised at regular intervals and adjustments made appropriate to the current needs of the subregion and its level of development.

60. The projects are grouped under subsectoral headings, and subprogrammes comprising similar projects with comparable requirements are presented for specific branches, such as engineering, fertilizers and food processing. Most projects are still at the initial stage of preparation and require further elaboration. The implementation plan (see chapter V) makes due provision for this more detailed work and definition of the various tasks involved. Moreover, projects are not available for all priority subsectors. These gaps can be filled later, once suitable projects have been identified and developed.

Agro- and agro-based industries

Food processing subprogramme

61. In a number of countries in the subregion, food and agro-based industries constitute a major branch in the industrial sector contributing to more than 50 per cent of the manufacturing value-added in the period 1970-1982. Despite their important role in the gradual shift from a predominantly agricultural economy to a mixed agro-industrial economy, the subregion is confronted with serious food shortages and is heavily dependent on external sources for its supplies.

62. The Central African countries, by virtue of their ecology, are well suited to developing livestock, and growing coffee and sugar cane. The coastal areas could improve their fruit and vegetable output and profitably process them on an industrial scale, while increasing their fish-processing activities. This would contribute to achieving self-reliance in food in the subregion, as recommended in the Lagos Plan of Action.

63. Six projects are submitted for inclusion in the initial integrated programme:

(a) Rehabilitation and extension of the sugar industry, Angola (Project profile No. 1)

(b) Upgrading of a sugar factory, the Congo (Project profile No. 2)

(c) Establishment of a distillery, Burundi (Project profile No. 3)

(d) Integrated cattle product and processing complex (Project profile No.4)

(e) Integrated development of the fish-processing industry (Project profile No.5)

(f) Establishment of an agro-industrial complex processing cassava (Project profile No.6)

PROJECT PROFILE NO. 1

SUBSECTOR: Agro- and agro-based industries (food processing) SUBREGION: Central Africa

1. Project Title: Rehabilitation and extension of the sugar industry, Angola

2. Objective: To rehabilitate and expand existing sugar factories as well as diversify their production

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Government of Angola 4. Caxito, Bom Jesus and Luanda, Angola	5. a) Three factories are located at Caxito, Bom Jesus and Luanda b) Pre-feasibility studies on the expansion of the sugar factory at Caxito and the yeast production plant at Luanda have been completed c) A feasibility study on the conversion of the sugar plant at Bom Jesus into a rum distillery has been completed. 6. a) Feasibility studies in respect of 5 b) above b) Technical and financial promotion in respect of 5 c) above	7. High-yield sugar cane plantations ensure regular supply. 8. Energy available as plants already in operation 9. Present physical infrastructure needs to be developed further	10. a) To be specified in the studies 11. Countries in the subregion	12. a) Sugar: 43,700 tons/year b) Rum: 6.3 million litres/year (96%) 8.9 million litres/year (43%) c) Yeast:2500 tons/year 13. Total investment: US$141.1 million, of which $105.8 million for sugar production, $34.1 million for that of rum and $1.2 million for that of yeast.	14. Angola seeks:(i) participation in the form of foreign loans of the order of US$84.7 million;and (ii) collaboration arrangements relating to the supply of know-how, equipment and machinery, access to foreign markets, as well as managerial and technical training for local staff.

PROJECT PROFILE NO. 2

SUBSECTOR: Agro- and agro-based industries (food processing) SUBREGION: Central Africa

1. Project Title: Upgrading of a sugar factory, the Congo

2. Objective: To upgrade a sugar factory into a multinational enterprise and expand its capacity so as to serve the needs of the subregion.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Government of the Congo 4. Congo	5. The factory has been in operation since 1956. At present, it is being rehabilitated. 6. Preliminary study on the upgrading of the factory.	7. Sugar cane plantations ensure ample supply 8. Hydroelectric power available 9. Physical infrastructure exists, but needs to be developed further	10. To be established in the study 11. Countries in the subregion	12. A total capacity of 140,000 tons of sugar/year 13. See 10 above	14. The project was put forward by the Congolese Government. Details as to collaboration arrangements and mode of participation have yet to be elaborated.

PROJECT PROFILE NO. 3

SUBSECTOR: Agro- and agro-based industries (food processing) SUBREGION: Central Africa

1. Project Title: Establishment of a distillery, Burundi

2. Objective: To derive alcohol from molasses produced by the Mosso sugar factory and to utilize by-products for animal feed.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Burundi 4. Mosso, Burundi	5. A preliminary analysis and profile of the distillery are contained in the feasibility study on the Mosso sugar factory. 6. Feasibility study will be available around August 1984.	7. 5,000 tons of molasses each year 8. Hydroelectric power available 9. Physical infrastructure	10. To be specified in the study 11. Countries in the subregion	12. 1.8 million litres alcohol/year 13. US$ 5 million	14. a) Burundi seeks technical and financial participation of countries in the subregion. b) It is hoped that the Mosso sugar factory will be in operation by 1986 with an annual production of 14,000 tons. Should it not prove possible to establish a joint-venture financing will be sought for technical assistance purposes.

PROJECT PROFILE NO. 4

SUBSECTOR: Agro- and agro-based industries (food processing) SUBREGION: Central Africa

1. Project Title: Integrated cattle product and processing complex

2. Objective: To integrate the various stages of cattle production and processing, encompassing an abattoir, tannery, meat processing plant and dairy.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. CEPGL 4. To be determined	5. Opportunity study on the slaughterhouse and dairy. 6. Pre-feasibility study encompassing all aspects of animal husbandry to be undertaken.	7. Nearly 2 million cattle are raised in Burundi, Rwanda and Eastern Zaire 8. Energy available 9. Infrastructure needs to be developed further	10. To be specified in the study 11. Countries in the subregion	12. See 10 above 13. See 10 above	14. The project was conceived by the CEPGL secretariat. Collaboration arrangements and other types of participation will be elaborated at a later stage

PROJECT PROFILE NO. 5

SUBSECTOR: Agro- and agro-based industries (food processing)

SUBREGION: Central Africa

1. Project Title: Integrated development of the fish-processing industry

2. Objective: To develop the exploitation of halieutic resources and establish fish canning/preservation facilities.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. CEPGL 4. To be determined	5. Pre-feasibility study completed by an ECA consultant 6. Further in-depth study to be undertaken	7. Numerous lakes and rivers in the subregion contain enormous fish resources. For the CEPGL countries alone, these are estimated at 416,500 tons a year, only 30 per cent of which were exploited in 1975/1976. 8. Energy available 9. Physical infrastructure needs to be developed further	10. To be specified in the study 11. Countries in the subregion	12. See 10 above 13. See 10 above	14. The project was approved by the CEPGL Conference of Heads of State in 1979.

PROJECT PROFILE NO. 6

SUBSECTOR: Agro- and agro-based industries (food processing) SUBREGION: Central Africa

1. Project Title: Establishment of an agro-industrial complex processing, Central African Republic

2. Objective: To develop the production of cassava flour and by-products (starch, glucose, adhesives)

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Government of the Central African Republic 4. Boali, Central African Republic	5. Feasibility study undertaken by SICAGRI in conjunction with GARD MOUZON DELFOSSE (France) 6. Establishment of a company	7. Raw materials available 8. Energy available 9. Infrastructure available (location near the transafrican highway)	10. In the Central African Republic alone demand for 8,000 tons of cassava flour per year. 11. Community market.	12. 1,200 tons cassava flour per annum 13. 620 million 1979.	14. Financing and technical partners being sought.

