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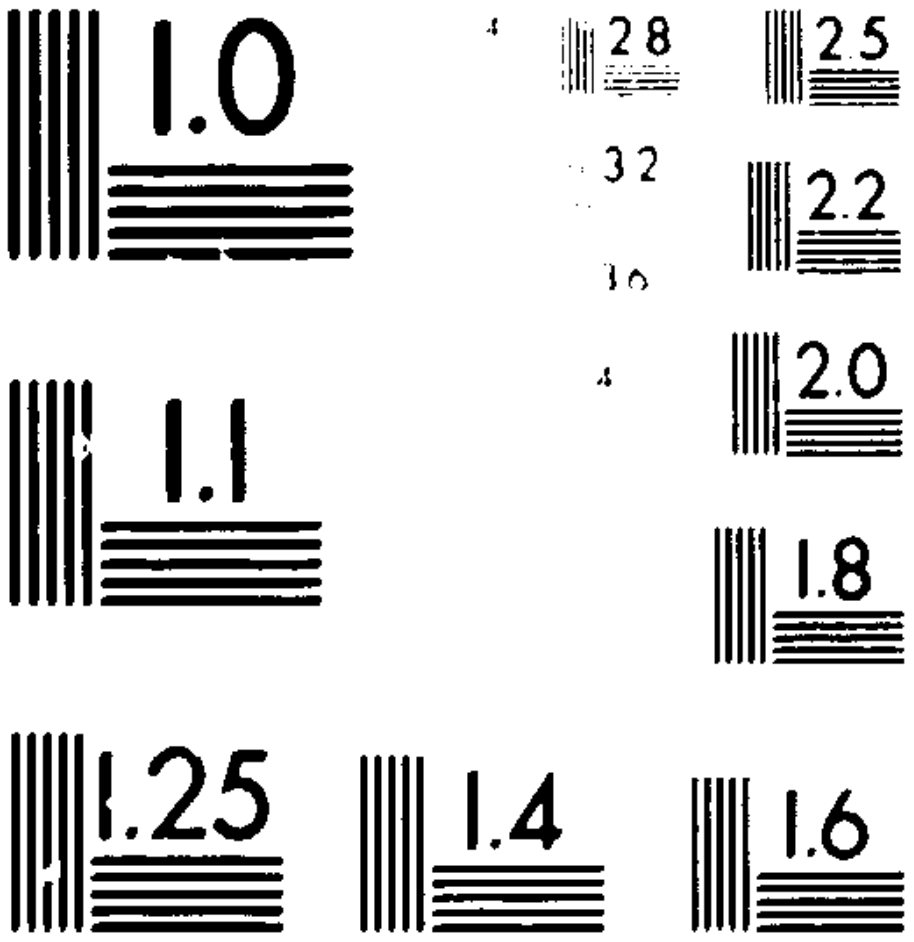

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A PROGRAMME FOR THE INDUSTRIAL DEVELOPMENT DECADE FOR AFRICA

INITIAL INTEGRATED INDUSTRIAL PROMOTION PROGRAMME AT THE SUBREGIONAL LEVEL

Prepared by
the secretariats of ECA, OAU and UNIDO

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Foreword

1. In the Lagos Plan of Action it is stated that the integrated economic and social development of Africa demands the creation, in each member state, of an industrial base designed to meet the interests of that country and strengthened by complementary activities at the subregional and regional level.

2. This integrated industrial promotion programme marks a first step towards the strengthening of complementary industrial activities at the subregional level. It is designed to initiate a continuing process of discussion among Governments in the four subregions (Eastern and Southern Africa, West Africa, Central Africa and North Africa) on priority areas and projects for multinational co-operation. Since the elaboration of the integrated programme has been conceived as a continuous process, Governments and international organizations in the four subregions are urged to continue submitting project proposals for inclusion in subsequent stages of the programming exercise.

INTRODUCTION

1. This programme is the outcome of deliberations at four ECA/OAU/UNIDO subregional meetings on intra-African industrial co-operation held in late 1983 and early 1984 which centred on the potential in the region for developing multinational projects in priority subsectors of industry. The projects contained in this initial integrated industrial promotion programme for Africa were endorsed by the African Ministers of Industry at their seventh conference held in Addis Ababa, March 1984, and their presentation in the form of a composite document was requested at that meeting.

2. The four subregions covered by this initial integrated programme are:

Eastern and Southern Africa

Angola*, Botswana, Burundi*, Comoros, Djibouti, Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Rwanda*, Seychelles, Somalia, Swaziland, Tanzania, Uganda, Zaïre*, Zambia and Zimbabwe.

West Africa

Benin, Cape Verde, the Gambia, Ghana, Guinea-Bissau, Guinea, the Ivory Coast, Liberia, Mali, Mauritania, the Niger, Nigeria, Senegal, Sierre Leone, Togo and the Upper Volta.

Central Africa

Angola, Burundi, Cameroon, the Central African Republic, Chad, Congo, Equatorial Guinea, Gabon, Rwanda, Sao Tome and Principe, and Zaïre.

North Africa

Algeria, Egypt, Libyan Arab Jamahiriya, Mauritania*, Morocco, the Sudan and Tunisia.

In certain subregions, countries that are not normally considered members of those subregions have been included in view of their close ties with the neighbouring countries. It can thus be seen that Angola, Burundi, Rwanda and Zaïre feature in the programmes for Eastern and Southern Africa as well as Central Africa, while Mauritania is to be found in both the West and North African programmes (see asterisk in listing above).

3. The first chapter of this document summarizes the economic situation in Africa and outlines the objectives of the Industrial Development Decade for Africa. The second chapter describes the industrial situation in the four subregions, indicating the need for the reorientation of industrialization policies and strategies, as well as the major institutional arrangements for economic co-operation in the subregions.

4. Proceeding from a definition of core industries, the third chapter identifies the strategic industrial subsectors in the region and describes those areas and services that support industrial development. The fourth chapter presents the integrated industrial promotion programme for the four subregions as endorsed by the African Ministers of Industry. It introduces a series of core projects in priority subsectors and gives details of support projects supplementing the process of integration. Project profiles provide data on such aspects as raw materials, infrastructure, markets, demand and investment requirements. The fifth chapter proposes a plan for the implementation of the integrated programme.

5. The annexes contain the criteria for selecting multinational and subregional industrial core projects as well as project listings of the four subregional programmes.

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

The current economic situation

1. As pointed out in the preamble to the Lagos Plan of Action, Africa is unable to point to any significant growth rate or satisfactory index of general well-being in the past 20 years. Whatever socio-economic indicator is used - be it per capita income, the share of primary activities in total production, school enrolment ratios, access to safe water, mortality or health - most African countries can be seen to be lagging behind other developing countries. The number of African countries listed as "least developed" by the United Nations recently increased to 26 out of a world total of 36, while 24 out of 34 countries classified by the World Bank as "low-income" developing countries are located in Africa. The share of manufacturing in the region's GDP is still appreciably lower than the comparable average for all other developing countries, while agricultural performance has dropped badly, bearing little comparison with the previous decade or with performance in other developing regions. Given the close link between agriculture and industry, poor performance in the agricultural sector has devolved negatively upon manufacturing.

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

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

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

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

Lagos Plan of Action and the Industrial Development Decade for Africa

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

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

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

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

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

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

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

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

(b) Identify major industrial projects of interest to the countries in one or more subregions or the region as a whole.

(c) Strengthen or establish subregional or regional institutions aimed at promoting industrial integration.

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

11. African countries will thus have to strengthen or establish subregional and regional institutional arrangements for the preparation, promotion, implementation and monitoring of multinational industrial projects. This might include subregional and regional institutions dealing with priority core industrial subsectors such as iron and steel, fertilizers and engineering industries. They will also have to ensure complementarity of the raw materials and factor inputs needed for industrial development and take steps to facilitate intra-African trade in industrial raw materials, intermediates and finished products while introducing suitable mechanisms for promoting and financing multinational industrial projects. Carefully planned, this strategy of collective self-reliant and self-sustained development should lead to a mutually reinforced system of production in the region in keeping with the objectives of the Lagos Plan of Action and the Final Act of Lagos.

II. INDUSTRIALIZATION IN THE REGION

Population and natural resources

1. The population of the 17 countries in the Eastern and Southern African subregion totalled 126.5 million (or 29 per cent of the total population of the OAU member states) in 1980 with forecasts of some 171 million by 1990 and 230 million by the end of the century.[1/] Per capita incomes in the same year ranged betwen $ 130 and $ 1,060 per annum, the highest per capita incomes being in the island countries with populations of less than 1 million.

2. The countries' economies are predominantly agricultural, involving the production of coffee, sisal, meat, hides, sugar and timber and employing some 80 per cent of the labour force. Some countries rely on the export of one major crop, while others have a wider range. Still others, though predominantly agricultural, depend heavily on the export of mineral products for foreign exchange revenue. The countries depend on external sources for most factor inputs such as capital goods, intermediate goods, technology, finance and services.

3. The West African subregion covers approximately one fifth of the continent's surface area: it comprises 16 countries, the majority of which attained independence in the early sixties. The population of the subregion totalled some 141 million in 1980, with forecasts of some 197 million by 1990 and 268 million by the end of the century. In terms of population, the subregion is the largest of the four, representing some 32 per cent of the total population of the OAU member states. Per capita incomes in 1980 ranged between $ 140 to $ 1,040 per annum, with the lowest per capita incomes being in the least developed countries in the subregion.

4. The countries' economies are based in the main on agriculture, involving the production of coffee, cocoa, groundnuts and timber and employing some 70 per cent of the labour force. Whereas in some countries the export of one major cash crop is the sole source of foreign exchange revenue, other countries depend heavily on the export of mineral products for foreign exchange revenue. The latter group includes Liberia (iron-ore), Guinea (bauxite and iron-ore), Sierra Leone (diamonds, bauxite and iron-ore), Nigeria (oil) and the Niger (uranium). Other resource endowments include gold, manganese, tin and zinc. Similar to the other subregions, West Africa depends on external sources for most of its factor inputs.

5. The population of the 11 countries in the Central African subregion totalled 62.7 million (or some 14 per cent of the total population of the OAU member states) in 1980 with forecasts of some 84.5 million by 1990 and 112.7 million by the end of the century. During the period 1975 - 1980, gross domestic product (GDP) in the subregion

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1/ These figures do not include the populations in 1980 of Angola (7.7 million), Burundi (4 million), Rwanda (5 million) and Zaire (26.4 million).

rose from $ 6,170 million to $ 6,475 million; this corresponds to a subregional growth rate of only 1 per cent as against a regional growth rate of 5.6 per cent. The average per capita income dropped from $ 131 to $ 122: an annual drop of 1.4 per cent. Per capita incomes in 1980 ranged between $ 103 and $ 4,450, the highest being in an oil-rich country in the subregion.

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

7. Most of the countries' economies are mainly oriented towards agriculture, involving the production of raw materials and primary commodities, much of which is exported unprocessed. Similarly, some of the countries still depend heavily on the export of mineral products either in unprocessed form or after primary processing: the main objective of these exports being to earn foreign exchange. In addition to depending on external sources for most factor inputs, the countries also depend on huge food imports.

8. The North African subregion comprises six countries. Its population totals some 110 million (approximately 25 per cent of total Africa), with forecasts of some 136 million by 1990 and 180 million by the end of the century. The population in the member countries in 1980 were: Algeria 18.7 million, Egypt 42.3 million, Libyan Arab Jamahiriya 3 million, Morocco 20.3 million, the Sudan 18.7 million and Tunisia 6.4 million. [2/] The GDP of the subregion (41 per cent of total Africa) and its rate of growth are the highest in Africa, while the level of infrastructure and industry is well above the average for the whole region. The subregion also leads Africa in terms of trade volume and growth. For example, in 1978, the value of imports in Algeria (US$ 8.5 billion) was second only to Nigeria (US$ 12.8 billion), followed by South Africa, Egypt, the Libyan Arab Jamahiriya, Morocco, the Ivory Coast and Tunisia. In the same period, the Libyan Arab Jamahiriya led in export trade (US$ 9.5 billion) followed by Nigeria, South Africa, the Ivory Coast, Egypt, Morocco and Tunisia.

2/ This figure does not include the population in 1980 of Mauritania (1.6 million).

9. The countries' predominant activities are in the agricultural sector, involving the production of cotton, olives, citrus fruits, sugar cane and wheat, employing some 70 per cent of the labour force. Some countries rely on the export of one major crop, while others have a wider range. Still others, though predominantly agricultural, depend heavily on the export of mineral products for foreign exchange revenue. The latter group includes Morocco (phosphates) and Algeria and the Libyan Arab Jamahiriya (oil). Other resource endowments include manganese, copper, lead and iron-ore. That notwithstanding, the countries of North Africa depend on external sources for their capital goods, intermediate goods, technology, finance and services.

10. In summary, the economic vulnerability of all four subregions stems from their dependence on the export of a limited number of primary commodities whose prices are determined externally, but also on the import of increasingly costly industrial factor inputs.

Industrial structure

11. In the Eastern and Southern African subregion, the major thrust in industrialization has been limited to the production of consumer goods to meet demand formerly satisfied by imported goods (import substitution), although a few export-oriented industries have been established. The industrial sector is still small and largely agro-based. Though once viewed as the major instrument of economic transformation and economic independence, it has failed to grow sufficiently, remaining structurally unchanged and dominated by the manufacture of simple consumer goods. Based mainly on small production units, for the most part import-based with poor local linkages, industrial production has been geared to the demands of a comparatively small sector of the urban population: it has failed to integrate effectively the agricultural sector nor has any effective linkage been established with other sectors. Furthermore, the small production units themselves are isolated and since they lack linkage with the major economic sectors, their impact on development is minimal.

12. Growth of manufacturing in the subregion dropped to 1.5 per cent in 1981 as against 2.2 per cent in 1980, while the growth rate for Africa as a whole dropped to 4 per cent in 1981, compared to 5.9 per cent in 1980. The manufacturing industry in the subregion represents only a small part of total output: the overall share of manufacturing in the GDP of the subregion was 13.4 per cent in 1980 (at constant (1975) prices). The spread of industry across the subregion in 1981, however, varied widely: Botswana (5.6 per cent), Comoros (5.4 per cent), Djibouti (8.8 per cent), Ethiopia (10.4 per cent), Kenya (13.3 per cent), Lesotho (4.7 per cent), Madagascar (10.1 per cent), Malawi (15.2 per cent), Mauritius (15.5 per cent), Mozambique (8.8 per cent), Seychelles (6.6 per cent), Somalia (8.8 per cent), Swaziland (24.3 per cent), Tanzania (9.0 per

cent), Uganda (4.2 per cent), Zambia (15.8 per cent) and Zimbabwe (26.5 per cent).[3/]

13. The share of light industries in manufacturing output varies between 56 per cent in Zimbabwe and 100 per cent in Swaziland, while the share of agricultural-based and consumer-oriented industries varies with the level of industrialization. In the case of Zimbabwe, for example, the high level of industrialization is due to the prominent role played by the chemical, petroleum and metallurgical industries, which accounted for about 40 per cent of gross manufacturing output in 1979.

14. The almost inevitable dependence on external factor inputs common to countries at an early stage of industrialization bears critical consequences for the countries of the subregion. In Tanzania, for example, failure to generate additional export revenue and thus pay for industrial inputs is one of the main reasons for the under-utilization of installed industrial capacities and production cutbacks. This is shown by the marked decline in that country's manufacturing industry in terms of value-added, a drop of 28.2 per cent in 1980-1981 and 16.3 per cent in 1979-1980.

15. Exports of manufactures from the subregion, excluding petroleum products, are very limited and mainly geared towards traditional markets outside Africa where they have to compete fiercely with exports from Asia and Latin America. Recently, some countries in the subregion have placed emphasis on the export of manufactured goods, as exemplified by Mauritius with its export processing zone. However, serious difficulties have arisen following the trade barriers raised by industrialized countries against imports of manufactured goods from developing countries.

16. Despite some structural changes in the West African subregion, the countries' economies are characterized by low levels of agricultural productivity, low per capita incomes, low levels of life expectancy and low industrial productivity. It is most disturbing that a subregion so endowed with agricultural and mineral resources, the majority of which are industrial raw material inputs, should be one of the least developed subregions in Africa, containing no less than 10 of the 26 least developed countries in Africa: Benin, Cape Verde, the Gambia, Guinea, Guinea-Bissau, Mali, the Niger, Sierra Leone, Togo and the Upper Volta.

17. In the sixties, the major industrial thrust in the subregion was limited to the production of consumer goods to meet demand formerly satisfied by imported goods (import substitution), and this policy was initially successful in Ghana, the Ivory Coast, Nigeria and Senegal. With the shift to the production of intermediate goods, the thrust was not maintained and traditional imports were markedly reduced in only a few countries.

3/ For Angola, Burundi, Rwanda and Zaïre see para. 25 below.

18. The manufacturing industry in the subregion represents only a small fraction of total output: the overall share of manufacturing in the GDP of the subregion was around 7 per cent in 1980 at constant (1975) prices. The spread of industry across the subregion, however, varies, and in 1981, the share of manufacturing in the various countries in the subregion was as follows: Benin (5.4 per cent), Cape Verde (5.4 per cent), the Gambia (2.6 per cent), Ghana (13.9 per cent), Guinea-Bissau (1.7 per cent), Guinea (3.1 per cent), the Ivory Coast (11.0 per cent), Liberia (5.2 per cent), Mali (7.8 per cent), Mauritania (6.0 per cent), Niger (5.3 per cent), Nigeria (6.1 per cent), Senegal (14.7 per cent), Sierra Leone (4.8 per cent), Togo (6.4 per cent), and Upper Volta (13.8 per cent).

19. The dominant feature of manufacturing activities in the subregion are the light industries producing consumer goods with a low processing content. With the exception of mechanical industries which are concentrated mainly in Nigeria, the Ivory Coast, Ghana and Senegal, the duplication of virtually similar manufacturing activities can be observed throughout the subregion. This stems from a lack of co-ordination among the countries in the subregion. Furthermore, since manufacturing industries were invariably established to serve relatively small domestic markets, many enterprises are now operating low capacity.

20. The total dependence of the industrial sector on imported capital and intermediate goods explains the periodic crises in the subregion as well as the countries' inability to provide employment opportunities through industrialization and stimulate, through backward and forward linkages, the growth of other sectors, especially that of agriculture. The industrial sector in West Africa is also characterized by the predominance enjoyed by transnational corporations. In most countries of the subregion, foreign companies control between 50 and 100 per cent of the capital share in industrial enterprises.

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

22. The development of heavy industry has not met with success in the Central African subregion, constrained as it is by a number of factors, including the size of the individual countries' markets and their lack of technical and managerial expertise.

The history of several metallurgical projects in Zaïre illustrates the difficulties encountered by the countries in the subregion: a steel plant at Maluku which was designed to use energy from the Inga dam is currently operating at only 3 per cent capacity, while a copper and cobalt refinery project has been abandoned.

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

24. Manufacturing in Central Africa is concentrated in or around the major cities: it usually has little or no impact on rural development. Indeed, manufacturing is geared mainly towards meeting the requirements of a comparatively small section of the urban population, even though the large majority of the population, some 80 per cent, live in rural areas.

