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

Bamenda, Cameroon, 28 November - 2 December 1989*

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

Prepared by
the UNIDO Secretariat

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* Organized by UNIDO, in co-operation with the Economic Community of Central African States (ECCAS), the Central African Customs and Economic Union (UDEAC), the Economic Community of the Great Lakes Countries (CEPGL), the Economic Commission for Africa (ECA), and the Government of Cameroon.

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INTRODUCTION

Objective of the paper

1. This document has been prepared in the light of dicussions at the follow-up subregional meeting on the promotion of intra-African industrial co-operation in the Central African subregion within the framework of the Industrial Development Decade for Africa (IDDA) held at Bamenda, Cameroon, from 28 November to 2 December 1989. The document presented to that meeting was based on consultations held with the officials responsible for industrial co-operation and development in the countries in the subregion with the secretariats of the Economic Community of Central African States (ECCAS), the Central African Customs and Economic Union (UDEAC), the Economic Community of the Great Lakes Countries (CEPGL) and other intergovernmental organizations dealing with industrial development in general.

Structure and contents of the paper

2. In geographical terms, the paper covers Burundi, Cameroon, the Central African Republic, Chad, the Congo, Gabon, Equatorial Guinea, Rwanda, Sao Tome and Principe and Zaire, all of which are members of ECCAS, plus Angola. The period covered by the paper extends from January 1986, the date of the Bujumbura meeting, up to June 1989, the date of its completion. In structural terms, the paper consists of five chapters. The first chapter contains basic information on industrial co-operation in the subregion. The second chapter describes the development of the integrated industrial promotion programme from the first meeting at Bangui in 1984 to its first revision at the subregional meeting at Bujumbura in 1986. It also gives a brief account of the priorities set for the programme and the strategy devised for its implementation. The third chapter assesses the current status of the projects and analysis the constraints upon their implementation. The fourth chapter puts forward proposals for a second revised integrated industrial promotion programme. A strategy for accelerating the implementation of the second revised programme is the subject of the fifth chapter.

CHAPTER 1

INDUSTRIAL CO-OPERATION IN THE SUBREGION

Historical background

3. The Central African subregion is made up of different geo-political entities. Out of the 11 countries, four are landlocked (Chad, Central African Republic, Burundi and Rwanda), one semi-landlocked (Zaire), one country is an island (Sao Tome and Principe), one semi-insular (Equatorial Guinea) and four are coastal countries (Angola, Cameroon, Congo and Gabon). This diversity is one of the bases for subregional industrial co-operation in that it reflects the unequal distribution of the population. According to 1986 statistics, the total population of the subregion was 71.3 million inhabitants divided as follows: Angola (9 million), Burundi (4.9 million), Cameroon (10 million), Chad (4.7 million), Congo (1.9 million), Gabon (1.1 million), Equatorial

Guinea (0.3 million), Central African Republic (2.075 million), Rwanda (6.8 million), Sao Tome and Principe (0.1 million), and Zaire (30.4 million).

4. In common with the majority of African subregions, Central Africa possesses appreciable quantities of mineral reserves: bauxite (Angola, Cameroon, Zaire); iron (Angola, Cameroon, Congo, Central African Republic, Chad, Zaire); manganese (Angola, Gabon, Zaire); nickel (Burundi, Zaire); copper (Zaire); chromium (Zaire); cobalt (Zaire); tin (Rwanda, Zaire); phosphates (Angola, Burundi, Central African Republic, Congo, Zaire) and oil (Angola, Cameroon, Congo, Gabon, Chad, Zaire). The subregion also has energy resources such as natural gas, methane, coal, hydroelectric power, jurassic oil shale, and tar sands.

5. Agriculture is the mainstay of the economies in the countries of the subregion, employing about 80 per cent of the active manpower. Industrial crops and those for export are made up, inter alia, of cocoa, coffee, cotton, oil palm, tea, tobacco, hevea, sugar cane, pineapple and banana. Forestry activities cover the production of gaboon, ozigo, sawn timber and plywood in the Congo, Cameroon, Central African Republic, Gabon and Zaire, while stockbreeding is much more normal in Chad, Central African Republic and Cameroon. The fishing resources of the subregion are virtually unexploited and the fishing industry is only just starting. Most of the Central African countries practice single-crop farming intended for export. This makes them highly dependent on foreign countries in the sense that the prices of their products are determined on the international market at a level which is usually very low and does not enable them to earn enough foreign currency to cover imports.

6. Furthermore, productivity is very low in the agricultural sector on account of highly archaic farming methods and inadequate technological, institutional and infrastructural support systems. As a result, Central Africa cannot cope with its population's steadily growing food requirements and is becoming an out and out importer of food products. This situation is worsened by the import of such production factors as capital goods, intermediate goods and engineering consultancy services. Attention is drawn to the non-utilization or under-utilization of existing national consultancy services. It is thus recommended that Governments and international organizations should use these services more, thereby contributing to to their development.

7. The gross domestic product (GDP) of the subregion rose from $24.9 thousand million in 1983 to $26.1 thousand million in 1986. Per capita income dropped from $364 to $358 over the same period. Bearing in mind the socio-economic crisis of the last few years and the debt burden, it can be said, at best, that the economy of the subregion is stagnant.

Industrial structure

8. The level of industrialization in Central Africa is relatively low compared with its huge natural resources. The following table shows that the proportion of the manufacturing sector in the GDP is below 10 per cent in most of the countries, with the exception of Cameroon (12.49 per cent in 1987) and Rwanda (17.94 per cent in 1987). It is even lower than 5 per cent in countries such as Zaire, Angola and Equatorial Guinea.

9. The industrial sector of the subregion is dominated by light industries producing consumer goods (beer, tobacco, textiles and cigarettes, etc.) and

highly dependent on the import of machinery, spare parts and other inputs, indeed, even of raw materials. However, the countries of Central Africa possess major resources which could offer a sound basis for the development of basic industries (metallurgy, engineering and chemicals) at both national and subregional levels with a view to self-sufficient and self-sustained development.

Table 1

Share of the manufacturing sector in the gross domestic product (GDP) of Central Africa

(a) Production in millions of dollars at the constant cost of factors for 1980.

(b) Percentage of GDP.

Country		1983	1984	1985	1986	1987
Angola	(a)	76	81	81	94	98
	(b)	2.80	3.00	2.90	2.82	3.00
Burundi	(a)	78	77	80	82	85
	(b)	8.96	8.72	7.89	8.75	9.53
Cameroon	(a)	927	1 090	1 196	1 251	1 236
	(b)	10.46	10.85	11.03	12.40	12.49
Central Africa	(a)	79	81	83	84	87
	(b)	7.68	7.91	7.36	7.21	7.12
Chad	(a)	65	62	65	68	69
	(b)	8.72	8.64	8.53	8.67	8.43
Congo	(a)	116	102	97	127	130
	(b)	5.11	4.29	4.37	9.16	9.08
Equatorial Guinea	(a)	2	2	2	2	2
	(b)	4.70	4.85	4.62	4.61	4.64
Gabon	(a)	237	237	225	208	213
	(b)	6.63	5.97	6.35	7.42	7.58
Rwanda	(a)	175	183	189	194	198
	(b)	15.82	17.79	18.00	18.09	17.94
Sao Tome and Principe	(a)	3	3	3	3	3
	(b)	9.39	9.79	9.35	9.47	9.52
Zaire	(a)	148	143	150	156	154
	(b)	1.51	1.12	1.25	1.35	1.23

Source: Economic Commission for Africa, Statistics Division, printout 1989 (pp. A-25 and A-30)

Industrialization strategies and policies

10. The fact that the countries in the subregion adopted import substitution policies and strategies shortly after their independence ought to have enabled them to limit their imports of essential commodities and to reduce their dependence on the former metropolitan powers. Experience, however, has shown that the situation in the subregion more than 25 years after the introduction of those policies and strategies has not seen any improvement. In most cases, socio-economic conditions have worsened. In actual fact, those strategies resulted in light industries being set up with total disregard for the strategic core industries. Member States are therefore having to rely more and more on increasing imports of machinery and equipment, spare parts, raw materials and other intermediate consumer goods as well as skilled labour.

11. Furthermore, in order to succeed, emphasis needs to be placed on the need to protect import-substitution and vulnerable industries of the subregion, taking into consideration the competitiveness of their products in terms of standardization and quality control. Production should, however, be geared towards meeting the demands of the local market, although this may, in some cases, limit the benefits of economies of scale and compel some industrial plants to operate below their capacity, since national markets may be too limited. It should also be understood that import substitution is not a panacea for all ills; it involves the outflow of funds, increases the debt burden on Member States and fails to promote upstream and downstream linkages with other economic sectors.

12. Subregional co-operation demands a basic structural change and the abandonment of a fragmentary approach to import-substituion policies. Indeed, since none of the countries of the subregion possesses all the natural, financial or human resources, or sufficient technological capacities, to ensure independent development, subregional industrial co-operation is essential to enabling each one to derive maximum advantage from the resources it possesses and to achieve collective self-sufficient and self-sustained development. The implementation of a policy of this kind will guarantee a broader market for raw material producers as well as optimal utilization of their resources and installed production capacities. This approach will gradually help to bring about regional economic integration and the implementation of measures ensuring industrial development at the national, subregional and regional levels. It should, however, be emphasized that the political will that had motivated the establishment of subregional organizations needs to transcend purely national interests, a constraint that has been elaborated upon in the appropriate section of the document. In order to promote subregional co-operation and to put it properly into effect in Central Africa, a number of mechanisms have to be set up.

Institutional arrangements

13. Despite the fact that the Central African States already constituted large groups under French or Belgian administration during the colonial period, they had to await independence before institutions for multilateral or bilateral economic co-operation could be set up. The Central African Customs and Economic Union (UDEAC), the Economic Community of the Great Lakes Countries (CEPGL) and the Economic Community of Central African States (ECCAS) are the three most important co-operation institutions to have been established by the States of the subregion since the early 1960s.

Economic Community of Central African States (ECCAS)

14. The signature on 18 October 1983 of the Treaty setting up ECCAS was the outcome of a long process of negotiation initiated by the "Libreville Declaration", a solemn undertaking signed on 19 December 1981 by the Heads of State of the countries currently members of ECCAS (Cameroon, Chad, Congo, Gabon, Equatorial Guinea, Central African Republic, Burundi, Rwanda, Sao Tome and Principe and Zaire) and their counterpart in Angola, which remains an observer. The main objective of ECCAS is to promote the self-sufficient and self-sustained economic development of the subregion so as to satisfy the peoples' needs and reducing the countries' external over-dependence. Furthermore, the creation of this Community met one of the overall objectives of CEPGL and UDEAC that also correspond to one of the aims of the Final Act of Lagos: the establishment of common subregional markets as a prelude to the creation of an African common market.

15. As reflected in both the Treaty and Protocol IX on industrial co-operation, the Community accords high priority to industry. The main thrust lies in the establishment of multinational industries based on the exploitation of local resources so as to stimulate collective economic development. The priority sub-sectors, which are the metallurgical, engineering, chemical, construction materials and agro-industries, cannot be set up without sustained industrial co-operation. Generally speaking, the broadening of markets, pooling of resources, harmonization of industrial policies and opportunities for adopting a subregional industrial plan are some of the factors contributing to an acceleration of the industrial development process that are possible within a broader group context.

Central African Customs and Economic Union (UDEAC)

16. Set up on 8 December 1964 at Brazzaville (People's Republic of the Congo), the Central African Customs and Economic Union (UDEAC) today comprises six Member States: Cameroon, Congo, Gabon, Equatorial Guinea, Central African Republic and Chad. It is mainly aimed at strengthening subregional solidarity, creating a common market, eliminating trade barriers and improving living standards of its people.

17. The Union has undergone a number of changes since it was first set up. Revision of the Treaty in 1974 led to the establishment of the Central African Development Bank (BDEAC), the Subregional Institute for Statistics and Applied Economics (ISEA) and the Higher Institute of Applied Technology (ISTA), and was aimed at stepping up industrial co-operation through harmonization of the industrial policies of Member States, fair sharing of Community projects and, on a more general basis, co-ordinating of the development programmes for different production sectors. The revised Treaty also provided for the harmonization of development plans so as to put into effect a Community policy for economic co-operation and integration, more especially as regards industrialization, agriculture, transport, post and telecommunications, natural resources, science and technology, and human resources.

18. To facilitate the implementation of its common industrialization policy, UDEAC has set up a number of fiscal, commercial and financial instruments. In these instruments are chiefly a single tax, joint agreement on investments, provisions relating, first, to free movement of persons and right of residence, and, second, to the free circulation of capital, the Central African Development Bank and the code applying to multinational companies.

Economic Community of the Great Lakes Countries (CEPGL)

19. The Economic Community of the Great Lakes Countries (CEPGL) was set up on 20 September 1976 and consists of Burundi, Rwanda and Zaire. Its objectives are to ensure, first and foremost, the security of its States and their people with a view to ensuring peace and tranquility along their various borders; to define, plan and promote the creation and development of activities of common interest; to promote and intensify trade and the movement of persons and goods within the community; to co-operate closely in the social, economic, commercial, scientific, cultural, political, military, financial, technical and tourist areas, and especially, in the legal, customs, health, energy and communications domains.

20. In order to meet the above objectives, the leaders of the Community had adopted measures to set up structures that will lead to an integration of the three countries' economies and an improvement in their people's standard of living. They have also adopted a planning strategy that will efficiently mobilize the resources of the countries in the Community. It will enable CEPGL to determine the general policies, objectives and strategies needed in order to draw up its own socio-economic plan. In order to provide appropriate solutions to problems raised, institutions have been established, specialized bodies set up, and joint and community undertakings created. Several agreements and conventions pertaining to various fields have also been signed.

21. In order to foster industrial co-operation among member countries, appropriate mechanisms have been set up and others are under consideration. Thus, the Development Bank of the Great Lakes Countries (BDEGL) was opened on 9 September 1977 in order to mobilize both internal and external financial resources for financing national and multinational economic integration projects in the member countries. The Community Investment Code was signed on 31 January 1982. A trade and customs convention was signed on 10 September 1978. Finally, the convention on the free movement of people, goods, services, capital and the right of establishment was signed on 1 December 1985.

22. The Community authorities will soon adopt the CEPGL five-year socio-economic development plan, the model status of joint and community undertakings, the CEPGL industrialization master plan and the protocol on the reduction of tariffs on industrial products of local origin. Such specialized bodies as the Great Lakes Energy (EGL) and the Agricultural and Stock-breeding Research Institute (IRAZ) also contribute to the industrial development of the Community.

23. All the foregoing points to a will to intensify industrial co-operation. Nevertheless, all these co-operation arrangements will have to be based on more specific action to stimulate economic development while ensuring a stronger spirit of interdependence. To this end, the activities of the various institutions should be backed up by a constant and active political will, without which the initial objectives cannot be achieved.

The Lagos Plan of Action and the Industrial Development Decade for Africa

24. The basic objective of the Lagos Plan of Action is to promote economic and social development that is integrated, self-sufficient and self-sustained at the national, subregional and regional levels in order to meet the key requirements of the African peoples. The Plan also gives prominence to the

use of economic co-operation at the subregional and regional levels in order to achieve this goal.

25. Industry is given a major role in the Lagos Plan of Action, confirming the commitment to change the existing economic structure, to meet the basic needs of the African peoples through the exploitation of their own natural resources and to establish an industrial base for the development of other economic sectors. The Lagos Plan of Action sets both qualitative and quantitative targets for the region, such as a share of at least 1.4 per cent of world industrial production by 1990 and self-sufficiency in the areas of food, building materials, clothing and energy. Furthermore, under the Final Act of Lagos, the industrial sector has been selected as one of the priority sectors for subregional and regional integration during the current decade.

26. The industrial aspect of the Lagos Plan of Action is designed to bring about expansion of the industries essential to developing the economy, more especially the production, storage and processing of agricultural produce, transport and communication networks, ore extraction and treatment, and the development and exploitation of local energy resources. The Plan thus stresses the development of certain core industries such as the metallurgical, engineering and chemical industries that could have a beneficial effect in encouraging other sectors of the economy. Proclamation of the 1980s as the Industrial Development Decade for Africa (IDDA) by the African Heads of State and Governments constituted a practical step towards attaining the objectives of the Lagos Plan of Action.

27. To translate these aspirations into more specific terms, the Conference of African Ministers of Industry, during their sixth meeting at Addis Ababa (Ethiopia) in November 1981, adopted a programme for the Decade based on the dual principle of self-sufficient and self-sustained industrialization. The programme re-affirmed the need to adopt an integrated approach to the various industrial activities as well as the need to develop the agro- and agro-based industries, metallurgical, engineering, chemical and building materials industries. Since none of the African countries possess adequate natural, human and financial resources nor the technology and physical infrastructure suited to industrial development, the programme advocates strengthening intra-African industrial co-operation in several fields, including raw materials, technology, industrial manpower, maintenance and repair of equipment and machinery, and the amplification of existing infrastructures.

28. At the national level, countries should identify core industrial projects as defined in the Decade programme and devote attention, inter alia, to the creation of an institutional and basic infrastructure, as well as to the development of technological and entrepreneurial capabilities and the exploitation of raw materials. Other priority measures to be adopted would include a detailed assessment of the financial requirements and the establishment of sectoral linkages. At the subregional level, it is essential to draw up an industrial complementarity programme for core projects based on resource endowments and joint participation in order to optimize limited investment resources and take advantage of larger markets.