Forest products subprogramme

64. Despite the subregion's potential, emphasis has not shifted significantly from the export of timber in untreated form to semi-finished or finished products. This lack of development can be attributed, among other things, to the absence of appropriate industrial production and marketing facilities. As a result, the subregion still depends on expensive imported wood and wood-based products such as planks, panels, plywood, pulp, paper, furniture and adhesives. The subregion thus needs most urgently to develop its forest resources and establish wood-processing and pulp industries in this subsector to which high priority is accorded in the Lagos Plan of Action.

65. One project is submitted for consideration:

(a) Establishment of a wood-processing complex (Project profile No. 7).

PROJECT PROFILE NO. 7

SUBSECTOR: Agro- and agro-based industry (forest products) SUBREGION: Central Africa

1. Project Title: Establishment of a wood processing complex

2. Objective: To exploit local forest resources for the manufacture of wood products such as sawn wood, plywood and panels.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. CEPGL 4. To be determined .	5. Preliminary study completed in 1981/1982 by the ECA/FAO/ UNIDO Forest Industries Advisory Group 6. a) An exhaustive forest inventory to identify species of multinational interest b) Feasibility study on wood processing complex	7. Several hundred million hectares of forest resources available, of which 107 million are in the CEPGL countries 8. Energy resources to be developed 9. Physical infrastructure needs to be developed	10. To be specified in the feasibility study 11. Burundi, Rwanda, Eastern Zaire and other parts of the subregion	12. See 10 above 13. a) Total investment estimated at US$13.6 million in 1981 b) feasibility study cost estimated at US$ 50,000 in 1981	14.a) Project approved by the CEPGL Conference of Heads of State. b) Preliminary study referred to under item 5) covers the CEPGL countries since similar studies have been or are about to be completed for other parts of the subregion, a synthesis of the findings can be attempted.

Metallurgical industry

Aluminium subprogramme

66. The aluminium industry plays a very important role in the overall economic development of the subregion. Extensive bauxite deposits are to be found in Cameroon and considerable hydroelectric power is available. However, most of the bauxite is exported unprocessed, while the subregion continues to import expensive aluminium products. This situation serves to underscore the need to develop an integrated aluminium industry in the subregion so as to meet the growing demand for aluminium products.

67. One project is submitted for consideration :

(a) Integrated development of the aluminium industry, Cameroon (Project profile No. 8)

PROJECT PROFILE NO. 8

SUBSECTOR: Metallurgical industry (aluminium) SUBREGION: Central Africa

1. Project Title: Integrated development of the aluminium industry, Cameroon

2. Objective: To exploit bauxite deposits at Mini-martap, Cameroon for the manufacture of aluminium products which are currently imported.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. UDEAC 4. Mini-martap, Cameroon	5. Preliminary studies completed by the UDEAC secretariat 6. Pre-feasibility study to be undertaken	7. Reserves of 1,000 million tons of bauxite, with an alumina content of 43 - 46 per cent in Cameroon 8. Major hydroelectric potential 9. Physical infrastructure needs to be developed	10. To be specified in the study 11. Countries in the subregion	12. See 10 above 13. See 10 above	14. a) The project was approved by the UDEAC Conference of Heads of State in 1975 and allocated to Cameroon. b) Financial participation sought of other countries in the subregion, while collaboration arrangements pertaining to technology, training and management will be entered into with countries outside Africa.

Tin subprogramme

68. Non-iron mineral resources such as tin are available in the subregion, in both Rwanda and Zaire. These resources play an important role in the development of the metallurgical industry. A tin plant exists in Rwanda: however, it needs to be upgraded significantly in the context of the subregion.

69. One project is submitted for consideration:

(a) Expansion of a tin plant, Rwanda (Project profile No. 9)

PROJECT PROFILE NO. 9

SUBSECTOR: Metallurgical industry (tin)

SUBREGION: Central Africa

1. Project Title: Expansion of a tin plant, Rwanda

2. Objective: To process locally tin ore that is currently exported in unprocessed form

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Rwanda 4. Kigali, Rwanda	5. The plant is already in operation 6. Study on the expansion of the plant with a view to establishing a rolling mill and start the production of "objets d'art".	7. Cassiterite reserves estimated at: (i) 65,000 tons in Rwanda (ii) 200,000 tons in Zaire 8. Energy available 9. Physical infrastructure needs to be developed	10. To be specified in the study 11. Export market outside Africa	12. 2,000 tons tin/year 13. See 10 above	(a) Financial participation as well as arrangements for the supply of tin ore sought within the sub-region (b) Access sought to markets in countries outside Africa

Iron and steel subprogramme

70. The subregion has the mineral and energy resources needed to establish an integrated iron and steel industry. Iron ore deposits are to be found in Zaire (510 million tons), Angola and the Congo. Coal deposits also exist (720 million tons in Zaire alone). The refractories, fluxes and additives needed in the manufacture of iron and steel are available in the subregion: manganese, for example, is to be found in Gabon and Zaire. Moreover, the subregion possesses considerable fossil fuel and hydroelectric resources.

71. One project is submitted for consideration:

Rehabilitation of the Maluku steel plant, Zaire (Project profile No. 10)

PROJECT PROFILE NO. 10

SUESECTOR: Metallurgical industry (iron and steel) SUBREGION: Central Africa

1. Project Title: Rehabilitation of the Maluku steel plant, Zaire

2. Objective: To reactivate the plant at Maluku, thus permitting the manufacture of bars, merchant products, flat and galvanized sheets to supply the countries in the subregion, further to which the plant would form a nucleus for the development of an integrated iron and steel industry.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Government of Zaire 4. Maluku (Kinshasa) Zaire	5. Plant has been in operation since 1974 6. Study on the reactivation of the plant and the implications of its conversion into a multinational enterprise	7. Scrap iron is available in limited quantities and the subregion has enormous iron ore and other metal reserves. 8. Abundant supply of electric power (Inga dam) 9. Physical infrastructure available	10. To be specified in the study 11. Countries in the subregion	12. Installed capacity: 250,000 tons/year of which 100,000 tons for hot rolling mill; and 150,000 tons for cold rolling mill 13. See 10 above	14. The plant is currently operating at very low capacity for want of iron scrap. Installed capacity exceeds domestic demand, export potential is high. Arrangements are being sought regarding the supply of steel products and the purchase of scrap iron.

Engineering industry

Agricultural machinery and equipment subprogramme

72. Although self-reliance in the production of food is given the highest priority in both the Lagos Plan of Action and national development plans, current levels of production are far too low when compared with actual needs. One of the main reasons for low productivity in the agricultural sector and in food production, in particular, is the lack of the necessary industrial inputs such as machinery implements, tools and fertilizers. At present, improvement of the agricultural sector in the subregion is heavily dependent on machinery and equipment imports. In view of the above and the crucial importance of agricultural machinery and equipment, the subregion should develop industries for their manufacture.