25. Manufacturing in the subregion is mostly import-based and poorly linked to agriculture and other economic sectors. The share of manufacturing in the subregion is small, both in absolute terms and in terms of its contribution to GDP. In 1970, the average share of manufacturing value added (MVA) in GDP at constant 1970 prices in the subregion was only 7 per cent as against 8.6 per cent for the whole of Africa. In 1980, it rose to 8.9 per cent as compared to 9.7 per cent for the whole region. These average figures conceal disparities in performance between the countries in the subregion, and in 1981 the share of manufacturing in GDP in the various countries in the subregion was as follows: Angola (2.6 per cent), Burundi (10.9 per cent), Cameroon (9.8 per cent), the Central African Republic (13.5 per cent), Chad (7.8 per cent), the Congo (7.5 per cent), Equatorial Guinea (5.1 per cent), Gabon (7.7 per cent), Rwanda (12.7 per cent), Sao Tomé and Principe (4.7 per cent) and Zaïre (2.5 per cent).

26. In the three subregions, the factors contributing to the decline of manufacturing activities in the late seventies were the poor agricultural performance and the unsuccessful development of mineral resources that continue to be exported unprocessed. In some subregions, the industrial sector (embracing mining, manufacturing and construction) is dominated by transnational corporations, and in others the manufacturing sector was over-oriented towards narrow urban markets. The sector is also dependent on imported capital, intermediates and raw materials which, together with the balance of payments difficulties experienced by most countries, combine to depress industrial output. Other constraints upon industry in the three subregions are:

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

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

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

(d) Inadequate domestic financial resources and limited flow of foreign loans;

(e) Lack of infrastructural facilities, basically in the areas of transport and communications and energy;

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

(g) Low priority given to industry by governments when allocating resources and establishing development policies, programmes and projects; and

(h) Difficulties in introducing operational measures supporting the political will to pool resources and establish basic industries at the national and subregional level.

27. In the North African subregion, the countries' economies are also characterized by the fact that the contribution of agriculture to their GDPs is decreasing. In the oil-producing countries in the subregion (Algeria, Egypt, the Libyan Arab Jamahiriya and Tunisia) the relatively high level of per capita incomes can be attributed to oil exports rather than the sustainment or improvement of productivity in the agricultural or industrial sector. In 1981, the share of manufacturing in GDP in the subregion was 11.1 per cent at constant (1975) prices. The share of the countries in the subregion was as follows: Algeria (8.4 per cent), Egypt (14.4 per cent), the Libyan Arab Jamahiriya (2.8 per cent), Morocco (19.6 per cent), the Sudan (7.1 per cent) and Tunisia (10.3 per cent).[4/] In 1982-1983, manufacturing production in the subregion grew by 5.5 per cent; in Egypt where the bulk of activity was concentrated on rehabilitating and modernizing industry, this growth reached 10 per cent while in Morocco it dropped by 6.9 per cent.[5/]

28. In the sixties, industrialization was primarily limited to the production of consumer goods to meet demand formerly satisfied by imported goods (import substitution). With the shift to the production of intermediate goods, this thrust was maintained and traditional imports were significantly reduced in most countries. Of the five African countries with more than one thousand million dollars in manufacturing, three are in North Africa.

4/ For Mauritania see para. 18 above.

5/ For further details see Economic Commission for Africa, Survey of Economic and Social Conditions in Africa 1982-1983, (Addis Ababa, May 1984)

29. In common with the other subregions, the prominent feature of manufacturing activities in North Africa are the light industries producing consumer goods, primarily textiles and footwear, with a low processing content. In Algeria, however, the industrialization programme has been concentrated on building a heavy industrial base, and its investment expenditure is the second largest (after Saudi Arabia) in the developing world. With the exception of mechanical industries, the duplication of virtually similar manufacturing activities can be observed throughout the subregion. As in the other subregions, this stems from a lack of co-ordination. Furthermore, since domestic markets are relatively small, many enterprises are operating at low capacity. The countries in the subregion are also seized with immediate foreign-exchange and supply shortages and have to find ways of easing these constraints.

Industrialization strategies and policies

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

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

Industrial co-operation at the subregional and regional level

32. In the post-independence stage of their development, most countries in the region came to realize that their domestic markets were too small to support the broad range of industries that characterize a modern economy. This coupled with the need to develop was the driving force behind the creation of some intergovernmental organizations in Africa. Faced with deteriorating terms of trade, chronic balance of payments deficits, high costs of energy, enormous debt burdens, declining per capita incomes and poor economic management, countries recognized the potential offered by collective self-reliance as a means of ensuring rapid socio-economic development.

33. Industrial co-operation at the subregional (and regional) level would help to overcome the economic constraints upon industrialization that stem from limited markets and financial resources, and the fact that individual countries cannot dispose of all the technological and manpower capabilities needed to establish certain industries. Since most of the countries in the region have neither all the raw material inputs needed to establish certain industries nor the markets to absorb the expected output, effective industrial co-operation will enable those countries to deploy their resources to the maximum advantage.

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

35. The steps to be taken by each country, ranging from the identification of core projects at the national and subregional level to the detailed assessment of financial requirements, are spelt out in detail in the programme for the Decade. 6/

Institutional arrangements

36. Of the multilateral and bilateral industrial co-operation mechanisms in the Eastern and Southern African subregion, the two most important multilateral economic co-operation bodies are the Southern African Development Co-ordination Conference (SADCC) and the Preferential Trade Area for Eastern and Southern African States (PTA).

Southern African Development Co-ordination Conference. 7/

37. Established in July 1981 with the main objectives of reducing dependence on South Africa and accelerating economic development, SADCC set up an industrial co-ordination unit to speed up the process of industrial co-operation and integration among the SADCC member states. In a regional plan of industrial co-operation finalized at a meeting of the SADCC Industry Sub-Committee in Dar-es-Salaam in September 1981, the main thrust lay on developing industries to meet the basic needs of the population in the areas of food, clothing, housing, health, water supply, power, transport and education, while the development of basic industries such as fertilizers, pharmaceuticals, pesticides, iron and steel, capital goods and engineering industries also formed part thereof. Based on the declared priorities, 55 projects were identified for implementation and 33 projects were selected for further study.

6/ See ECA/OAU/UNIDO, A Programme for the Industrial Development Decade for Africa, ID/287 (United Nations, New York, 1982), Chapter III, pages 165-190.

7/ The member states are Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, Tanzania, Zambia and Zimbabwe.

The Preferential Trade Area for Eastern and Southern African States [8/]

38. Established in 1982 as a first step towards the creation of a common market and eventually an economic community, the PTA aims at promoting co-operation and development in all fields of economic activity. In respect of industry, the treaty provides for the promotion of collective self-reliance, complementary industrial development, the expansion of trade in industrial products and the provision of related training facilities. In an annex to the treaty, priority areas for industrial co-operation are identified, the establishment of multinational industrial enterprises advocated and the mechanisms for the promotion of industrial development described. Attention is also drawn to the necessity of industrial manpower development, training, management and consultancy services and to the need for a common approach to industrial research and development, and the exchange of industrial information.

39. The creation of SADCC and the signing of the PTA Treaty, whose objectives are fully in line with those of the Lagos Plan of Action and the Final Act of Lagos, not only reflect political commitment on the part of the member states, but they have also laid the foundation for the integrated development of the subregion.

40. Of all the subregions, West Africa has the largest number of intergovernmental organizations. An indicative listing is given below:

(a) Economic communities: Economic Community of West African States (ECOWAS), West African Economic Community (CEAO) and the Mano River Union (MRU);

(b) River basin development agencies: The Organization for the Development of the Senegal River Basin (OMVS) and the Organization for the Development of the Gambia River Basin (OMVG);

(c) Technical and services organizations: The West Africa Rice Development Association (WARDA) and the African Institute for Water Studies (CIEH);

(d) Financial and monetary institutions: West African Clearing House (WACH), Centre for Monetary Studies, African Solidarity Fund, African Development Bank (ADB) (a regional bank located in West Africa) and the West African Development Bank (BOAD);

(e) Professional and business associations: West African Chamber of Commerce and the West African Health Association.

41. The multiplicity of these intergovernmental organizations, their various objectives and integration strategies, their different and overlapping membership as well as the inevitable duplication in their programmes of activities have affected co-operation

8/ In addition to the nine SADCC member countries, the following countries are contracting parties: Burundi, Comoros, Djibouti, Ethiopia, Kenya, Madagascar, Mauritius, Rwanda, Somalia and Uganda.

in the subregion. Better co-ordination and harmonization are essential. Following a decision taken by the Heads of State and Government of ECOWAS, ECA prepared proposals for strengthening economic integration in West Africa for presentation to that body in 1984. Among the proposals put forward were suggestions for rationalizing and co-ordinating the activities of the intergovernmental organizations more effectively in order to accelerate economic integration in West Africa.

Economic Community of West African States (ECOWAS)

42. Established in 1975 with a view to promoting co-operation and development in all fields of economic activities (including industry) and in socio-cultural matters, ECOWAS aims at raising the living standards of its peoples, increasing and maintaining economic stability, fostering closer relations among its members and contributing to the progress and development of the African continent. Its establishment was also designed to promote the creation of a common market through the progressive elimination of duties between states; the abolition of restrictions on trade; the establishment of a common external tariff; the abolition of restrictions on free movement of persons; the harmonization of policies and strategies in all sectors; and finally through the elimination of disparities in the level of development between member states and the implementation of joint schemes.

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

The Economic Community of Central African States (ECCAS)

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

The Customs and Economic Union of Central Africa (UDEAC)

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

The Economic Community of the Great Lakes Countries (CEPGL)

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

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

48. A number of multinational economic co-operation mechanisms exist in the North African subregion, some of which have subsidiary bodies dealing with industry. These include the Arab League, the Council of Arab Economic Unity (AEUC) and the Maghreb Permanent Consultative Committee (CPCM).

The Arab Industrial Development Organization (AIDO)

49. AIDO (formerly IDCAS) was established in 1968 by the Economic Council of the Arab League and membership covers all the North African countries, Mauritania and the Arab countries in the Middle East. Its objectives - promoting, accelerating and co-ordinating the industrial development of the member states, providing services which are beyond the capability of national institutions and assisting in creating conditions for the establishment of joint manufacturing, marketing and investment enterprises - are in line with those of the Decade. AIDO could and should therefore play a major role in the promotion and implementation of multinational projects in the subregion.

The Maghreb Permanent Consultative Committee (CPMC)

50. The Maghreb Permanent Consultative Committee (CPCM) was created in 1964 as a technical and consultative body to study problems relating to economic co-operation in the Maghreb countries and to put forward proposals that could lead ultimately to a Maghreb economic community. Its aims correspond to those envisaged in the Final Act of Lagos which saw the strengthening or establishment of economic groupings and communities in the four subregions as a first step towards the creation of an African economic community. Studies related to industrial development and co-operation are carried out by its subsidiary body, the Centre for Industrial Studies of the Maghreb (CEIM).

51. Other institutions that could contribute to industrial co-operation in North Africa include the Arab Fund for Economic and Social Development and the Arab Organization for Agricultural Development. These institutions and those referred to above (except CPCM and CEIM) cover all Arab countries in North Africa and the Middle East.

III. STRATEGIC CORE INDUSTRIAL SUBSECTORS AND AREAS IN THE REGION

Core industries

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

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

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

Identification of strategic industrial subsectors and project areas

4. An efficient and balanced economy that satisfies national development needs, within the context of self-sufficiency and self-sustainment in the subregion, requires an industrial structure that ensures : (i) the exploitation, processing, utilization and other general development of natural resources; (ii) linkages between the different industrial subsectors, specifically those producing capital goods, intermediate and consumer goods; and (iii) linkage between national industrial productive capacity and other priority sectors. An industrial structure of this kind at the subregional level implies the establishment of core industries, the cost and productive capacity of which might exceed national financial and absorptive capacities.

5. In the Eastern and Southern African subregion, for example, the metallurgical, engineering, chemical, agro- and agro-based and building material industries were identified as strategic core subsectors by the Council of Ministers of the Preferential Trade Area at their second meeting in Lusaka, December 1982, in the SADCC industrial programme, and at successive meetings of the Council of Ministers of the Lusaka-based MULPOC. Similarly, in the Central African subregion, the metallurgical, engineering, chemical, agro- and agro-based and building material industries were identified as strategic core subsectors in Protocol IX on industry appended to the treaty establishing the Economic Community of Central African States (ECCAS) and duly reflected in the lists of joint projects adopted by the Heads of State of both UDEAC and CEPGL, as well as at meetings of the Council of Ministers of the Yaoundé- and Gisenyi-based MULPOCs.

6. The strategic subsectors briefly described below have been selected on account of their potential contribution to increased productivity in those areas accorded priority in the Lagos Plan of Action. 1/

Agro- and agro-based industries

Food-processing industry

7. The development of agro- and agro-based industries is critical to the region's attainment of self-sufficiency in food production, a priority among the priorities in the Lagos Plan of Action. Their development would help greatly to reduce post-harvest losses, increase food availability and contribute to food security in the region. The development of this subsector would also help to reduce imports, increase the value-added of raw materials, augment export revenues, raise employment levels and improve incomes. It would also increase opportunities for investment in agriculture (farming and stock-breeding) and associated processing industries, as well as stimulate the development of the allied subsectors, such as engineering and energy. It should also be recalled that the African coastal waters are rich in halieutic resources: at present, these are mostly exported, although their local consumption would help to combat protein deficiencies and their processing would contribute to improving local technical skills and generating employment.

Textile industry

8. Textiles (clothing) are one of the major basic needs and one of the four industrial subsectors in which Africa will do everything within its power to attain self-sufficiency in the course of the current decade. Development of the textile industry permits satis-

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

faction of local needs, import substitution and export promotion. The African countries should try to increase substantially the production of local raw materials, including cotton and man-made fibres, instead of importing them from countries outside the region. Current trends in textile technology are likely to stimulate rapid structural change, further to which the textile industry is becoming increasingly capital-intensive and technologically sophisticated.

Metallurgical industry

9. The metallurgical industry provides linkage upstream to industries processing raw materials (mining, energy, water) and downstream to metal-working and engineering subsectors: it is basic to the industrialization process. The manufacture of metal consumer goods and equipment in the region requires accelerated growth of the intermediate industries providing such inputs as iron and steel, aluminium, copper and other metallurgical products which, in turn, depend on the exploitation of the vast mineral resources of the region, in particular iron-ore, bauxite, copper, manganese and lead. At present, some of these minerals are processed in the region, while others (the majority) are exported to the developed countries as raw or semi-finished products. The development of metallurgical industries in the region would make for the creation of vertically integrated industries from mining through refining to fabrication.

Engineering industries

10. The integrated development of engineering industries in the region, such as the metal-working, mechanical, electrical and electronic branches, will ensure the manufacture of basic equipment and machine tools, as well as intermediate and capital goods for use in food production and in such priority subsectors as the agro-based, building materials and metallurgical industries. It will also contribute to the promotion of the transport equipment industry in certain subregions. Engineering industries, through such facilities as foundries, forging and heat-treatment shops, tool rooms, metal fabrication shops, machine shops and metal-coating shops, ensure the supply of spare parts, components and accessories to all sectors of the economy. With the development of engineering industries in the region, natural resources (basic metals from ores) would be increasingly utilized, capital formation accelerated, and the production of essential components, parts, machinery and equipment (that are currently imported) promoted. Through this effective form of import substitution, foreign exchange would be saved for other economic activities, while development of the subsectors would also foster science and technology, including research and development activities.

Chemical industry

11. Chemical industries provide products directly related to the satisfaction of basic needs, primarily food and health. As mentioned earlier, the decline in agricultural

production and the growth in populations in the region caused an increasing amount of resources to be diverted to food imports (especially cereals), thereby reducing the amount of foreign exchange available for the import of industrial inputs required to ensure full utilization of installed capacities. Production in the region of essential chemicals such as fertilizers, pesticides, pharmaceuticals and petrochemicals based on domestic resources (such as natural gas, coal, phosphate, potash and electric energy) would stimulate the development of agriculture, industry and other sectors, whose viability could not be assured using imported chemical inputs. In this connection, it should be noted that the more advanced the stage of economic development, the more critical the role of the chemical industries and the higher the degree of linkage with other key subsectors and sectors.

Building materials industry

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

Areas and services supporting industrial development

Agriculture

13. Although agriculture still remains the major source of employment, food, industrial raw materials and foreign exchange for the majority of countries in the region, its recent decline has had to be offset by substantial imports of food which increase the drain on limited foreign exchange reserves. Total food production rose by no more than 1.5 per cent per year in the period 1970-1980, while the African population expanded at an average annual rate of close on 2.8 per cent. As a result, per capita food production dropped at an average annual rate of at least 1.2 per cent in the period 1970-1980. 2/ Agricultural exports have slumped or ceased completely in some countries and the

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2/ Per capita food production increased over the same period between 0.7 and 0.9 per cent in other developing regions.

resultant low level of rural incomes has led to a massive exodus of the young to urban areas. These conditions have been exacerbated by the vagaries of weather, in particular drought and locust raids, while other contributory factors are poor farming methods and problems related to the procurement and distribution of agricultural inputs, as well as the failure to develop industries with forward linkages to agriculture. Additional difficulties in the region are the loss of livestock and encroaching desertification, culminating in the alarming fact that the region is unable to feed itself. Total cereal imports to the Eastern and Southern African subregion in 1980, for example, were close to 3.4 million tons costing US$ 850 million, 15 per cent of which went to Zambia, followed by Ethiopia, Kenya, Mozambique and Tanzania. This alarming increase in the import of food grains into the subregion is contrary to the concept of self-reliance contained in the Lagos Plan of Action.

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

Mineral resources

15. Mining and quarrying are important activities. For example, Africa has 8.5 per cent of the world's known reserves of oil, 25 per cent of the world's uranium reserves, 21 per cent of all bauxite reserves, 45.2 per cent and 67 per cent of cobalt and phosphorites, respectively. However, given the sector's domination by transnational corporations and its entire dependence on markets outside the region, to which the minerals are exported unprocessed, the region is highly susceptible to international price fluctuations. In North Africa, however, most mining and quarrying activities are undertaken by national companies in the public sector : whereas in some countries, such as Mauritania and Morocco, mineral resources are mostly produced for export, in other countries, such as Algeria and Egypt, they are processed locally. Many African countries are heavily dependent upon one or two minerals. Given the current world recession and the falling demand for almost all minerals, it is not merely industrial companies that have been at risk, but, in some instances, entire national economies. In 1982-1983, Liberia, Mauritania, Niger, Zaïre and Zambia were all adversely affected by the slump in the minerals sector.