CHAPTER II

THE FIRST REVISED INTEGRATED INDUSTRIAL PROMOTION PROGRAMME FOR CENTRAL AFRICA

29. In the Lagos Plan of Action and the programme for the Industrial Development Decade for Africa (IDDA), highest priority is accorded to the basic industries (metallurgical, engineering and chemical) as well as to the agro- and agro-based industries. Since it is almost impossible for any country to develop all its priority industries at the same time, the IDDA programme recommended that industrial co-operation programmes should be drawn up for the four subregions.

30. To this end, a meeting on the promotion of intra-African industrial co-operation in the Central African subregion within the framework of IDDA was held at Bangui (Central African Republic) from 18 to 22 February 1984. Organized by UNIDO in co-operation with ECA, OAU and UDEAC and the Government of the Central African Republic, the meeting brought together experts from the subregion to examine, identify and select priority sectors and projects suited to multinational industrial co-operation. In this connection, an initial integrated industrial promotion programme for the subregion comprising 20 core projects and 13 support projects with a matching strategy for their implementation was adopted by the expert meeting and approved by the seventh meeting of the Conference of African Ministers of Industry at Addis Ababa (Ethiopia) in March 1984.

31. Two years later, a follow-up meeting was organized at Bujumbura (Burundi) from 8 to 10 January 1986 by the United Nations Industrial Development Organization (UNIDO) in collaboration with the Organization of African Unity (OAU), the Economic Commission for Africa (ECA), the Central African Customs and Economic Union (UDEAC) and the Government of Burundi. Its purpose was to enable experts from the subregion to review the implementation of the initial programme and the constraints encountered. The experts were also to put forward proposals for adjusting the programme to current needs and priorities in the subregion and to indicate the policy, institutional and other measures essential to the accelerated realization of the programme.

32. Besides the experts from Burundi, Congo, Equatorial Guinea, Gabon, Rwanda and Sao Tome and Principe, the following organizations and institutions were represented at the meeting: the Central African Development Bank (BDEAC), the Economic Community of Central African States (ECCAS), the Economic Community of the Great Lakes Countries (CEPGL), the Central African Customs and Economic Union (UDEAC), the Yaoundé-based Multinational Programming and Operational Centre (MULPOC), the Union of African Railways (UAR) and the Organization of African Unity (OAU). At the end of the meeting a revised integrated industrial promotion programme for the Central African subregion was adopted, containing 25 core projects and nine support projects.

Priority core subsectors

33. Moved by the spirit of the Lagos Plan of Action and the United Nations Programme of Action for African Economic Recovery and Development (UNPAAERD), both of which accord high priority to agriculture and industry as a sector providing both upstream and downstream support for agriculture, the Bujumbura meeting decided to revise the initial programme by giving priority to the

following core subsectors: metallurgical industry, engineering industry, chemical industry, building materials industry and agro- and agro-based industries.

(a) Metallurgical industry

The metallurgical industry is the very foundation of any self-sufficient and self-sustained industrial development process. It establishes upstream linkages by processing the combustible and non-combustible mineral resources mined by the mining industry, and downstream linkages by supplying ferrous and non-ferrous metals to the engineering and other industries that process them.

As in most ohter African subregions, Central Africa possesses a considerable quantity of mineral resources, only a small part of which is at present known and thought to be economically viable. Furthermore, with the exception of oil which is refined on the spot in the producer countries (Cameroon, Congo and Gabon), the other mineral resources mined underground in the subregion are exported raw and processed elsewhere.

Development of the metallurgical industry is thus imperative for the subregion, if the latter wishes to reduce its dependence on foreign countries by producing iron, steel and other metals it needs for its industrial development. Given the size of the investments to be made in this subsector and the limitation of the national markets, subregional co-operation is more than necessary.

(b) Engineering industry

The engineering industry is central to any linked economy; it builds up inter- and intra-sectoral linkages. Within the industrial sector, it uses metals and chemical products stemming from the metallurgical and chemical industries and in turn provides them with the machinery and equipment they need to operate. The same applies to the agro- and agro-based industries which cannot process their agricultural, forestry and fishing products without machinery and equipment.

The rehabilitation and development of agriculture also require industrial inputs such as machinery, materials and agricultural implements. To this one, should add means of transport and communication as well as data processing, which are indispensable to accelerated industrial development.

The bulk of Central Africa's foreign debt is currently due to the import of capital goods, machinery and agricultural equipment, spare parts and pieces as well as other machinery needed for its development. If it is to achieve self-sufficiency in this area, Central Africa must start producing out certain types of vitally important machinery and spare parts.

(c) Chemical industry

The chemical industry produces intermediate goods used in the manufacture of other products, as well as goods for final consumption. It makes a direct contribution to meeting basic requirements, supplying

fertilizers and pesticides for agriculture, medicaments, soaps, detergents and disinfectants, and producing construction materials, paints, synthetic fibres and many other items needed for housing, clothing, transport and food.

In its quest for self-sufficiency in food and improved health of the population, Central Africa should select those multinational chemical industries which produce fertilizers and pesticides, pharmaceutical and petrochemical products from sources available at the national and subregional level. The chemical subsector projects included in the revised integrated industrial promotion programme are directed specifically toward improving living conditions in the subregion.

(d) Agro- and agro-based industries

With self-sufficiency in food as one of the priorities of the Lagos Plan of Action and the United Nations Programme of Action for African Economic Recovery and Development, the processing of food products and the development of the industries based on agriculture assume vital importance. Indeed, although the structure of the industrial sector is dominated by light industries, above all the food industry (beverages, cigarettes, leather and textiles), Central Africa only processes a very small portion of its agricultural, forestry, stock-breeding and fish resources. Hitherto cash crops (cocoa, coffee, cotton, palm oil, hevea, sugar-cane, pineapple, tea, tobacco, banana, etc.) as well as wood have been exported at the price prevailing on the world market. This only serves to increase the subregion's external dependence since the export revenue is not enough to pay for imports of capital goods, machinery, spare parts and, above all, food products such as corn or rice, which were not previously part of the food pattern of the populations. In order to reverse this trend the countries of Central Africa must co-operate in establishing agro- and agro-based industries which make use of local agricultural resources.

(e) Building materials industry

The building materials industry is instrumental in satisfying one of the fundamental needs of the population, housing, and in exploiting local natural resources. Apart from meeting the requirements of other sectors and subsectors, the building materials industry provides construction inputs that are not limited to dwellings, but include major infrastructural works (dams, irrigation schemes, roads, 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 facilities, but also by generating additional purchasing power through the employment of a large labour force.

The building materials in great demand include bricks, cement, natural stone, lime, fine ceramics and cheap glass. Production levels for some of these materials are very low. Whereas a few countries in the subregion may export cement, others import significant quantities from outside the subregion. The countries of the subregion possess an impressive number of quarries (sand, clay, kaoline, limestone, granite, pozzolana, travertine, marble, volcanic ash, etc.), the mining of which

within the framework of subregional co-operation could considerably reduce present dependence on foreign countries.

Areas and services supporting industrial development

Agriculture

34. Although Central Africa is an essentially agricultural subregion, it has not yet managed to achieve self-sufficiency in food on account of the rudimentary farming techniques, the international division of labour imposed on it by cash crops (coffee, cocoa, cotton, tea, etc.) and the persistent natural disasters such as drought, desertification and locust plagues. One of the causes of food insufficiency in some countries in the subregion is the absence of a marketing network. A study should therefore be undertaken to establish a common system for the transportation of basic raw materials, especially agricultural produce.

35. Improvement in the agricultural yields so as to meet the ever-increasing demand for food calls for the use of industrial inputs such as agricultural machinery, supplies and implements as well as fertilizers and pesticides. In consequence, development of the industries supporting the agriculture of the subregion is more than necessary. Furthermore, industries processing and preserving farm produce need to be developed so as to reduce food losses and diversify consumption. Agriculture is therefore an area of preference for the industrial development of the subregion.

Mineral resources

36. The self-sufficient and self-sustained development of the subregion presupposes, inter alia, greater exploitation of the major mineral resources and local processing. Inevitably, this will entail development of the metallurgical industries which utilize ferrous and non-ferrous ores as raw materials, and the engineering industries which have to provide the mining sector with mining equipment and machinery.

Energy

37. As opposed to some of the subregions of the continent, Central Africa possesses major combustible mineral resources. Four countries out of 11 are already producing oil (Angola, Cameroon, Congo and Gabon), while major reserves have been discovered in Chad. A study conducted by the Economic Commission for Africa in 1979 has assessed the natural gas reserves at more than 133 thousand million m^3 and those of uranium at 58,000 tons. Other studies have evaluated the Lake Kivu methane gas reserves in the subregion at 60 thousand million m^3. There are also other equally important energy sources such as hydroelectric power from numerous lakes and waterways in the subregion, new and renewable energy sources as well as wood. The importance of developing the immense hydroelectric power potential of the subregion for self-sustained industrialization is emphasized. Interconnecting power networks should be developed so as to enhance subregional co-operation in the development and utilization of energy resources.

38. The development and joint utilization of these resources at the subregional level would be instrumental to establishing and advancing the integrated industrial sector of this subregion. Exploitation of the oil and

gas deposits would call for proper machinery and tools from the engineering industry, while helping to develop the chemical industry (nitrogenous fertilizers, methanol and so forth). The same applies to the other sources of energy, the exploitation of which is needed in order to implement certain industrial projects.

Transport and communications

39. The geographical position of some of the Central African countries poses a major constraint on the industrial development of the subregion. As indicated in paragraph 4, of the 11 countries four of them are landlocked (Burundi, Rwanda, the Central African Republic and Chad), one of them is semi-landlocked (Zaire), one country is an island (Sao Tome and Principe) and one country is semi-insular (Equatorial Guinea). These seven countries as well as the hinterland of those with a coastline encounter transport and communication problems when marketing their products and importing machinery and equipment, spare parts and components for their industries. The prohibitive cost of transporting merchandise and delays in deliveries owing to the state of the roads and the mediocrity of other means of communication is highly discouraging for potential businessmen and those already established.

40. This situation heightens dependence on outside countries in the sense that communication between the Member States is almost non-existent. National economies remain extroverted and the bulk of the communications intended for and stemming from the subregion have to be routed via Europe and certain countries outside the subregion. Joint development of transport and communications would enable some of the countries of the subregion, including the hinterlands of those with a coastline, to emerge from their landlocked situation. As a result the process of industrializing Central Africa would be accelerated. Indeed, both people and merchandise would travel much more easily and much more quickly: something that would encourage national and foreign private individuals to invest in the productive sectors.

Human resources

41. The implementation of any self-sufficient and self-supporting industrial development programme depends on the development of human resources at various levels of the industrialization process. Machinery and equipment, no matter how sophisticated and efficient, are useless unless there are human beings able to make them work properly and service them regularly. The existing skilled human resources in Central African countries are insufficiently, and in some cases, inappropriately utlized. The subregion is compelled to import foreign scientists, technicians and managers to run the factories. There is therefore an urgent need not only to upgrade those skilled human resources but also to ensure their more effective utilization.

42. To reduce this dependence, the countries of Central Africa must rethink their whole system of education. They should set up a common training programme in the scientific, technical and management field so as to promote the development of entrepreneurial and technological capabilities likely to encourage the creation of basic industries, small-scale industries and handicrafts.

Mobilization of financial resources

43. Implementation of the projects contained in the subregional programme calls for substantial investment. This is a determining factor in the production process and conditions the transfer and selection of techniques, choice of products, corporate form and, first and foremost, the negotiating position vis-à-vis the outside world. On an individual basis, no country in the subregion has sufficient and adequate natural, human and financial resources, nor the technology and physical infrastructure suited to its industrial development. This situation is aggravated by the oft precarious state of the balance of payments, public finances and budgets, as well as by the low level of transactions, particularly in the industrial sector.

44. As a result, the programme advocates enhancing subregional co-operation as a means of mobilizing internal and external financial resources with which to implement the multinational industrial projects selected within the framework of the Industrial Development Decade for Africa. With this purpose in mind, promotional activities and measures should be adopted at government level and by the financing institutions in order to encourage savings and investment.

Technology

45. The creation of the core industries appearing in the programme will call for strong support on the technical side. To make this possible, technologies need to be acquired which, to be productive, must be adapted to and integrated into the existing environments. This will have major repercussions at the organizational, institutional and financial level. It will also require the formation of sound scientific and technological capabilities on a local basis.

46. At present, however, the Central African countries are experiencing great difficulties in selecting, acquiring, adapting, assimilating and developing technologies. At the time of independence, the educational system did not match the type of human resource training programme likely to develop entrepreneurial and technological capabilities. Hence the lack of competent human resources has resulted principally in a reliance on foreign expertise, the import of obsolete technologies with disregard for key priority projects, poor selection at the outset of the mode and source of technology transfer, together with frequent breakdowns and costly repairs, which are often the cause of underexploitation of installed capacities.

47. Measures should be adopted at national and subregional level to deal with these failings, which include: inadequate policies relating to purchasing and markets; lack of information on the sources and prices of the principal production factors and techniques; and a lack of organization in negotiation and contractual practices. As a consequence, particular attention should be paid to gaining competence in evaluation, selection and transfer of techniques, as well as their assimilation through the pursuit of correct policies and practices.

Industrial institutional infrastructure

48. Successful implementation of the subregional programme will depend, inter alia, on the creation of an industrial institutional infrastructure that is lacking at present in the Central African countries. First and foremost,

institutions for co-ordinating and programming industrial activities must be set up at the national and subregional levels so as to avoid duplication of industrial projects and dissipation of scarce resources. Furthermore, it would be desirable to build up a structure which could help Member States to choose and purchase industrial machinery and equipment. This structure, on the basis of information given to it, would be called on to assist States in drawing up purchase agreements, including exact specifications regarding technical documentation, spare parts and training of maintenance staff. Other institutional infrastructures could be developed in such varied fields as: information, banking services and insurance, materials testing and products, standardization and quality control, marketing, engineering consultancy services, industrial training and support for small- and medium-scale industries. With regard to information, there is an urgent need to set up an integrated industrial information network in the region.

Strategy for implementation

49. It is pertinent at this juncture to restate some of the important modalities adopted for the programme revised at Bujumbura in January 1986:

- Formal endorsement of the revised integrated industrial promotion programme by member countries and intergovernmental organizations in the subregion and inclusion thereof in their national and subregional development programmes and plans;

- Strengthening or establishment of operational mechanisms at the national, subregional and subsectoral levels so as to co-ordinate, monitor and advise Governments on the selection and implementation of multinational projects in each subsector;

- Promotion of projects among potential investors and financial institutions by the State designated lead country;

- On the basis of core investment project profiles, preparation of detailed pre-investment studies, with the aid of UNIDO, ECA, ADB and competent local industrial consultants;

- Preparation by the subregional intergovernmental organizations of subsectoral studies included in the revised programme so as to identify clusters of economically viable projects, integrated with other industrial branches and the remainder of the economy;

- Preparation by subregional intergovernmental organizations of rehabilitation studies on priority projects, the reactivation of which within a community framework might prove economically and financially viable;

- 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;

- Improvement of the local manpower capabilities and institutional competence required for identifying, drawing up and implementing projects;

- Intensification of consultations between countries, intergovernmental organizations and other interested subregional institutions so as to be able to enter into proper negotiations on each project.

CHAPTER III

ASSESSMENT OF THE IMPLEMENTATION OF THE PROJECTS IN THE FIRST REVISED INTEGRATED INDUSTRIAL PROMOTION PROGRAMME

Status of the projects

50. The revised integrated industrial promotion programme adopted at the subregional meeting at Bujumbura (Burundi) in January 1986 contained 25 core projects in key industrial subsectors (engineering, chemical, metallurgical, agro-industry and building materials) and nine support projects dealing with institutional infrastructure, manpower training and other areas.

51. It is clear from annex II, which gives further details on the status of the programme, that Member States and subregional intergovernmental organizations responsible for the programme have made appreciable efforts to implement the projects selected. As shown by the annex, the situation is as follows:

1. Two projects have been completed:

   - Upgrading of a sugar factory, Congo (project 13)

   - Expansion of the Loutété cement plant, Congo (project 19)

2. Ten projects are under implementation:

   - Manufacture of agricultural machinery and equipment, Rwanda (project 1)

   - Exploitation of methane gas from Lake Kivu, Rwanda/Zaire (initially promoted by CEPGL) (project 3)

   - Production of phosphate fertilizers, Burundi (project 4)

   - Rehabilitation and extension of the sugar industry, Angola (part of project 12 dealing with yeast)

   - Community dairy-products project, Zaire (project 15)

   - Establishment of a wood-processing complex, Zaire (project 18)

   - Reactivation of the Katana cement plant, Zaire (project 20)

   - Expansion of the Mashyuza cement plant, Rwanda (project 21)

   - Rehabilitation of the Maluku steel plant, Zaire (project 24)

   - Expansion of a tin plant, Rwanda (project 25)

3. Thirteen projects are still being studied:

- Establishment of a laboratory for pharmaceutical products, Central African Republic (project 5)
- Establishment of a pharmaceutical plant, Burundi (project 6)
- Upgrading of potash deposits for the manufacture of chemicals, Congo (project 7)
- Production of calcium carbide, Rwanda (project 8)
- Production of active ingredients for pesticides, Rwanda (project 9)
- Establishment of a petrochemical complex for the manufacture of plastics, Gabon (project 10)
- Expansion of a petroleum refinery, Congo (project 11)
- Rehabilitation and extension of the cane sugar industry, Angola (conversion of the sugar mill in project 12)
- Establishment of a distillery, Burundi (project 14)
- Creation of an agro-industrial complex processing cassava, Central African Republic (project 16)
- Integrated development of the fish-processing industry, CEPGL (project 17)
- Expansion and diversification of production at a glass manufacturing plant, Congo (project 22)
- Integrated development of the aluminium industry, Cameroon (project 23)

4. One project has been withdrawn:

- Manufacture of watches and watch components, Central African Republic (project 2).