73. One project is submitted for consideration:

Manufacture of agricultural machinery and equipment, Rwanda (Project profile No. 11).

PROJECT PROFILE NO. 11

SUBSECTOR: Engineering industry (agricultural machinery and equipment) SUBREGION: Central Africa

1. Project Title: Manufacture of agricultural equipment and machinery, Rwanda

2. Objective: In a preliminary phase, to manufacture light tools and implements, such as hoes, pickaxes, machetes and wheelbarrows, and, in a second phase, to manufacture more advanced agricultural machinery such as power tillers.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. CEPGL 4. Rwanda	5. Pre-feasibility study completed: project operational in 1981 by CEPGL in co-operation with the EEC-ACP Industrial Development centre. 6. Feasibility study to be undertaken	7. Iron and iron scrap available in the subregion in relatively limited quantities 8. Electric power available 9. Existing physical infrastructure needs to be expanded	10. To be specified in the study 11. Countries in the subregion	12. See 10 above 13. See 10 above	14. Consultations are being undertaken between the CEPGL secretariat and the Government of Rwanda as host country to work out the modalities for the feasibility study

Precision engineering subprogramme

74. As a first step towards the development of essential precision engineering capabilities in the subregion, one project on the assembly/manufacture of watches, parts and components is submitted:

Manufacture of watches and watch components, Central African Republic (Project profile No. 12).

PROJECT PROFILE NO. 12

SUBSECTOR: Engineering industry (precision engineering) SUBREGION: Central Africa

1. Project Title: Manufacture of watches and watch components, Central African Republic

2. Objective: To expand the capacity of the existing workshop to serve the needs of the subregion

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. UDEAC 4. Bangui, Central African Republic	5. A workshop exists with a capacity of 32,000 watches per year 6. Feasibility study including market study scheduled for 1985	7. Parts and components to be imported 8. Electric power available 9. Existing physical infrastructure needs to be developed	10. To be specified in the study 11. Countries in the subregion	12. 100,000 watches/year in the preliminary stage; further expansion to be determined in the market study 13. See 10 above	14. The Central African Republic was designated host and lead country for the project by the UDEAC Conference of Heads of State in 1975. No collaboration arrangements have been made to date.

Chemical industry

Petrochemicals subprogramme

75. Although several countries in the subregion produce millions of tons of petroleum a year or have the potential for such production, no petrochemical industry exists in Central Africa apart from some limited petroleum refining capacity. All the countries continue to depend on extensive and expensive imports of petrochemical products, such as synthetics, car tyres, plastics and refined oil products. It is thus essential that the petrochemical industry be established in the subregion.

76. Two projects are submitted for consideration:

(a) Establishment of a petrochemical complex for the manufacture of plastic products, Gabon (Project profile No. 13)

(b) Expansion of a petroleum refinery, the Congo (Project profile No. 14).

PROJECT PROFILE NO. 13

SUBSECTOR: Chemical industries (petrochemicals) SUBREGION: Central Africa

1. Project Title: Establishment of a petrochemical complex for the manufacture of plastic products, Gabon

2. Objective: To develop the exploitation of hydrocarbons in Gabon with the objective of promoting the integrated development of the petrochemical industry and ensuring complementarity between that and other industries in the subregion.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. UDEAC 4. Gabon	5. Preliminary study completed in 1980 which outlined the programme of work involved 6. Feasibility study on the viability of a complex producing thermosetting resins and synthetic fibres and to recommend appropriate technology	7. Hydrocarbons available in Gabon 8. Energy available 9. Physical infrastructure needs to be developed	10. To be specified in the study 11. Countries in the subregion	12. See 10 above 13. See 10 above	14. a) Project was approved by the UDEAC Conference of Heads of State in 1975 b) Participation in the multinational company studying the project sought of countries in the subregion c) Collaboration with countries outside Africa sought in respect of technology

PROJECT PROFILE NO. 14

SUBSECTOR: Chemical industries (petrochemicals)

SUBREGION: Central Africa

1. Project Title: Expansion of a petroleum refinery, the Congo

2. Objective: To convert the existing refinery into a multinational enterprise so as to increase capacity utilization and serve the needs of the subregion

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Government of the Congo 4. Pointe Noire, Congo	5. Refinery in operation since 1983 6. Study on increasing capacity utilization	7. Petroleum available locally 8. Energy available 9. Physical infrastructure needs to be developed and improved	10. To be specified in the study 11. Countries in the subregion	12. Throughput of 1 million tons petroleum/year 13. See 10 above	14. Further detailed information to be provided by the Government of the Congo

Fertilizers subprogramme

77. Projects related to the establishment of ammonia and phosphate fertilizer plants deserve particular priority in the subregion since, unlike many other chemical plants, they are not restricted to mixing and formulating imported products, but can use local deposits. Furthermore, their economies of scale and investment requirements are such that they are best suited to subregional operations: the optimal scale of production in an ammonia plant, for example, ranges between 1,000 and 1,500 tons a day which exceeds the requirements of most individual countries in the subregion.

78. In addition to reducing imports, the local production of fertilizers contributes to improved agriculture and hence to the increased production of food. In 1976, fertilizer applications in Africa was only 6kg per hectare of arable land as against a world average of 64kg. All the basic raw materials required for the production of ammonia (petroleum products, coal and electric energy) are available in the subregion. Natural gas is available in adequate quantities in Lake Kivu.

79. One project is submitted for consideration:

Production of ammonia fertilizers (Project profile No. 15).

PROJECT PROFILE NO. 15

SUBSECTOR: Chemical industries (fertilizers)

SUBREGION: Central Africa

1. Project Title: Production of ammonia fertilizers

2. Objective: To manufacture ammonia fertilizers based on methane gas from Lake Kivu

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. CEPGL 4. To be determined	5. Pre-feasibility study completed 6. Feasibility study scheduled to start in February 1984	7. 57,000 million cubic metres of methane gas available in Lake Kivu 8. Existing energy supply to be increased 9. Physical infrastructure needs to be developed	10. To be specified in the study 11. CEPGL countries, whose requirements are estimated at 60,000 tons/year	12. a) 44,000 tons urea b) 10,000 tons calcium cyanamide 13. US$65.2 million	14. Project approved by the CEPGL Conference of Heads of State in 1977. It is part of a global project on the exploitation of methane gas from Lake Kivu. It is planned to extend the project in a subsequent phase to produce phosphate and potassium fertilizers, based on raw materials to be imported from other countries in the subregion

Pharmaceuticals subprogramme

80. The countries in the subregion are almost wholly dependent on the outside world for their supplies of pharmaceuticals. These are mostly imported in the form of ready-made medicines. The subregion does not dispose of a single active ingredients factory, and only a number of countries have formulation centres processing pharmaceuticals that have been imported in an unprocessed form to produce pills, capsules, liquid preparations and ointments. In some cases, these formulation units are working at low capacity for want of foreign exchange to purchase raw materials.