Energy

16. Most countries in the region depend on oil to meet their energy needs, particularly in the transportation and industrial sectors. Some are endowed with other important sources of energy, in particular petroleum, hydroelectric power (though still under-exploited), natural gas, coal and peat, as well as new and renewable sources of energy,[3/]

3/ Africa has some 55 billion barrels of crude oil, 208,470 billion cubic feet of natural gas, 88.5 billion tons of coal reserves, 1.7 million tons of uranium, and 200,000 MW of potential hydro-capacity. See Economic Commission for Africa ECA and Africa's Development 1983-2008 (Addis Ababa, April 1983).

the development of which will require major investments far beyond the scope of individual countries. Given this situation, it is foreseen that the region will continue to depend on oil as a major source of energy and it will need to intensify co-operation in the development and utilization of its energy resources, and a suitable legal, financial and commercial framework will have to be worked out, as recommended in the Lagos Plan of Action. The largest part of the region depends on oil imports in the range of 26 and 66 per cent of the commercial energy requirements of the individual countries. In some subregions, the growing consumption of energy is due to increasing urbanization rather than increased industrialization, since many countries still lack energy-intensive industrial structures. The most traditional fuel is firewood which is used for cooking purposes in rural areas and by the urban poor.

17. In the longer term, it is possible to contemplate a situation where increased exploitation of the region's hydroelectric potential could make electricity prices cheaper relative to oil prices. Rural electrification could reduce the demand for paraffin and hence for crude-oil, while new and renewable sources of energy could be exploited for domestic uses. Given the extensive exploration and exploitation undertaken by a growing number of countries, coal could also become an important source of energy.

Water

18. The region has an abundance of water in the form of numerous lakes and rivers as well as the surrounding oceans. Properly exploited, these water resources could provide suitable zones for the development of industrial complexes as well as irrigation schemes. Some countries, however, are dependent on rainfall and groundwater supplies, with the result that the severe droughts that currently extend far beyond the Sahelian zone are having disastrous socio-economic effects: a decline in agricultural and livestock production as well as a mass exodus of rural populations to overburdened urban areas. Those countries with an abundance of water, however, need to ensure its effective management in order to be able to satisfy long-term requirements.

Transport and communications

19. Although the basic transport and communications infrastructure is established in the region in that major cities have air or road links, the system will have to be improved significantly, given its importance to accelerating the process of development and supporting the subregional industrial promotion programmes. At present, transport and communications feature several constraints which impinge negatively upon the economic integration of the region. These constraints include:

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

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

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

(iv) Shortage of skilled manpower; and

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

80. Given the external orientation of both the transport and communications systems, improvements are called for and imbalances need to be rectified so as to reduce the dependence of the countries in the region on external countries as well as reduce the cost of transportation which greatly restricts the development of the landlocked countries. In some subregions, the majority of countries are not linked with each other and most traffic from and to these subregions has to be routed via Europe and some countries outside the subregion. The relatively high cost of constructing and equipping certain central infrastructural facilities such as ports and their impact on other means of transport make their joint development and utilization indispensable. Subregional initiatives embracing the road network, air transport services and the railway system as well as transportation by water are therefore necessary in order to rationalize usage of the various transport and communications facilities, including the improvement of the telecommunications system, at the regional level, in keeping with the guidelines set out in the Lagos Plan of Action and the programme for the United Nations Transport and Communications Decade for Africa.

Trade

81. Major efforts are being made to increase trade between the countries in the region and so change the traditional North-South pattern of trade. Governments and intergovernmental organizations in the region have placed great emphasis on developing trade within the region and numerous bilateral agreements have been concluded between countries to this end. At present, however, in Eastern and Southern Africa, trade between countries in the subregion accounts for only 7 per cent of total trade in the subregion, while trade between countries in Central Africa is negligible compared to total trade with countries outside Africa. In the latter instance, it is felt that one of the contributing factors is the underutilization of compensation arrangements in the Central African subregion, primarily the non-participation of certain countries in the subregion, and the lack of requisite information for economic agents. In general, however, the factors contributing to the low volume of trade between African countries are seen to be:

(i) Shortage of convertible currencies;

(ii) Inadequacy of transport and communications;

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

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

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

(vi) Lack of surplus industrial products for export;

(vii) Lack of production complementarity among countries in the region; and

(viii) Level of production costs resulting in uncompetitive prices.

However, these obstacles can be overcome and economic interdependence enhanced through the vehicle of such economic groupings as ECCAS, ECOWAS, UDEAC, CEPGL, SADCC and PTA.

Mobilization of financial resources

22. Implementing the projects in the initial regional programme will call for major investments - a basic factor determining the corporate form and, above all, the negotiating position vis-à-vis the outside world. In many countries, the investment of domestic resources is inadequate and this problem is aggravated by the oft precarious state of a country's balance of payments, public finances and budgets, as well as the low level of transactions, particularly in the agricultural sector. It would therefore be advisable for governments and financial institutions in the region to mobilize internal and external financial resources and optimize their use through a variety of measures, including fiscal and other policies designed to stimulate savings and investment. These should be matched by such institutional arrangements as the strengthening or estabishment of national or subregional industrial development banks. Particular attention should be paid to the better preparation of bankable projects and feasibility studies, if necessary with the assistance of such organizations as UNIDO. Consideration might also be given to tapping private sources of finance and encouraging chambers of commerce to participate in the mobilization of financial resources. Benefit can be gained by involving potential investors from the very early stages of a project so as to avoid subsequent rejection of feasibility studies.

Human resources

23. The implementation of the integrated industrial promotion programme, similar to that of the programme for the Decade, hinges on the development of human resources at various levels in the industrialization process, ranging from policy-makers and industrial entrepreneurs through technologists and technicians to skilled labourers. The region disposes of adequate human resources; their training and skills, however, are wanting. University courses and industrial needs are mismatched as are vocational training

opportunities, there being only an infinitesimal number of courses aligned to the requirements of the priority subsectors, support areas and services. This merely perpetuates reliance on expatriate technicians. In North Africa, local vocational training centres and technical training institutions, if developed and assisted, could cope with the training needs arising out of that subregional programme. Furthermore, if appropriately strengthened, these institutions could accept trainees from other subregions. At the same time, the fact that some of the countries in North Africa have a long tradition of labour migrating to and returning from Europe has contributed to building up skilled labour in the subregion.

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

. One problem that impinges heavily upon the southern countries in Eastern and Southern Africa is the migration of labour to South Africa. Countries skilled and unskilled workers are lost to the subregion and the long-term effects of this exodus upon the economies of the countries are significant. Human labour, intelligence and creativity are the principal productive forces in any economy.

Technology

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

. It should be noted that most countries in the region do not dispose of the personnel, in quantity or quality, to evaluate, acquire, adapt, diffuse and absorb foreign technologies, which is a highly technical and sophisticated discipline. Only very few countries have taken steps to develop the institutional machinery needed to promote the development and upgrading of local technology or the acquisition and regulation of foreign technologies. In many countries, government agencies and private enterprises have been left to their own devices or given biased advice when deciding

whether to invest in technology. As a result, they have purchased defective products or plants that were reconditioned or overpriced, technologies that were inappropriate in terms of labour, capital or resource endowments, or processes unsuited to local raw materials or environment. Action should thus be taken to overcome such deficiencies as : (i) inadequate purchasing and procurement policies; (ii) lack of information on sources and prices of major factor inputs and technologies; and (iii) disorganized negotiating and contractual practices. Consequently, particular emphasis must be placed on mastering the assessment, selection and transfer of technology and its acquisition through appropriate policies and practices.

Industrial institutional infrastructure

28. The successful implementation of the integrated industrial promotion programme will require the better utilization, strengthening or development of an effective industrial institutional infrastructure which, at present, is inadequate in most countries. Certain institutions exist at the national level, but they rarely suffice to cover all the critical functions essential to a major forward thrust. These functions are outlined in that section of the programme devoted to multinational support projects (see Chapter IV, paragraph 73), and a distinction can be made between: (i) those institutions primarily responsible for such activities as the organization of raw material supplies, including energy, the development of factor inputs for production and marketing; and (ii) those performing supplementary services, such as information, banking and insurance, material and product testing, and project preparation.

IV. INITIAL INTEGRATED INDUSTRIAL PROMOTION PROGRAMME

1. The initial integrated industrial promotion programme presented in this chapter is derived from a variety of sources : from national projects requiring multinational co-operation submitted by countries in the four subregions to UNIDO and ECA, from projects based on information provided by the ECA, OAU and UNIDO secretariats and from subregional industrial programmes developed within the framework of the MULPOCs, subregional organizations such as PTA, ECOWAS, Mano River Union, UDEAC and CEPGL, and the UNIDO investment promotion services. Following a careful and thorough review of those projects, project proposals and project concepts at the four subregional meetings held in late 1983 and early 1984, 96 strategic core projects together with 47 support projects were selected to constitute the initial programme. The projects were chosen on the basis of the criteria contained in annex I: all of them are fully in accordance with the priorities of the subregions, the Lagos Plan of Action and the programme for the Decade.

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

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

Strategic core projects

Metallurgical industry

Iron and steel subprogramme

4. The short-term component of a development strategy for this industry in the Eastern and Southern African subregion comprises the upgrading and diversification of products from a major plant in one country. This initial step would enable other countries in

that subregion to obtain inputs for their rolling mills in the longer term. Backward integration of iron and steel plants with existing rolling mills is envisaged in order to produce some 2 million tons of crude steel in 1990 and 4.5 million tons in 2000.

5. Iron-ore deposits, estimated at 8,400 million tons and containing about 4,200 million tons of iron metal, have been located in 10 countries in Eastern and Southern Africa. Coal deposits in the subregion are estimated at about 115,000 million tons, of which 778 million tons are of coking quality. Refractories, fluxes and additives, raw materials used in iron and steel production, are known to exist in adequate quantities in the subregion. Moreover, the subregion possesses adequate fossil fuel and hydro-electric resources.

6. The iron and steel industry in Eastern and Southern Africa has an assured market. For the short-term option, countries unable to produce crude steel at present will import billets from Zimbabwe to feed their rolling mills. For the long-term option, market outlets will fall under the following categories:

(i) Countries with electric arc furnaces that may wish to import sponge iron to supplement locally available scrap;

(ii) Countries with rolling mills that may wish to import billets in order to achieve maximum output from their national rolling mills; and

(iii) Countries with sufficiently high domestic consumption of iron and steel products to justify the establishment of integrated iron and steel complexes.

7. The short-term component of a development strategy for this industry in the West African subregion comprises the creation of steel capacity on a limited scale in countries of the subregion which do not currently produce iron and steel. The long-term option involves the integration of plants on stream at the end of the current decade in such a manner that they constitute complete plants capable of meeting the estimated subregional market demand.

8. Iron-ore deposits, estimated at 22,000 million tons and containing about 11,000 million tons of iron metal, have been located in 14 countries in West Africa. Coal deposits in the subregion are estimated at about 335 million tons, all of which are of non-coking quality. As in the case of Eastern and Southern Africa, influxes and raw-materials for refractories and additives are known to exist in adequate quantities in the subregion; the fossil fuel and hydro-electric resources are sufficient.

9. Similarly, the iron and steel industry in West Africa has an assured market: those countries unable to produce crude steel at present will in the short term import billets

from neighbouring countries to feed their rolling mills. Their long-term options are identical to those cited for Eastern and Southern Africa above.

10. Central Africa also has the mineral and energy resources needed to establish an integrated iron and steel industry. Iron-ore deposits are to be found in Zaïre (510 million tons), Angola and the Congo. Coal deposits also exist (720 million tons in Zaïre alone). Furthermore, fluxes and raw materials for refractories and additives needed in the manufacture of iron and steel are available in the subregion: manganese, for example, is available in Gabon and Zaïre. Moreover, the subregion possesses considerable fossil fuel and hydro-electric resources.

11. The iron and steel subprogramme will require a number of support projects such as training of manpower, research and development, design and project implementation capabilities, as well as repair and maintenance capacities.

12. Nine projects are included in the initial programme:

(a) Upgrading and diversification of products from ZISCOSTEEL, Zimbabwe (Project profile No. 1);

(b) Expansion of iron and steel mill, Uganda (Project profile No. 2);

(c) Integrated iron and steel mill, Kenya (Project profile No. 3);

(d) Establishment of a sponge iron plant, West Africa (Project profile No. 4);

(e) Installation of electric arc furnace plants, West Africa (Project profile No. 5);

(f) Installation and expansion of re-rolling mills, West Africa (Project profile No. 6);

(g) Establishment of an integrated iron and steel plant for flat and tubular products, West Africa (Project profile No. 7);

(h) Establishment of foundries, West Africa (Project profile No. 8); and

(i) Rehabilitation of the Maluku steel plant, Zaïre (Project profile No. 9).

PROJECT PROFILE NO. 1

SUBSECTOR: Metallurgical industry (iron and steel)

SUBREGION: Eastern and Southern Africa

1. Project Title: Upgrading and diversification of products from ZISCOSTEEL, Zimbabwe

2. Objective: To upgrade and diversify products from ZISCOSTEEL, Redcliff, Zimbabwe so as to meet the present subregional requirements for iron and steel products.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Zimbabwe as recommended at first and second meetings of the Eastern and Southern African Steel Development Committee; (8-11 November 1982; 24-28 October 1983) 4. Redcliff, Zimbabwe	5. Feasibility study undertaken. 6. Detailed market studies prior to completion of expansion plan.	7. Iron ore: 90 million tons (50% Fe) at Bukwa and Ripple Creek 8. Coking coal: 390 millions tons at Hwange. Hydro-electric potential: 4,570 MW. 9. A good network of railway roads and electricity supply available	10. (thousand tons) 1990 2000 Domestic demand Bars, rods and sections 180 370 Strips, hoop and skelp 16 34 Plate, sheet 325 691 Total 521 1,095 Subregional demand 1990 2000 1,977 4,520 11. Zimbabwe and the subregional market.	12. 0,96 million tons crude steel (1990) 13. US$405 million in 1990 (1981 dollars)	14. This project was approved at the sixth meeting of the Council of Ministers of the Lusaka-based MULPOC held in Mbabane, Swaziland, 14-16 February 1983.

PROJECT PROFILE NO. 2

SUBSECTOR: Metallurgical industry (iron and steel)

SUBREGION: Eastern and Southern Africa

1. Project Title: Expansion of iron and steel mill, Uganda

2. Objective: To exploit known iron ore deposits for use in the expanded steel plant at Jinja

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Ministry of Industry, Uganda 4. Jinja, Uganda	5. Conceptual stage 6. Feasibility study to establish viability, including detailed study of market and future demand in terms of volume and product mix.	7. At present steel plant utilizes imported billets/ ingots and local scrap, but expanded plant will utilize locally extracted iron. 8. Energy required is available. 9. (a) Steel plant in operation but requires expansion. (b) Primary metal facilities still to be developed. (c) Transport facilities between the iron ore beds and the steel/ iron plant still to be developed.	10. Information not available 11. Local market (70%), export to neighboring countries (30%).	12. (a) Present 25,000 tons/ year steel intermediates (rods, bars, sections and strips). (b) Expanded 100,000 tons/ year current steel intermediates and additional unspecified items. 13. Estimated at US$ 253 million, excluding costs of infrastructure.	14. (a) No collaboration arrangements entered into so far. Government welcomes economic co-operation with multilateral sources in the form of consultancy, foreign capital and technological know-how. (b) The Government and local private sources could provide up to 30% of the estimated total investment, the balance coming from multilateral sources: the structure of ownership flexible. (c) Terms of co-operation are subject to negotiation between Government and potential partners. (d) Information about manpower requirements not available, but training of local personnel necessary.

PROJECT PROFILE NO. 3

SUBSECTOR: Metallurgical industry (iron and steel) SUBREGION: Eastern and Southern Africa

1. Project Title: Integrated iron and steel mill, Kenya

2. Objective: To establish a new enterprise for the manufacture of non-flat and flat steel products.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Ministry of Industry, Kenya 4. Mombasa, Kenya	5. The enterprise is expected to start production in 1990. A draft feasibility study is available. 6. No information available about immediate follow-up activities.	7. Iron ore, manganese ore and coking coal are to be imported, whereas charcoal, limestone, fluorspar and scrap are available locally. 8. To be imported. 9. Five steel plants exist in Kenya. No exact information is available concerning the new enterprise; however, Mombasa has adequate harbour facilities and related infrastructure.	10. 374,000 tons in 1985; 524,600 tons in 1990; 735,800 tons in 1995; and 1,031,500 tons in 2000. 11. Mainly geared to domestic market, but export opportunities to neighbouring countries exist.	12. Proposed production programme: (a) Non-flat products: 103,650 tons in 1995; and 241,250 tons in 2000. (b) Flat products: 316,400 tons in 1990; 445,000 tons in 1995; and 611,400 tons in 2000. 13. Estimated at some K$1,656 million for all three stages of the project.	14. (a) No information is available concerning any collaboration arrangements entered into in respect of this project. (b) No particular participation by countries in the subregion is sought; however, participation by countries outside the region is sought in terms of equity holding, supply of technology, know-how and loans and credit. (c) Total manpower requirements for all stages of the project total 6,695 persons at all levels, but no information on training requirements is available. (d) Information derived from document submitted by Government to UNIDO secretariat.

PROJECT PROFILE NO. 4

SUBSECTOR: Metallurgical industry (iron and steel) SUBREGION: West Africa

1. Project Title: Establishment of a sponge iron plant

2. Objective: To produce sponge iron for use in electric arc furnaces in the subregion.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Mano River Union in co-operation with CEAO and Liptako-Gourma Authority. 4. Possible locations include: Liberia, Guinea, Sierra Leone and Mauritania	5. Conceptual stage 6. Prefeasibility studies	7. A reserve of approximately 22,000 million tons of iron ore available in Liberia, Guinea, Sierra Leone and Mauritania. 8. Hydro-electricity: 51,200 MW; Natural gas: 1,200 billion cubic metres; Petroleum: 2,500 million tons 9. Infrastructure partially available	10. The demand for sponge iron in the subregion: 1.5-2.0 million tons/year. 11. Countries in the subregion	12. Initial capacity: 0.8 million tons of sponge iron per year with possibility of expansion to 1.5 million tons by the year 2000. 13. To be determined.	14. This project was initially conceived as three separate projects which were presented to the Sixth Meeting of the Council of Ministers of Niamey-based MULPOC held at Cotonou, Benin, 21-26 March 1983

PROJECT PROFILE NO. 5

SUBSECTOR: Metallurgical industry (iron and steel) SUBREGION: West Africa

1. Project Title: Installation of electric arc furnace plants

2. Objective: To install electric arc furnaces, based on sponge iron from sponge iron units in the subregion, to supply billets to merchant product re-rolling mills in the subregion.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. ECOWAS and CEAO 4. To be determined	5. Conceptual stage 6. Prefeasibility studies	7. Sponge iron from project described in profile No. 4 8. Electricity 9. Infrastructure partially available	10. 1.5-2.0 million tons billets in 2000. 11. Countries in the subregion	12. Estimated at 1.5 to 2.0 million tons billets. 13. To be determined	14. This project was initially conceived as two separate projects which were presented to the Sixth Meeting of the Council of Ministers of the Niamey-based MULPOC held at Cotonou, Benin, 21-26 March 1983.

PROJECT PROFILE NO. 6

SUBSECTOR: Metallurgical industry (iron and steel)

SUBREGION: West Africa

1. Project Title: Installation and expansion of re-rolling mills

2. Objective: To install and expand rolling mill capacity for merchant products and to supply the subregion with requisite merchant products up to 2000.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Mano River Union, ECOWAS, and CEAO 4. Countries with relatively high demand for merchant products.	5. Conceptual stage 6. Prefeasibility studies	7. Billets from electric arc furnace plants within the subregion. 8. Electricity. 9. Plants will be preferably located in areas where infrastructure already exists.	10. 1.5-2.0 million tons per year by 2000. 11. Countries in the subregion	12. 1.5-2.0 million tons per year by 2000. 13. To be determined	14. This project was initially conceived as two separate projects which were presented to the Sixth Meeting of the Council of Ministers of the Niamey-based MULPOC held at Cotonou, Benin, 21-26 March 1983.