52. With regard to the support projects, it should be pointed out that the countries of the subregion as well as the regional and subregional organizations have been working on some of the nine projects contained in the revised programme.

Constraints upon the implementation of the initial revised programme

53. As a whole, the implementation of the revised integrated industrial promotion programme has made very little progress. Out of 25 strategic core projects approved by the Bujumbura meeting, only three have reached the production stage. And this is despite the endeavours made by the Member States to attain the objectives of the Lagos Plan of Action and the IDDA programme.

54. The low implementation rate is partly attributable to the failure to set up exact co-ordination mechanisms ensuring the efficient implementation of the projects selected and to the inadequacy of the technical and financial support provided by the lead countries and the subregional, regional and international organizations. Furthermore, the process of defining and selecting projects for inclusion in the category of core projects was not clear at the outset. It was not enough to draw up a list of criteria for selecting multinational industrial projects. Some of them had not been carefully thought out before submission or, once submitted, had not been thoroughly studied, with little regard being paid to the the requirements of integration or the implications and problems of implementation. Other projects do not have genuine sponsors. They have been initiated, for example, by the Economic Community of the Great Lakes Countries or by the Central African Customs and Economic Union and their ultimate location is often not known.

55. Generally speaking, the representatives of Member States who revised the Bujumbura programme had wrongly assumed that the international, regional and subregional organizations would provide substantial technical and financial assistance to put the programme into practice. It has to be recalled therefore that assistance from such international bodies as UNIDO and ECA is often confined to pre-feasibility, feasibility and investment studies or to technical assistance and consultancy missions. Once the viability of the project has been demonstrated by the studies, it is up to the lead country and sponsor to look for the funds, though with the aid, where appropriate, of UNIDO.

Constraints at the national level

56. Although the projects submitted at the Bujumbura meeting were contained in the national plans of a number of sponsoring countries, there does not appear to have been any consultation or negotiation on the planning, policies or strategies involved in their implementation. On the contrary, the policies and strategies adopted at the national level are not directly linked to the subregional programme or to its objectives. Some of the projects selected are regarded as national projects and do not therefore fit into a community context. Indeed, micro-nationalism motivates the States concerned to develop their own natural resources on a priority basis, their objective being, first and foremost, to promote the industrialization of their own countries. This situation very often means that commitments entered into at the beginning are not subsequently honoured and that there is proliferation of similar industries producing the same commodities. This gives rise to marketing problems since the national markets are usually restricted. One example is the Congo oil refinery which finds itself confined to the national market because some of the members now have refineries of their own, whereas the project was initially designed to serve the subregional market. The same applies to the sugar factory in the Congo and quite a few other projects. Concerning the question of approach, while it might be premature to envisage elaborating subregional industrial projects given the current crises, a gradual approach might be more realistic. In that connection, co-ordination among all parties concerned, especially at the national level, is critical. That holds true not only inter-ministerially, but also inter-sectorally. It also applies to subregional organizations.

57. Despite the efforts deployed by the Central African countries to develop in a self-sufficient and self-sustained manner, their economies remain

unlinked and geared to the outside. There is no point in stressing the implications this situation bears for the deterioration of trade, aggravation of the excessive foreign debt and other equally crippling socio-economic crises. Given this state of affairs, most countries in the subregion have adopted some of the Structural Adjustment Programmes (SAP) of the World Bank and International Monetary Fund (IMF) which provide for corrective measures while reorienting the policies and strategies that were originally geared to industrial development and promotion. Indeed, the SAP imposes a sort of de facto moratorium on the establishment of new enterprises and, conversely, accords priority to the reactivation and rehabilitation of existing industries.

58. The unsatisfactory preparation of strategic core projects prior to their submission to the Bangui and Bujumbura meetings was also due to the lack of human resources capable of identifying Community projects and evaluating them before submitting them to the decision-taking bodies. The educational system inherited from the colonial régimes is inadequate and does not meet the priorities of Member States. As a result, the countries of the subregion are still dependent on foreign expertise for the scientific, technical and managerial capabilities needed to make more thorough project studies, put the projects into effect, manage the enterprises and maintain the machinery and equipment.

59. The availability of natural resources in the region has not been fully researched; more efforts are needed in that area. Although financial resources do exist, the key problem is identifying the sources and exploiting them more effectively. The programme has therefore achieved poor results on account of the absence of financial resources for the feasibility studies and funding project implementation. The cost of such activities is very high and is often beyond the means of individual Member States.

Constraints at the subregional level

60. A lack of efficient organization and co-ordination among the Community bodies (ECCAS, UDEAC, CEPGL) responsible for multinational industrial projects, and the governmental authorities concerned with industrial development at national level, is a major obstacle to the development of subregional industrial co-operation. Indeed, reliable data and information are either poorly circulated or not circulated at all among the countries, often resulting in the duplication of research and development activities or the import of technologies which already exist or which are not suited to the enterprise, the economy or society as a whole.

61. The industrial policies and strategies adopted under the auspices of ECCAS, UDEAC and CEPGL have not produced the results hoped for at national and subregional level since the wishes expressed by Member States during subregional meetings have often not been translated into more specific terms. National and subregional priorities do not always go together, and this explains why some of the projects selected at the Bujumbura meeting have not been implemented. The power of the subregional organizations to speak, decide, and act for the subregion should be enhanced through clear decisions by their respective legislative authorities.

62. Furthermore, some of the subregion's natural resource endowment is either insufficient or still not very well known, thus making it impossible to envisage the creation of industrial enterprises based on their utilization.

For instance, expansion of the tin plant in Rwanda requires a much greater amount of cassiterite than the present figure estimated of 65,000 tons. The same applies to the project for reactivating the iron and steel plant at Maluku (Zaire), the implementation of which was based on a very small amount of scrap metal.

63. Another constraint, by no means the most minor, is the lack of financial and human resources for studying, implementing and following up the projects retained in the revised integrated industrial promotion programme for the subregion. The industrialized countries and the transnationals very often prefer national projects to subregional projects since the former give them a chance of holding their grasp on a country in terms of technology and skilled manpower. It is recognized, moreover, that the influence of transnationals and Governments of the developed countries has often hindered the creation of integrative industrial enterprises in the community, and even of the mechanisms designed to co-ordinate the implementation of the subregional programme. Indeed, except for the joint Zaire-Rwando technical committee on Lake Kivu methane gas, which Burundi now wishes to join, no other mechanism has been set up.

64. The smooth operation of projects and the marketing of products at the Community level calls for the establishment of basic infrastructure such as road networks and other means of communication. For example, roads will have to be built to facilitate collecting milk for the Community dairy industry and distributing the milk and derived products. It is a well-known fact that most of the roads are in a bad state and need repairing. Furthermore, the telecommunications system does not work properly in the subregion, nor even within the bounds of each country. While many formidable problems and obstacles exist, gradual progress is being achieved.

CHAPTER IV

PROPOSALS FOR A REVISED INTEGRATED INDUSTRIAL PROMOTION PROGRAMME

65. The second revised programme proposed in this chapter has been drawn up on the basis of the missions fielded by UNIDO in the member countries of the subregion, which gathered the data and information from: (i) the nationals responsible for the projects contained in the initial revised programme; and (ii) from the national and subregional institutions (ECCAS, UDEAC, CEPGL) concerned with subregional industrial co-operation. An examination of this information suggests that the initial revised integrated programme should be revised once again so as to take into account the new realities in the various countries and certain trends emerging in the subregion as a whole. The second revised programme, however, retains the pattern adopted for the first revised programme: the projects are grouped per subsector.

66. Furthermore, some of the countries visited were not in a position to provide the members of the mission with all the information they sought on the status of projects in the first revised programme or they were not able to propose new projects for possible inclusion in the second revised programme. Representatives of those countries will be able to submit additional information and provide clarifications (project profiles) on new projects at the second follow-up meeting, if they so wish. Bearing the above in mind, the list of projects should be considered tentative for the purpose of examination by the second subregional meeting.

Selection of core subsectors and core investment projects

67. In considering the projects in detail, the criteria for the selection (Annex I) need to be considered and borne in mind. While those criteria are generally acceptable, there is a need to highlight the following points:

(a) Sovereignty considerations

Strict adherence to the guidelines of the Lagos Plan of Action might undermine the sovereignty of States. It should be recognized that, although individual State priorities might differ, it is still necessary to have priorities at the subregional level. Member States in the subregion are therefore encouraged to make Community projects their goal, since national projects alone would not suffice.

(b) Coherence of national strategies

The geographical distribution of existing industries should be examined and areas of industrial over-concentration and deficiency identified so as to enable a more equitable distribution, thereby ensuring that the entire subregion would be well served.

(c) Problems of co-ordination and organization

It is to be emphasized that requests for assistance in project implementation should be filed through official channels. Regular meetings between each of the subregional organizations and the UNIDO Secretariat are necessary at all stages to be sure that a project submitted for consideration had been endorsed by all the appropriate authorities in the subregion. Unless the subregion is better organized, it will not be in a position to react effectively to external developments, such as the move towards a single European market by the year 1992. In this connection, it is recommended that ECCAS, UDEAC and CEPGL be empowered to act on behalf of the States in the subregion.

(d) Research

Greater attention needs to be paid to natural resources in research activities.

(e) Financial resources

Greater use needs to be made of available financial resources, such as those provided by the African Development Bank.

(f) Problems of intrastructure

The positive role being played by the Transport and Communications Decade in Africa needs to be recognized in view of its role in enhancing the industrialization of the subregion.

68. The priority subsectors identified in the initial revised integrated industrial promotion programme for the Central African subregion were as follows: metallurgical industry, engineering industry, chemical industry,

agro- and agro-based industries, and the building materials industry. Priority was also given to a number of areas and services fostering industrial development which include: agriculture, mineral resources, energy, transport and communications, human and financial resources, technology and institutional infrastructure.

69. In order to ensure efficient implementation of the second revised integrated industrial promotion programme, it is recommended that only the core subsectors and priority areas mentioned above be included. Their explanation would contribute to self-sufficient and self-sustained industrial development.

70. In the light of the above and the assessment made in chapter III, it is recommended that future action on the implementation of the projects contained in the second revised programme be approached on a priority basis. The core projects may thus be classified in three categories: (i) first priority: implementation in the short term (0-5 years); (ii) second priority: implementation in the medium term (5-10 years); and (iii) third priority: implementation in the long term (more than 10 years). All support projects have been included in the first priority category.

71. Other factors worth consideratoin in determining the priority to be accorded to a project are: the availability of funds, current status of implementation, availability and commitment of sponsors, completion of pre-feasibility and feasibility studies, stage of negotiations and co-operation arrangements with other Member States. Attention also needs to be given to the degree to which the project will help to reduce external dependence and its relationship to the priority sectors and sub-sectors identified in the Lagos Plan of Action.

72. While special attention should be paid to implementing projects accorded first priority, this should not prejudice action by the sponsors of projects in the other two categories. Furthermore, it is recommended that a project that meets most of the above conditions and is of interest to more than one country in the subregion should be considered a Community project, while a similar project that is of interest to only one country in the subregion should be considered an optional project.

73. The second revised programme contains 37 core projects and 12 support projects.The project profiles shown in annex III provide basic information on the core and support projects contained in the second revised programme.

Core projects

74. The 37 core projects in the second revised integrated industrial promotion programme are as follows:

Chemical industries

1. Exploitation of methane gas from Lake Kivu, Zaire/Rwanda (initially promoted by CEPGL) (short-term)
2. Production of phosphate fertilizers, Burundi (short-term)
3. Establishment of a laboratory for pharmaceutical products, Central African Republic (short-term)
4. Establishment of a pharmaceutical plant, Burundi (medium-term)

5. Upgrading potash deposits for the manufacture of chemicals, Congo (long-term)
6. Production of calcium carbide, Rwanda (medium-term)
7. Production of active ingredients for pesticides, Rwanda (medium-term)
8. Establishment of a petrochemical complex for the manufacture of plastics, Gabon (medium-term)
9. Improvement of the efficiency and product quality of the petroleum refinery, Congo (medium-term)
10. Production of human vaccines in Central Africa (previously establishment of a pilot plant for making vaccines in Africa), Cameroon (short-term) (new)
11. Production of insecticides for domestic use, Cameroon (short-term) (new)
12. Production of urea and ammonia from gas, Cameroon (long-term) (new)
13. Development of the pesticides industry in UDEAC countries, UDEAC (long-term) (new)

Agro- and agro-related industries

14. Reconversion of the sugar mills of Bom Jesus and the production of yeast (previously rehabilitation and extension of the cane sugar industry), Angola (short-term)
15. Establishment of a distillery, Burundi (short-term)
16. Community dairy products project, Zaire (short-term)
17. Creation of an agro-industrial complex processing cassava, Central African Republic (medium-term)
18. Integrated development of the fish-processing industry, CEPGL (short-term)
19. Integrated forest products complex (previously establishment of a wood-processing complex, Zaire), CEPGL (short-term)
20. Rehabilitation and expansion of the sugar sector, Angola (medium-term) (new)
21. Establishment of a distillery, Sao Tome and Principe (medium-term) (new)
22. Sangmelima wood-processing project and production of particle board, Cameroon/UDEAC (long term)-(new)
23. Production unit for children's food, Cameroon (short-term) (new)
24. Establishment of a tannery, Chad (long-term) (new)
25. Development of cattle and fish resources in UDEAC countries, UDEAC (long-term)

Agricultural machinery and equipment

26. An agricultural machinery project, UDEAC (long-term) (new)

Building materials industry

27. Reactivation of the Katana cement plant, Zaire (short-term)
28. Expansion of the Mashyuza cement plant, CEPGL (short-term)
29. Expansion and diversification of production at a glass manufacturing plant, Congo (short-term)
30. Establishment of a ceramics plant, Burundi (short-term) (new)
31. Establishment of a cement plant, Chad (medium-term) (new)
32. Plant for the manufacture of flat glass, Cameroon (long-term) (new)
33. Establishment of a ceramics factory, Cameroon (long-term) (new)

Metallurgical industries

34. Integrated development of the aluminium industry, Cameroon/UDEAC/ECCAS (long-term)
35. Integrated development of the iron and steel industry in Central Africa (previously reactivation of the Maluku steel plant, Zaire), ECCAS (short-term)
36. Expansion of a tin plant, Rwanda (short-term)
37. Integrated development of the iron and steel industry, Cameroon/UDEAC (long-term)

Support projects

75. The twelve support projects that have been selected for the second revised programme are as follows:

1. Assistance to the Central African Customs and Economic Union (UDEAC)
2. Assistance to the Central African Republic in the development of an integrated meat-processing industry, Republic of Central Africa
3. Assistance to the Economic Community of the Great Lakes Countries (CEPGL)
4. Development of peat resources, CEPGL
5. Feasibility study on the manufacture of railway equipment in the Central African subregion, UAR
6. Assistance to the Economic Community of Central African States (ECCAS)
7. Assistance to the subregional Higher Institute of Appropriate Technologies (ISTA)
8. Assistance to the African Intellectual Property Organization (AIPO)
9. Multisectoral assistance to the Economic Community of the Great Lakes Countries (CEPGL) (new)
10. Promotion of small-scale agro-food technologies, Burundi (new)
11. Assistance to the Higher National School for Agro-food Industries, Cameroon (new)
12. Establishment of a school for geological and mining studies, Cameroon (new)

CHAPTER V

STRATEGY TO BE ADOPTED TO ACCELERATE IMPLEMENTATION OF THE SECOND REVISED INTEGRATED INDUSTRIAL PROMOTION PROGRAMME FOR CENTRAL AFRICA

Measures to be adopted

76. The initial revised integrated industrial promotion programme for the Central African subregion recommended, inter alia, the measures to be adopted at national and subregional level, if there was to be efficient implementation of the projects contained in it. Few of these projects, however, have gone beyond the study stage on account of various constraints which should be taken into account in the strategy adopted to accelerate the implementation of the second revised programme. Bearing in mind the fact that the constraints may relate to either the national or subregional level, or to both, a set of measures should be adopted at both levels to ensure the programme's success.

At the national level

77. It is important to emphasize that the success of the programme will depend on the action taken at the national level and on the policies and operational mechanisms adopted by Governments. This action includes:

(a) Honouring of commitments entered into at the subregional level as part of the implementation of the second revised integrated industrial promotion programme;

(b) More specific expression of the political will, which is the most decisive factor in setting up national units or cells for subregional industrial co-operation within each interested ministry so as to help Member States to reformulate and harmonize their industrial policies and programmes at the national and subregional level;

(c) Formal endorsement of the second revised programme by all the Member States and incorporation of the component projects into national industrial development plans;

(d) Definition of the role of sponsors or lead countries and those taking part in the implementation of the projects selected, and establishment of an implementation plan and co-ordination mechanisms for each project;

(e) Close collaboration between the national industrial promotion units and the intergovernmental organizations (ECCAS, UDEAC and CEPGL) in order to avoid duplication or even multiplication and to share experience;

(f) Promotion of the programme among potential investors and follow-up of its implementation by lead countries and sponsors;

(g) Development and promotion of technological and entrepreneurial capabilities by creating and/or upgrading industrial training establishments;

(j) Development of transport and communications throughout the subregion.