81. The dominant position maintained by the transnational corporations in the subregion explains the proliferation of expensive brand medicines which are purchased by only a small proportion of the population, the majority of whom use traditional medicines and healing practices. Given growing inflation and increasing populations, the cost of pharmaceutical imports will soar unless steps are taken to improve the situation and utilize effectively the raw materials available in the subregion.

82. One project is submitted for consideration:

(a) Establishment of a laboratory for pharmaceutical products, the Central African Republic (Project profile No. 16)

PROJECT PROFILE NO. 16

SUBSECTOR: Chemical industries (pharmaceuticals) SUBREGION: Central Africa

1. Project Title: Establishment of a laboratory for pharmaceutical products, the Central African Republic

2. Objective: To develop on a pilot project basis, the production of such drugs as antimalarials, antibiotics, sulfonamides and vitamins, as a first step towards the establishment of pharmaceutical formulation units.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. UDEAC 4. Central African Republic	5. Preliminary study completed by the UDEAC secretariat 6. Prefeasibility study being undertaken by a European pharmaceutical centre and a German study group	7. Abundant medicinal plants available locally 8. Energy is expected to be available on time 9. Existing physical infrastructure needs to be developed	10. To be specified in the study 11. Countries within the subregion and without	12. Initial planned capacity: a) 500,000 capsules/day b) 100,000 ampoules and bottles/day c) 3,000 bottles of liquid medicines/day 13. See 10 above	14. The project was approved by the UDEAC Conference of Heads of State and assigned to the Central African Republic in 1975. The Government of the Central African Republic has received an offer from COGECO Engineers for the implementation of the project in two phases: (i) establishment of the basic manufacturing modules; (ii) addition of new modules.

Other chemicals subprogramme

83. The subregion's resource base permits the establishment of a wide range of chemical industries that could contribute to the overall economic development of the subregion. Such industries would also meet certain basic needs in the countries as well as reduce related imports.

84. Four projects are submitted for consideration:

(a) Upgrading potash deposits for the manufacture of chemicals, the Congo (Project profile No. 17)

(b) Production of calcium carbide, Rwanda (Project profile No. 18)

(c) Establishment of a methanol production plant, Zaire (Project profile No. 19)

(d) Pilot project for the production of alcohol, Rwanda (Project profile No. 20).

PROJECT PROFILE NO. 17

SUBSECTOR: Chemical industries (other chemicals) SUBREGION: Central Africa

1. Project Title: Upgrading potash deposits for the manufacture of chemicals, the Congo

2. Objective: To develop the exploitation of potassium for the manufacture of diverse potassium-based chemicals

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. UDEAC 4. Holles, the Congo	5. Plant was operational until 1976 6. Feasibility study, whose financing is provided for in the fourth Congolese five-year plan (1986-1990)	7. Potassium reserves in the Congo estimated at 50 million tons 8. Energy is available 9. Existing infrastructure needs to be expanded and improved	10. To be specified in the study 11. Countries in the subregion	12. See 10 above 13. See 10 above	14. a) Project approved by the UDEAC Conference of Heads of State in 1975 b) UDEAC Secretariat was requested to seek the collaboration of international organizations in the conduct of the studies. c) The project has been submitted to the Development Bank of Central African states and contacts have been initiated with potential technical partners.

PROJECT PROFILE NO. 18

SUBSECTOR: Chemical industries (other chemicals) SUBREGION: Central Africa

1. Project Title: Production of calcium carbide, Rwanda

2. Objective: To use the abundant local raw materials, mainly limestone and peat, to produce calcium carbide

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Government of Rwanda 4. Rwanda	5. Pre-feasibility study completed: laboratory tests have been carried out in France for the coking of peat. The results are expected shortly. 6. Feasibility study to be undertaken, should results prove positive.	7. In Rwanda, limestone deposits (9 million tons) and peat beds (62 million cubic metres). 8. To be developed 9. See 8 above	10. To be specified in the study 11. Countries in the subregion	12. a) 10,000 tons of lime b) 10,000 tons of calcium carbide c) 15,000 tons of coked peat. 13. US$ 31.25 million	14. Given the scale of investment necessary, arrangements will have to be made in respect of access to markets, technological know-how and financial participation.

PROJECT PROFILE NO. 19

SUBSECTOR: Chemical industries (other chemicals) SUBREGION: Central Africa

1. Project Title: Establishment of a methanol production plant, Zaire

2. Objective: To develop the exploitation of methane gas from Lake Kivu for the production of methanol.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. CEPGL 4. Zaire	5. Pre-feasibility study completed 6. Invitations to bid in respect of the feasibility study already issued Financing for the study secured from the European Development Fund (EEC)	7. Methane gas in Lake Kivu 8. Energy expected to be available when production starts 9. Physical infrastructure needs to be developed	10. To be specified in the study 11. Countries in the subregion, starting with the CEPGL countries	12. See 10 above 13. See 10 above	14. The project was approved by the CEPGL Conference of Heads of State in 1977 It forms part of the global project on the exploitation of methane gas in Lake Kivu

PROJECT PROFILE NO. 20

SUBSECTOR: Chemical industries (other chemicals) SUBREGION: Central Africa

1. Project Title: Pilot project for the production of alcohol, Rwanda

2. Objective: To produce alcohol from methanol for admixture to petrol for use as motor fuel.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. CEPGL 4. Rwanda	5. Pre-feasibility study completed: vehicles have been identified whose carburettors will be partly modified so as to use an alcohol/petrol mixture. 6. Feasibility study to be undertaken	7. Methanol to be produced in Zaire (see project profile No. 24) 8. Energy expected to be available 9. Physical infrastructure needs to be developed	10. To be specified in the study 11. Countries in the subregion, starting with the CEPGL countries	12. See 10 above 13. See 10 above	14. The project was approved by the CEPGL Conference of Heads of State in 1977 It forms part of the global project on the exploitation of methane gas in Lake Kivu.

Non-metallic mineral products subprogramme

85. A number of factories in the subregion are utilizing bottles and other glass products such as jars and small glass containers. Other users are breweries, dairies and pharmaceutical laboratries, while glass is also used in the building industry. In order to meet the needs of the subregion, as well as exploit local raw materials (sand) and reduce imports, the subregion should develop and expand its own glass manufacturing capacity.

86. One project is submitted for consideration:

(a) Expansion and diversification of production at a glass manufacturing plant, the Congo (Project profile No. 21)

PROJECT PROFILE NO. 21

SUBSECTOR: Chemical industries (non-metallic mineral products) SUBREGION: Central Africa

1. Project Title: Expansion and diversification of production at a glass manufacturing plant, the Congo

2. Objective: To convert the plant into a multinational enterprise, expanding it so as to serve the needs of countries in the subregion

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Government of the Congo 4. Pointe Noire, the Congo	5. Project operational since 1978 6. Pre-feasibility study on the expansion of the plant	7. Sand pits in the immediate vicinity of the plant; chemicals required to be imported 8. Electric energy available 9. Available	10. To be specified in the study 11. Countries in the subregion	12. See 10 above 13. See 10 above	14. a) The project has been put forward by the Government of the Congo for inclusion in the initial integrated programme b) Project envisaged in the five-year national development plan (1986-1990)

Building materials industry

Cement subprogramme

87. At present, cement and cement products are widely used in the subregion, gradually displacing stone, mud, bricks and other traditional materials. This increased use of cement has led to the growing use of steel in the form of structural steel and the displacement of timber as the traditional reinforcing material. In fact, so great is the demand for cement that most countries in the subregion have to import cement given the lack or inadequacy of local production, further to which cement is becoming increasingly expensive.