PROJECT PROFILE NO. 7

SUBSECTOR: Metallurgical industry (iron and steel) SUBREGION: West Africa

1. Project Title: Establishment of an integrated iron and steel plant for flat and tubular products

2. Objective: To install an integrated plant to meet the demand for flat and tubular products in the West African subregional market (excluding Nigeria).

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. This project was presented to the sixth meeting of the Council of Ministers of the Niamey-based MULPOC held at Cotonou, Benin, 21-26 March 1983, and was referred to the Intergovernmental Committee on Metals of the Niamey-based MULPOC. 4. To be determined.	5. Conceptual stage 6. Pre-feasibility studies	7. Subregional iron ore resources: 22,200 million tons 8. Subregional fuel and energy resources. Petroleum: 2,500 tons; Natural gas: 1,200 billion cubic metres; Hydro-electric potential: 51,200 MW. 9. Physical infrastructure will be created.	10. Subregional demand (thousand tons) Product / Year 2000 Flat 3,300 Tubular 2,000 5,300 11. Countries in the subregion (except Nigeria)	12. Total crude steel capacity will be 2 million tons 13. To be determined	

PROJECT PROFILE NO. 8

SUBSECTOR: Metallurgical industry (iron and steel) SUBREGION: West Africa

1. Project Title: Establishment of foundries.

2. Objective: To produce various grades of cast iron required for subregional engineering industries in 1990 and 2000.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. This project will be referred to the Intergovernmental Committee on Metals of the Niamey-based MULPOC. 4. To be determined.	5. Conceptual stage 6. Studies to establish the quantity and quality of cast iron grades required for 1990 and 2000.	7. To be determined 8. See 7 above. 9. Will be located where infrastructure already exists.	10. See 7 above 11. Countries in the subregion	12. See 7 above 13. See 7 above	14. This project will be formulated according to the needs of the engineering industry programme.

PROJECT PROFILE NO. 9

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

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

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

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

Aluminium subprogramme

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

14. One project is included in the initial programme:

(a) Integrated development of the aluminium industry, Cameroon (Project profile No. 10).

PROJECT PROFILE NO. 10

SUBSECTOR: Metallurgical industry (aluminium) SUBREGION: Central Africa

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

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

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

Tin subprogramme

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

16. One project is included in the initial programme:

(a) Expansion of a tin plant, Rwanda (Project profile 11).

PROJECT PROFILE NO. 11

SUBSECTOR: Metallurgical industry (tin)

SUBREGION: Central Africa

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

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

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

Engineering industry

Agricultural machinery and equipment subprogramme

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

18. In all national development plans in Africa particular emphasis is placed on agriculture and agro-based industries. Many current agricultural schemes as well as the numerous planned projects include specific agricultural machinery and equipment requirements. Consequently, the production of such items as tractors, water supply and irrigation pumps and other agricultural equipment takes on particular importance and manufacturing facilities should be established so as to meet the ever-increasing needs.

19. Very few countries, however, appear to have a development strategy for the manufacture of agricultural machinery equipment. Manufacturing facilities for agricultural hand-tools exist in many of the countries, while animal-drawn equipment is manufactured in some of the countries (except in Algeria where tractors with 70 per cent local value-added are made) and assembly plants are to be found in Angola, Kenya, Madagascar, Nigeria, Tanzania and Zimbabwe as well as the countries of North Africa. Potential clearly exists for the integrated and interlinked development of tractor and transport manufacturing units and an area of particular significance is the manufacture of four-wheeled diesel-engine tractors. Moreover, given the growing demand which is now mainly satisfied by imports, it is essential that a long-term approach be adopted and local manufacturing facilities established so as to reduce the high degree of external dependence. Furthermore, since countries in the region dispose of the skills and know-how required for engineering undertakings of this kind, a firm foundation already exists.

20. Ten projects are included in the initial programme:

(a) Manufacture of agricultural machinery (four-wheel tractors), Zimbabwe (Project profile No. 12);

(b) Manufacture of pumps and irrigation equipment, Zambia (Project profile No13);

(c) Manufacture of four-wheeled tractors, Senegal and Nigeria (Project profile No. 14);

(d) Manufacture of agricultural tools and implements, Sierra Leone (Project profile No. 15);

(e) Manufacture of diesel engines for irrigation pumps and generators, Guinea (Project profile No. 16);

(f) Manufacture of agricultural implements and equipment, Nigeria (Project profile No. 17);

(g) Production of mobile mini palm-oil mills, Mano River Union (Project profile No. 18);

(h) Manufacture of agricultural machinery and equipment, Rwanda (Project profile No. 19);

(i) Establishment of tractor assembly plants, Egypt and the Sudan (Project profile No. 20); and

(j) Manufacture of pumps for irrigation purposes, North Africa (Project profile No. 21).

PROJECT PROFILE NO. 12

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

1. Project Title: Manufacture of agricultural machinery (4-wheel tractors), Zimbabwe.

2. Objective: To develop agricultural machinery manufacture

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. MULPOC Council of Ministers 4. Zimbabwe	5. Conceptual stage 6. Pre-investment studies	7. Grey cast iron/ malleable cast iron, forging quality steel, sheet metal and sections would be made available locally. Quality steel to be imported initially. 8. Energy available. 9. Infrastructure adequate.	10. 4-wheel tractors: 15,200 units/ year (1990) 32,000 units/ year (2000) 11. Agricultural sector of the subregion	12. 7,000 units (one shift); 21,000 units (three shifts). 13. (a) Pre-investment studies: US$200,000 (b) Basic investment: US$20 mill. (excluding investment for engine production and ancillary industries)	14. (a) 50% of basic investment to be provided by equity shareholding and balance by loans. (b) Less than 50% shares to be given to partners. (c) Supply arrangement between this project and the diesel engine project for the supply of engines (see project profile No. 23. (d) Ancillary industries to be set up at national level to provide parts and components.

PROJECT PROFILE NO. 13

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

1. Project Title: Manufacture of pumps and irrigation equipment, Zambia

2. Objective: To produce various items of irrigation equipment, such as pumps, pipes, connections and valves. The project will also concentrate on upgrading certain production facilities.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. INDECO, the largest company in Zambia, with over 30 subsidiaries. 4. Lusaka or the Copperbelt, Zambia.	5. A feasibility study is available. 6. No details available.	7. Steel profiles, sheets, pipes, alloy castings, etc., to be imported. 8. Project requirements are met. 9. Available in part, other facilities such as buildings have still to be provided.	10. Information not available 11. Local.	12. Planned capacity: 3,677 tons/year or 373,480 pieces/year 13. Estimated at US$19.2 million.	14. (a) No information is available on any collaboration arrangements, or planned participation by any countries in the subregion. (b) Participation by countries outside the region sought mainly in terms of financial/technological inputs, such as loans, licences, technology and know how. (c) Project presented to the UNIDO regional investment promotion meeting for Southern African countries (Lusaka, October 1983). (d) The facilities concerned are Scaw Ltd., Ndola, manufacturing small and medium-sized pumps (5% capacity utilization in 1980-1981) and Pipeco and Galco (Zambia), manufacturing pipes (22% utilization of rated annual capacity of 36,000 tons in 1980-1981).

PROJECT PROFILE NO. 14

SUBSECTOR: Engineering industry (agricultural machinery and equipment)

SUBREGION: West Africa

1. Project Title: Manufacture of four-wheeled tractors, Senegal and Nigeria

2. Objective: To develop manufacture of agricultural machinery.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. This proposal was examined by the sixth meeting of the Niamey-based MULPOC Council of Ministers which referred it to the first meeting of the Intergovernmental Committee of Experts on Engineering Industries for West Africa which will meet in 1984. 4. Senegal and Nigeria	5. Conceptual stage 6. Further in-depth studies	7. To be imported pending the supply of grey cast iron/ malleable cast iron, forging quality steel, sheet metal and sections from local projects or from the metallurgical projects proposed for the subregion. (see project profiles 4-8). 8. Available, primarily electric energy. 9. Adequate in both locations proposed.	10. 23,000 units year (1990) 50,000 units year (2000) 11. Agricultural sector in the subregion	12. Senegalese plant: 5,000 units Nigerian plant: 10,000 units. 13.(a) Pre-investment studies US$200,000 (b) Total basic investment: US$70 million (excluding investment for engine production and ancillary industries)	14. (a) 50 per cent of basic investment to be provided by equity shareholding and balance by loans. (b) Ancillary industries to be set up at national level to provide parts and components.

PROJECT PROFILE NO. 15

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

1. Project Title: Manufacture of agricultural tools and implements, Sierra Leone

2. Objective: To develop manufacture of agricultural machinery

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Mano River Union 4. Sierra Leone	5. Pre-feasibility study available 6. Further in-depth studies, including a feasibility study	7. To be imported pending supplies from the metallurgical projects proposed for the subregion (see project profiles 4-8) 8. Available, primarily electric energy 9. Very good	10. (for the subregion) 1990 Handtools: 41 million pieces Agricultural machinery: 475,000 units 2000 Handtools: 48 million pieces Agricultural machinery: 538,000 units 11. Farmers in the subregion	12. Handtools: 1.5 million Agricultural machinery: 3,700 units 13. Not available	14. Not available

PROJECT PROFILE NO. 16

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

1. Project Title: Manufacture of diesel engines for irrigation pumps and generators, Guinea

2. Objective: To develop agricultural machinery and energy equipment manufacture

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. This proposal was examined by sixth meeting of the Niamey-based MULPOC Council of Ministers which referred it to the first meeting of the Intergovernmental Committee of Experts on Engineering Industries for West Africa which will meet in 1984 4. Guinea	5. Conceptual stage 6. Further in-depth studies	7. To be imported pending supplies from the metallurgical projects proposed for the subregion (see project profiles 4-8) 8. Available, primarily electric energy 9. Adequate	10. 100,000 units/ year (1990) 200,000 units/ year (2000) 11. Units manufacturing irrigation equipment and small generators in the subregion	12. 100,000 units/ year 13. US$ 50 million (including investment on national pump and generator assembly plants)	14. (a) 50 per cent of basic investment to be provided by equity shareholding and balance by loans. (b) National pump and generator assembly plants to be set up.

PROJECT PROFILE NO. 17

SUBSECTOR: Engineering industries (agricultural machinery and equipment) SUBREGION: West Africa

1. Project Title: Manufacture of agricultural implements and equipment, Nigeria

2. Objective: To establish a plant to manufacture agricultural implements and equipment.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Government of Nigeria 4. Nigeria. Information about the site in Nigeria is not available	5. Feasibility study conducted in 1980 is available 6. Information not available	7. No information available on whether the steel required will be produced locally or imported. 8. No information available about project requirements 9. See 6 above	10. Information not available. However, present subregional demand amounts to: 10,000 small tractors; 30,000 hand-held implements; and 10,000 various other implements 11. Subregional.	12. See 6 above 13. Estimated at N 31.2 million including pre-investment costs, fixed capital and working capital.	14. (a) It is not known whether Nigeria has invited other countries in the subregion to participate in the project. (b) Potential problems during implementation might include the lack of investment funds.

PROJECT PROFILE NO. 18

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

1. Project Title: Production of mobile mini palm-oil mills, Mano River Union

2. Objective: To reduce the degree of fresh fruit wastage by using mobile processing units which can travel to the plantations.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Mano River Union 4. Mano River Union countries	5. In 1982 the Mano River Union secretariat was mandated to study the possibility of producing such mobile units. 6. Prefeasibility study.	7. Nearly all raw materials will have to be imported. - Appropriate lorry bodies and accessories for assembly - Iron sheets and profiles and accessories for assembly. - Welding material and fittings for mounting 8. Energy supply system for units (generators of about 40 KVA) 9. No special requirements.	10. 50 to 80 units may be absorbed by the Union market. 11. Mobile units can also be produced for export to ECOWAS member states as in many countries similar conditions prevail in respect of palm-oil production.	12. Mobile unit will have an input capacity of about 3000 tons/year and 13. Will cost about US$ 250,000 which can be paid back in about 2 years.	14(a) 51% nationals or institutions of MRU member countries 49% free distribution. Preferential treatment to be given to the import of mobile units so as to enlarge the sales prospects of this venture. (b) Co-operation in designing the units may also be required.

PROJECT PROFILE NO. 19

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

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

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

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

PROJECT PROFILE NO. 20

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

1. Project Title: Establishment of tractor assembly plants, Egypt and the Sudan

2. Objective: To assemble agricultural tractors of different horse-power (up to 75 HP)

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Sudanese Ministry of Industry and El Nasr Automotive and Manufacturing Company, Egypt 4. Sudan (Wad Medani or Port Sudan) and Egypt	5. Feasibility study for Sudanese plant completed, but needs to be updated. 6. Feasibility study for Egyptian plant to be undertaken.	7. 30 per cent of inputs available in the Sudan, remainder to be manufactured in Egypt or imported. 8. Available 9. Available	10. To be specified once the feasibility study for the Sudanese plant has been updated and the feasibility study for the Egyptian plant has been completed. 11. Sudan and Egypt.	12. See 10 above. 13. See 10 above.	14. (a) Joint venture company is to be established. (b) Production to be under licence.

PROJECT PROFILE NO. 21

SUBSECTOR: Engineering industry (agricultural machinery and equipment)

SUBREGION: North Africa

1. Project Title: Manufacture of pumps for irrigation purposes

2. Objective: To produce various types of irrigation pumps

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Governments of Morocco (Office for Industrial Development - ODI) and Tunisia 4. To be determined.	5. Prefeasibility stage 6. Detailed feasibility studies.	7. Castings will be subcontracted to local foundries, and diesel engines imported from Morocco. 8. Available, primarily electric energy. 9. To be specified in the detailed feasibility studies.	10. See 9 above 11. See 9 above	12. See 9 above. 13. US$ 1 million (for tooling and assembly)	14.

Road and rail transport equipment subprogramme

22. Transport equipment imports account for a large proportion of the total imports of the African region. The Eastern and Southern African subregion is no exception: it has no manufacturing units for road transport equipment, although trucks, lorries and tractors are assembled in Angola, Ethiopia, Kenya, Mauritius, Mozambique, Tanzania, Zambia and Zimbabwe. All these countries import complete, assembled engines which are then mounted on chassis which, for the most part, are imported completely assembled. In the majority of these projects the local value-added is minimal. It is estimated that the subregion's annual demand for trucks, buses and lorries will be 85,000 in 1990 and 205,000 by the year 2000. These figures justify the establishment of manufacturing units in the subregion.

23. It is also estimated that over 100,000 diesel engies a year will be required by 1990 to be installed in trucks, buses, lorries and tractors in the subregion: this figure is estimated to rise to approximately 237,000 engines a year by 2000. This demand justifies the establishment of a plant manufacturing two types of diesel engines which would be supplied to existing and projected assembly plants in the subregion. The engines would be mounted in agricultural machinery (tractors) and road transport equipment.

23. Hitherto, rural transport has received very little attention in Eastern and Southern Africa. The rural areas continue to rely on traditional modes of transport which, in most cases, is human porterage. However, if the rural sector is to be developed, an essential prerequisite is the provision of a suitable transportation infrastructure in the rural areas for the movement of food, fertilizers and other goods and materials. It thus follows that an appropriate and cheap means of transport, tailored to the needs of the rural sector, is called for. It is estimated that the subregion's annual demand for low-cost standard multipurpose vehicles will be more than 1 million vehicles in 1990, rising to over 3 million by 2000.

24. A similar situation obtains in West Africa, where it is estimated that the subregion's annual demand for trucks, buses and lorries will be 131,000 in 1990 and 337,000 by the year 2000. It is also estimated that the subregion's annual demand for low-cost standard multipurpose vehicles will be more than 180,000 vehicles in 1990, rising to over 500,000 by 2000.

25. The development of an African railway industry ranks foremost among the concerns of the Union of African Railways which has proposed the establishment in each subregion of plants manufacturing rolling stock. Given the current high imports of railway equipment, a strong plea is made in both the Lagos Plan of Action and the United Nations Transport and Communications Decade for increasing efficiencies in the railway sector, while the manufacture of road transport machinery and equipment has been given the utmost priority in the Lagos Plan of Action and the programme for the Decade.

26. Ten projects are included in the initial programme:

(a) Manufacture of diesel engine-mounted chassis for lorries, trucks and buses, Ethiopia, Mozambique and Tanzania (Project profile No. 22);

(b) Manufacture of diesel engines for tractors, trucks, lorries and buses, Zimbabwe or Kenya (Project profile 23);

(c) Manufacture of low-cost standard multipurpose vehicles, Botswana, Madagascar, Mozambique, Uganda and Zambia (Project profile No. 24);

(d) Manufacture of railway wagons, Senegal and Upper Volta (Project profile No. 25);

(e) Manufacture of diesel engines for tractors, trucks, lorries and buses, Nigeria (Project profile No. 26);

(f) Manufacture of diesel engine-mounted chassis for lorries, trucks and buses, Nigeria (Project profile No. 27);

(g) Manufacture of low-cost, standard multipurpose vehicles, Guinea and the Ivory Coast (Project profile No. 28);

(h) Establishment of a central press workshop, Nigeria (Project profile No. 29);

(i) Manufacture of diesel engines for tractors, trucks, lorries and buses, North Africa (Project profile No. 30); and

(j) Establishment of a diesel engine manufacturing plant, Tunisia (Project profile No. 31).

PROJECT PROFILE NO. 22

SUBSECTOR: Engineering industry (road and rail transport) SUBREGION: Eastern and Southern Africa

1. Project Title: Manufacture of diesel engine-mounted chassis for lorries, trucks and buses, Ethiopia, Mozambique and Tanzania.

2. Objective: To develop road transport equipment manufacture.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Second meeting of the Intergovernmental Committee of Experts on Engineering Industries for Eastern and Southern Africa, following the recommendations of the sixth meeting of the Lusaka-Based MULPOC Council of Ministers 4. i) Ethiopia ii) Mozambique iii) Tanzania	5. Conceptual stage 6. Pre-investment studies	7. (a) Available in the subregion: grey cast iron, commercial steel sections and forging quality steel (b) Quality steel to be imported initially 8. Energy available 9. Physical structure adequate in three locations proposed.	10. 85,000 units/year (1990) and 205,000 units/year (2000) 11. All countries of the subregion for vehicle body building at the national level	12. 7,000 units/year working on one shift in each location. Total capacity: 63,000 units/year for the three production units working on three shifts 13. (a) Preinvestment studies: US$ 250,000 (b) Total investment for each plant: US$ 20 million	14. (a) 50% equity share and 50% loan financing (b) supply arrangements required between the promoters of this project and ZISCO (see project profile No.1) (c) Purchase arrangements between the promoters of this projects and all countries in the region. (d) Supply/purchase arrangement for the supply of diesel engines (see project profile No. 23) (e) Ancillary industries have to be promoted at the national level to supply parts and components.