78. The endorsement of programmes and projects by the legislative authorities of subregional organizations is a lengthy and rather complex process which demands the full support of the countries concerned. It is to be observed that the representatives of the Governments attending the meetings of these organizations invariably change and very often come from different ministries. This often means that the representative of one ministry cannot know about the projects submitted by another ministry. Hence special attention should be given to maintaining continuity at the national level with regard to projects submitted to subregional and international organizations.

79. The Governments of the subregion also need to closely involve the private sector (and possibly the public at large), as appropriate, as well as industrial and engineering consultants in the formulation, implementation, resource mobilization and decision-making process of the projects retained in the subregional programme. A programme providing for greater involvement by the private sector, especially national producers, planners and financial institutions, needs to be adopted. It is therefore essential that the support projects in the revised subregional programme should be accorded the desired

priority since industrial co-operation projects very often fail on account of the fact that the preliminary and feasibility studies have not been properly carried out or because the institutional funds are insufficient or inadequate to ensure the preparation, evaluation, promotion and management of those same projects.

80. One of the principal obstacles to the effective implementation of projects is the slowness of communication between the authorities, within one country, concerned with the preparation, promotion and implementation of projects. In many cases this situation is worsened by the impossibility of identifying central mechanisms and national co-ordination committees. Setting up and/or upgrading national IDDA Co-ordination Committees is strongly recommended. Close working relations should be built up between these committees and the central operational mechanisms, first, and the secretariats of the organizations and joint subregional committees concerned, second, with a view to ensuring the smooth implementation of the subregional programme.

At the subregional level

81. At the subregional level, certain activities should be undertaken by the Governments of Member States and the subregional institutions, such as ECCAS, CEPGL and UDEAC, together with international institutions so as to make the implementation of the programme more effective. These activities cover, inter alia:

(a) Enhancing the objectives of the intergovernmental institutions (ECCAS, UDEAC and CEPGL) by placing more emphasis on the promotion, at the national and subregional levels, of a self-sufficient and self-sustained process of industrialization;

(b) Improving the main UDEAC and CEPGL instruments so as to take into account the opportunities offered by the broader ECCAS market. For example, with regard to the joint agreement on investments, action should be taken to reduce the rates and duration of tax relief as well as other non-fiscal benefits;

(c) Upgrading the activities of such subregional institutions as the Centre for the Development of Mineral Resources in Central Africa and setting up similar institutions in the areas of agricultural, stock-breeding, forestry and fishing resources;

(d) Establishing of subregional mechanisms with national branches by which to take stock of technologies, raw materials, technological and scientific manpower, and to gather, process and store information and data in the above-mentioned areas;

(e) Strengthening existing those existing facilities in regional development banks that are specifically designed for the promotion of industrial projects;

(f) Securing official endorsement of the second revised programme by intergovernmental institutions and its inclusion in their programmes and plans for subregional development;

(g) Promoting collaboration between the subregional institutions and their national branches to ensure the organization of technical consultations, negotiations and meetings on the promotion of investments in the core subsectors;

(h) Finalizing agreement among the countries in the subregion on the host country for each subregional core project and on the respective roles of the others in implementing the core project. This should cover, inter alia, the following points:

- Supply of raw materials and energy;
- Purchase of intermediate and finished products;
- Equity shareholding, the bulk of which should be owned by the African countries;
- Training and allocation of manpower to the project;
- Research and development associated with the project;
- Exchange of information;
- Management of the enterprise;
- Sub-contracts, where feasible;

(i) On the international plane, the agencies and organizations of the United Nations system, more especially UNIDO, ECA and OAU, financial sponsors and donor countries should show their support more specifically by providing substantial technical and financial assistance so as to ensure the implementation of the second revised integrated programme.

82. The institutional arrangements needed to bring about the necessary changes and apply policies and programmes should therefore envisage the upgrading of the secretariats of intergovernmental organizations such as ECCAS, UDEAC, CEPGL and the MULPOC offices of ECA in order to provide the funds they need to fulfil their various duties, such as:

(a) Gathering and analysing relevant industrial data and information from all Member States, the private sector, associations, institutions and other bodies in the subregion and to see it is disseminated;

(b) Developing and promoting an effective working relationship among the member countries and co-operating organizations;

(c) Serving as a resource unit for the promotion of subregional industrial projects, providing advice on and assistance in securing investments, expansion of markets, acquisition of technology and know-how, and project negotiations within the subregion and without;

(d) Formulating and developing subregional industrial policies and strategies to complement those at national level;

(e) Identifying, preparing, implementing and following up multinational core industrial projects.

Promotion of the programme

83. Experience has shown that implementation of the programmes previously adopted within the framework of IDDA met with difficulties since their contribution to the acceleration of the industrial development process was hardly appreciated by most of the economic agencies and, first and foremost, by those supposed to put them into effect. It would therefore be advisable to give wide publicity to the second revised programme so as to increase public awareness and facilitate its implementation at the national and subregional levels. The mass media together with all the other means available for spreading information should be used to mobilize local resources in practical terms, and to arouse the interest of foreign investors who may participate in viable joint projects. Subregional organizations such as ECCAS, UDEAC and CEPGL could help Member States to publicize the programme.

Mobilization of financial resources

84. Implementation of the projects contained in the second revised programme will require considerable financial resources that no member country can provide by itself. Funds for the programme could be mobilized by pooling of available financial resources and making a collective effort to secure funds from international financial institutions and donor countries.

85. At the bilateral level, several industrialized countries are providing, in one form or another, considerable technical assistance to most of the countries in the subregion. In this case, a mechanism should be set up at the national and subregional levels, with the collaboration of such intergovernmental institutions as ECCAS, UDEAC and CEPGL, to ensure the promotion of the programme by potential donors and investors. Furthermore, it is important to submit proposals for specific projects to multilateral financing institutions such as the World Bank, the African Development Bank and the European Development Fund, after careful prior study of their priorities and sectors of interest to them.

86. 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 could be requested to provide assistance through its investment promotion programme. Despite the fact that it disposes of only limited resources itself, UNIDO could make still greater efforts to help Governments submit requests to various bilateral and multilateral agencies and thus tap funds available through those institutions. Over and above its investment forums and related promotional activities, UNIDO could evolve innovative ways and means of involving major financial institutions and assisting countries in the subregion to secure their co-operation.

Role of the co-ordinating and other agencies

87. As stated in the initial and first revised programmes, the establishment and profitable operation of the core industries calls for the development of technological and entrepreneurial capabilities, the mobilization of financial resources and the upgrading or establishment of institutions supporting the industrialization process in the subregion. The agencies and organizations of the United Nations system, in particular UNIDO and ECA, in close collaboration with the OAU, ADB and other African bodies, could help to meet those needs and overcome the acute industrialization problems of the subregion.

88. In this regard, particular importance is attached to the role of international organizations in general, and that of UNIDO in particular. UNIDO is thus urged to continue its important efforts in support of the industrialization endeavours of the countries of the subregion. The areas of technical assistance provided by UNIDO and other international organizations should include the following:

(a) Updating the subregional industrial promotion programme;

(b) Preparing pre-investment studies covering the investment profiles of selected projects and providing information on subjects such as consumption, plant size, raw materials, utilities, technology, investment, manpower and training, probable production cost, project/programme profitability, and potential market(s);

(c) Identifying specific areas and modes of co-operation between countries, as well as between producers and research and development facilities, in implementing the programme for the Decade;

(d) Creating and strengthening subregional co-ordination committees for reviewing and updating the subregional programme and monitoring the implementation of it;

(e) Developing capabilities in the following areas: industrial planning, industrial consultancy, project preparation, procurement of supplies, and support for local entrepreneurs and manufacturers, including the creation of associations related to core projects;

(f) Organizing technical consultations, negotiations and meetings on investment promotion in specific core subsectors. Consultations and negotiations should also be organized between:

- African countries, involving both State finance institutions and local agencies for production and distribution;

- African States and potential partners from other developing countries through ECDC, involving potential investors from those countries as well as financial institutions;

- African States and potential partners from developed countries.

(g) Assisting Member States and subregional organizations in mobilizing technical assistance and investment resources for industrial projects, it being understood that the primary responsibility for contacts with financial and investment institutions lay with the States themselves.

89. It is perhaps important to stress the need to set up a system which when established simultaneously by UNIDO and ECA in collaboration with CEPGL, UDEAC, ECCAS, OAU and the competent subregional organizations would help countries to follow up the implementation of the second revised programme. In this connection, within the framework of the follow-up system, UNIDO should continue to convene more frequent meetings, for example every six months, of all the Governments, co-ordination agencies and organizations concerned in order to effectively review, adjust and monitor the implementation of the revised programme. For this to be effective, Member States and other sponsors of programme projects should supply information on the status of the latter.

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 requirements in group I and one or more additional requirements in group II.

I. Basic requirements

The project:

(a) Provides inputs to the priority sectors selected in the Lagos Plan of Action, 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 possible extent, African natural resources (raw materials and energy) so as to benefit, firstly, the subregion, secondly, other African regions, and, thirdly, non-African countries;

(d) Produces intermediate goods for further processing or fabrication in an increasing number of established or planned industries, or for the production of goods, particularly as applied 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 of the subregion and, if required, of other African countries;

(f) Involves (i) economies of scale, (ii) use of complex technology or upgraded 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, intermediate and final products; sub-contracting; barter; acquisition of holdings, etc.;

(h) Helps to reduce the heavy reliance of the region on external factor inputs.

II. Additional requirements

The project:

(a) Offers comparative advantages over similar projects - actual or potential - in other groups of countries (African and non-African), especially as regards raw materials, energy and the necessary infrastructure;

(b) Complements related projects or existing production units in the subregion;

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

(d) Results in modernization and streamlining of existing production units;

(e) Replaces synthetic materials, wherever appropriate, by natural materials, particularly those that are renewable.

Annex II

Status of projects as at 1 December 1989 of projects contained in the first initial integrated industrial promotion programme for Central African countries¥

I. CORE PROJECTS

Number, title and location of project	Promoters/ sponsors	Conclusions and recommendations of the Bujumbura meeting in January 1986	Action taken since January 1986	Observations and recommendations
Engineering industries				
1. Manufacture of agricultural machinery and equipment, Kigali (Rwanda)	CEPGL/Rwanda	Feasibility studies to be carried out	The Rwandex Chillington plant is already operational. It began producing hoes in 1984 and wheelbarrows in 1986. A feasibility study has been made to consider expansion in order to establish a foundry for the recycling of metallic waste and the production of machetes. The equipment for this activity has already been ordered. A market study has also been undertaken by ECA/MULPOC in Gisenyi for the CEPGL countries. The study for the other ECCAS countries is still to be undertaken.	Rwandex Chillington is a private company which began production in 1984. It was established for the manufacture of agricultural implements (hoes, wheelbarrows, picks, machetes, tridents, etc.). It would also recycle scrap. The project is recommended for implementation in the short-term.
2. Manufacture of clocks, watches and watch components, Bangui (Central African Republic)	Central African Republic	Feasibility study, including a market study to be made	No study made. Responsibility for this project has not been given to any governmental institution.	Since this project has remained at the design stage and its implementation will not call for any local raw material, withdrawal from the programme is recommended.
Chemical industry				
3. Exploitation of methane gas from Lake Kivu, Gisenyi (Rwanda) and Kaléhé (Zaire)	CEPGL (Rwanda, (Zaire)	Feasibility studies and search for funds for implementation	Distribution studies made by the firm TECHNITAS (consulting firm) in Jan. 1989, and by TECHNIP (executing body) in March 1989. Feasibility studies for building the collecting station under way.	Technical studies involving distribution having been completed, only economic studies remain. Financial backers have been contacted and the Mashyuza cement plant has facilities ready to use the methane. The project can be implemented in the short term.

Number, title and location of project	Promoters/ sponsors	Conclusions and recommendations of the Bujumbura meeting in January 1986	Action taken since January 1986	Observations and recommendations
4. Production of phosphate fertilizers, Matongo (Burundi)	Government of Burundi	Market studies to be completed as confirmation of feasibility	Geological prospecting carried out in 1984 and a market study in 1985. Treatment tests were begun in 1987 by an American firm (IFDC) on financing by the World Bank to see whether simple superphosphate could be produced or partly assidulated phosphate. If the tests show phosphate fertilizers can be made, feasibility studies will be started.	The plant has an annual capacity of 21,000 tonnes; estimated reserves are 10 million tonnes, with an average of 10 to 12 per cent P_2O_5; and it is expected that the project will be commissioned in 1993. The project is progressing satisfactorily and it should be completed in the short term.
5. Establishment of a laboratory for pharmaceutical products, Bangui (Central African Republic)	Government of Central African Republic/ UDEAC	Pre-feasibility study was under way	Feasibility study completed. In 1988 it was decided to have the project implemented by a group of private operators from the subregion. The statutes of the company to be set up should be adopted in June 1989 and the matter of participation by foreign partners should be settled.	Since the technical studies are over, the project is now at the stage of financing operations. In view of the need for a pharmaceutical industry in the subregion, the partners should promptly look for funds. The project should be co-ordinated with a similar project in Cameroon and is retained for implementation in the long term.
6. Establishment of a pharmaceutical plant, Bujumbura (Burundi)	Government of Burundi	An additional market study covering countries outside CEPGL was under way	The subregional market study was completed in 1987 and the feasibility study should be updated. Contacts have been made with potential technical and financial partners.	The project was approved by the conference of Heads of State in 1982. Feasibility studies pertaining to modernizing the plant were completed in December 1989. Since research will have to be undertaken on the preparation of drugs from local medicinal plants, the project was retained for implementation in the long term.

Number, title and location of project	Promoters/ sponsors	Conclusions and recommendations of the Bujumbura meeting in January 1986	Action taken since January 1986	Observations and recommendations
7. Upgrading potash deposits for the manufacture of chemicals, Holles (Congo)	Government of the Congo	Funds for feasibility study were provided for in the fourth five-year plan (1990-1994)	A joint venture "Congo Potash Company" was set up in 1987 and began exploring the potash deposits in 1988. The Holles mines have been abandoned following floods.	In view of the fact that the Congo Potash Company is only at the exploration stage, the project could be retained for implementation in the long term.
8. Production of calcium carbide, Lake Kivu (Rwanda)	Government of Rwanda	Feasibility study to be made if the test results were convincing	A project definition study has been made. The European partners approached are asking for a feasibility study, for which EDF has agreed to provide funds.	Studies are still in progress. The project is thus retained for implementation in the long term.
9. Production of active ingredients for pesticides, Ruhengeri (Rwanda)	Government of Rwanda	Studies on the production of active ingredients of pesticides to be funded by UNDP	The terms of reference for the feasibility study have been submitted to UNDP to secure financing for the study. The project envisages the rehabilitation of the unit extracting phyrethrum and the existing refinery as well as an expansion of the production of pesticides based on phyrethrum.	The project is not new, but an old one requiring rehabilitation and diversification. That is already being done with the assistance of UNDP. UDEAC has a similar project and market studies have revealed that outlets for its products would be few. It is suggested that ECCAS should broaden the scope of the project to a community undertaking for implementation in the medium term.
10. Establishment of a petrochemical complex for the manufacture of plastic products, Libreville (Gabon)	Government of Gabon	Feasibility study to ascertain the viability of heat-setting resins and synthetic fibres, and recommend the most suitable production techniques	Given the restriction of the UDEAC market, the project has made no progress.	ECCAS has been asked to undertake a Community-wide study, since the project was too large for UDEAC alone. The project is recommended for implementation in the long term.
11. Improvement of the efficiency and product quality of the petroleum refinery, Pointe Noire (Congo)	Government of the Congo	Study to be undertaken on improving utilization capacity	A study financed by the World Bank on improving the refinery's yield so as to make its products competitive is under way.	Since the installed capacity of 1 million t/y far exceeds national demand (250,000 t), it is not a matter of expansion but rather of improving plant efficiency and product quality. Furthermore, expansion is no longer justified since Cameroon and Gabon have built their own refineries. It is therefore advisable to reformulate the project by "improving the efficiency and product quality of the refinery" and to implement it in the medium-term.