38. The Lagos Plan of Action calls for the production of sufficient quantities of building materials so that decent urban and rural housing can be built for the growing population and, in general, the economy's requirements met in terms of building materials by 1990. Cement projects, at both the national and subregional level, would contribute to attaining and maintaining self-sufficiency in one of the basic building materials.

89. Three projects are submitted for consideration:

(a) Expansion of the Loutete cement plant, the Congo (Project profile No. 22)

(b) Expansion of the Mashyuza cement plant, Rwanda (Project profile No. 23)

(c) Reactivation of the Katana cement plant, Zaire (Project profile No. 24).

PROJECT PROFILE NO. 22

SUBSECTOR: Building materials (cement) SUBREGION: Central Africa

1. Project Title: Expansion of the Loutete cement plant, the Congo

2. Objective: To expand the existing cement factory so as to serve the needs of the subregion

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Government of the Congo 4. Loutete, the Congo	5. Project operational 6. Study on the extension of the plant	7. a) Limestone available b) Gypsum to be imported 8. Energy available 9. Physical infrastructure needs to be developed	10. To be specified in the study 11. Countries in the subregion	12. 250,000 tons of cement/ year 13. 18.5 million FCFA	14. Project is being proposed by the Government of the Congo which wishes to convert the existing plant into a multinational enterprise.

PROJECT PROFILE NO. 23

SUBSECTOR: Building materials (cement) SUBREGION: Central Africa

1. Project Title: Expansion of the Mashyuza cement plant, Rwanda

2. Objective: Using local limestone to produce cement so as to serve better the needs of the subregion.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. CEPGL 4. Mashyuza, Rwanda	5. Project operational: production tests have already started 6. Study on the extension of the existing factory	7. Major limestone deposits available locally; Gypsum to be imported 8. Imported fuel oil but the utilization of peat is foreseen at a later stage. 9. Infrastructure needs to be developed	10. To be specified in the study 11. Rwanda, Burundi, Eastern Zaire and other countries in the subregion	12. In the initial stage: 50,000 tons cement/year 13. US$15 million	14. a) Project approved by the CEPGL Conference of Heads of State in 1980. Rwanda seeks access to markets in other countries in the subregion b) Production of cement bags is envisaged.

PROJECT PROFILE NO. 24

SUBSECTOR: Building materials (cement) SUBREGION: Central Africa

1. Project Title: Reactivation of the Katana cement plant, Zaire

2. Objective: To rehabilitate and extend the Katana cement plant so as to increase production and serve the needs of the subregion.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3.- CEPGL 4. Katana, Zaire	5. Plant exists, but operations at standstill 6. To complete the ongoing study on the rehabilitation and embark on a study on increasing plant capacity	7. Major limestone deposits available; Gypsum imported 8. Plant has been using peat which is locally available in abundant quantities, but use of methane gas also envisaged at a later stage. 9. Physical infrastructure needs to be developed	10. To be specified in the study 11. Burundi, Rwanda and Eastern Zaire	12. In the initial phase: 60,000 tons/ year 13. Rehabilitation costs estimated at US$3 million	14.a) Project approved by the CEPGL Conference of Heads of State in 1980. Zaire seeks shareholding and market arrangements of countries in the subregion b) The project was approved by the CEPGL Heads of State.

Multinational support projects

90. The strategic core projects identified in paragraphs 58-89 above, require the simultaneous development of support services such as institutional infrastructure and manpower. These support services are not specific to any one subsector as they provide a broad range of modern industrial logistics that are essential to the smooth running of any core industry.

Institutional infrastructure subprogramme

91. After determining the core industries to be promoted, the first essential step is to ensure the availability and proper design of institutional support. At present, this support is far too inadequate, while the extent of the actual foreign exchange outlay for imported institutional services, although significant, is often underestimated. All this points to the need to strengthen or establish institutions appropriate to industry. In so doing, particular attention should be devoted to institutions dealing with: the formulation and monitoring of industrial policies, plans and programmes; project identification, preparation and evaluation; development or upgrading of traditional technologies; appraisal selection, acquisition and adaptation of foreign technologies; regulation of technology; industrial financing; industrial consultancy, management and other services; standardization, testing and quality control; engineering and process design, industrial information, industrial and trade promotion; and industrial training. Closely related to this matter is the need to develop industrial development centres and the requisite technological institutional machinery.

92. Four support projects are submitted for consideration:

(a) Assistance to the Customs and Economic Union of Central Africa (UDEAC) (Project profile No. S1);

(b) Assistance to the Economic Community of the Great Lake Countries (CEPGL) (Project profile No. S2);

(c) Assistance to the African Intellectual Property Organization (AIPO) (Project profile No. S3);

(d) Assistance to the Burundi regional pharmaceutical laboratory (Project profile No. S4).

PROJECT PROFILE NO. S1

INDUSTRIAL SUPPORT AREA: Institutional infrastructure SUBREGION: Central Africa

1. Project Title: Assistance to the Customs and Economic Union of Central Africa (UDEAC)

2. Objective: To strengthen the capacity of UDEAC Secretariat and member countries in respect of the programming, creation, appraisal, and promotion of community industries.

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. UDEAC 4. UDEAC Secretariat, Banqui, Central African Republic 5. US$ 1,4 million.	6. (a) Immediate objective: (i) To determine industrial specialization in each member country, particularly regarding integrated development schemes for energy, mineral resources and industry, including agro-industries; (ii) to identify Community projects within UDEAC, particularly in core industrial subsectors; (iii) to prepare pre-feasibility studies; (iv) to assist UDEAC Secretariat and the member countries in organizing bids and financing for their industries; (v) to assist in the evaluation of engineering studies, supervision of plant construction and manpower development; and (vi) to propose statutes for UDEAC industrial enterprises, identifying the operation of such enterprises, including raw material supplies, trading of finished goods and distribution of profits. (b) Expected output: (i) Selection of priority industry subsectors; (ii) pre-feasibility and feasibility studies; (iii) detailed description of identified projects; (iv) assistance in project promotion; and (v) assistance in the evaluation of engineering studies and the supervision of the establishment of Community projects. (c) Proposed duration: 4 years.

PROJECT PROFILE NO. S2

INDUSTRIAL SUPPORT AREA: Institutional infrastructure SUBREGION: Central Africa

1. Project Title: Assistance to the Economic Community of the Great Lake Countries (CEPGL)

2. Objective: To assist the CEPGL Secretariat and member countries in strengthening their capabilities for planning, programming, Establishment, appraisal andpromotion of Community industries.