PROJECT PROFILE NO. 23

SUBSECTOR: Engineering industry (road and rail transport) SUBREGION: Eastern and Southern Africa

1. Project Title: Manufacture of diesel engines for tractors, trucks lorries and buses, Zimbabwe or Kenya

2. Objective: To develop manufacture of road transport equipment and agricultural machinery

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Second meeting of Intergovernmental Committee of Experts on Engineering Industries for Eastern and Southern Africa following the recommendations of the sixth meeting of the Lusaka-based MULPOC Council of Ministers 4. Zimbabwe or Kenya	5. Conceptual stage 6. Pre-investment studies	7. Grey cast iron and forging quality steel will be available in the subregion. Quality steel to be imported initially. Aluminium ingots can be imported from outside the subregion. 8. Energy available. 9. Physical infrastructure adequate in both locations proposed	10. 100,000 units/year (1990) 237,000 units/year (2000) 11. Supplies to tractor factory and lorries/trucks/buses chassis factories proposed for the subregion. (See project profile 22)	12. 30,000 units/year on one-shift basis and 90,000 units/years on three-shift basis 13. (a) Pre-investment studies: US$ 300,000 (b) Total basic investment: US$80 million	14. (a) 50% equity share and 50% loan financing (b) Supply arrangements will be required between ZISCO and the promoters of this project (c) Purchase arrangements will be required between the promoters of this project and the promoters of the proposed tractor project and chassis project (see project profiles No. 12 and 22) (d) Ancillary industries have to be promoted at the national level to supply parts and components.

PROJECT PROFILE NO. 24

SUBSECTOR: Engineering industry (road and rail transport) SUBREGION: Eastern and Southern Africa

1. Project Title: Manufacture of low-cost, standard multipurpose vehicles, Botswana, Madagascar, Mozambique, Uganda and Zambia.

2. Objective: To develop manufacture of road transport equipment suited to rural needs.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Second meeting of the Intergovernmental Committee of Experts on Engineering Industries for Eastern and Southern Africa, following the recommendations of the sixth meeting of the Lusaka-based MULPOC Council of Ministers 4. i) Uganda, and Zambia (scooter engine and transmission systems) ii) Mozambique and Madagascar (engine-mounted scooter chassis) iii) Botswana (moped engine and transmission systems)	5. Conceptual stage 6. Pre-investment studies	7. Grey cast iron and forging quality steel available in the subregion. Quality steel to be imported from outside the subregion initially. Aluminium ingots to be imported from outside the subregion. 8. Energy available. 9. Physical infrastructure adequate in the locations proposed.	10. 1 million units (1990) 3 million units (2000) 11. The scooter engines, moped engines and scooter chassis will be supplied to national units for the manufacture of scooters, mopeds, scooter trailers, scooter delivery vans, etc.	12. 500,000 scooter engines complete with transmission systems 300,000 three-wheeled engine-mounted scooter chassis 200,000 moped engines complete with transmission systems 13. (a) Pre-investment studies: US$100,000 (b) Total investment in 5 plants: US$82.5 million	14. (a) 50% equity share and 50% loan financing (b) Purchasing arrangements for raw materials (c) Ancillary industries have to be promoted at the national level to supply parts and components

PROJECT PROFILE NO. 25

SUBSECTOR: Engineering industry (road and rail transport) SUBREGION: West Africa

1. Project Title: Manufacture of railway wagons, Senegal and Upper Volta

2. Objective: To develop manufacture of transport equipment

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. West African Economic Community (CEAO) 4. Senegal and Upper Volta	5. Feasibility study available 6. Further in-depth studies required to take subregional demand into account	7. To be imported pending supplies from metallurgical projects proposed for the subregion (see project profiles 4-8) 8. Electricity supply sufficient 9. Adequate	10. 225 wagons/ year 11. Railway authorities in the subregion	12. 225 wagons/ year 13. Each manufacturing unit: CFAF 3,000 million	14. (a) Togo and Benin have expressed interest in the project. (b) Ancillary industries to be set up at national level to provide parts and components. (c) Subcontracting arrangements are needed in order to make full use of existing railway workshops in the subregion for the supply of parts and components.

PROJECT PROFILE NO. 26

SUBSECTOR: Engineering industry (road and rail transport) SUBREGION: West Africa

1. Project Title: Manufacture of diesel engines for tractors, trucks, lorries and buses, Nigeria

2. Objective: To develop manufacture of agricultural machinery and transport equipment

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. This proposal was examined by the sixth meeting of the Niamey-based MULPOC Council of Ministers which referred it to the first meeting of Intergovernmental Committee of Experts on Engineering Industries for West Africa, which will meet in 1984. 4. Nigeria	5. Conceptual stage 6. Further in-depth studies	7. (i) To be imported pending supplies from the metallurgical projects proposed for the subregion (see project profiles 4-8) or supplies from Nigerian steel projects (ii) Aluminium to be imported from Ghana/Guinea 8. Available, primarily electric energy 9. Adequate	10. 154,000 units/ year (1990) 387,000 units/ year (2000) 11. Supplies to tractor factory and lorries/ trucks/chassis factories proposed for the subregion (see project profiles 14 and 27)	12. 100,000 units/year 13. US$ 150 million (excluding investment for ancillary industries)	14. (a) 50 per cent of basic investment to be provided by equity shareholding and balance by loans. (b) Ancillary industries to be set up at national level to provide parts and components. (c) Supply/purchase arrangements to be worked out in respect of raw materials and engines.

PROJECT PROFILE NO. 27

SUBSECTOR: Engineering industry (road and rail transport) SUBREGION: West Africa

1. Project Title: Manufacture of diesel engine-mounted chassis for lorries, trucks and buses, Nigeria.

2. Objective: To develop manufacture of transport equipment.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. This proposal was examined by the sixth meeting of the Niamey-based MULPOC Council of Ministers which referred it to the first meeting of the Intergovernmental Committee of Experts on Engineering Industries for West Africa, which will meet in 1984. 4. Nigeria	5. Conceptual stage 6. Further in-depth studies	7. To be imported pending supplies from local projects or the metallurgical projects proposed for the sub-region (see project profiles 4 - 8) 8. Available, primarily electric energy 9. Adequate	10. 131,000 units/ year (1990) 337,000 units/ year (2000) 11. All countries in the sub-region for vehicle body building at the national level.	12. 30,000 units/ year (1 ton chassis) 25,000 units/ year (2-5 ton chassis) 20,000 units/ year (6-10 ton chassis) 13. US$ 40 million for each chassis type, i.e. 120 million for all three types	14. (a) 50% of basic investment to be provided by equity shareholding and balance by loans. (b) Ancillary industries to be set up at national level to provide parts and components.

PROJECT PROFILE NO. 28

SUBSECTOR: Engineering industry (road and rail transport) SUBREGION: West Africa

1. Project Title: Manufacture of low-cost, standard multipurpose vehicles, Guinea and the Ivory Coast.

2. Objective: To develop manufacture of transport equipment suited to the rural needs.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. This proposal was examined by the sixth meeting of the Niamey-based MULPOC Council of Ministers which referred it to the first meeting of the Intergovernmental Committee of Experts on Engineering Industries for West Africa, which will meet in 1984 4. Guinea and the Ivory Coast	5. Conceptual stage 6. Further in-depth studies	7. To be imported pending supplies from the metallurgical projects proposed for the subregion (see project profiles 4 - 8) 8. Available, primarily electric energy 9. Adequate	10. 180,000 units/ year (1990) 500,000 units/ year (2000) 11. Whole subregion	12. 50,000 units/ year in each country 13. Total investment US$ 82 million (excluding investments for ancillary industries and assembly of bodies at the national level.)	14. (a) 50% of basic investment to be provided by equity shareholding and balance by loans. (b) Ancillary industries to be set up at national level to provide parts and components.

PROJECT PROFILE NO. 29

SUBSECTOR: Engineering industry (road and rail transport) SUBREGION: West Africa

1. Project Title: Establishment of a central press workshop, Nigeria

2. Objective: To set up a plant that will manufacture complete range of major automotive parts and components and meet multicountry and subregional requirements.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Government of Nigeria 4. Nigeria	5. Feasibility study almost ready 6. Further in-depth studies to take subregional demand into account	7. Some available locally and some to be imported. 8. Available, primarily electric energy. 9. Adequate.	10. To be determined 11. See 10 above	12. See 10 above 13. Information not available	14. (a) No other country in the subregion has been invited to participate in the project. (b) Potential problems during implementation might include lack of investment funds. (c) The Government of Nigeria has established two passenger and four commercial vehicle assembly/manufacturing plants. Since metal pressings constitute about 45% by weight of a car's content, the domestic manufacture of steel pressings would potentially provide a high proportion of indigenous content.

PROJECT PROFILE NO. 30

SUBSECTOR: Engineering industry (road and rail transport) SUBREGION: North Africa

1. Project Title: Manufacture of diesel engines for tractors, trucks, lorries and buses

2. Objective: To develop manufacture of agricultural machinery and transport equipment

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. This proposal was submitted by the Governments of Morocco and Tunisia 4. To be determined.	5. Pre-feasibility studies considered 6. Detailed feasibility studies, including choice of engine design.	7. To be determined in the feasibility studies. 8. Available, primarily electric energy 9. Adequate	10. Figure not available. 11. Morocco, Tunisia and other countries in the subregion.	12. 17,000 units/year 13. US$ 100 million	14.

PROJECT PROFILE NO. 31

SUBSECTOR: Engineering Industry (road and rail transport) SUBREGION: North Africa

1. Project Title: Establishment of a diesel engine manufacturing plant, Tunisia

2. Objective: To manfacture low-power diesel engines (up to 45 HP) for trucks, small cars and tractors

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Governments of Algeria and Tunisia 4. Saquiat Sidi Yusuf, Tunisia.	5. Pre-investment stage. 6. Formation of a joint venture company and detailed feasibility studies.	7. To be partly imported and partly supplied by the company already operating in Algeria. 8. Energy available 9. Available at the proposed site.	10. 100,000 units in 1990 for Algeria alone. 11. Algeria (70 per cent) and Tunisia (30 per cent) with an appropriate retrocessive mechanism.	12. 25,000 units/year 13. 30 million Tunisian dinars (approx. US$ 43 million)	14. (a) Labour requirements: 800 employees (b) Project can be expanded to meet projected demand in the two countries and other countries of the subregion.

Energy equipment subprogramme

27. The important role of energy in the socio-economic development of a region is well documented. Whereas Africa is endowed with both renewable and non-renewable forms of energy, it still lacks the industrial capacity to exploit those resources. In order to meet the growing demand for electric power the programme for the Decade underscores the need to establish manufacturing units producing turbines, transformers, switchgear, transmission and distribution cables, as well as towers and poles.

28. The power equipment industry also plays an important role in the development of core and other related industries in the region as the latter supply the materials, semi-finished and finished parts required by the former. These core and related industries include:

(a) Foundries and forges which supply forged rotors, castings, etc.;

(b) Metallurgical industry which supplies copper, aluminium and steel products; and

(c) Electronics industry which supplies instrumentation, remote control and communications equipment.

29. Seven projects are included in the initial programme:

(a) Re-rolling mills for sections and bars for high-tension electricity transmission in Eastern and Southern Africa (Project profile No. 32);

(b) Copper fabrication plant, Zambia (Project profile No. 33);

(c) Manufacture of transformers, Zambia (Project profile No. 34);

(d) Manufacture of aluminium conductors and cables, Ghana and Guinea (Project profile No. 35);

(e) Manufacture of power transformers, Togo (Project profile No. 36);

(f) Manufacture of steel towers, Nigeria (Project profile No. 37); and

(g) Manufacture of hurricane lamps, Senegal (Project profile No. 38).

PROJECT PROFILE NO. 32

SUBSECTOR: Engineering industry (energy equipment) SUBREGION: Eastern and Southern Africa

1. Project Title: Re-rolling mills for sections and bars for high-tension electricity transmission in Eastern and Southern Africa.

2. Objective: To establish a subregional re-rolling mill producing sections and bars for high-tension electricity towers.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Recommended at the second meeting of the Intergovernmental Committee of Expert on Engineering Industries for Eastern and Southern Africa. (24-28 October 1983) 4. Zimbabwe	5. Conceptual stage 6. Pre-feasibility studies	7. (a) Billets of tower quality steel will be available within the subregion; (b) Zinc for galvanising is available within the subregion. 8. Electric energy and re-heating fuel will be available. 9. The plant will be located where physical infrastructure already exists.	10. Sections, bars, angles 50,000 tons/ year in 1985; 100,000 tons/ year in 2000 11. Electricity enterprises in the subregion.	12. Total installed capacity 50,000 tons/year in 1985 100,000 tons/ year in 2000 13. Total investment (50,000 tons/ year US$ 100 million.	14. This project is an important component in the electrification programme for the subregion.

PROJECT PROFILE NO. 33

SUBSECTOR: Engineering industry (energy equipment) SUBREGION: Eastern and Southern Africa

1. Project Title: Copper fabrication plant, Zambia

2. Objective: To develop energy equipment manufacture.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Recommended at the second meeting of the Intergovernmental Committee of Experts on Engineering Industries for Eastern and Southern Africa (24-28 October 1983) 4, Zambia	5. Conceptual stage 6. Pre-feasibility studies	7. Copper is available 8. Electricity is available 9. Infrastructure exists for copper fabrication.	10. (Thousand tons/year) 1990: 50 — 2000: 125 11. The product will be used by the electricity enterprises in the subregion.	12. (Thousand tons/year) 1990: 50 — 2000: 125 13. Total investment (a) Rod rolling mill (50,000 tons/year) US$5 million. (b) Cables and conductors (50,000 tons/year) US$20 million	14. (a) This project is an important component in the electrification programme for the subregion. (b) The use of copper as a conducting material should be encouraged in the subregion, given its availability and low cost.

PROJECT PROFILE NO. 34

SUBSECTOR: Engineering industry (energy equipment)

SUBREGION: Eastern and Southern Africa

1. Project Title: Manufacture of transformers, Zambia

2. Objective: To develop manufacture of energy supply equipment.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. (a) Zambia (INDECO) (b) second meeting of the Intergovernmental Committee of Experts on Engineering Industries for Eastern and Southern Africa following the recommendations of the sixth meeting of the Lusaka-based MULPOC Council of Ministers 4. Zambia	5. Pre-feasibility study completed 6. Feasibility study	7. Rolled and drawn copper rods and copper strips available locally. Steel channel sections and angles available in the subregion; other raw materials to be imported. 8. Energy available. 9. Physical infrastructure adequate	10. 4,000 MVA/ year (1990) 9,000 MVA/ year (2000) 11. All electricity enterprises in the subregion	12. 1,500 units/ year (16kVA-2000kVA) 13. US$18.84 million	14. (a) This project should be upgraded into a subregional project to manufacture transformers totalling 3,000 MVA/ year The additional investment would be approximately US$30 million. (b) Joint participation by other States should be encouraged. (c) Purchase arrangements should be established between this company and the electricity enterprisss in the subregion.

PROJECT PROFILE NO. 35

SUBSECTOR: Engineering industry (energy equipment) SUBREGION: West Africa

1. Project Title: Manufacture of aluminium conductors and cables, Ghana and Guinea

2. Objective: To develop manufacture of energy supply equipment

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. This proposal was examined by the sixth meeting of the Niamey-based MULPOC Council of Ministers which referred it to the first meeting of the Intergovernmental Committee of Experts on Engineering Industries for West Africa, which will meet in 1984. 4. Ghana and Guinea	5. Conceptual stage 6. Further in-depth studies	7. Aluminium available in both countries 8. Available, primarily electric energy 9. Physical infrastructure adequate in both locations	10. 50,000 tons/ year (1990) 100,000 tons/ year (2000) 11. Electricity enterprises in the subregion	12. 25,000 tons/ year in each location 13. US$ 25 million (for rod rolling mill and cables and conductors manufacturing units).	14. (a) 50% of basic investment to be provided by equity shareholding and balance by loans (b) Given the availability of aluminium in the subregion, the use of that material is proposed instead of copper.

PROJECT PROFILE NO. 36

SUBSECTOR: Engineering industry (energy equipment)

SUBREGION: West Africa

1. Project Title: Manufacture of power transformers, Togo.

2. Objective: To develop manufacture of energy supply equipment

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. This proposal was examined by the sixth meeting of the Niamey-based MULPOC Council of Ministers which referred it to the first meeting of the Intergovernmental Committee of Experts on Engineering Industries for West Africa, which will meet in 1984. 4. Togo	5. Conceptual stage 6. Further in-depth studies	7. To be imported pending supplies from metallurgical projects proposed for the subregion 8. Available, primarily electric energy 9. Adequate	10. 2,000 MVA/year each of large, medium and distribution transformers (1990) 5,000 MVA/year each of large medium and distribution transformers (2000) 11. Electricity enterprises in the subregion	12. 3,000 MVA/year 13. US$ 20 million	14. (a) 50% of basic investment to be provided by equity shareholding and balance by loans. (b) It is proposed that the plant starts with the manufacture of distribution transformers, to be followed by the manufacture of medium and large power transformers

PROJECT PROFILE NO. 37

SUBSECTOR: Engineering industry (energy equipment)

SUBREGION: West Africa

1. Project Title: Manufacture of steel towers, Nigeria

2. Objective: To develop manufacture of energy supply equipment

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. This proposal was examined by the sixth meeting of the Niamey-based MULPOC Council of Ministers which referred it to the first meeting of the Intergovernmental Committee of Experts on Engineering Industries for West Africa, which will meet in 1984. 4. Nigeria	5. Conceptual stage 6. Further in-depth studies	7. Available 8. Available, primarily electric energy 9. Adequate	10. 50,000 tons / year (1990) 100,000 tons / year (2000) 11. Electricity enterprises in the subregion	12. One 50,000 tons/year rolling mill served by up to five 10,000 tons/ year manufacturing plants 13. US$ 100 million (for one rolling mill and five manufacturing plants)	14. (a) 50% of basic investment to be provided by equity shareholding and balance by loans. (b) The manufacturing unit could start by installing one 10,000 tons/year plant which could then be expanded.

PROJECT PROFILE NO. 38

SUBSECTOR: Engineering industry (energy equipment) SUBREGION: West Africa

1. Project Title: Manufacture of hurricane lamps, Senegal

2. Objective: To meet the needs of the West African Monetary Union (WAMU) and the West African Economic Community (CEAO) in this field.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. BOAD in collaboration with the Dakar industrial free zone. 4. Dakar (Senegal)	5. Regional project. 6. Update the feasibility studies	7. From the sub-region 8. Available 9. Satisfactory	10. Demand estimated at more than 200,000 lamps a year 11. WAMU/CEAO market and possibly ECOWAS	12. Capacity: 600,000 to 1,200,000 lamps a year 13. Estimated cost: CFAF 1,000 million (1980 value to be updated).	14. (a) A foreign partner has been identified: Ets Guillard of Nantes (France) (b) This partner will soon update previous feasibility studies financed by BOAD (c) Participation by ECOWAS countries recommended.

Precision engineering subprogramme

33. As a first step towards the development of essential precision engineering capabilities in the region, one project on the assembly/manufacture of watches, parts and components is included in the initial programme:

(a) Manufacture of watches and watch components, Central African Republic (Project profile No. 39).