Number, title and location of project	Promoters/ sponsors	Conclusions and recommendations of the Bujumbura meeting in January 1986	Action taken since January 1986	Observations and recommendations
Agro- and agro-related industries				
12. Reconversion of the sugar mills of Bom Jesus and the production of yeast, Luanda (Angola)	Government of Angola	Feasibility study on expanding yeast production at Luanda, and technological and financial promotion to be carried out for conversion of the sugar plant at Bom Jesus into a rum distillery.	The yeast production plant is being rehabilitated through UNDP financing worth $2 million, with UNIDO as the executing agency. The technico-economic pre-feasibility study for the conversion of the Bom Jesus sugar mill into an agro-industrial complex was carried out in 1987 with UNIDO financing, together with three other studies proposing alternatives. The Government's response is awaited.	The rehabilitation of the yeast plant may be completed in the short term since the funds are available, the additional machinery and equipment has been ordered and the CTA is in the field. As fo. the conversion of the Bom Jesus sugar mill, everything will depend on the alternative selected by the Government and on the feasibility study to be made. However, it seems that the project will be completed in the medium term and should be reformulated into "Conversion of the Bom Jesus sugar mill".
13. Upgrading of a sugar factory, Nkayi (Bonenza region, Congo)	Government of the Congo	Preliminary studies on upgrading the plant to be undertaken	Rescaling of production and limitation of investments through an aid contract with a French company based on EEC funding (1986-1989). The project has been extended with the objective to diversify production.	Since almost all the countries in the subregion now have their own sugar mills, it is not a matter of expansion, but of redesigning production and limiting investments made through a technical assistance contract and a management contract signed with a French company. The project is now operational and production has increased from 20,000 t/y to 36,000 t/y in 1987 and further to 40,000 t/y in 1988. The project can be considered completed.

Number, title and location of project	Promoters/ sponsors	Conclusions and recommendations of the Bujumbura meeting in January 1986	Action taken since January 1986	Observations and recommendations
14. Establishment of a distillery, Mosso (Burundi)	Government of Burundi	Funds to be secured and project to be implemented	UNIDO has been requested to fund the updating of the feasibility study.	The Mosso sugar mill which is to provide the distillery with molasses only started production in 1988. Another 3 to 5 years will be needed before it produces the requisite amount of molasses. Since a number of studies still had to be completed, the project was retained for implementation in the long term.
15. Community dairy products project, Goma (Zaire)	Government of Zaire	Feasibility study and securement of funds to be initiated	The feasibility study has been completed and an application made to UNDP for funds for engineering studies.	The project is fairly advanced. A programme has even been designed by the Executive Board for improving milk collection routes. The sponsor of the project has established contact with technological and financial partners to set off the project. The project was retained for implementation in the short term.
16. Establishment of an agro-industrial complex processing cassava, Boali (Central African Republic)	Central African Republic	A company to be established	No activity carried out since 1986. Nevertheless, the project has been transferred to the Ministry of Rural Development for action.	This project responds to the desire of member States to achieve self-sufficiency in food, one of the priorities of the Lagos Plan of Action. The project was retained for implementation in the long term.
17. Integrated development of the fish-processing industry	CEPGL	Further in-depth study required	A study financed by France at a total cost of 400,000 FF is now under way to determine the fish reserves in Lakes Tanganyika, Mobutu and Idi Amin. Another study undertaken in 1988 by FAO financed by UNDP has not brought the results expected by CEPGL. A new study has been commissioned by CEPGL through its Institut de Recherche Agronomique et Zootechnique (IRAZ).	Since the pre-feasibility study concluded that stock should first be taken of the fish resources in the Great Lakes and trends established before considering integrated exploitation of the fish resources, the project can only be retained for implementation in the long term.

Number, title and location of project	Promoters/ sponsors	Conclusions and recommendations of the Bujumbura meeting in January 1986	Action taken since January 1986	Observations and recommendations
18. Establishment of a wood-processing complex Kisangani (Zaire)	CEPGL	An inventory of forestry resources (species) of economic interest to the subregion as well as a feasibility study of the wood-processing complex should be carried out	Studies on forest exploitation, engineering and markets were made in 1987 and 1988. An industrial economist has been recruited by FAO to make a financial study and a workshop to analyse the study is planned for December 1989 organized jointly by FAO and CEPGL.	CEPGL has already received three interim reports. They had been forwarded to FAO, but a proper feasibility study is still required. The foreign consultants recruited to carry out the study should work closely with the national experts. The project is retained for implementation in the short term.
Building materials				
19. Expansion of the Loutete cement plant, Loutete (Congo)	Government of the Congo	Study on expansion of the cement plant	Expansion has been completed and the cement plant has become a joint company called SOCICO (Societe de ciment du Congo) with participation by a Norwegian company. Capacity has increased from 80,000 t/y to 250,000 t/y at an overall cost of 25.9 thousand million FCFA.	Since national demand is only 170,000 t/y, outlets must be sought in other subregional countries. The project, however, can be considered completed.
20. Reactivation of the Katana cement plant, Katana (Zaire)	Government of Zaire	Ongoing rehabilitation studies to be completed and a study on increasing plant production capacity to be started	The cement plant resumed production in 1986. However, it has been shut down since April 1989 because of the high cost of transporting clinker from Kabina to Katana. The possibility of producing clinker on the spot is now being studied.	A study on clinker production at Katana is under way. The same applies to the methane project for supplying gas to the cement plant. Everything suggests that the cement plant could resume activities in the short term.
21. Expansion of the Mashyuza cement plant, Mashyuza (Rwanda)	Government of Rwanda	Studies on expansion to be undertaken to determine whether it can satisfy subregional requirements	The cement plant, the capacity of which is 50,000 t/y, has been producing more than 75,000 t/y since 1987 without expansion. It is intended to raise the capacity to 100,000 t/y and to manufacture packaging. The packaging machinery has already been ordered.	The plant is currently producing cement bags and its working well and its expansion could be effected in the short term.

Number, title and location of project	Promoters/ sponsors	Conclusions and recommendations of the Bujumbura meeting in January 1986	Action taken since January 1986	Observations and recommendations
22. Expansion and diversification of production at a glass manufacturing plant, Pointe Noire (Congo)	Government of the Congo	Pre-feasibility study to be undertaken on expansion of the plant	A pre-feasibility study was carried out by UDEAC, but the plant has been shut down. Another study made by Boukin (Zaire) showed that a production line could be rehabilitated with 3 months' reserves at a cost of 160 million FCFA. Capacity could be raised from 16,000 to 19,000 t.	Obsolete equipment and Member States' failure to meet commitments, plus financial difficulties, confirm that it is no longer a matter of expansion and diversification, but rather of rehabilitation. The project should be redefined and retained in the revised programme for implementation in the medium term.
Metallurgical industry				
23. Integrated development of the aluminium industry, Mini-Martap	Government of Cameroon	Feasibility studies to be made	Feasibility studies still to be carried out. Contacts have been established with foreign partners who will provide guidance.	Activity will start with Ngaoundal 60 km from Mini-Martap, a railway town. Deposits here are estimated at 100 million tonnes. Processing of the ore will have to be carried out near a power source (possibly a hydroelectric dam). The project is retained in the revised programme for implementation in the long term.
24. Rehabilitation of the Maluku steel plant, Maluku (Zaire)	Government of Zaire/ CEPGL/ECCAS	Study to be carried out on reactivating the mill and the implications of turning it into a multi-national enterprise	Various studies made by ECA and UNIDO led to a consultants' meeting in July 1988. Following a UNIDO mission in September 1988, a study detailing the stages for reactivating the mill was submitted to the Government of Zaire, which is waiting for the French version before making its comments and taking the necessary decisions. Zaire is already discussing the implementation of the project with US firms.	According to studies conducted by ECA and UNIDO, the plant machinery and equipment is in a good state of repair and the staff are competent. The plant could start up again at any time and produce 7,500 t/y, provided it is given working capital of $1 million per year. The project could be retained for implementation in the short term.

Number, title and location of project	Promoters/ sponsors	Conclusions and recommendations of the Bujumbura meeting in January 1986	Action taken since January 1986	Observations and recommendations
25. Expansion of a tin plant, Kigali (Rwanda)	Government of Rwanda	Study to be undertaken on expanding the plant to include a rolling mill and start production of objets d'art	A mining trust - REDEMI (Mine Development Trust) - was set up in December 1988. However, production of cassiterite is still below the 1,000 t/y needed to start up the tin plant which was shut down following the collapse of the world tin market in 1985.	Given the importance assigned by the Government to mining in the country, the Trust's production can be expected shortly to reach 1,000 t/y so that the foundry can soon be reopened. It should be noted that it is not so much a question of expansion as of reopening the foundry which had been shut down for want of raw material. The project was retained in the revised programme for implementation in the long term.

II. SUPPORT PROJECTS

Number, title and location of project	Promoters/ sponsors	Conclusions and recommendations of the Bujumbura meeting in January 1986	Action taken since January 1986	Observations and recommendations
S1. Assistance to the Central African Economic and Customs Union (UDEAC); UDEAC secretariat, Bangui (Central African Republic)	UDEAC	Help UDEAC to make studies before assisting member States with their industrialization efforts	Most of the studies ordered in the project document have been completed.	The multisectoral assistance given to UDEAC by UNIDO and UNCTAD has had favourable effects even though there are still some studies to be undertaken. Extension of the projects is necessary for the short term.
S2. Assistance to the Central African Republic in the development of an integrated meat-processing industry, Bangui (Central African Republic)	Central African Republic	Evaluation of the needs of UDEAC countries and preparation of an integrated programme for stock-breeding products	No activity undertaken.	Within its structural adjustment programme, the CAR decided to privatize that subsector. However, UDEAC plans to set up in the medium term a cattle, meat and fishing resource community (CBVH), which will be responsible for developing the stock-breeding products of the subregion. The project should be withdrawn from the revised programme.
S3. Assistance to the Economic Community of the Great Lakes Countries (CEPGL), CEPGL Secretariat, Gisenyi (Rwanda)	CEPGL	(i) Prepare a five-year development plan; (ii) Study the setting up of a documentation and commercial information service and a draft report on standard statutes for joint and community enterprises; (iii) Study the feasibility of setting up a complex of integrated forestry industries;	(i) The five-year development plan has been completed and submitted to the specialized technical commission in August 1988; (ii) The report on the standard statute for the Community enterprises has been completed; (iii) The market study has been carried out and the feasibility study remains to be completed by FAO;	(a) Studies that have not been made on points (ii), (v) and (viii) should be continued. (b) CEPGL and the member countries should continue to seek funds for projects for which the studies have been conclusive. (c) Incomplete studies can be retained for implementation in the short term.

Number, title and location of project	Promoters/ sponsors	Conclusions and recommendations of the Bujumbura meeting in January 1986	Action taken since January 1986	Observations and recommendations
		(iv) Study defining the conditions for exploiting peat bogs; (v) Study on integrated development of the fishing industry; (vi) Feasibility study on establishing a subregional programme for production and distribution of selected rice, bean and soya seeds; (vii) Feasibility study on setting up a subregional pharmaceutical laboratory; (viii) Global study on a policy for integration of the transport systems of the CEPGL countries so as to "de-landlock" the subregion; (ix) Feasibility study on establishment of a training centre for the hotel business and tourism for CEPGL; (x) Evaluation by CEPGL	(iv) Study on conditions for exploiting the peat bogs are said to have been undertaken, but the findings have not yet been transmitted to CEPGL; (v) Pre-feasibility study has been completed. Studies to determine extent of fish reserves are under way; (vi) Study completed; (vii) The study has been undertaken and Burundi chosen as the location for the project; (viii) The selected subsectoral studies have been made and will be continued with funding under the UNDP fourth cycle. (ix) The study has been carried out and the authorities have opted for short-term training; (x) The CEPGL evaluation has been completed.	
S.4 Development of peat resources, CEPGL Secretariat, Gisenyi (Rwanda)	CEPGL	A more thorough study to be undertaken dealing with an exhaustive inventory and evaluation of both qualitative and quantitative importance of peat resources in the CEPGL subregion	A study, which is said to have been completed, on the exploitation of peat bogs in CEPGL member countries including the east Zaire area, had not yet been transmitted to CEPGL. It was submitted to the meeting of Gisenyi-based MULPOC ministers in February 1989.	Since the study was made in English, the member States are awaiting the French version in order to respond. However, the MULPOC ministers' meeting has requested that a map of the peat bogs be compiled; this could be selected as a project for implementation in the short term.

Number, title and location of project	Promoters/ sponsors	Conclusions and recommendations of the Bujumbura meeting in January 1986	Action taken since January 1986	Observations and recommendations
S.5 Assistance to CEPGL countries in the manufacture of electrical equipment, CEPGL Secretariat, Gisenyi (Rwanda)	CEPGL/Government of Rwanda	Study to help identification, design and localization of project for electrical equipment manufacture	The Government of Rwanda had requested the Gisenyi-based ECA/MULPOC to undertake the study. Meanwhile, a private local promoter had implemented the project establishing a unit for the manufacture of electrical cables and wires on the basis of a market study of the subregion. The project went into operation in 1989.	At the request of the Government of Rwanda, a detailed study was carried out by the Gisenyi-based ECA/MULPOC and it is expected that the study will be completed very soon.
S.6 Feasibility study on the manufacture of railway equipment in the Central African subregion, Secretariat of the UAR	Union of African Railways (UAR)/ECCAS	Study covering the Central African subregion	No action taken.	In view of the importance of equipment and spare parts to the railway network in the subregion, it would be worthwhile selecting the project for implementation in the short term and seeking funds for the studies recommended.
S.7 Assistance to the Economic Community of Central African States, ECCAS Secretariat, Libreville (Gabon)	ECCAS	Propose a programme of work for ECCAS in the field of industry	A UNIDO-backed study entitled "Technical report: Economic co-operation and integrated industrial development in ECCAS - proposal for an initial phase" was carried out in April '88	The study diagnosed the regional industrial sector, but did not put forward a master plan for industrialization of the subregion. The need to prepare an industrial master plan is highly emphasized.
S.8 Assistance to the Subregional Multisectoral Institute for Applied Technology (ISTA) for project planning and evaluation Libreville, Gabon	ISTA	To assist ISTA in setting up a data bank for industrial projects using appropriate technology	(a) 70 students out of 99 have their diplomas; (b) 3 manuals for the design office have been completed; (c) Some sectoral studies and community project feasibility studies for UDEAC have been carried out. A tripartite (UNDP/ISTA/UNIDO) meeting was held in October 1989 in Libreville (Gabon) with a view to approving a revised project within the framework of the fourth UNDP programming cycle. It is expected that the revised project document will be signed very soon.	ISTA has been able to operate so far thanks to external assistance from outside (France, Belgium and UNDP). Further assistance under the UNDP fourth cycle is necessary in order to consolidate what has been done.

Number, title and location of project	Promoters/ sponsors	Conclusions and recommendations of the Bujumbura meeting in January 1986	Action taken since January 1986	Observations and recommendations
S.9 Assistance to the African Intellectual Property Organization (AIPO), AIPO headquarters, Yaounde (Cameroon)	AIPO	Strengthen resources of AIPO and member States in promotion of intellectual property as a technological component of industrial activities	Funds intended for implementing this project are available. Some of them have been used to buy documents on intellectual property.	Implementation of the project seems to have been slowed down by administrative problems which should be settled and so enable the project to be implemented in the short term.

Annex III

Project profiles retained in the revised programme

PROJECT PROFILE NO. 1 PRIORITY: Short-term

SUBSECTOR: Chemical industry SUBREGION: Central Africa

1. Project title: Exploitation of methane gas from Lake Kivu, Zaire, Rwanda

2. Objective: To exploit Lake Kivu methane gas and to replace subregional imports by supplying nitrogenous fertilizers, methanol and fuel (gas) for vehicles

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States	
4. Location	6. Immediate follow-up	8. Energy	11. Market	13. Total investment		
		9. Physical infrastructure				
3. Governments of Zaire and Rwanda	5. Technological and distribution studies made	7. The methane reserves of Lake Kivu are estimated at 60,000 million cubic metres dissolved in water	10. To be ascertained in a feasibility study	12. Will be determined by the choice of technique	14. It has been observed that Burundi has expressed the wish to hold shares in the International Gas Exploitation, Transport and Marketing Company, SOCIGAZ, the statutes of which have been prepared by a joint Zaire-Rwanda commission and are awaiting adoption by the Heads of State of the two countries. Burundi has also expressed the wish that the Zaire-Rwanda Joint Methane Commission should be tripartite	
4. Gisenyi (Rwanda) and Kalchie (Zaire)	6. Feasibility study for construction of the collection station	8. Energy available	11. CEPGL and neighbouring countries	13. To be determined in a feasibility study		
		9. Physical infrastructure to be developed				

PROJECT PROFILE NO. 2

PRIORITY: Short-term

SUBSECTOR: Chemical industry

SUBREGION: Central Africa

1. Project title: Production of phosphate fertilizers, Burundi

2. Objective: To manufacture fertilizers from phosphates

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States
4. Location	6. Immediate follow-up	8. Energy	11. Market	13. Total investment	
		9. Physical infrastructure			
3. Government of Burundi	5. Treatment tests started in 1987, with funding by the World Bank	7. Phosphate deposit at Matongo	10. CEPGL demand envisaged per product: 29,000 t/y of P_2O_5	12. To be ascertained in a feasibility study	14. (a) ADB was approached and agreed to finance the feasibility studies which could start before the end of 1989. The terms of reference have already been submitted to ADB for approval; (b) Foreign financing will be sought for building the unit. The intermediate materials not available locally such as sulphur nitric acid will be imported from countries of the subregion on a priority basis (c) Close co-ordination with similar projects in Cameroon and the Congo should be maintained.
4. Matongo (Burundi)	6. Feasibility study, if the test results show that phosphate fertilizers could be produced	8. Energy available. The Rwegura hydroelectric dam about 20 km from Matongo generates 18 MW with a 6 MW surplus	11. CEPGL market and that of countries outside CEPGL	13. To be ascertained in a feasibility study	
		9. Physical infrastructure to be developed			

N.B. Item 10 may be changed after the market study is updated.