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. CEPGL 4. CEPGL Secretariat, Gisenyi, Rwanda 5. US$ 1.31 million	6. (a) Immediate objective: (i) To carry out market and pre-feasibility studies for various CEPGL industrial projects approved for implementation by CEPGL and related to the metallurgical, chemical, engineering and building materials industries: (ii) to assist in deploying the various Community industries within CEPGL and in defining the responsibilities of the implementing countries and the role of the CEPGL Secretariat; (iii) to assist the CEPGL Secretariat and the member countries in organizing bids and financing for those Community industries (iv) to assist in the evaluation of engineering studies, supervision of plant construction, and manpower development; and (v) to propose statutes for those Community industries identifying the operation of such enterprises including raw material supplies, trading of finished goods and distribution of profits. (b) Expected output: (i) Study of the subregional market for the industries selected; (ii) pre-feasibility studies of approved Community industries; and (iii) determination of ways and means of establishing the Community industries approved. (c) Proposed duration: 4 years.

PROJECT PROFILE NO. S3

INDUSTRIAL SUPPORT AREA: Institutional infrastructure SUBREGION: Central Africa

1. **Project Title:** Assistance to the African Intellectual Property Organization (AIPO)

2. **Objective:** To increase the resources of the AIPO and member States in order to promote industrial property as a tchnological component in industrial activities as well as in research and development in African States.

3. Promotor/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. AIPO 1/ 4. AIPO Headquarters 5. To be determined	6. (a) Background (i) The setting-up of a Patent Documentation and Information Centre within AIPO by project RAF/77/012 (financed by the UNDP, FRG, France, Switzerland and the EEC and completed on 31-12-82) enabled the Organization to establish at its Headquarters and in member States (national liaison structures) an institutional infrastructure to serve private industry, research institutions and the national adminstrative structures; this project aims at promoting the technical and industrial development of member-State countries, providing them with relevant documents and information on inventions. (ii) This project falls within the objectives of (i) above. It is still at the conceptual stage and could be studied in conjunction with such bodies as ECA and UNIDO with which AIPO has signed cooperation agreements. (b) Immediate objectives (i) Develop and strengthen advisory services offered by the Organization in the following fields: - the regulation of technologies (patent contract, technical know-how etc.); - the evaluation of patented technologies in relation to project profiles, in priority sectors contained in the programme for the Industrial Development Decade for Africa; - the regulation of trade and the exchange of goods or services. (ii) Identify technical areas in the development of strategic industrial sectors defined in the initial programme for the promotion of industrial development in Africa. (iii) Mobilize and train economic operators with respect to industrial property component to feasibility studies for national industrial projects; (iv) Use scientific and technical information contained in patent documentation so as to support research activities of small-scale industries and national administrative structures.

1/ The project could be discussed and suppported by ECA, UNIDO and OAU.

PROJECT PROFILE NO. S 4

INDUSTRIAL SUPPORT AREA: Institutional infrastructure

SUBREGION: Central Africa

1. Project Title: Assistance to the Burundi regional pharmaceutical laboratory

2. Objective: To promote research and contribute to the development of drugs from local medicinal plants such as cinchona, pyrethrum and ricinus.

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. SEPGL 4. Burundi 5. US$ 105,000	6. The project aims at strengthening the research capacity of the Burundi pharmaceutical laboratory and contributing to the development of the pharmaceutical industry in the CEPGL countries. The activities of the project will comprise, in particular, research on the preparation of medicines from local medicinal plants and their manufacture on a pilot basis. The project was approved by the CEPGL Conference of Heads of State in 1979. A request has also been made to UNIDO by the Government of Burundi and it is foreseen that UNDP will contribute to the funding of the project to the order of US$ 105,000.

Industrial manpower development subprogramme

93. Of the local factors of production, human resources are indubitably the most important. Furthermore, the area of industrial training is one that lends itself to subregional co-operation. Consideration might thus be given to the harmonization of national policies and programmes for the development of industrial and technological manpower. The preparation of manpower inventories would facilitate the exchange of programmes as would the establishment of linkages between institutions in the subregion or Africa as a whole. Subregional training programmes within priority subsectors geared to the needs of those subsectors as well as the pooling of national training facilities would help to overcome this current constraint upon the industrial development of both the subregion and the region as a whole.

94. Three support projects are submitted for consideration:

(a) Assistance to UDEAC/CEPGL in the development of an industrial training programme (Project profile No. S5);

(b) Development of industrial consultancy and management capabilities (Project profile No. S6);

(c) Development of local industrial entrepreneurship (Directory of small-scale industrial project profiles) (Project profile No. S7).

PROJECT PROFILE NO. S5

INDUSTRIAL SUPPORT AREA: Industrial manpower development

SUBREGION: Central Africa

1. Project Title: Assistance to UDEAC/CEPGL in the development of an industrial training programme

2. Objective: To prepare a comprehensive inventory of facilities for industrial training in the subregion and to evaluate their programmes and activities and to strengthen a number thereof in order to improve the training of the industrial manpower required in the region.

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. UDEAC/CEPGL 4. UDEAC Secretariat, Bangui, Central African Republic; CEPGL Secretariat Gisenyi, Rwanda. 5. To be determined	6. (a) Background: The project is still at the conceptual stage and will have to be discussed before finalization. (b) Objective: The project will provide a complete survey and evaluation of all training facilities/schemes in the subregion on the basis of which comprehensive subregional training programme can be prepared and implemented.

PROJECT PROFILE NO. S6

INDUSTRIAL SUPPORT AREA: Industrial manpower development SUBREGION: Central Africa

1. Project Title: Development of industrial consultancy and management capabilities

2. Objective: To develop and strengthen industrial management and consultancy institutions/policies with a view to improving industrial management and consultancy in the subregion.

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. LDEAC/CEPGL 4. LDEAC Secretariat, Bangui, Central African Republic CEPGL Secretariat Gisenyi, Rwanda 5. To be determined.	6. (a) Background: The project is still at the conceptual stage and will have to be discussed further before finalization. (b) Objective: To develop and strengthen industrial management and consultancy institutions and policies in order to implement effectively the subregional industrial development programme.

PROJECT PROFILE NO. S7

INDUSTRIAL SUPPORT AREA: Industrial manpower development SUBREGION: Central Africa

1. Project Title: Development of local entrepreneurship (Directory of small-scale industrial project profiles)

2. Objective: To upgrade entrepreneurial industrial capabilities in the small-scale industry, thereby promoting the establishment of those types of small-scale and manufacturing industries required during the Industrial Development Decade for Africa (1980 - 1990)

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. UDEAC/CEPGL 4. ECA, Addis Ababa 5. To be determined	6. The project aims at assisting countries in the subregion in laying the foundation for the accelerated, rational and integrated development of the small-scale industry subsector with a view to satisfying basic consumer needs and development needs in rural and urban areas, as well as achieving the objectives spelt out in the programme for the Decade. The directory of project profiles is expected to provide local small-scale industrial entrepreneurs with the detailed information and guidance they require for initiating, preparing and implementing small-scale industrial projects, with or without the help of extension services. It is envisaged that the directory of project profiles will be developed into a handbook for entrepreneurs and African investors interested in small-scale industrial promotion units. ECA undertook an initial project in this field (Reference : ECA/INR/SSI/WP/2 - Directory of Project profiles on small-scale industries in Africa).