PROJECT PROFILE NO. 39

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

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

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

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

Machine tools and allied machinery subprogramme

31. The development of other engineering industries as well as the manufacture of spare parts for capital goods hinge upon the availability of selected machine tools and related metalworking and woodworking machinery. At present, conventional machine tools and equipment are manufactured on a limited scale in only a few countries in the region. Consequently, the demand for machine tools and allied metal working and woodworking machinery is mostly met by imports.

32. A listing of the major problems and constraints in this subsector, together with a description of priority projects and activities, are given in paragraphs 179-194 of Chapter II of the Programme for the Industrial Development Decade for Africa (ID/287).

33. Two projects are included in the initial programme:

(a) Manufacture of lathes and milling machines, Morocco (Project profile No. 40); and

(b) Manufacture of woodworking machinery, Tunisia (Project profile No. 41).

PROJECT PROFILE NO. 40

SUBSECTOR: Engineering industry (machine tools and allied machinery) SUBREGION: North Africa

1. Project Title: Manufacture of lathes and milling machines, Morocco

2. Objective: To develop the production of machine tools in the subregion.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Governments of Morocco (ODI) and Tunisia (Economic Development Bank of Tunisia - BDET) 4. Fez, near the SIMEF foundry, Morocco	5. Assembly of machines in process 6. Choice of tooling equipment	7. Certain semi-manufactured components will be imported and others manufactured locally. 8. Available, primarily electric energy. 9. Building available.	10. Figure not available 11. Moroccan and Tunisian markets, as well as other countries.	12. 200 lathes and 200 milling machines/ year 13. US$ 5 million	14. Partnership entered into with HES of France

PROJECT PROFILE NO. 41

SUBSECTOR: Engineering industry (machine tools and allied machinery) SUBREGION: North Africa

1. Project Title: Manufacture of woodworking machinery, Tunisia

2. Objective: To develop the manufacture of woodworking machinery in the subregion

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Governments of Morocco (ODI) and Tunisia (BDET) 4. Tunis, Tunisia	5. Construction of factory in progress and major equipment has been selected. 6. Start-up of production: March 1984	7. Certain semi-manufactured components will be imported and others manufactured locally. 8. Available 9. Building is complete and ready for occupancy.	10. Current demand estimated at 1,000 units. 11. Tunisia and Morocco	12. 1,000 units/ year 13. US$ 4 million	14. A joint stock company has been established and partnership entered into with LUREM of France.

Electrical equipment subprogramme

34. The demand for refrigerators in the region is expanding. The compressors that are needed for both replacement and maintenance purposes as well as for installation in new assembled units are imported at present. Given this situation, the local manufacture of such items is fully justifiable. Furthermore, the electrical equipment industry, if adequately upgraded, could play a decisive role in the development of related industries in the region.

35. One project is included in the initial programme:

(a) Establishment of a compressor plant, North Africa (Project profile No. 42).

PROJECT PROFILE NO. 42

SUBSECTOR: Engineering industry (electrical equipment) SUBREGION: North Africa

1. Project Title: Establishment of a compressor plant

2. Objective: To produce compressors for installation in domestically manufactured refrigerators as well as meet demand for replacements and maintenance.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Governments of Morocco (ODI), Tunisia (BTKD - Tunisian Kuwaiti Development Bank) and the Libyan Arab Jamahiriya 4. To be determined.	5. Conceptual stage. 6. Pre-investment (prefeasibility and feasibility) studies to be undertaken.	7. Certain semi-manufactured components will be imported and others manufactured locally. 8. Available 9. To be determined.	10. In the Libyan Arab Jamahiriya alone. Maintenance/ replacement requirements: 1990: 111,000 1995: 139,000 New installations: 1990: 100,000 1995: 120,000 Moroccan demand to be determined in study. 11. 100,00 units in Morocco and the balance shared equally between Tunisia and the Libyan Arab Jamahiriya	12. 650,000 units/year 13. To be specified in the feasibility study.	14. (a) The Libyan market cannot absorb its share of production until 1995. Other countries should thus be invited to absorb excess production. (b) Labour available in Tunisia. (c) A Moroccan-Tunisian joint stock company has been established. (d) Consideration should be given to current sectoral study being undertaken by AIDO.

Chemical industry

Fertilizers subprogramme

36. Projects related to the establishment of nitrogenous, phosphate and potash fertilizer plants deserve particular priority in the region since, unlike many other chemical plants, they are not restricted to mixing and formulating imported products, but can use local deposits. Furthermore, their economies of scale and investment requirements are such that they are best suited to operations at the multinational/subregional level: the optimal scale of production in an ammonia plant, for example, ranges between 1,000 and 1,500 tons a day, which exceeds the requirements of most individual countries in the region. In addition to reducing imports, the local production of fertilizers contributes to improved agriculture and hence to the increased production of food. Fertilizer consumption levels in Africa stand at only 3 kg per hectare of agriculture area as against 8 kg and 26 kg per hectare in Laton America and Asia, respectively.[1/]

37. In Eastern and Southern Africa, the consumption of nitrogenous fertilizers is increasing at an annual rate of 16.7 per cent and is expected to reach 500-800,000 tons by 1990. Zambia and Zimbabwe are the only countries in the subregion with ammonia production facilities, with a combined capacity of 195,000 tons (equivalent to 145,000 tons of nitrogen), while other countries in that subregion import about 40,000 tons of ammonia per year. All the basic raw materials required for the production of ammonia (petroleum products, coal and electric energy) are locally available in the subregion, and natural gas is available in adequate quantitities in Ethiopia, Mozambique and Tanzania.

38. In Eastern and Southern Africa, the consumption of phosphate fertilizers is increasing at an annual rate of 25.3 per cent: it is expected to reach 550-660,000 tons of pure nutrients by 1990. At present, Mozambique, Tanzania, Uganda[2/] and Zambia are the only countries in the subregion with phosphate fertilizer production facilities, their combined capacity being equivalent to 75,000 tons of pure nutrients.

39. In West Africa, the consumption of nitrogenous fertilizers in the subregion is increasing at an annual rate of 26 per cent and is expected to reach 484-538,000 tons by 1990. Nigeria is the only country in the subregion with an ammonia project. Similar to Eastern and Southern Africa, all the basic raw materials required for the production of ammonia are available in the subregion, and natural gas is available in adequate quantities in Ghana, the Ivory Coast and Nigeria. The consumption of phosphate fertilizers

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1/ See Economic Commission for Africa, ECA and Africa's Development 1983-2008 (Addis Ababa, April 1983), page 9.

2/ Plant has been shut down.

in the subregion is increasing at an annual rate of 20 per cent, and is expected to reach 1-1.2 million tons P_2O_5 by 2000. At present, only Senegal and Nigeria have phosphate fertilizer production facilities involving chemical processes.

40. Central Africa also disposes of all the basic materials required for the production of ammonia, including natural gas which is available in adequate quantities in Lake Kivu. In respect of potash fertilizers, the Congo in Central Africa and Ethiopia in Eastern and Southern Africa, the two countries with substantial potash deposits, are currently conducting pre-investment studies related to the explortation of those deposits.

41. Eight projects are included in the initial programme:

(a) Potash project, Ethiopia (Project profile No. 43);

(b) Multinational ammonia/urea project, Tanzania (Project profile No. 44);

(c) Phosphate fertilizer plant, Uganda (Project profile No. 45);

(d) Phosphate fertilizer plant, Zimbabwe (Project profile No. 46);

(e) Establishment of a phosphoric acid plant, Togo (Project profile No. 47);

(f) Subregional ammonia project, West Africa (Project profile No. 48);

(g) Establishment of a phosphate fertilizer plant, West Africa (Project profile No. 49); and

(h) Production of ammonia fertilizers, Central Africa (Project profile No. 50).

PROJECT PROFILE NO. 43

SUBSECTOR: Chemical industry (fertilizers) SUBREGION: Eastern and Southern Africa

1. Project Title: Potash project, Ethiopia

2. Objective: To exploit potash deposits and meet multicountry/subregional demand

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Ethiopian Government 4. Dallol, Ethiopia	5. Feasibility study being carried out 6. Completion and evaluation of feasibility study	7. Sylvinite: 160 million tons. The total potential reserves of potash could be several billion tons. 8. Potentially available: geothermal 9. Needs to be developed	10. Combined demand for potassium chloride and potassium sulphate in the subregion is expected to rise to 133,000 tons K_2O in 1990 and 232,000 tons by 2000, as against 50,000 tons in 1979. 11. Principal markets for Ethiopian potash are Africa, particularly Eastern and Southern Africa, and the Asia/ Oceania region.	12. 1.5 million tons potassium chloride from underground mining of sylvinite ore 13. Investment of US$300 million, including outlay for harbour and rail facilities.	14. The Ethiopian Government has reiterated its invitation to other states to participate in its projects. The Government has been requested to contact member states to discuss with them the exact form, nature and level of equity participation.

PROJECT PROFILE NO. 44

SUBSECTOR: Chemical industry (fertilizers)

SUBREGION: Eastern and Southern Africa

1. Project Title: Multinatinal ammonia/urea project, Tanzania

2. Objective: Using natural gas reserves to produce ammonia/urea and meet multicountry and subregional demand

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Government of Tanzania 4. On Kilwa Masoko shoreline, 150 miles south of Dar-es-Salaam	5. Awaiting investment decision 6. Final decision as to construction of plant	7. National gas reserves one trillion (10^{12}) cubic feet, enough to supply the plant for 60 years at a rate of 16 million cubic feet/year 8. No information available 9. Requisite infrastructure provided for	10. Based on past trends, demand for nitrogenous fertilizers in the subregion is estimated at 2 million tons of nitrogen by 2000. 11. About 90% of the project output will be distributed to countries in the subregion, and balance to other countries in Africa	12. 1,150 ton/day ammonia and 1,750 ton/day urea 13. $US 450 million	14. Following the recommendation made by the sixth meeting of the Council of Ministers of the Lusaka-based MULPOC, Tanzania should consult and obtain equity participation in its ammonia project from other member states. The Tanzanian Government is willing to reduce its equity to 51 per cent and to give 23 per cent to others, including states of the subregion, 26 per cent being held by AGRICO.

PROJECT PROFILE NO. 45

SUBSECTOR: Chemical industry (fertilizers) SUBREGION: Eastern and Southern Africa

1. Project Title: Phosphate fertilizer plant, Uganda.

2. Objective: To establish new facilities incorporating existing fertilizer plant.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Government of Uganda (TICAF) 4. Uganda (Tororo)	5. Study undertaken to determine the commercial, technical, financial and economic viability of the project 6. Completion and evaluation of the study	7. Phosphate rock and pyrites. Phosphate reserves are estimated at 230 million tons (12.8 per cent P_2O_5) 8. No information available 9. Adequate	10. Based on past trends, subregional demand is estimated at 1.3 million tons by 2000. 11. Extends beyond subregion to other countries in the Central African subregion. 20 to 30 per cent of the planned capacity could be absorbed by Uganda	12. 210,000 tons/year concentrates and 380,000 tons/year single superphosphate. 13. $US 84 million.	14. The Government of Uganda is willing to involve other member states in the subregion in technical services and marketing.

PROJECT PROFILE NO. 46

SUBSECTOR: Chemical industry (fertilizers)

SUBREGION: Eastern and Southern Africa

1. Project Title: Phosphate fertilizer plant, Zimbabwe

2. Objective: To exploit fully phosphate deposits and expand the national fertilizer industry to meet subregional requirements.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. African explosives and chemical industries 4. Msasa, Zimbabwe	5. Existing plant 6. Expansion of plant	7. Phosphate rock deposits in Dorowa, Shawa and Shishanya. Pyrite extracted from iron at Duke Range 8. No information available 9. Adequate	10. Based on past trends, subregional demand is estimated at 1.3 million tons by 2000. 11. National market and other countries in the subregion.	12. Present annual capacity 16,000 tons fertilizers; additional capacity 200,000 tons sulphuric acid 13. Cost of additional sulphuric acid plant: US$ 48 million. Initial factory: Z$ 7.5 million; exploitation of phosphate deposits: Z$ 2.4 million.	14. The sixth meeting of the Council of Ministers of Lusaka-based MULPOC recommended that Zimbabwe expand its phosphate fertilizer industry.

PROJECT PROFILE NO. 47

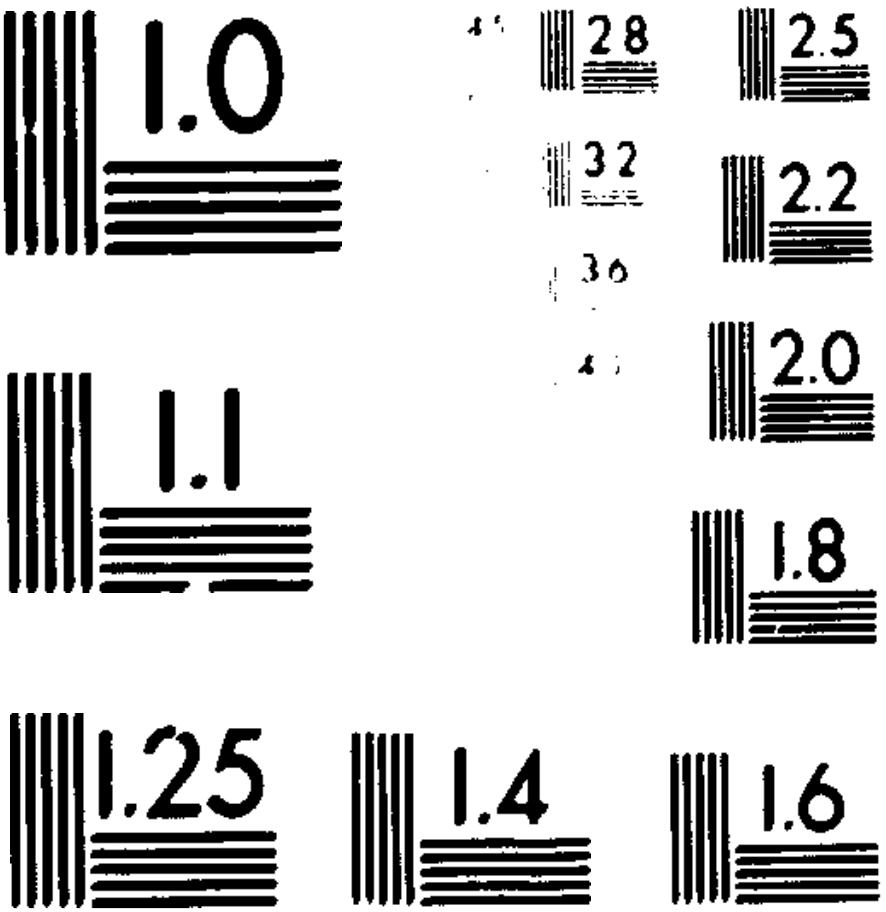
SUBSECTOR: Chemical industry (fertilizers)

SUBREGION: West Africa

1. Project Title: Establishment of a phosphoric acid plant, Togo

2. Objective: To exploit phosphate deposits for the production of phosphoric acid and meet the multicountry and subregional requirements.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Government of Togo 4. Hanotoe, Togo	5. Preliminary study completed 6. Feasibility study is nearing completion	7. Phosphate deposits at Dagbati and Kpogame 8. No information available 9. Adequate	10. Annual subregional demand is estimated at 1 - 1.2 million tons P_2O_5 by 2000 11. Countries of the subregion and Central Africa	12. Phosphoric acid: 1,000 tons/day 13. CFAF 70 billion	14. The sixth meeting of the Council of Ministers of the Niamey-based MULPOC urged all member states to lend support to the Togolese phosphoric acid project in matters related to equity participation, supply and consumption.



PROJECT PROFILE NO. 48

SUBSECTOR: Chemical industry (fertilizers)

SUBREGION: West Africa

1. Project Title: Subregional ammonia project

2. Objective: Using natural gas reserves to produce ammonia/urea and meet multicountry/subregional requirements.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Based on a request of the sixth meeting of the Council of Ministers of the Niamey-based MULPOC 4. To be determined	5. Preliminary study completed 6. Detailed studies to be undertaken	7. Natural gas available in the Ivory Coast and Ghana 8. Will be available in country selected 9. Needs to be developed	10. Subregional demand is estimated at 1.3-1.7 million tons P_2O_5 per year by 2000 11. Countries of the subregion	12. Ammonia: 1,000 tons/day; Urea: 1,500 tons/day 13. US$ 500 million	14. The sixth meeting of the Council of Ministers of the Niamey-based MULPOC endorsed the proposal for a preliminary study on the feasibility of a second ammonia project in the subregion; the first being in Nigeria, the output of which will be completely absorbed by the Nigerian market.

PROJECT PROFILE NO. 49

SUBSECTOR: Chemical industry (fertilizers) SUBREGION: West Africa

1. Project Title: Establishment of a phosphate fertilizer plant

2. Objective: To obtain fertilizers from local deposits of natural phosphate and imported sulphur-sulphuric acid to replace imports so as to save foreign exchange and reduce fertilizer prices.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Liptako-Gourma Authority (Upper Volta - Mali - Niger) 4. To be determined (from prefeasibility studies)	5. Conceptual stage 6. Feasibility studies	7. Natural phosphate deposits Upper Volta (Kodjari): 200 million tons: Niger (Tahoua) 1,255 million tons, Mali (Tilemsi): 200 million tons, a total of 1,655 million tons 8. Power: major hydroelectric potential thanks to the construction of dams over River Niger at Kandadgi, Tossaye and Labbezanga: 458 MW 9. Need to develop physical infrastructure	10. Subregional demand is estimated at 1.0-1.2 million tons P_2O_5 per year by 2000 11. Countries of the Liptako-Gourma subregion (Upper Volta, Mali and Niger)	12. Capacity of the simple high-quality phosphate factory: 155,000 tons/year 13. Investment in simple high quality phosphate and sulphuric acid plant: US$ 14.1 million	14. The project was submitted to the Council of Ministers of the Liptako-Gourma Authority (19th session held at Ouagadougou 28 - 30 November 1983) which adopted it.

PROJECT PROFILE NO. 50

SUBSECTOR: Chemical industry (fertilizers) SUBREGION: Central Africa

1. Project Title: Production of ammonia fertilizers

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

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

Basic chemicals subprogramme

42. The region, although endowed with abundant raw materials, is still at a very early stage of development with respect to the manufacture of basic chemicals such as sulphuric acid, caustic soda, chlorine and soda ash. Without basic chemicals, however, such priority industries as food-processing, pesticides manufacture or forest-based industries cannot develop.

43. Three projects are included in the initial programme.

(a) Production of caustic soda, Kenya (Project profile No. 51);

(b) Establishment of salt/soda production, Mano River Union (Project profile No. 52); and

(c) Establishment of a lithopone production plant, Tunisia (Project profile No. 53).