PROJECT PROFILE NO. 3

PRIORITY: Short-term

SUBSECTOR: Chemical industry

SUBREGION: Central Africa

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

2. Objective: To develop on the basis of a pilot project, the production of such drugs as anti-malarials, antibiotics, sulphoramides and vitamins as a preliminary phase prior to the creation of pharmaceutical formulation units

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States
4. Location	6. Immediate follow-up	8. Energy	11. Market	13. Total investment	
		9. Physical infrastructure			
3. UDEAC (Central African Government)	5. Feasibility study completed	7. Numerous plants containing medicinal substances available on the spot	10. To be ascertained	12. 350 million capsules and 10 million ampoules per year	14. (a) It was decided in 1988 to entrust implementation of the project to a group of private operators in the subregion. (b) Shareholding by foreign partners is being sought.
4. Bangui (Central African Republic)	6. Adoption of statutes for company to be set up	8. Energy available 9. Physical infrastructure to be developped	11. Subregional market	13. 2,000 million FCFA	

PROJECT PROFILE NO. 4

PRIORITY: Medium-term

SUBSECTOR: Chemical industry

SUBREGION: Central Africa

1. Project title: Establishment of a pharmaceutical plant, Burundi

2. Objective: To produce drugs in solid, semi-solid, liquid and injectable form

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States
4. Location	6. Immediate follow-up	8. Energy	11. Market	13. Total investment	
		9. Physical infrastructure			
3. Government of Burundi	5. Subregional market study completed in 1987	7. Virtually all raw materials have to be imported	10. See attached list	12. Tablets: 24 million capsules: 145,000 ointments: 1,500 kg liquids: 49,000 l suppositories: 5,000 sedative stomach powders: 100,000 (sachets)	14. (a) The project was approved by the Conference of CEPGL Heads of State in 1982; (b) Contacts had been made with technological and financial partners with a view to funding the studies to be updated and the investments
4. Bujumbura (Burundi)	6. Updating of feasibility study made by WHO in 1984	8. Energy available	11. CEPGL member States and beyond	13. $6 million	
		9. Structural infrastructure to be developed			

N.B. Items 10, 11, 12 and 13 will be adjusted afte. updating of the feasibility study.

10. Demand foreseen per product

1.	Antibacterials:	28 million capsules 3.25 million flasks 20.6 billion tablets
2.	Antihelminthics:	37 million tablets 0.5 million flasks
3.	Antimalarials:	48 million tablets 0.52 million flasks
4.	Analgesics and antipyretics:	51.4 million tablets
5.	Psychotropics:	10.4 million tablets 0.5 million suppositories
6.	Drugs for the respiratory system:	1.9 million flasks
7.	Drugs for the digestive system:	4.5 million tablets
8.	Vitamins and mineral salts:	13 million pills (dragees) 5 million flasks
9.	Dermatological drugs:	1 million flasks 0.383 million tubes
10.	Hormones (oral contraceptives):	96 million tablets
11.	Anti-hypertensives:	0.5 million tablets

PROJECT PROFILE NO. 5

PRIORITY: Long-term

SUBSECTOR: Chemical industry

SUBREGION: Central Africa

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

2. Objective: To exploit the potash deposits in order to manufacture potash-derived chemical products

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States
4. Location	6. Immediate follow-up	8. Energy	11. Market	13. Total investment	
		9. Physical infrastructure			
3. Government of the Congo	5. Exploration of potash deposits	7. The Congo potash deposits have been estimated at 50 million tons. However, this remains to be further specifiefd by re ·ch	10. To be ascertained by studies	12. To be determined in the feasibility study	14. The Congo Potash Company is a joint company, the partners of which are the People's Republic of the Congo and the Mining and Chemical Enterprise (EMC), a French company.
4. Holles and other places to be fixed in the Congo	6. Continuation of exploration to find other deposits	8. Energy available	11. Subregional market, but this remains to be specified by a market and feasibility study	13. To be determined in the feasibility study	
		9. Physical infrastructure to be developed			

PROJECT PROFILE NO. 6

PRIORITY: Medium-term

SUBSECTOR: Chemical industry

SUBREGION: Central Africa

1. Project title: Production of calcium carbide, Rwanda

2. Objective: To exploit abundant raw materials in the subregion, chiefly limestone, to produce calcium carbide and calcium cyanide (fertilizer)

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States
4. Location	6. Immediate follow-up	8. Energy	11. Market	13. Total investment	
		9. Physical infrastructure			
3. Government of Rwanda	5. Study to define the project has been carried out	7. 9 million tons of limestone in Rwanda	10. To be ascertained in the feasibility study	12.(a) 10,000 t/y of chalk; (b) 10,000 t/y of calcium carbide (c) 40,000 t/y of calcium cyanide	14. (a) The peat line has been abandoned. It is intended to first use charcoal or coal to be imported from Kalemi (Zaire), and later, the methane gas can be used; (b) According to the definition study, calcium carbide will be used in lamps for domestic lighting and will serve as the raw material for the production of calcium cyanide, etc. The feasibility study could be financed by the European Development Fund.
4. Along Lake Kivu on the Kibuye side	6. Feasibility study has been carried out	8. Energy to be developed	11. Countries of the subregion	13. To be ascertained in the feasibility study	
		9. Physical infrastructure to be developed.			

PROJECT PROFILE NO. 7

PRIORITY: Medium-term

SUBSECTOR: Chemical industry

SUBREGION: Central Africa

1. Project title: Production of active ingredients for pesticides, Rwanda

2. Objective: To produce active ingredients for the manufacture of pesticides

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States	
4. Location	6. Immediate follow-up	8. Energy	11. Market	13. Total investment		
		9. Physical infrastructure				
3. Government of Rwanda	5. Terms of reference for feasibility study submitted to UNDP	7. Local raw materials: pyrethrum and kaolin	10. To be ascertained in the study	12. To be determined in the study	14. (a) UNDP seems to be willing to finance the study; and (b) Contacts have been made with financial backers for participation in privatizing and making new investments	
4. K[illegible] ([illegible])	6. Feasibility study to be carried out	8. Hydroelectric power and water available	11. To be ascertained in the study	13. To be determined in the study		
		9. Physical infrastructure to be developed				

PROJECT PROFILE NO. 8

PRIORITY: Medium-term

SUBSECTOR: Chemical industry

SUBREGION: Central Africa

1. Project title: Establishment of a petrochemical complex for the manufacture of plastics, Gabon

2. Objective: To develop the exploitation of Gabon's hydrocarbon resources for the integrated development of the petrochemical industry and promote complementarity between of that and other industries in the subregion

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States
4. Location	6. Immediate follow-up	8. Energy	Market	13. Total investmunt	
		9. Physical infrastructure			
3. Government of Gabon	5. Preliminary study completed in i980	7. Hydrocarbons available in Gabon. Intermediate products to be imported	10. 40,000 t/y of PVC, of which 25,000 t/y is for UDEAC	12. To be ascertained in the study	14. (a) Studies undertaken in 1980 concluded that the UDEAC market was too narrow for a project of this scope. It was suggested at the time that other studies geared towards PVC tubing should be made. With the formation of ECCAS, there are grounds for repeating the studies which could take all the Community countries into account; (b) Funds for this complementary study are being sought from international organizations, such as UNIDO and UNDP.
4. Libreville (Gabon)	6. Update the preliminary study within ECCAS in order to define the programme of work to be performed	8. Energy available 9. Physical infrastructure to be developed	11. ECCAS market	13. See item 12	

PROJECT PROFILE NO. 9

PRIORITY: Medium-term

SUBSECTOR: Chemical industry

SUBREGION: Central Africa

1. Project title: Improvement of efficiency and product quality of the petroleum refinery, Congo

2. Objective: To convert the existing refinery into a multinational enterprise so as to upgrade its the utilization and meet the needs of the countries of the subregion

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States
		8. Energy			
4. Location	6. Immediate follow-up	9. Physical infrastructure	11. Market	13. Total investment	
3. Government of the Congo	5. A study on upgrading the refinery yield is under way	7. Oil is available	10. To be ascertained in the study	12. Treatment of 1 million tons of oil per year	14. (a) The project should be reformulated as it relates in effect to improving the output of the Point Noire refinery;
4. Pointe Noire (Congo)	6. Feasibility study to be carried out	8. Energy available 9. Existing infrastructure to be upgraded.	11. To be ascertained in the study	13. To be ascertained in the study	(b) The Government is looking for foreign investment partners

PROJECT PROFILE NO. 10

PRIORITY: Short-term

SUBSECTOR: Chemical industry

SUBREGION: Central Africa

1. Project title: Production of human vaccines in Central Africa, Cameroon

2. Objective: To help the countries of the subregion to implement medical care and immunization programmes by creating in Cameroon capabilities for the production and quality control of vaccines for most transmitted diseases

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States
4. Location	6. Immediate follow-up	8. Energy	11. Market	13. Total investment	
		9. Physical infrastructure			
3. Government of Cameroon	5. The project is being implemented	7. Laboratory equipment and chemical products are imported	10. Doses: 1,056,000 BCG 4,224,000 DTP 4,224,000 polio vaccine 1,056,000 vaccine against measles	12. See following page	14. The project is now at the implementation stage. UNIDO is assisting in the purchase of laboratory equipment and supplies and chemical products as well as in training national personnel.
4. Garoua (Cameroon)	6. Complete the physical infrastructure, receive the equipment and begin operations	8. Power is available from the Garoua electric grid	11. Subregional market	13. $1,300,000	
		9. Physical infrastructure in process of construction			

C. Capacity of the plant

Capacity of the tetanus toxoid production plant

Production technique:	Fermentation
Fermentor:	Bioreactor
Capacity:	100 litres
Culture cycle:	7 days
Number of cultures per week:	One
Toxoid sample titration:	60 Lf/ml (Limit of flocculation)
Recovery rate:	70 per cent
Tetanus toxoid produced per fermentation cycle:	4×10^6 Lf
in a year/40 weeks:	10×10^7 Lf
Doses (10 Lf) of tetanus toxoid in a year:	14,400,000/10 per cent filling loss

Capacity of preparation facility planned

Equipment:	Preparation tank with stirrer
Capacity/maximum volume per batch:	200 litres
Production cycle:	2.5-3 days, depending on number of staff
No. of preparation cycles per week:	1-2
Equivalent of a batch of 200 l expressed in series of 20 doses each of 10 ml:	20,000
Filling losses:	
Spillage (5 per cent)	1,000
Other losses (5 per cent)	1,000
	18,000 doses per batch
Maximum annual capacity/40 weeks:	80 batches of 200 litres, or in series of 20 doses of 10 ml each: 1,440,000 ampoules

Capacity of planned filling facility

Machine for washing ampoules

Theoretical capacity:	3,000 ampoules per hour
Capacity/70 per cent:	2,100 ampoules per hour

Capacity per period of work (5.5 hours continuous operation):	11,500 ampoules
Annual capacity (200 days):	2,300,000 ampoules

Machine for washing the rubber joints and aluminium capsules

Theoretical capacity (20 mm elements):	5,000 per washing per hour
Capacity:	5,000 per washing per hour

Hot-air sterilizer

Theoretical capacity (20 ml ampoules):	10,000 per cycle of 3 hours
Capacity:	10,000 per cycle of 3 hours

Apparatus for filling and sealing ampoules

Theoretical capacity:	3,000 ampoules per hour
Capacity (70 per cent):	2,100 ampoules per hour
Capacity per period of work (5.5 hours continuous operation):	11,550 ampoules
Annual capacity (200 days):	2,300,000 ampoules

PROJECT PROFILE NO. 11

PRIORITY: Short-term

SUBSECTOR: Chemical industry

SUBREGION: Central Africa

1. Project title: Production of insecticides for domestic use, Cameroon

2. Objective: To produce from raw materials (imported and locally) insecticides for exterminating mosquitoes, cockroaches and other vermin in dwellings

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States
4. Location	6. Immediate follow-up	8. Energy	11. Market	13. Total investment	
		9. Physical infrastructure			
3. Government of Cameroon	5. Pre-feasibility study completed in 1986	7. Synthetic pyrethrum and inert products to be imported	10. To be ascertained in the feasibility study	12. 885 t/y after the fifth year of production	14. (a) The project was submitted by the Cameroon Government to the meeting for the promotion of joint-ventures of Islamic countries at Istanbul (Turkey) in June 1987; (b) The meeting proposed that Cameroon should have 30 per cent participation and that the rest of the holdings should be shared between the private partners. (c) When implementing the project account should be taken of the existing projects in Gabon and Burundi.
4. Douala, Cameroon	6. Feasibility studies to be undertaken	8. Energy available	11. Subregional market	13. 469 million FCFA	
		9. Physicial infrastructure to be constructed			

PROJECT PROFILE NO. 12

PRIORITY: Long-term

SUBSECTOR: Chemical industry

SUBREGION: Central Africa

1. Project title: Production of urea and ammonia from gas, Cameroon

2. Objective: To produce fertilizers from urea and ammonia for the region

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States
4. Location	6. Immediate follow-up	8. Energy	11. Market	13. Total investment	
		9. Physical infrastructure			
3. Government of Cameroon	5. Feasibility studies in progress.	7. Gas from existing compounds	10. To be determined by current study	12. 1,500 t of urea, ammonia per day	14. Agreement on feasibility study already signed with a partner. If the project is found viable, financing will be sought and project executed.
4. Kribi, Cameroon	6. Counter-evaluation study by UNIDO after the feasibility study	8. Energy available The project can be autonomous through its use of gas turbine.	11. Subregional and world market	13. To be determined by the study	
		9. All necessary infrastructures exist.			

PROJECT PROFILE NO. 13

PRIORITY: Long-term

SUBSECTOR: Chemical industry

SUBREGION: Central Africa

1. Project title: Development of the pesticides industry in UDEAC countries, UDEAC

2. Objective: To produce pesticides in order to contribute to increased agricultural production

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States
4. Location	6. Immediate follow-up	8. Energy	11. Market	13. Total investment	
		9. Physical infrastructure			
3. UDEAC	5. Feasibility study carried out in 1987.	7. Available	10. To be determined by current study	12. To be determined	14. The Conference of Ministers of Agriculture of UDEAC had recommended further studies on the project at their meeting held in Malabo in 1986. The study on the extension of the project for ECCAS countries was completed in October 1988. The report deals essentially with the analysis of the pesticides market in CEPGL countries and Sao Tomé and Principe, with an inventory of the availability of raw materials for the production of pesticides and with an evaluation of the existing or projected production units.
4. To be determined	6. (a) Extension of market study to ECCAS countries; (b) Study on the possibility of producing active cuprics; (c) In-depth study on pesticides production in Chad by utilizing cotton oil;	8. Energy available	11. UDEAC and ECCAS market	13. To be determined	
		9. All necessary infrastructures exist.			

PROJECT PROFILE NO. 14 PRIORITY: Short-term

SUBSECTOR: Agro- and agro-related industries SUBREGION: Central Africa

1. Project title: Conversion of the sugar mills of Bom Jesus and the production of yeast, Angola

2. Objective: To rehabilitate and enlarge the existing sugar mills as well as diversify their production

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States
4. Location	6. Immediate follow-up	8. Energy	11. Market	13. Total investment	
		9. Physical infrastructure			
3. Government of Angola	5.(a) The yeast plant is at the rehabilitation stage; (b) Techno-economic pre-feasibility study for the Bom Jesus mill has been completed	7. The existing sugar mills produce enough molasses for the yeast plant	10. (a) 3,000 t/y of yeast; (b) To be ascertained in the reconversion study	12.(a) 2,600 t/y of yeast; (b) To be ascertained in the feasibility study on reconversion	14.(a) The rehabilitation project for the yeast plant is at the implementation stage thanks to UNDP funding of $2 million, with UNIDO as the executing agency; (b) As soon as the Government's decision is known regarding the type of crop to be grown over the 1,300 hectares to replace sugar cane, financial assistance will be needed to fund the feasibility studies. Collaboration arrangements relating to the provision of know-how and equipment and in the area of training are sought by Angola
4. Caxito, Bom Jesus and Luanda (Angola)	6.(a) Follow-up to work at the building site and hand-over of the yeast plant; (b) Response by the Government to feasibility study on reconversion	8. Energy available 9. Physical infrastructure to be developed and upgraded	11.(a) Local market for yeast; (b) To be ascertained in the reconversion study	13.(a) $2 million for rehabilitating the yeast plant; (b) To be ascertained in the feasibility study on reconversion	

PROJECT PROFILE NO. 15

PRIORITY: Short-term

SUBSECTOR: Agro- and agro-related industries

SUBREGION: Central Africa

1. Project title: Establishment of a distillery, Burundi

2. Objective: To derive alcohol from molasses produced by the Mosso sugar mill

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States	
4. Location	6. Immediate follow-up	8. Energy	11. Market	13. Total investment		
		9. Physical infrastructure				
3. Government of Burundi	5. Mobilization of funds for updating the feasibility study carried out in 1985	7. 6,800 t/y of molasses will be produced by the sugar mill	10. (a) Motor spirit: 1,977 m^3 in a fully operational year; (b) Pharmaceutical and industrial alcohol: 53 m^3 starting from the first year of production	12. 2,030,000 litres of alcohol per year	14. The Mosso sugar mill started up in 1988; (a) Need for funds to update feasibility study; (b) Should there not be a technological and financial partner, financing of technical assistance and personnel training will be requested; (c) Investment funds are being sought	
4. Mosso, near the sugar mill	6. Updating of feasibility study	8. Electrical energy available				
		9. The distillery will have the benefit of the sugar mill infrastructure (asphalt road, power and water) over and above those to be developed	11. CEPGL market	13. 434,153,840 FBU		

NB: Items 10, 11, 12 and 13 may be changed after updating the study.