Other support projects

95. Projects included in this category are more in the nature of studies leading ultimately to the development of multinational investment projects in priority areas. Once developed further, they would be included among the investment projects to be promoted.

96. Six support projects are submitted for consideration:

(a) Development of peat resources (Project profile No. S8);

(b) CEPGL five-year industrial development plan (Project profile No. S9);

(c) Assistance to the CEPGL countries in the manufacture of electrical equipment (Project profile No. S10);

(d) Feasibility study on the manufacture of railway equipment in the Central African subregion (Project profile No. S11);

(e) Development of the production of active ingredients for pesticides and insecticides (Project profile No. S12);

(f) Assistance to the Central African Republic in the development of an integrated meat processing plant (Project profile No. S13).

PROJECT PROFILE NO. S8

INDUSTRIAL SUPPORT AREA: Other support projects SUBREGION: Central Africa

1. Project Title: Development of peat resources

2. Objective: To undertake a study identifying and asserting peat resources in the CEPGL countries, including the consideration of appropriate technology, and promoting the use of peat as fuel.

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. CEPGL 4. To be determined 5. US$183,000	6. A preliminary study completed in 1981/82 provided a synthesis of the findings of previous studies carried out in the CEPGL countries. In that study it was recommended that a further in-depth study be undertaken including an exhaustive inventory and assessment of the quantitative and qualitative significance of peat resources, especially in Eastern Zaire, and an updating of the work carried out in Rwanda and Burundi. The study should recommend methods for the rational exploitation of peat and tests for the mechanized production and compression of peat. It should also touch upon the techno-economic and financial aspects so as to make it possible to determine whether peat can be effectively exploited in the subregion.

PROJECT PROFILE NO. 09

INDUSTRIAL SUPPORT AREA: Other support projects

SUBREGION: Central Africa

1. Project Title: CEPGL five-year industrial development plan

2. Objective: To assist the CEPGL in preparing an industrial development plan with emphasis on core industries based, inter alia, on the utilization of locally available natural resources.

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. CEPGL 4. CEPGL Secretariat, Gisenyi, Rwanda 5. US$100,000	6. The UNDP-financed project providing multisectoral assistance to the Economic Community of the Great Lakes Countries (CEPGL) includes the preparation of a five-year development plan which covers, among other sectors, industry. In respect of the latter, the project aims at identifying and implementing Community projects in the industrial sector with a view to accelerating industrial development and integration in the CEPGL. In so doing, due account is taken of the need to develop the exploitation of local resources, promote complementarities among the countries and meet the requirements of the people.

PROJECT PROFILE NO. S10

INDUSTRIAL SUPPORT AREA: Other support projects **SUBREGION:** Central Africa

1. Project Title: Assistance to the CEPGL countries in the manufacture of electrical equipment

2. Objective: To manufacture electrical equipment such as bulbs and insulators so as to reduce imports gradually

3. Promoter/sponsor **4. Location** **5. Estimated total cost**	**6. Project description and additional information**
3. CEPGL 4. To be determined in CEPGL 5. To be determined	6. The project was conceived by Rwanda and aims at meeting the needs of the CEPGL countries in electrical equipment. Such assistance will permit the identification of market needs and facilitate the conduct of preliminary and feasibility studies.

PROJECT PROFILE NO. S 11

INDUSTRIAL SUPPORT AREA: Other support projects **SUBREGION:** Central Africa

1. Project Title: Feasibility study on the manufacture of railway equipment in the Central African subregion

2. Objective: To determine those types of railway equipment the region is best suited to produce with the objective of minimizing reliance on external markets and promoting the railway equipment industry.

3. Promoter/sponsor **4. Location** **5. Estimated total cost**	**6. Project description and additional information**
3. Union of African Railways (UAR) 4. The study will cover the countries of the subregion 5. US$ 0.5 million	6. The project is a part of a study covering the region of Africa and is incorporated in the Transport and Communications Decade Programme for Africa. An initial study covering the West African subregion resulted in a project for the establishment of a unit manufacturing railway wagons to be located in Upper Volta at an estimated cost of US$ 8 million. This project is related to a similar study of the Central African subregion. Its estimated duration is one year.

PROJECT PROFILE NO. S 12

INDUSTRIAL SUPPORT AREA: Other support projects **SUBREGION:** Central Africa

1. Project Title: Development of the production of active ingredients for pesticides and insecticides

2. Objective: To produce active ingredients for pesticides and insecticides based on local raw materials so as to meet the requirements of the countries in the subregion.

3. Promoter/sponsor **4. Location** **5. Estimated total cost**	**6. Project description and additional information**
3. CEPGL and the Governments of Rwanda and Zaire 4. To be determined 5. To be determined	6. The project aims at developing a pesticides and insecticides production project to meet the needs of the subregion, utilizing local raw materials, particularly for the production of active ingredients.

PROJECT PROFILE NO. S 13

INDUSTRIAL SUPPORT AREA: Other support projects SUBREGION: Central Africa

1. **Project Title:** Assistance to the Central African Republic in the development of an integrated meat processing plant

2. **Objective:** To ensure the integrated development of the various stages of meat production and processing encompassing a slaughterhouse, tannery, meat packing plant and dairy

3. **Promoter/sponsor** 4. **Location** 5. **Estimated total cost**	6. **Project description and additional information**
3. Central African Republic/UDEAC 4. Central African Republic 5. To be determined	6. a) Within the scope of this project which was initiated by the Central African Republic, it is planned to promote the integrated development of the meat processing and associated industries, i.e. slaughterhouse, tannery, meat packing plant and dairy. b) In the first stage, the project will comprise an assessment of the requirements of the UDEAC countries, while in the second stage an integrated programme will be drawn up comprising the various projects to be implemented in the different countries in the subregion.

V. PLAN FOR THE IMPLEMENTATION OF THE INTEGRATED INDUSTRIAL PROMOTION PROGRAMME

97. The implementation of the integrated industrial promotion programme will call for series of steps to be taken by the countries in the subregion and by the co-ordinating organizations: UNIDO, OAU, and ECA. These steps are spelt out below. At the same time, it should be recalled that the elaboration of the integrated programme is a continuous process. Thus, both Governments and intergovernmental organizations in the subregion are urged to continue submitting project proposals for inclusion in subsequent stages of the programming exercise.

At the national level

98. The success of the programme will be determined by the actions taken at the national level and by the policies and operational mechanisms adopted by Governments. These actions include:

(a) Formal endorsement of the programme and its projects by Government;

(b) Incorporation of the salient features of the subregional programme and its projects in national industrial development plans, possibly incurring the need to adjust ongoing national industrial development plans;

(c) Allocation of the human, financial and physical resources needed to implement the projects;

(d) Strengthening or introduction of operational mechanisms (e.g. corporations, companies, commissions) responsible for follow-up, including project definition, pre-investment studies, investment promotion, and project-related consultations with other countries in the subregion;

(e) If designated lead country, official submission of the project to financial institutions such as the African Development Bank (ADB), Arab Bank for Economic Development in Africa (BADEA) and the World Bank;

(f) On the basis of profiles for core investment projects, elaboration of detailed pre-investment studies, assisted by UNIDO, ECA, ADB and competent local industrial consultancy organizations;

(g) Improvement of domestic manpower capabilities and institutional capacities needed for the identification, preparation and implementation of projects.