PROJECT PROFILE NO. 51

SUBSECTOR: Chemical industry (basic chemicals)

SUBREGION: Eastern and Southern Africa

1. Project Title: Production of caustic soda , Kenya

2. Objective: To establish a caustic soda production enterprise

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Ministry of Industry, Kenya 4. Kajiado township, Kenya.	5. No details are available. 6. See 5 above	7. (a) Locally available: Limestone and soda ash, deposits of latter estimated at 100 million tons. (b) Imported: Sodium nitrate, sulphur and hydrochloric acid. 8. Information about present project requirements is not available. 9. No details are available, apart from general requirements such as land, buildings, machinery and equipment.	10. See 5 above 11. Local 10,000 tons/year; and export: 20,000 tons/ year	12. 20,000 tons/ year (initially) and 30,000 tons/ year (full operation). 13. Estimated at US$ 18 million, including land, buildings, machinery, equipment, shake-down costs, contingencies, and working capital. Equity (50% local, 50% foreign), loans and credit schemes are proposed for financing the project.	14. (a) No information about any collaboration arrangements entered into. (b) Kenya has not invited other countries in the subregion to participate in the present project. However, participation by countries outside the region is sought in terms of equity holding, supply of technology, loans and credit. (c) Manpower requirements are estimated at 194 personnel, including 14 expatriates.

PROJECT PROFILE NO. 52

SUBSECTOR: Chemical industry (basic chemicals) SUBREGION: West Africa

1. Project Title: Establishment of salt/soda production plant, Mano River Union

2. Objective: To set up a salt refinery and the installation of salt works to meet multi-country and subregional requirements.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Mano River Union 4. Countries of the Mano River Union	5. A full scale investigation was undertaken not only of the human consumption of salt but also the use of raw salt in supplementary industries. 6. Feasibility study	7. Sea water and raw salt. 8. Solar energy and large amount of electric energy 9. To be determined in new feasibility study.	10. See 9 above 11. Three member states and others.	12. See 9 above 13. To be determined in pre-investment study.	14(a) No special co-ordination required except protection against imports. (b) An Italian company Fin SALTEC has been identified as potential partner.

PROJECT PROFILE NO. 53

SUBSECTOR: Chemical industry (basic chemicals) SUBREGION: North Africa

1. Project Title: Establishment of a lithopone production plant, Tunisia

2. Objective: To produce lithopone for the manufacture of pigments for paints.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Governments of Algeria and Tunisia. 4. Tunisia	5. Pre-investment stage. 6. Detailed feasibility studies to be undertaken.	7. Partly imported 8. Available 9. Available	10. Figure not available 11. Algeria (70 per cent) and Tunisia (30 per cent)	12. 20,000 tons/year 13. 20 million Tunisian dinars (approx. US$ 29 million)	14. (a) Labour requirements: 150 employees. (b) Joint venture company is about to be established.

Pharmaceuticals subprogramme

44. Most countries in the region are almost wholly dependent on the outside world for their supplies of pharmaceuticals. These are mostly imported in the form of ready-made medicines. Some subregions do not dispose of a single active ingredients factory, and only a number of countries have formulation centres processing pharmaceuticals that are imported in an unprocessed form to produce pills, capsules, liquid preparations and ointments. In some cases, these formulation units are working at low capacity for want of foreign exchange to purchase raw materials. In West Africa, for example, Nigeria is considering the establishment of a plant to produce antibiotics, anti-malaria medicines, vitamins, vaccines and veterinary products. Guinea produces some 12 tons of quinine a year, while in the Ivory Coast some 350 tons of medicinal plants are harvested each year.

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

46. Four projects are included in the initial programme:

(a) Establishment of a pharmaceutical plant, Sierra Leone (Project profile No. 54);

(b) Establishment of a pharmaceutical plant, Nigeria (Project profile No. 55);

(c) Rehabilitation and extension of the Sereddu station, Guinea (Project profile No. 56); and

(d) Establishment of a laboratory for pharmaceutical products, the Central African Republic (Project profile No. 57).

PROJECT PROFILE NO. 54

SUBSECTOR: Chemical industry (pharmaceuticals) SUBREGION: West Africa

1. Project Title: Establishment of a pharmaceutical plant, Sierra Leone

2. Objective: To set up a plant to manufacture drugs and other pharmaceutical products.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Mano River Union (MRU). 4. Not yet determined, but in Sierra Leone	5. Preliminary study carried out in 1981. No further details available. 6. No information available.	7. Information not available. Probably to be imported. 8. See 6 above 9. Availability depends on the location. No further details are available	10. See 6 above 11. MRU countries and other countries in the subregion	12. (a) Analgesics/antimalarials/antiasthmatics: 8 million tablets/year (b) Vitamins/contraceptives: 8 million capsules/year (c) Antibiotics: 5 million capsules/year (d) Others: 12 million units/year 13. Estimated at US$21.5 mill. More detailed study is required.	14. (a) Participation by countries outside subregion relates to financing (equity sharing and loans), technological know-how, management and training. (b) It is not known whether an invitation was extended by the Mano River Union (MRU) to other countries in the subregion to participate in the project. (c) Information is available about project manpower requirements.

PROJECT PROFILE NO. 55

SUBSECTOR: Chemical industry (pharmaceuticals) SUBREGION: West Africa

1. Project Title: Establishment of a pharmaceutical plant, Nigeria.

2. Objective: To set up a plant to manufacture a variety of pharmaceutical products, including antibiotics.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Nigeria. 4. Nigeria. Information about the actual site in Nigeria is not available	5. Feasibility study conducted in 1982 is available 6. Information not available	7. See 6 above 8. See 6 above 9. Information not available. Probably the infrastructure required still needs to be developed	10. See 6 above 11. See 6 above	12. Proposed as follows: 3,000 million tablets/year 2 million litres/year, oral liquids; 500,000 kg/year ointment; and 125 million capsules (antibiotics) 13. Estimated at N 63.1 million, including pre-investment costs, fixed capital and working capital	14. (a) It is not known whether Nigeria has invited other countries in the subregion to participate in the project (b) Potential problems during implementation might include lack of investment funds.

PROJECT PROFILE NO. 56

SUBSECTOR: Chemical industry (pharmaceuticals) SUBREGION: West Africa

1. Project Title: Rehabilitation and extension of the Sereddu station, Guinea

2. Objective: Develop the production of quinine salt in Guinea to meet the demand of the subregion.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Government of Guinea 4. Sereddu (MACENTA) Guinea	5. Feasibility studies available 6. More detailed studies. World Bank evaluation Report.	7. 300 hectares of cinchona should provide a sufficient and regular supply of raw materials. 8. Available: existing lines and a stand-by generator of 250 kVA. 9. Available but needs to be developed.	10. Not available. 11. Local market and export to other countries in the subregion.	12. 22.5 tonnes of cinchona salt. 13. US$ 15 million.	14. (a) Agreement in principle by the World Bank to finance a first phase costing $5 million. Financing of subsequent phases by the same body. (b) Countries of the subregion need to participate. (c) Purchase by those countries of the final product as raw materials for their pharmaceutical industries

PROJECT PROFILE NO. 57

SUBSECTOR: Chemical industry (pharmaceuticals) SUBREGION: Central Africa

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

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

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

Pesticides subprogramme

47. Given the current alarming decline in food production in Africa, the production of agricultural inputs such as pesticides take on particular importance, all the more so as imports of pesticides are increasing at an average annual rate of 20 per cent.

48. The pesticides industry embraces a large number of products, some of which involve quite sophisticated and at times somewhat hazardous technologies. For regional manufacture, consideration should be given to those products which are imported in large quantities as finished products and whose manufacture may be based on comparatively simple technologies.

49. Economies of scale are very significant in the production of most active ingredients for pesticides. In order to be competitive, the production units should be of appropriate capacity. Unfortunately, such sizes are much beyond the demand of most African countries - hence the need for establishing subregional units to serve a number of countries. The active ingredients can be transported to other countries in the various subregions which have formulation plants for final formulation and production.

50. One project is included in the initial programme:

(a) Plant for phytosanitary products, Upper Volta (Project profile No. 58).

PROJECT PROFILE NO. 58

SUBSECTOR: Chemical industry (pesticides) SUBREGION: West Africa

1. Project Title: Plant for phytosanitary products, Upper Volta

2. Objective: To set up a new plant to manufacture a number of pesticides which are imported at present.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Ministry of Commerce, Industry and Mining, Upper Volta. 4. Bobo-Dioulasso, Upper Volta	5. Feasibility study carried out in April 1979 is being reviewed. 6. Information not available	7. (a) Locally available: Kaolin, dolomite, etc. (b) Imported: Active ingredients 8. See 6 above 9. Information not available about transport and communications infrastructure. Buildings and associated infrastructure are to be developed.	10. Liquids / Powder Upper Volta 1.62 mill. litres / 4,500 tons Niger 375,000 litres / 3,000 tons 11. Local market and export to other countries in the subregion, such as Niger.	12. Planned as follows: (a) 1 million litres/year liquid pesticides; and (b) 2,500 tons/year powder pesticides. 13. Estimated at CFAF 647.0 million	14. (a) Participation was sought of PETROPLAST of London (UK) which is reviewing the feasibility study. (b) No information is available about Upper Volta having invited other countries in the subregion to participate in the project. (c) Financial participation sought: equity shareholding and loans. (d) Information not available about manpower requirements.

Non-metallic mineral products subprogramme

51. Even though several countries in the region have chemical processing industries, shortages of essential chemical products still persist in a variety of important fields. At present, the demand for such items as flat glass or glass containers has often to be met through imports, and the extent of that demand is such that the establishment of manufacturing units for those items is justified.

52. Five projects are included in the initial programme:

(a) Sheet glass production, Madagascar (Project profile No. 59);

(b) Manufacture of glass containers, West Africa (Project profile No. 60);

(c) Manufacture of glass containers, Liberia (Project profile No. 61);

(d) Expansion and diversification of production at a glass manufacturing plant, the Congo (Project profile No. 62); and

(e) Establishment of a sheet glass production unit, the Sudan (Project profile No. 63).

PROJECT PROFILE NO. 59

SUBSECTOR: Chemical industry (non-metallic mineral products) SUBREGION: Eastern and Southern Africa

1. Project Title: Sheet glass production, Madagascar

2. Objective: To promote local production of sheet glass, an essential building material currently imported by countries in the subregion.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Malagasy Covernment 4. Madagascar	5. Prefeasibility study completed in 1976. 6. (i) Consultations with other countries of the subregion for their participation in the project; (ii) Feasibility study; (iii) Mobilization of investment.	7. Sand, quartz, dolomite and felspar locally available. Other raw materials (soda ash, sodium sulphate, borax, fluorspar and cryolite) to be imported. 8. Fuel oil 9. Working of sand pit and mining of quartz and felspar will have to be developed.	10. 10,000 - 12,000 tons/ year in the subregion. 11. Madagascar and other countries in the subregion	12. 9,000 tons / year 13. FMG 2000 million (Fixed capital) (1976 figure)	14. The project will require market-sharing arrangements with other countries in the subregion.

PROJECT PROFILE NO. 60

SUBSECTOR: Chemical industry (non-metallic mineral products) SUBREGION: West Africa

1. Project Title: Manufacture of glass containers

2. Objective: To promote the production of glass bottles for pharmaceuticals, food products and liquids.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. CEAO 4. CEAO member states	5. Being studied 6. Feasibility studies to be undertaken	7. Silica available in member states 8. Not yet estimated 9. Very good.	10. To be determined in the study 11. See 10 above	12. Needs of member states 13. See 10 above	14. Project accepted for study by the legislative bodies of CEAO.

PROJECT PROFILE NO. 61

SUBSECTOR: Chemical industry (non-metallic mineral products) SUBREGION: West Africa

1. Project Title: Manufacture of glass containers, Liberia

2. Objective: To establish glass container industry and meet multi-country and subregional requirements

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. The National Investment Commission, Liberia (NIC). 4. Monrovia, Liberia	5. Feasibility study 6. Information not available	7. Silica sand locally available, Soda ash, limestone, dolomite, feldspar cullets, borax, nitrate and cobalt oxide to be imported. 8. See 6 above 9. To be developed.	10. Bottles of various sizes for beverages, drugs and household use. 11. Countries in the subregion. Market survey indicates a large and growing demand for bottles.	12. 20.4 million bottles to be produced during the first year of production. 13. Equity: Importex International PVT Ltd: US$ 1.65 million; NIC: US$1.10 million long-term loan: US$7.35 million; short-term loan for working capital: US$0.8 million. Total US$10.9 million.	14. Actual equity is held by ADB, NIC and Indo Glass with possibility for participation by member states. Also possibility of setting up quasi-government establishments, e.g. NDB of Sierra Leone. Indo Liberian Glass Company shall be responsible for the management of the joint venture.

PROJECT PROFILE NO. 62

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

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

2. Objective: To convert the plant into a multinational enterprise, expanding the current range of production to include both bottles and other hollow-ware so as to serve the needs of countries in the subregion

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

PROJECT PROFILE NO. 63

SUBSECTOR: Chemical industry (non-metallic mineral products) SUBREGION: North Africa

1. Project Title: Establishment of a sheet glass production unit, the Sudan

2. Objective: To promote local promotion of sheet glass, an essential building material currently imported by countries in the subregion.

3. Promoter/sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. The General Organization for Industrialization (Egypt) 4. The Sudan	5. Conceptual stage. 6. Detailed pre-feasibility and feasibility studies to be undertaken.	7. Sand, quartz and dolomite available in the Sudan. Information on other raw materials (soda ash, sodium sulphate, borax, fluorspar and cryolite) not available. 8. To be specified in the feasibility study. 9. See 8 above.	10. See 8 above. 11. See 8 above.	12. See 8 above. 13. See 8 above.	14. Is is also intended to include the production of glass containers (hollow-ware) in this project

Petrochemicals subprogramme

53. Like North Africa, several countries in Central Africa produce millions of tons of petroleum a year or have the potential for such production. Unlike that subregion, however, no petrochemical industry exists in Central Africa apart from some limited petroleum refining capacity. All the countries continue to depend on extensive and expensive imports of petrochemical products, such as plastics and synthetics, fibres, rubber and detergents. It is thus essential that the petrochemical industry be established in Central Africa.

54. Two projects are included in the initial programme:

(a) Establishment of a petrochemical complex for the manufacture of plastic products, Gabon (Project profile No. 64); and

(b) Expansion of a petroleum refinery, the Congo (Project profile No. 65).

PROJECT PROFILE NO. 64

SUBSECTOR: Chemical industry (petrochemicals) SUBREGION: Central Africa

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

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

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

PROJECT PROFILE NO. 65

SUBSECTOR: Chemical industry (petrochemicals) SUBREGION: Central Africa

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

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

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

Other chemicals subprogramme

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

56. Four projects are included in the initial programme:

(a) Upgrading potash deposits for the manufacture of chemicals, the Congo (Project profile No. 66);

(b) Production of calcium carbide, Rwanda (Project profile No. 67);

(c) Establishment of a methanol production plant, Zaïre (Project profile No. 68); and

(d) Pilot project for the production of alcohol, Rwanda (Project profile No. 69).

PROJECT PROFILE NO. 66

SUPSECTOR: Chemical industry (other chemicals) SUBREGION: Central Africa

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

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

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

PROJECT PROFILE NO. 67

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

1. Project Title: Production of calcium carbide, Rwanda

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

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

PROJECT PROFILE NO. 68

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

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

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

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

PROJECT PROFILE NO. 69

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

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

2. Objective: To produce alcohol for industrial use, primarily for admixture to petrol for use as motor fuel.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. CEPGL 4. Rwanda	5. Pre-feasibility study completed: vehicles have been identified whose carburettors will be partly modified so as to use an alcohol/petrol mixture. 6. Feasibility study to be undertaken	7. Methanol to be produced in Zaire (see project profile No. 68) 8. Energy expected to be available 9. Physical infrastructure needs to be developed	10. To be specified in the study 11. Countries in the subregion, starting with the CEPGL countries	12. See 10 above 13. See 10 above	14.(a) The project was approved by the CEPGL Conference of Heads of State in 1977 (b) It forms part of the global project on the exploitation of methane gas in Lake Kivu.

Building materials industry

Cement subprogramme

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

58. The Lagos Plan of Action calls for the production of sufficient quantities of building materials so that decent urban and rural housing can be built for the growing population and, in general, the economy's requirements met in terms of building materials by 1990. Cement projects, at both the national and subregional level, would contribute to attaining and maintaining self-sufficiency in one of the basic building materials. Countries are also interested in developing alternative building materials based on local resources and simple technologies. Several industrial wastes and agricultural residues can be processed into effective low-cost building materials and thus help to relieve the inordinate demand for cement. In this connection, serious consideration might be given to setting up plants producing cement from blast furnace slag (obtained from iron and steel plants) or from fly ash (obtained from thermal power stations using pulverized coal).

59. Seven projects are included in the initial programme:

(a) Mauritian Cement Corporation (Project profile No.70);

(b) Establishment of a subregional cement factory in the Liptako-Gourma region (Project profile No. 71);

(c) Expansion of the Loutete cement plant, the Congo (Project profile No. 72);

(d) Expansion of the Mashyuza cement plant, Rwanda (Project profile No. 73);

(e) Reactivation of the Katana cement plant, Zaïre (Project profile No. 74);

(f) Establishment of the Port Sudan cement factory, the Sudan (Project profile No. 75); and

(g) Establishment of a plant to produce white cement, Tunisia (Project profile No. 76).

PROJECT PROFILE NO. 70

SUBSECTOR: Building materials industry (cement)

SUBREGION: Eastern and Southern Africa

1. Project Title: Mauritian Cement Corporation

2. Objective: To establish a new enterprise to produce Portland cement.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Mr. L. Joonas a private businessman closely associated with the buildings material industry is sponsoring the project. 4. Mahebourg area, Mauritius.	5. A pre-feasibility study of the project is available. 6. No further details are available.	7. (a) Locally available: 95% of required inputs. (b) Imported: Coal, gypsum and silica sand. 8. Project requirements will be met. 9. To be developed.	10. Information not available. 11. Local consumption and export to neighbouring countries and islands.	12. Planned at 300,000 tons/year 13. Estimated at US$ 43.1 million, including fixed investment, working capital, contingencies, etc.	14. (a) No information is available concerning any collaboration arrangements entered into in respect of this project. (b) Participation by countries outside the subregion in the project is sought in terms of financing equity, loans, licencing and know-how. (c) Project presented to the UNIDO regional investment promotion meeting for Southern African countries (Lusaka, Zambia, October 1983).

PROJECT PROFILE NO. 71

SUBSECTOR: Building materials industry (cement) SUBREGION: West Africa

1. Project Title: Establishment of a subregional cement factory in the Liptako-Gourma region

2. Objective: To meet the needs of the Liptako-Gourma region

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Liptako-Gourma Authority (Upper Volta, Mali and Niger). 4. To be determined based on the prefeasibility studies	5. At the design stage 6. Pre-feasibility studies	7. Limestone : 166,000 tons/year Marl : 200,000 tons/year Sand : 11,000 tons/year Gypsum : 10,500 tons/year Pozzolana : 21,000 tons/year These deposits are to be found in the Liptako-Gourma area. 8. Energy : Potential for use of hydroelectric power is high. Construction of dams on the Niger at Kandadji, Tossaye and Labezanga: 458 MW 9. Physical infrastructure needs to be developed.	10. Demand for cement in the subregion is estimated at more than 400,000 tons/year in 1990. 11. Countries of the Liptako-Gourma Authority	12. 250,000 tons/year. This can be increased to 500,000 tons. The cement factory will produce 250,000 tons/year cement and 200,000 tons/year clinker. 13. To be determined on the basis of a pre-feasibility study.	14. The project was submitted to the Council of Ministers of the Liptako-Gourma Authority (19th session) which met at Ouagadougou 28-30 November 1983. The project was adopted.