PROJECT PROFILE NO. 16

PRIORITY: Short-term

SUBSECTOR: Agro- and agro-related industries

SUBREGION: Central Africa

1. Project title: Community dairy products project, Zaire

2. Objective: To meet the basic needs of the populations of the subregion, reduce the import of dairy products and use milk produced in the Masisi area

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States
4. Location	6. Immediate follow-up	8. Energy	11. Market	13. Total investment	
		9. Physical infrastructure			
3. Government of Zaire	5. Feasibility study completed	7. Cow's milk, to the extent, available in Masisi (117,000 l/d)	10. 95,000 litres of milk per day	12. 30,000 litres of fresh milk per day for producing pasteurized milk, butter, yoghurt and cheese	14. Participation by foreign partners is being sought. CDI has been approached for help in finding partners and funds for engineering studies
4. Goma (Zaire)	6. Engineering study and upgrading of milk collection roads	8. Energy available	11. CEPGL countries	13. To be ascertained after the engineering study and improvement of the roads used on the milk round	
		9. Physical infrastructure to be developed, especially the roads used during the milk round, funds for which are being negociated by Zaire			

PROJECT PROFILE NO. 17

PRIORITY: Medium-term

SUBSECTOR: Agro- and agro-related industries

SUBREGION: Central Africa

1. Project title: Creation of an agro-industrial complex processing cassava, Central African Republic

2. Objective: To produce cassava flour and by-products (starch, glucose, adhesives)

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States
4. Location	6. Immediate follow-up	8. Energy	11. Market	13. Total investment	
		9. Physical infrastructure			
3. Government of the Central African Republic	5. No marked progress	7. Raw materials available	10. To be ascertained in studies	12. To be ascertained in studies	14. In view of the importance assigned to self-sufficiency in food in the subregion, funds for purposes of studies and investment must be sought among financial backers and potential partners
4. Boali (Central African Republic)	6. Updating of feasibility study	8. Energy available	11. Subregional market	13. See item 12	
		9. Physical infrastructure to be developed			

PROJECT PROFILE NO. 18

PRIORITY: Short-term

SUBSECTOR: Agro- and agro-related industries

SUBREGION: Central Africa

1. Project title: Integrated development of the fish-processing industry, CEPGL

2. Objective: To exploit fish resources in the subregion and establish a fish canning industry

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States
4. Location	6. Immediate follow-up	8. Energy	11. Market	13. Total investment	
		9. Physical infrastructure			
3. CEPGL	5.(a) Study financed by France now under way to determine fish reserves in Lakes Tanganyika, Mobutu and Idi Amin; (b) Study financed by FAO under way to determine the evolution of fish resources in the Great Lakes in the subregion.	7. The numerous waterways in the subregion contain enormous fish resources, of which stock should be taken.	10. To be ascertained in the feasibility study	12. To be ascertained in the feasibility study	14. (a) While waiting the results of the studies mentioned in (5), it has been recommended that small-scale fishing and semi-industrial fishing should be developed, together with a refrigeration system for preserving the fish; (b) If the studies under way confirm the existence of large fish resources, financial participation by foreign partners in the feasibility studies and investment will be sought
4. To be determined	6. Feasibility study to be undertaken if the results of the studies are positive	8. Energy available	11. Countries of the subregion	13. See item 12.	
		9. Physical infrastructures to be developed			

PROJECT PROFILE NO. 19

PRIORITY: Short-term

SUBSECTOR: Agro- and agro-related industries

SUBREGION: Central Africa

1. Project title: Integrated forest products complex, CEPGL

2. Objective: To exploit local forestry resources for the production of wood products (sawn wood, plywood and panels)

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States
4. Location	6. Immediate follow-up	8. Energy	11. Market	13. Total investment	
		9. Physical infrastructure			
3. CEPGL	5. Financial and feasibility studies under way	7. The subregion has several hundred million hectares of forest land	10. To be ascertained in the feasibility study	12. A capacity of 10,000 m^3 per year is planned, with the possibility of raising the figure to 20,000 m^3/y by the year 2000	14. (a) Funding of some of the investments from outside sources has been mobilized; (b) Arrangements for shareholding by foreign partners are believed necessary, and an approach has been made along these lines
4. Kisangani (Zaire)	6. Workshop consisting of FAO, representatives of member countries, CEPGL and Gisenyi-based MULPOC to evaluate the financial and feasibility studies	8. Energy source near Kisangani airport 9. Physical infrastructure to be developed	11. Subregional market	13. To be ascertained in the feasibility study	

PROJECT PROFILE NO. 20

PRIORITY: Medium-term

SUBSECTOR: Agro- and agro-related industries

SUBREGION: Central Africa

1. Project title: Rehabilitation and expansion of the sugar sector, Angola

2. Objective: To rehabilitate two sugar mills (the "First of May" and "Fourth of February") in the Bengola region so as to meet the urgent needs of the population

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States
4. Location	6. Immediate follow-up	8. Energy	11. Market	13. Total investment	
		9. Physical infrastructure			
3. Government of Angola	5. Terms of reference for an international call for bids for shareholding or sale	7. The sugar plantations provide the raw materials	10. To be ascertained in the rehabilitation and expansion study	12. 45,140 t/y for the "Fourth of February" mill after expansion, and 30,000 t for the "First of May" mill after expansion	14. In the hope of encouraging private initiative, the Government is looking for participation by foreign private enterprises in the two sugar companies. More than 15 foreign enterprises have already put in tenders and the opening of bids will take place after 8 August 1989 together with selection of the partners
4. Caxito, Bengola Province	6. Opening of bids, selection of partners and rehabilitation study	8. Energy available 9. Existing physical infrastructure to be improved	11. Subregional market	13. To be ascertained by the study	

PROJECT PROFILE NO. 21

PRIORITY: Medium-term

SUBSECTOR: Agro- and agro-related industries

SUBREGION: Central Africa

1. Project title: Establishment of a distillery, Sao Tome and Principe

2. Objective: To produce alcohol from sugar cane molasses

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States
4. Location	6. Immediate follow-up	8. Energy	11. Market	13. Total investment	
		9. Physical infrastructure			
3. Government of Sao Tome and Principe	5. Pre-feasibility studies under way	7. Sugar cane cultivation to be developed	10. To be ascertained in the studies	12. To be ascertained in the studies	14. The African Development Bank has already been approached un respect of funding the project. 200 hectares are available for growing sugar cane and the Government is seeking participation by national private parties.
4. Sao Tome	6. Complete the prefeasibility study	8. Energy will be produced from cane stalks and residue	11. Subregional market	13. See item 12	
		9. Physcial infrastructure to be developed			

PROJECT PROFILE NO. 22

PRIORITY: Short- and medium-term

SUBSECTOR: Agro- and agro-related industries

SUBREGION: Central Africa

1. Project title: Sangmelima wood-processing project and production of particle board, Cameroon/UDEAC

2. Objective: To ensure effective exploitation of forest resources and increase local production of wood

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States	
4. Location	6. Immediate follow-up	8. Energy	11. Market	13. Total investment		
		9. Physical infrastructure				
3. Government of Cameroon/ UDEAC	5. Pre-feasibility study completed	7. Wood is available in abundance	10. To be ascertained in the feasibility study	12. (i) Forest exploitation: 90,000 m^3 per year of logs; (ii) sawing: 50,000m^3/y of logs	14. (a) The project was submitted to the meeting on the promotion of joint-ventures of Islamic countries at Istanbul (Turkey) in June 1987 by the Government of Cameroon; (b) The project has been included in the fourth five-year development plan. (c) Participation by foreign partners may reach 49 per cent of the holdings of the future company. (d) The consolidated project should be implemented in two phases.	
4. Sangmelima and Yaoundé, Cameroon	6. Search for partners to implement the project and prepare the feasibility study	8. Energy available 9. Physical infrastructure to be developed	11. Subregional market	13. To be determined in the study		

PROJECT PROFILE NO. 23

PRIORITY: Short-term

SUBSECTOR: Agro- and agro-related industries

SUBREGION: Central Africa

1. Project title: Production unit for children's food, Cameroon

2. Objective: To produce food based on maize, soya, milk, vitamins and mineral salts so as to meet the nutritional needs of children

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States
4. Location	6. Immediate follow-up	8. Energy	11. Market	13. Total investment	
		9. Physical infrastructure			
3. Government of Cameroon	5. Pre-feasibility and market studies have been completed	7. Maize is grown locally. Conversely, most of the other raw materials will be imported	10. To be ascertained in the feasibility study	12. (a) 2,464 t/y of food for children; (b) 379 t/y of cattle feed	14. (a) The project has been included among the priority projects by the Government and in April 1988 was accepted under Regulation C (small- and medium-scale enterprises) of the Cameroon Investment Code; (b) Several financial institutions have been approached and have agreed to fund part of the investment. (c) When implementing the project, account should be taken of the existing plants in Burundi and Zaire.
4. Yaounde, Cameroon	6. Feasibility study and mobilization of partners in progress.	8. Energy available	11. Subregional market	13. 730 million FCFA	
		9. Physical infrastructure to be developed			

PROJECT PROFILE NO. 24

PRIORITY: Long-term

SUBSECTOR: Agro- and agro-related industries

SUBREGION: Central Africa

1. Project title: Establishment of a tannery, Chad

2. Objective: Treatment of cow and goat skins

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States
4. Location	6. Immediate follow-up	8. Energy 9. Physical infrastructure	11. Market	13. Total investment	
3. Government of Chad	5. Pre-feasibility studies completed	7. Availability of untawed cow and goat skins	10. To be specified in the study	12. To be specified in the study;	14. This project is classified a priority project within the national programme for the development of live-stock by-products.
4. N'Djamena, Chad	6. (a) Completion of full feasibility study; (b) Search for technical partners.	8. Energy available 9. Physical infrastructure to be developed	11. Countries of the subregion	13. See point 12.	

PROJECT PROFILE NO. 25

PRIORITY: Long-term

SUBSECTOR: Agro- and agro-related industries

SUBREGION: Central Africa

1. Project title: Development of cattle and fish resources in UDEAC countries, UDEAC

2. Objective: To rehabilitate slaughter-houses and commercialize meat in UDEAC countries

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States
4. Location	6. Immediate follow-up	8. Energy	11. Market	13. Total investment	
		9. Physical infrastructure			
3. UDEAC	5. Pre-feasibility studies completed	7. Available	10. 25,000 t of meat per country	12. Chad: 60,000t/y Central African Republic: 60,000t/y	14. The project receives high interest by the countries in the subregion.
4. Several UDEAC countries	6. Rehabilitation of existing slaughter-houses in Bangui and N'Djamena	8. Energy available 9. Physical infrastructure available.	11. Countries of the subregion	13. To be determined	

PROJECT PROFILE NO. 26

PRIORITY: Long-term

SUBSECTOR: Engineering industries

SUBREGION: Central Africa

1. Project title: An agricultural machinery project, UDEAC

2. Objective: To produce agricultural machinery and implements for increasing agricultural development in the UDEAC countries

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States	
4. Location	6. Immediate follow-up	8. Energy	11. Market	13. Total investment		
		9. Physical infrastructure				
3. UDEAC	5. Pre-feasibility studies to be undertaken	7. Available	10. To be determined in the study	12. To be determined in the study	14. Project needs a market study and pre-feasibility and feasibility studies of a Community plant for the production of agricultural machinery and implements, taking into account the existing or planned plants.	
4. To be determined	6. To be determined in the study.	8. Energy available	11. Countries of the subregion	13. To be determined in the study		
		9. Physical infrastructure available.				

PROJECT PROFILE NO. 27

PRIORITY: Short-term

SUBSECTOR: Building materials

SUBREGION: Central Africa

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

2. Objective: To rehabilite and expand the Katana cement plant so as to increase production and enable it to meet the needs of CEPGL member countries

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States
4. Location	6. Immediate follow-up	8. Energy	11. Market	13. Total investment	
		9. Physical infrastructure			
3. Government of Zaire	5. Study on the production of clinker at Katana under way	7. Major limestone deposits in the environs of Katana	10. To be ascertained in the study	12. 60,000 t/y initially	14. Zaire is seeking to secure equity participation and to conclude trade arrangements with the countries of the sub-region
4. Katana (Zaire)	6. Funding of a clinker furnace and accessories	8. Plant was using peat, but it is planned to utilize methane	11. Subregional market	13. To be ascertained in the study	
		9. Physical infra-structure exists. A clinker furnace is to be installed to make clinker which previously came from Kabina, and the lack of which caused the plant to close down in April 1989.			

PROJECT PROFILE NO. 28

PRIORITY: Short-term

SUBSECTOR: Building materials

SUBREGION: Central Africa

1. Project title: Expansion of the Mashyuza cement plant CEPGL

2. Objective: To produce cement from local limestone so as to meet the needs of the subregion

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States
4. Location	6. Immediate follow-up	8. Energy	11. Market	13. Total investment	
		9. Physical infrastructure			
3. Government of Rwanda	5.(a) Studies on the expansion carried out (b) Machinery and packaging equipment already installed	7. Major limestone deposits in the country; gypsum to be imported	10. To be determined	12. 70,000 t/y at present, 100,000 t/y after expansion	14. (a) The plant is the result of co-operation with China and a management contract has been signed with a Chinese company. (b) The initial capacity of the plant (50,000 t/y) has been increased to 75,000 t/y during the expansion. (c) Production will be increased to 100,000 t/y in order to serve not only Rwanda (estimated at 50,000 t/y) but also the other CEPGL countries.
4. Mashyuza (Rwanda)	6.Equipment for the expansion ordered;	8. The cement plant now uses imported fuel, but it is planned to utilize methane	11. CEPGL countries	13. To be ascertained	
		9. Existing infrastructure should be upgraded			

PROJECT PROFILE NO. 29

PRIORITY: Short-term

SUBSECTOR: Building materials

SUBREGION: Central Africa

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

2. Objective: To convert and enlarge the existing plant into a multinational enterprise so as to meet the needs of the subregion

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States
4. Location	6. Immediate follow-up	8. Energy	11. Market	13. Total investment	
		9. Physical infrastructure			
3. Government f the Congo	5. The rehabilitation study has been completed	7. Sand deposits in immediate proximity chemical products to be imported	10. To be determined	12. 16,000 t/y for one production line. It is planned to raise this figure to 19,000 t/y	14. (a) Obsolete equipment, Member States' failure to honour commitments and financial difficulties confirm that the project should be reformulated as "rehabilitation of the Pointe Noire glassworks, Congo"; (b) The Congo is looking for funds from abroad in the form of holdings or loans to rehabilitate the plant (c) UNIDO is called upon to assist in carrying out a study of the glass industry, especially its market, in the subregion.
4. Pointe Noire (Congo)	6. Government decision and funding of working capital of 160 million FCFA for re-starting the plant, or at least one production line	8. Electrical energy available	11. Subregional market	13. To be ascertained	
		9. Infrastructure available			

PROJECT PROFILE NO. 30

PRIORITY: Short-term

SUBSECTOR: Building materials

SUBREGION: Central Africa

1. Project title: Establishment of a ceramics plant, Burundi

2. Objective: To produce sanitary equipment, fine porcelain and enamel to meet the needs of the subregion

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States
4. Location	6. Immediate follow-up	8. Energy 9. Physical infrastructure	11. Market	13. Total investment	
3. Government of Burundi	5. Exploration for additional materials (quartzite, feldspar, dolomite) under way	7. The Vyenwa kaolin reserves are estimated at 16.32 million tons. The Matongo kaolin reserves are also considerable. Quartzite, feldspar and dolomite reserves are proven	10. To be ascertained in the studies	12. To be ascertained in the studies	14. (a) Tests have been carried out on the manufacture of sample teacups, plates and pottery; (b) The Burundi Government has already applied for specific assistance from UNDP in order to: (i) undertake feasibility and engineering study; (ii) execute the project. It has also applied to other financing agencies.
4. Matongo or Ngozi (Burundi)	6. Market and feasibility studies to be made	8. Rwegura dam. A middle-voltage line will be carried as far as Matongo 9. Physical infrastructure to be developed	11. Subregional market, particularly Zaire	13. See item 12	

PROJECT PROFILE NO. 31

PRIORITY: Medium-term

SUBSECTOR: Building materials

SUBREGION: Central Africa

1. Project title: Establishment of a cement plant, Chad

2. Objective: To meet the local and sugregional demand for cement

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States
4. Location	6. Immediate follow-up	8. Energy	11. Market	13. Total investment	
		9. Physical infrastructure			
3. Government of Chad	5. Preliminary studies completed	7. Limestone deposits in the Mayo Kebbi region are proven	10. To be ascertained in the study	12. To be ascertained in the study	14. In the course of its reconstruction Chad urgently needs building materials. Several contacts have been made with financial backers and friendly countries such as China with respect of funding the studies and implementing the project. Considering the number of cement plants in the subregion, ECCAS, in consultation with CEPGL, UDEAC and with the assistance of UNIDO, should carry out a comprehensive study of the cement industry in the subregion.
4. Mayo Kebbi region (Chad)	6. Feasibility studies to be undertaken	8. Energy to be developed	11. Subregional market	13. See item 12	
		9. Physical infrastructure to be developed			

PROJECT PROFILE NO. 32

PRIORITY: Long-term

SUBSECTOR: Building materials

SUBREGION: Central Africa

1. Project title: Plant for the manufacture of flat glass, Cameroon

2. Objective: To produce in the UDEAC/ECCAS subregion glass need for building

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States
4. Location	6. Immediate follow-up	8. Energy	11. Market	13. Total investment	
		9. Physical infrastructure			
3. Government of Cameroon	5. Contacts being made with partners	7. Local raw materials: using syenitic nepheline at Eboudja	10. To be ascertained in the feasibility study	12. To be determined in the feasibility study	14. After evaluation of reserves and completion of the feasibility study, financing will be sought before project is continued. Preliminary drilling of deposits has already been done.
4. Coastal region Kribi, Cameroon	6. Evaluation of raw material reserves and preparation of feasibility study	8. Energy available	11. UDEAC, ECCAS	13. To be determined in the feasibility study	
		9. Existing infrastructure is adequate			

PROJECT PROFILE NO. 33

PRIORITY: Long-term

SUBSECTOR: Building materials

SUBREGION: Central Africa

1. Project title: Establishment of a ceramics factory, Cameroon

2. Objective: To produce ceramics articles, particularly tiles, bidets, wash-hand basins

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up	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 Cameroon/ SNI 4. Douala region Cameroon	5. Pre-feasibility study underway along with the evaluation of raw materials 6. Search for financing and training of national experts	7. Local raw materials: using syenitic nepheline at Eboudja 8. Energy available 9. Existing infrastructure is adequate	10. To be determined by the study underway 11. To be determined by the study underway.	12. To be determined in the feasibility study 13. To be determined in the feasibility study	14. After evaluation of reserves and completion of the feasibility study currently carried out by SNI, UNIDO's assistance will be requested to finance the elaboration of the full feasibility study; promotion of the project, any financing and investment sources; and the training of national experts/technicians.