At the subregional level

99 . All activities at the national and subregional level during the preparation and implementation of the identified core and support projects should further the attainment of the objectives of the Decade. Activities at the subregional level include:

(a) Formal endorsement of the initial integrated industrial promotion programme by the intergovernmental organizations in the subregion, such as ECCAS, UDEAC, CEPGL and the Yaoundé- and Gisenyi-based MULPOC Council of Ministers, and inclusion thereof in their subregional development plans and programmes;

(b) Establishment or strengthening of subregional intergovernmental committees (in concert with initiatives taken by existing intergovernmental organizations) to co-ordinate, monitor and advise Governments on the selection and implementation of multinational projects in each subsector;

(c) Provision by those intergovernmental committees of advice to Governments on the preparation, implementation, management and monitoring of the multinational industrial projects, including the definition of:

(i) The broad principles governing the relationship among the parties and specifying the co-operation arrangements in the areas of industrial production, and trade in industrial raw materials and products;

(ii) The policies and supporting measures which the Governments concerned should pursue;

(iii) Operational principles and measures, including mutual benefits or equitable treatment;

(iv) Joint ventures involving such bodies as multinational corporations in the countries of the subregion, or member countries of the subregion and other subregions and regions, or statutory corporations and other enterprises;

(v) Co-production and specialization, including subcontracting and marketing, as an arrangement of particular importance to engineering-based core industries;

(vi) Joint acquisition of technology and the mobilization of financial resources.

(d) Agreement among the countries in the subregion on the host country for each multinational core project and the respective roles of the others in implementing the core projects. This would include agreement on:

(i) Supply of the requisite raw materials and energy;

(ii) Purchase of intermediate and final products;

(iii) Equity share-holding, majority of which should be owned by African countries;

(iv) Training and allocation of manpower to the project;

(v) Conducting R + D related to the project;

(vi) Exchange of information;

(vii) Management of the enterprise;

(viii) Subcontracts, where feasible.

(e) Assistance by intergovernmental organizations and development banks in the subregion in the mobilization of financial and other resources, including investment promotion for the implementation of the multinational core projects;

(f) Strengthening or establishment of operational arrangements, such as multinational corporations or enterprises linked with corresponding national corporations, for the implementation of specific project or complex of projects. In this regard, it should be noted that in establishing multinational enterprises aimed at a lasting and effective economic relationship, it may be necessary for each partner, particularly the Governments, to share in the risks and rewards of the enterprises and participate fully in the decision-making process at the highest managerial level;

(g) Involvement of African chambers of commerce and industry or manufacturers and their associations as well as competent local consulting firms from the outset of the project, increasing their participation/involvement as the project develops.

Role of co-ordinating and other agencies

100. The successful implementation and economic operation of core industries calls for the development of human and technological capabilities, the mobilization of financial resources as well as the establishment or strengthening of the capabilities to service and augment the industrialization process in the subregion. The agencies and organizations of the United Nations system, in particular, UNIDO and ECA, in close co-operation with the OAU, ADB and other specialized African organizations (ARCT. ARCEDEM, AIHTTR. PATU, the Central African Mineral Resources Development Centre, IDEP etc) can contribute to meeting those requirements and thus help to overcome the acute developmental problems of the subregion.

101. For the most part, these organizations would provide technical assistance, upon request, in the following areas:

(a) Updating of the subregional industrial programme, preparation of pre-investment studies, including investment profiles on selected projects in each subregion, providing information on such items as: consumption; plant size; raw materials; utilities; technology; investment; manpower and training; probable production cost; project/ programme profitability; and potential market(s);

(b) Identification of specific areas and modes of co-operation between countries, as well as between producers and R + D facilities, in implementing the programme for the Decade;

(c) Establishment of a subregional co-ordinating committee, 7/ to review and update the regional integrated industrial promotion programme, monitor its implementation and co-ordinate the activities of the subsectoral committees described in subparagraph 99 (b);

7/ This could be the industrial co-operation committee provided for in the treaty establishing ECCAS and protocol IX thereof.

(d) Development of capabilities related to: industrial planning; industrial consultancy; project preparation; procurement of supplies; and support of local entrepreneurs and manufacturers including the creation of associations related to core programmes;

(e) Organization of technical consultations, negotiations and investment promotion meetings in specific core subsectors. These will include consultation and negotiations between:

(i) African countries, involving both State finance institutions and local agents of production and distribution;

(ii) African States and potential partners from other developing countries through ECDC, involving potential investors from those countries as well as financial institutions.

(iii) African States and potential partners from developed countries.

102. In providing the above assistance, close inter-agency co-operation in the subregion is required so as to ensure full harmonization of the endeavours of both the United Nations organizations and the OAU to the benefit of the subregion. OAU, ECA and UNIDO should devise an appropriate system to assist countries in monitoring the implementation of this integrated industrial programme within the context of the Industrial Development Decade for Africa. States should thus provide those organizations with information on their activities so that progress reports can be submitted to the Conferences of the African Ministers of Industry. Although the countries in the subregion are expected to use all the economic and diplomatic channels at their disposal to promote the projects identified, UNIDO should assist through its investment promotion programme, including the use of its investment promotion services.

ANNEX I

Criteria for selecting multinational/ subregional industrial core projects

For an industrial project to qualify as a multinational/subregional core project, it should meet all basic requiremnts in group I and one or more additional requirements in group II.

I. Basic requirements

The project:

(a) Provides inputs into the priority sectors selected in the Lagos Plan of Action and the Final Act of Lagos, i.e. food, transport and communications and energy;

(b) Provides effective integration and linkages with other industrial and economic activities and infrastructures in the subregion.

(c) Utilizes and upgrades, to the maximum extent possible, African natural resources (raw materials and energy) so as to benefit first the subregion, secondly other African countries and thirdly non-African countries.

(d) Produces intermediates for further processing or fabricating in an increasing number of established or planned industries or engineering goods, particularly those related to food production and processing, building materials, textiles, energy, transport and mining.

(e) Caters, first and foremost, directly or indirectly, to the basic needs of the people in the subregion and, if required, in other African countries.

(f) Involves (i) economies of scale, (ii) complex technology or upgrading of technology, (iii) large investment and (iv) market(s) beyond the reach of individual countries in the subregion.

(g) Offers scope for co-operation, especially among the African countries, in long-term supply/purchase arrangements for raw materials, intermediates and final products; subcontracting; barter; equity share holding; etc.

(h) Contributes to reducing the region's heavy reliance on external factor inputs.

II. Additional requirements

The project:

(a) Offers comparative advantage(s) over similar project(s) - actual or potential - in other groups of countries (African and non-African), particularly in respect of raw materials, energy and the infrastructure required.

(b) Complements related project(s) or existing production unit(s) in the subregion.

(c) Earns foreign exchange through the export of its products, including upgrading of raw materials.

(d) Results in rehabilitation and rationalization of existing production unit(s).

(e) Replaces, whenever practical, synthetic materials by natural materials, particularly those that are renewable.