PROJECT PROFILE NO. 34

PRIORITY: Long-term

SUBSECTOR: Metallurgical industry

SUBREGION: Central Africa

1. Project title: Integrated development of the aluminium industry, Cameroon/UDEAC/ECCAS

2. Objective: To explcit the Mini-martap bauxite reserves in Cameroon for the manufacture of aluminium products which are currently imported

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States
4. Location	6. Immediate follow-up	8. Energy	11. Market	13. Total investment	
		9. Physical infrastructure			
3. Government of Cameroon/ UDEAC/ECCAS	5. Feasibility study completed	7. The Mini-martap bauxite reserves are estimated at 800 million tons with an aluminium oxide content of 35 per cent	10. To be ascertained	12. To be ascertained	14. Exploitation of the Mini-martap reserves will need above all the development of access routes, energy and physical infra-structures. The Government is now looking for funds from abroad in order to undertake the work, which is a pre-requisite for implementing the project.
4. Mini-martap (Cameroon)	6. Establishment of a financial system and start-up of operations	8. Power to be developed	11. Subregional market	13. To be ascertained	
		9. Physical infrastructure to be developed			

PROJECT PROFILE NO. 35

PRIORITY: Short-term

SUBSECTOR: Metallurgical industry

SUBREGION: Central Africa

1. Project title: Integrated development of the iron and steel industry in Central Africa, ECCAS

2. Objective: To reactivate the Maluku steel mill, thus permitting the production of rods, merchant products and flat and galvanized sheeting with the aim of supplying the subregional market, after which the mill could 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	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	5. Rehabilitation study made by UNIDO	7. Scrap metal is available locally in limited quantities, but the subregion possesses major reserves of iron ore and other metals	10. 419,000 tons of steel by 1990 for the subregion	12. 250,000 t/y, of which 150,000 t/y are cold products and 100,000 t/y hot products	14. (a) The working capital of $1 million needed to ensure an output of 7,500 tons in 1989 must be contributed by the Government or a private investor; (b) In order to attain maximum production, United Nations assistance will be needed in preparing negotiable portfolios and providing training in technical and financial control.
4. Maluku (Zaire)	6.(a) Response of the Government of Zaire to the recommendations of the study; (b) Funding of the first phase (1989-1991) to attain production of 25,000 t/y, as recommended by the study	8. Power available 9. Physical infrastructure available	11. Subregional market	13. In the first phase, $1 million to cover the import of refractories and other intermediate commodities needed to produce 7,500 t in 1989	

PROJECT PROFILE NO. 36

PRIORITY: Short-term

SUBSECTOR: Metallurgical industry

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	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States
4. Location	6. Immediate follow-up	8. Energy 9. Physical infrastructure	11. Market	13. Total investment	
3. Government of Rwanda	5. Creation of a mining trust and renewal of mining activities	7. Cassiterite deposits estimated at 65,000 tons in Rwanda and 200,000 tons in Zaire	10. To be determined	12. 3,000 t/y of tin	14. (a) Rwanda is establishing a company for the exploitation of resources to replace SOMIRWA, as well as a co-operative representing all mining companies (COOPIMAR); (b) Negotiations are underway with Zaire on the processing of cassiterite from Zaire in the plant in Rwanda.
4. Kigali (Rwanda)	6. (a) Achieve a threshold of 1,000 t/y of cassiterite, thus enabling the foundry to resume operation (b) Feasibility study for re-opening the plant	8. Energy available 9. Infrastructure exists since the plant operated until 1985, the year in which the fall of the world tin prices had entailed the bancrupcy of SOMIRWA.	11. International market outside Africa	13. To be determined as part of resumption of the plant's activities	

PROJECT PROFILE NO. 37

PRIORITY: Long-term

SUBSECTOR: Metallurgical industry

SUBREGION: Central Africa

1. Project title: Integrated development of the iron and steel industry, Cameroon/UDEAC

2. Objective: To produce steel bars for the Central African subregion

3. Promoter/ sponsor	5. Project status	7. Raw materials	10. Projected demand by product	12. Capacity by product	14. Additional information including collaboration arrangements already made and type of participation sought by member States	
		8. Energy				
4. Location	6. Immediate follow-up	9. Physical infrastructure	11. Market	13. Total investment		
3. Government of Cameroon/ UDEAC	5. Pre-feasibility study completed	7. Iron deposits at Kribi	10. 50,000 t	12. 50,000 t	14. Following the completion of the pre-feasibility study by Brazilian experts, the Cameroon authorities are presently looking for funds to finance detailed feasibility studies which will include laboratory tests, pre-engineering studies, etc. which are relatively expensive.	
4. Kribi and Edea, Cameroon	6. Elaboration of full feasibility studies	8. Essentially available	11. UDEAC countries	13. To be determined by the feasibility study		
		9. Edea/Kribi road under completion. 4km by-road to be envisaged.				

SUPPORT PROJECT PROFILE NO. S.1

SUBREGION: Central Africa

SUBSECTOR: Institutional infrastructure

1. Project title: Assistance to the Central African Customs and Economic Union (UDEAC)

2. Objective: To upgrade the resources of the Secretariat and member States of UDEAC relating to the planning, programming, establishment, evaluation and promotion of community industries

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3. Promoter/sponsor:

UDEAC

4. Location:

UDEAC Secretariat, Bangui, Central African Republic

5. Estimated total cost:

To be determined

6. Project description and additional information:

(a) Immediate objectives: extension of assistance provided by UNIDO and UNCTAD to enable UDEAC and member States to promote subregional industrial co-operation;

(b) Duration: three years.

SUPPORT PROJECT PROFILE NO. S.2

SUBREGION: Central Africa

SUBSECTOR: Other support projects

1. Project title: Assistance to the Central African Republic in the development of an integrated meat-processing industry

2. Objective: To ensure that integrated development of the different stages of meat production and processing, including slaughterhouse, tannery, meat packing plant and dairy

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3. Promoter/sponsor:

Central African Republic/UDEAC

4. Location:

Bangui, Central African Republic

5. Estimated total cost:

To be determined

6. Project description and additional information:

(a) Immediate objectives: to evaluate the needs of the UDEAC countries and devise an integrated programme covering projects to be implemented in the countries of the subregion;

(b) Duration: three years.

SUPPORT PROJECT PROFILE NO. S.3

SUBREGION: Central Africa

SUBSECTOR: Institutional infrastructure

1. Project title: Assistance to the Economic Community of the Great Lakes Countries (CEPGL)

2. Objective: To assist the Secretariat and member countries of CEPGL to upgrade their capabilities in planning, programming, establishment, evaluation and promotion of community industries

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3. Promoter/sponsor:

CEPGL

4. Location:

CEPGL Secretariat, Gisenyi, Rwanda

5. Estimated total cost:

To be determined

6. Project description and additional information:

(a) Immediate objectives: (i) to study the establishment of a commercial documentation and information service; (ii) to evaluate the fish resources of the Great Lakes of the subregion and their evolution; (iii) to devise a programme of action permitting the co-ordinated development of a transport network on Lakes Kivu and Tanganyika and elsewhere, together with the creation of a joint airline for the CEPGL countries;

(b) Duration: four years.

SUPPORT PROJECT PROFILE NO. S.4

SUBREGION: Central Africa

SUBSECTOR: Other support projects

1. Project title: Development of peat resources (CEPGL)

2. Objective: To prepare a map showing the peat bogs in the subregion

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3. Promoter/sponsor:

CEPGL

4. Location:

CEPGL Secretariat, Gisenyi, Rwanda

5. Estimated total cost:

To be determined

6. Project description and additional information:

(a) Immediate objectives: on the basis of the study on the potential of the peat bogs in the subregion, to draw up a map showing their location;

(b) Duration: three years.

SUPPORT PROJECT PROFILE NO. S.5

SUBREGION: Central Africa

SUBSECTOR: Institutional infrastructure

1. Project title: Feasibility study on the manufacture of railway equipment in the Central African subregion (UAR)

2. Objective: To determine the type of equipment that the subregion is able to manufacture so as to reduce its dependence on foreign markets and promote the railway equipment industry

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3. Promoter/sponsor:

Union of African Railways (UAR)

4. Location:

The study covers the countries of the subregion

5. Estimated total cost:

$500,000

6. Project description and additional information:

(a) Immediate objectives: to undertake a study to determine the type of equipment and spare parts that the subregion is in a position to manufacture and to work out a development programme for the railway equipment industry;

(b) Duration: one year.

SUPPORT PROJECT PROFILE NO. S.6

SUBREGION: Central Africa

SUBSECTOR: Other support projects

1. Project title: Assistance to the Economic Community of Central African States (ECCAS)

2. Objective: To draw up an industrial development master plan in the subregion based on subsectoral plans and branch studies for such priority industries as iron and steel, pesticides and fertilizers, petrochemicals, and building materials, especially cement and wood

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3. Promoter/sponsor:

Economic Community of Central African States (ECCAS)

4. Location:

ECCAS Secretariat, Libreville (Gabon)

5. Estimated total cost:

To be determined

6. Project description and additional information:

(a) Immediate objectives: (i) to undertake the studies needed to promote co-operation between member States in the iron and steel sector; (ii) to draw up an industrial development master plan, placing particular emphasis on the integrated development of the iron and steel industry and the related metallurgical industries; the pesticides and fertilizer industries; petrochemical industry, the building materials industry, especially cement, and the wood-processing industry.

(b) Duration: two years

SUPPORT PROJECT PROFILE No. S.7

SUBREGION: Central Africa

SUBSECTOR: Institutional infrastructure

1. Project title: Assistance to the Higher Institute of Appropriate Technologies (ISTA)

2. Objective: To provide training and further study for senior personnel in the area of project development studies

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3. Promoter/sponsor:

ISTA

4. Location:

ISTA Headquarters, Libreville, Gabon

5. Estimated total cost:

$1,514,500

6. Project description and additional information:

(a) Immediate objectives: (i) Assistance in the establishment of a system of training and further study in the areas of planning, development and project evaluation; (ii) Assistance in the performance of sectoral studies, project studies and other studies;

(b) Duration: two years and nine months.

SUPPORT PROJECT PROFILE No. S.8

SUBREGION: Central Africa

SUBSECTOR: Institutional infrastructure

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

2. Objective: To enhance the resources of AIPO and Member States in order to promote industrial property as a technological component of industrial activities and in research and development in African States

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3. Promoter/sponsor:

AIPO

4. Location:

AIPO Headquarters

5. Estimated total cost:

To be determined

6. Project description and additional information:

(a) Immediate objectives: (i) To identify the technical areas in relation to the development of strategic industrial sectors; (ii) To increase the awareness of economists and train them in the area of industrial property and feasibility studies as applied to national industrial projects; (iii) To use scientific and technical information contained in documentation in support of the activities of research workers, small and medium-sized industries and local administrations;

(b) Duration: five years.

SUPPORT PROJECT PROFILE NO. S.9

SUBREGION: Central Africa

SUBSECTOR: Institutional infrastructure

1. Project title: Multisectoral assistance to the Economic Community of the Great Lakes Countries (CEPGL)

2. Objective: (i) To undertake pre-investment and investment studies in the priority sectors; (ii) to equip the IRAZ laboratory

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3. Promoter/sponsor:

Economic Community of the Great Lakes Countries (CEPGL)

4. Location:

CEPGL Secretariat, Gisenyi, Rwanda

5. Estimated total cost:

$2.8 million

6. Project description and additional information:

(a) Immediate objectives: (i) to undertake pre-investment and investment studies in the following priority sectors: agriculture and food, industry, energy, transport and communication, trade and finance, and human resource development; (ii) to equip the IRAZ laboratory so as to enable it to complete its dual mission of research and the co-ordination of agronomic and stock-breeding research in the Community;

(b) Implementation of this project will enable CEPGL to have financial studies at their disposal which could pave the way for investment in priority sectors, such as agriculture and food, energy, transport and communication, trade and finance, and human resource development;

(c) Duration: three years.

(d) Additional information: The support for the project had been requested by UNDP, but its reaction was not yet know.

SUPPORT PROJECT PROFILE NO. S.10

SUBREGION: Central Africa

SUBSECTOR: Institutional infrastructure

1. Project title: Promotion of small-scale agro-food technologies

2. Objective: (i) To design and construct equipment suited to the needs of the population and train craftsmen able to manufacture the equipment with locally available material; (ii) To increase awareness of the technologies so developed;

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3. Promoter/sponsor:

Government of Burundi

4. Location:

Bujumbura, Burundi

5. Estimated total cost:

$1,385,190 (UNDP contribution), 43,400,000 FBU (contribution by Government of Burundi).

6. Project description and additional information:

(a) Immediate objectives: The project was initially called "Promotion of agricultural production by the processing of glass products and introduction of animal traction", the first objective of which was to study and define the needs of users in post-harvest technologies, as applied to rice and cassava, and the qualitative requirements for finished products.

This second phase is aimed, first and foremost, at the design and construction of equipment suited to the needs of the population of the subregion; training of craftsmen in the manufacture of the above equipment with locally available material; and to promote the local use of the technologies so developed. Emphasis would, thus be accorded to training and upgrading national capabilities in the development and promotion of improved processing technologies for glass products. The feasibility of setting up a national centre for animal traction and small agricultural machinery will also be studied.

(b) Duration: three years.

SUPPORT PROJECT PROFILE NO. S.11

SUBREGION: Central Africa

SUBSECTOR: Institutional infrastructure

1. Project title: Assistance to the Higher National School for the Agro-Food Industries (ENSIAAC), Cameroon

2. Objective: To assist ENSIAAC in purchasing additional scientific equipment so as to upgrade the school's capacity and make it a subregional centre of excellence in the area of the agro-industries

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3. Promoter/sponsor:

Government of Cameroon

4. Location:

Ngaoundere, Cameroon

5. Estimated total cost:

600 million FCFA

6. Project description and additional information:

(a) ENSIAAC is a bilingual institution (French and English) placed under the authority of the Ministry of Higher Education, Computer Sciences and Technical Research. It trains technicians and engineers. The school has a teaching and research staff of 70 members, 38 of whom are expatriates. The total number of students for 1989/90 was 415. It makes prototypes and carries out tests on food preservation. ENSIAAC has established close relations with industries which offer practical training to its students. It also offers continuous training to industrial employees, and even in industrial research projects.

(b) Suitable equipment has been provided by the Government and the school is already operating as a centre of excellence.

(c) Immediate objective: To upgraded the school so as to improve and diversify its training programme. Technical assistance will be required for this purpose.

SUPPORT PROJECT PROFILE NO. S.12

SUBREGION: Central Africa

SUBSECTOR: Institutional infrastructure

1. Project title: Establishment of a school for geological and mining studies, Cameroon

2. Objective: To establish a school for geological and mining studies

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3. Promoter/sponsor:

Government of Cameroon

4. Location:

Ngaoundere, Cameroon

5. Estimated total cost:

7,000 million FCFA

6. Project description and additional information:

Feasibility study on a school for geological and mining studies based on pedagogical facilities already existing on the campus of the Ngaoundere University Centre. This school, like the National Higher School for Agro-Food Industries (ENSIAAC), would be expected to become a centre of excellence in the subregion and could cover the needs of neighbouring countries. It is expected that the school will be located in Ngaoundere due to the rich and varied soil and subsoil conditions of the area.