PROJECT PROFILE NO. 72

SUBSECTOR: Building materials industry (cement) SUBREGION: Central Africa

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

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

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

PROJECT PROFILE NO. 73

SUBSECTOR: Building materials industry (cement) SUBREGION: Central Africa

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

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

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

PROJECT PROFILE NO. 74

SUBSECTOR: Building materials industry (cement) SUBREGION: Central Africa

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

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

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

PROJECT PROFILE NO. 75

SUBSECTOR: Building materials industry (cement) SUBREGION: North Africa

1. Project Title: Establishment of the Port Sudan cement factory, the Sudan

2. Objective: To establish a new enterprise for the production of Portland cement

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Sudanese Ministry of Industry 4. Port Sudan, the Sudan	5. Feasibility study completed. 6. Feasibility study to be updated.	7. All the raw materials required are available locally. 8. Diesel generators (with a capacity of approximately 15 MW) will have to be supplied. 9. Well developed.	10. Figure not available. 11. 60 per cent local demand 40 per cent export	12. 500,000 tons/year 13. Approximately US$ 85 million	14. Joint venture or equity participation

PROJECT PROFILE NO. 76

SUBSECTOR: Building materials industry (cement)

SUBREGION: North Africa

1. Project Title: Establishment of a plant to produce white cement, Tunisia

2. Objective: To produce white cement required in Algeria and Tunisia, thus contributing to the reduction of imports

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Governments of Algeria and Tunisia. 4. Tunisia	5. Pre-investment stage. 6. Detailed feasibility studies to be undertaken.	7. Available 8. Available 9. Available	10. 60,000 tons/ year in Tunisia, 120,00 tons/ year in Algeria 11. Algeria and Tunisia (50 per cent each)	12. 200,000 tons/year 13. 60 million Tunisian dinars (approx. US$ 86 million)	14. (a) Labour requirements: 150 employees. (b) Joint venture company already established. Equity is: Tunisia (40 per cent), Algeria (40 per cent) and the Arab Maghreb Co-operation Bank (20 per cent). (c) Production is expected to start at the beginning of 1986.

Ceramics and tiles subprogramme

60. With the increasing use of ceramics and tiles in building projects throughout the region, appropriate production facilities must be established. The growing building industry has also induced a need for flat glass production facilities in certain sub-regions (see project profiles Nos. 59 and 63).

61. Two projects are included in the initial programme:

(a) Establishment of a ceramics factory, Togo (Project profile No. 77); and

(b) Manufacture of marble tiling, the Sudan (Project profile No. 78).

PROJECT PROFILE NO. 77

SUBSECTOR: Building materials industry (ceramics and tiles)

SUBREGION: West Africa

1. Project Title: Establishment of a ceramics factory, Togo

2. Objective: To meet the demand for ceramic and tile products in Togo and the subregion

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. The Togolese Government 4. Lome, Togo	5. Feasibility studies available 6. Evaluation studies undertaken by BOAD and IFC.	7. Clay deposits at Lidjoblibo, Kpodji and Nyitoe have been identified as local sources of raw materials, the reserves being 1.4 million, 2.5-3.5 million and 3 million tons, respectively. 8. Available 9. Adequate	10. It is estimated that for the market of the WAMU in 1985 1,222,000 sq.m. of floor stoneware will be needed. The FRG is also interested in the project, where demand in 1985 will be 1,530,000 sq.m. 11. Markets of WAMU countries and Europe.	12. Non-enamel mosaic tiles: 2x2cm) 5x5cm) 150,000 sq.m Non-enamel floor tiles: 10x10cm) 10x20cm) 100,000sq.m Enamel floor tiles: 10x10cm) 10x20cm) 100,000sq.m 13. CFAF 3,000 million	14.(a) The project has been submitted to the following partners: BOAD. It is prepared to finance up to 33.33% of total investment and, if possible, buy stock worth up to 10% of the share capital. Société Nationale d'Investissements du Togo is ready to subscribe 25% of the share capital and to finance up to 8.33% of the total cost of the project. (b) The German industrial group, Klingenberg, will be the trading partner in the European market. (c) Assistance sought: subregional partners to take up 35% participation in the share capital and to finance another 35% of the total cost of the project.

PROJECT PROFILE NO. 78

SUBSECTOR: Building materials industry (ceramics and tiles) SUBREGION: North Africa

1. Project Title: Manufacture of marble tiling, the Sudan

2. Objective: To produce marble tiles of various shapes, colour and size for flooring and other decorative purposes.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Governments of Egypt and the Sudan 4. Dongola, the Sudan	5. Pre-investment studies completed. 6. Feasibility studies to be undertaken	7. Available in the vicinity 8. Available 9. Needs to be developed.	10. Current domestic demand is estimated at 100,000 square metres 11. Domestic market in both countries	12. 50,000 square metres/ year 13. 4 million Sudanese pounds (approx. US$ 3.1 million), two thirds of which will be in convertible currency.	14. The Marble Production Company is a joint Egyptian-Sudanese enterprise (50 : 50 participation). It is planning to speed up both studies and implementation so as to be able to draw on Egyptian experience and start production either at the end of 1984 or at the beginning of 1985.

Agro- and agro-based industries

Food processing subprogramme

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

63. By virtue of their ecology, the Sahelian countries are well-suited to developing livestock and growing cotton while the coastal areas could improve their fruit and vegetable output and profitably process them on an industrial scale, while increasing their fish-processing activities. Similarly, the countries of Central Africa could expand their activities in those areas and contribute to achieving self-reliance in the production of food as recommended in the Lagos Plan of Action

64. Ten projects are included in the initial programme:

(a) Integrated complex for poultry production, Liberia (Project profile No. 79);

(b) Food-processing plant, Guinea (Project profile No. 80);

(c) Fruit-processing plant, Guinea (Project profile No. 81);

(d) Rehabilitation and expansion of the sugar industry, Angola (Project profile No. 82);

(e) Upgrading of a sugar factory, the Congo (Project profile No. 83);

(f) Establishment of a distillery, Burundi (Project profile No. 84);

(g) Integrated cattle product and processing complex, Central Africa (Project profile No. 85);

(h) Integrated development of the fish-processing industry, Central Africa (Project profile No. 86);

(i) Establishment of an agro-industrial complex processing cassava, Central African Republic (Project profile No. 87); and

(j) Establishment of sugar mills, the Sudan (Project profile No. 88).

PROJECT PROFILE NO. 79

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

1. Project Title: Integrated complex for poultry production, Liberia.

2. Objective: To establish a new enterprise to produce poultry, eggs, poultry feed and associated by-products (including organic fertilizers).

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Government of Liberia: National Investment Commission(NIC) 4. Bensonville, Liberia.	5. Feasibility study completed on behalf of NIC in 1982 by MULTICON of Brazil. 6. No information available	7. To be imported 8. Available, but supplies need to be developed. 9. Transport and communications available. However, installations directly related to production need to be developed.	10. Information not available 11. Countries of the Mano River Union and other countries in the sub-region.	12. In 1984: 3,866 tons poultry; over 5.4 million eggs; 1,959 tons poultry feed; 1,964 tons organic fertilizer; and 480 tons by-products. 13. Estimated at US$ 16 million	14. (a) Participation by other countries outside the sub-region sought in terms of equity sharing, loans, technology, know-how and management. (b) No information is available about Liberia having invited other countries in the subregion to participate in the project. (c) Information about project manpower requirements is available.

PROJECT PROFILE NO. 80

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

1. Project Title: Food-processing plant, Guinea

2. Objective: To rehabilitate plant manufacturing agro-products such as chocolate and expand its programme to include the processing of oranges and other fruit.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Ministry of Industry, Guinea. 4. Kindia, Guinea	5. Pre-feasibility study available 6. Information not available.	7. Available. 8. Available. 9. Available, but requires expansion/modernization	10. See 6 above. 11. Local market and export to other countries in the subregion as well as to Europe.	12. Proposed: 7,200 tons/ year. 13. Estimated at US$ 25 million.	14. (a) Participation by countries outside the subregion in terms of equity sharing and loans is sought. (b) Information is not available about Guinea having invited other countries in the subregion to participate in the project. (c) Manpower available.

PROJECT PROFILE NO. 81

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

1. Project Title: Fruit-processing plant, Guinea

2. Objective: To rehabilitate a fruit-processing plant (with obsolete equipment) and to increase the processing and product range.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Ministry of Industry, Guinea. 4. Mamou, Guinea.	5. Pre-feasibility study available 6. Information not available	7. Available. Existing factory uses local fruit for producing jam, marmalade, juices and tomato concentrates 8. Available. 9. Available, but equipment needs to be replaced.	10. See 6 above. 11. See 6 above.	12. Capacity of rehabilitated plant still to be determined. 13. Estimated at US$ 4.9 million	14. (a) Participation sought includes: capital (equity sharing, loans), technological know-how, external market, etc (b) Information is not available about Guinea having invited other countries in the subregion to participate in the project. (c) Manpower requirements are met.

PROJECT PROFILE NO. 82

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

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

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

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

PROJECT PROFILE NO. 83

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

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

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

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

PROJECT PROFILE NO. 84

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

1. Project Title: Establishment of a distillery, Burundi

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

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

PROJECT PROFILE NO. 85

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

1. Project Title: Integrated cattle product and processing complex

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

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

PROJECT PROFILE NO. 86

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

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

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

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. CEPGL 4. To be determined	5. Pre-feasibility study completed by an ECA consultant 6. Further in-depth study to be undertaken by FAO (UNDP funds US$100,000)	7. Numerous lakes and rivers in the subregion contain enormous fish resources. For the CEPGL countries alone, these are estimated at 416,500 tons a year, only 30 per cent of which were exploited in 1975/1976. 8. Energy available 9. Physical infrastructure needs to be developed further	10. To be specified in the study 11. Countries in the subregion	12. See 10 above 13. See 10 above	(a) The project was approved by the CEPGL Conference of Heads of State in 1979. (b) Collaboration of Kagera River Basin countries will be sought.

PROJECT PROFILE NO. 87

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

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

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

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

PROJECT PROFILE NO. 88

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

1. Project Title: Establishment of sugar mills, the Sudan

2. Objective: To establish two medium-sized sugar production units to serve the export market.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Sudanese Ministry of Industry 4. Central Sudan	5. Feasibility study completed. 6. Feasibility study to be updated.	7. Available as sugarcane plantations are normally attached to factories. 8. Available. 9. Not available.	10. Subregional demand is estimated at 6 million tons in 1990. 11. Countries of the subregion and other neighbouring countries.	12. 100,000 tons/year for each mill. 13. 150 million Sudanese pounds (approx. US$ 115 million)	14. (a) A joint venture company is to be established. (b) 4 units with total capacity of 700,000 tons are now being rehabilitated through World Bank and Arab Fund assistance, and they will reach full capacity by 1986. (c) Suitable weather conditions for sugarcane plantations, availability of adequate water and broad expanses of farmland ensure viability of such projects.

Forest products subprogramme

65. Despite the region's potential, only a few African countries have developed their forests into major sources of revenue. Emphasis has not shifted significantly from the export of timber in untreated form to semi-finished or finished products. This lack of development can be attributed, among other things, to the absence of appropriate industrial production and marketing facilities. As a result, the region still depends on expensive imported wood and wood-based products such as planks, panels, plywood, pulp, paper, furniture and adhesives. Furthermore, the region is beset with problems of trade and transportation. Owing to the lack of road, river and rail networks, many of the forest-rich areas remain inaccessible. Outside the region, freight rates are high and Africa timber cannot compete with timber from other regions, primarily Asia. In certain countries, climatic and ecological conditions impinge negatively on the regeneration of forest resources with the result that the forests can supply only an insignificant fraction of the raw material inputs required by the forest industries. The region thus needs most urgently to develop its forest resources and establish wood-processing and pulp industries in this subsector to which high priority is accorded in the Lagos Plan of Action.

66. Three projects are included in the initial programme:

(a) Establishment of pulp and paper board factory, the Ivory Coast (Project profile No. 89);

(b) Establishment of a wood-processing complex, Central Africa (Project profile No. 90); and

(c) Establishment of a paper factory, the Sudan (Project profile No. 91).

PROJECT PROFILE NO. 89

SUBSECTOR: ~~Agro- and agro-based industries~~ (forest products) SUBREGION: West Africa

1. **Project Title:** Establishment of a pulp and paper board factory, the Ivory Coast

2. **Objective:** To use local products so as to avoid importing paper.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Government of the Ivory Coast 4. San Pedro, Ivory Coast	5. Conceptual stage 6. Pre-feasibility studies and selection of technology	7. Available: various tropical leaves, plantations of more than 200,000 ha established in the San Pedro region. Pines and eucalyptus. Sawmill waste: 50,000 tons/year. Recycled paper: 5-10,000 tons/year. 8. Existing power: major hydro-electric potential 9. To be determined after feasibility studies.	10. Domestic demand: Numerous packaging companies. Manufacture of school and office articles. Many Ivorian printing presses. Demand in neighbouring countries (volume to be determined). 11. National and subregional market to be determined after feasibility studies.	12. Capacity: 50 - 100,000 tons/year. 13. Total cost to be estimated after prefeasibility studies and the selection of technology.	14. (a) Project might be granted priority status (b) Industrial site might be available. (c) Establishment of experimental plantations possible. (d) Some infrastructure available. (e) Technical and financial partners sought.

PROJECT PROFILE NO. 90

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

1. Project Title: Establishment of a wood-processing complex

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

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

PROJECT PROFILE NO. 91

SUBSECTOR: Agro and agro-based industries (forest products) SUBREGION: North Africa

1. Project Title: Establishment of a paper factory, the Sudan

2. Objective: To produce pulp and paper to meet growing local and subregional demand

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Sudanese Ministry of Industry. 4. Kosti or another site, the Sudan	5. Feasibility study completed. 6. The feasibility study to be updated.	7. Bagasse, kenaf, cotton lint, papyrus and species of wood are abundantly available. 8. Available 9. Well developed in the area	10. Figure not available. 11. Local market and surplus will be exported.	12. 50 - 150 tons/day (three shifts) 13. About US$ 170 million	14. (a) Joint venture or equity participation (b) In elaborating the project, consideration should be given to Egyptian proposal for the establishment of a similar project in co-operation with the Sudan.

Leather products subprogramme

67. In the Lagos Plan of Action, particular emphasis is placed on attaining self-sufficiency by the end of the current decade in the clothing sector. As a related subsector, the leather industry takes on special importance, further to which the local production of footwear would help to reduce the appreciable imports to the subregion in addition to promoting an integrated approach to livestock processing in Africa.

68. One project is included in the initial programme:

(a) Establishment of a footwear production plant, North Africa (Project profile No. 92).

PROJECT PROFILE NO. 92

SUBSECTOR: Agro and agro-based industries (leather products) SUBREGION: North Africa

1. Project Title: Establishment of a footwear production plant

2. Objective: To promote the development of the local and subregional footwear industry

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Governments of Tunisia and Libyan Arab Jamahiriya 4. To be determined	5. Conceptual stage. 6. Pre-investment studies to be undertaken.	7. Leather to be supplied by local tanneries; certain other raw materials to be imported. 8. Available. 9. Available.	10. Information as to future demand not available: demand in 1981 in Libya alone was 1.5 million pairs. 11. Tunisia and Libyan Arab Jamahiriya	12. 1 million pairs/ year (250,000 high quality shoes and 750,000 good standard shoes). 13. To be specified in the feasibility study.	14. (a) Labour available. (b) Co-ordination with tanneries an essential component.

Textiles subprogramme

69. The range of natural fibres produced in the region is extensive: for example, Egypt and the Sudan are the largest producers of long-staple cotton in the world. Kenaf fibre which is suited to the production of sacks is also endemic to North Africa.

70. The satisfaction of local demand as well as the improvement of exports through value-added resulting from industrial operations are two major determinants justifying an integrated approach to the establishment of spinning, weaving and garment industries. It is also recalled that self-sufficiency in clothing is a primary objective set in the Lagos Plan of Action. Furthermore, the existence of polyester manufacturing facilities in certain countries permits the production of blended yarns, while other countries' advanced stage of development in the textile industry subsector ensures the availability of the requisite skills.

71. Four projects are included in the initial programme:

(a) Establishment of a spinning mill, North Africa (Project profile No. 93);

(b) Expansion of a kenaf sack production plant, the Sudan (Project profile No. 94);

(c) Establishment of a knitwear factory, North Africa (Project profile No. 95); and

(d) Establishment of a garment factory, North Africa (Project profile No. 96).

PROJECT PROFILE NO. 93

SUBSECTOR: Agro- and agro-based industries (textiles) SUBREGION: North Africa

1. Project Title: Establishment of a spinning mill

2. Objective: To promote the local production of pure cotton and blended (cotton-synthetic) yarn.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Governments of Tunisia and Libyan Arab Jamahiriya 4. To be determined.	5. Conceptual stage. 6. Pre-investment studies to be undertaken.	7. Cotton imported but basic materials for synthetic yarns available in Libyan Arab Jamahiriya. 8. Available 9. Adequate	10. Figure not available. Demand in 1980 in Tunisia alone was 2,170 tons. 11. Weaving plants and other users in both countries.	12. 4,000 tons/year (2,000 tons cotton and 2,000 tons blends) 13. To be specified in the feasibility study	14. Labour available.

PROJECT PROFILE NO. 94

SUBSECTOR: Agro- and agro-based industries (textiles) SUBREGION: North Africa

1. **Project Title:** Expansion of a kenaf sack production plant, the Sudan

2. **Objective:** To expand existing kenaf sack production facilities to meet current/future local/export demand

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Sudanese Ministry of Industry 4. Abu Naama, the Sudan	5. Plant currently in operation and pre-feasibility study related to plant expansion completed. 6. Feasibility study related to expansion to be undertaken.	7. Available 8. See 7 above 9. See 7 above	10. 50 million sacks per year for the Sudanese market. 11. Sudan and exports to other countries at a later stage.	12. 30 million sacks/ year. 13. US$ 50 million	14. (a) Labour available (b) Capacity of existing and other planned plants is estimated at 30 million sacks per year

PROJECT PROFILE NO. 95

SUBSECTOR: Agro- and agro-based industries (textiles)

SUBREGION: North Africa

1. Project Title: Establishment of a knitwear factory

2. Objective: To develop the local knitwear industry

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Governments of Tunisia and the Libyan Arab Jamahiriya 4. To be determined.	5. Conceptual stage 6. Formation of a joint company to undertake prefeasibility and feasibility studies	7. Cotton yarn to be supplied by Tunisian spinning mills or imported. Synthetic yarn to be produced in the Libyan Arab Jamahiriya 8. Available 9. Available	10. Demand in the Libyan Arab Jamahiriya alone is estimated at 1,865 million pieces. 11. Tunisian and Libyan Arab Jamahiriya (50 per cent each), although production should also be export-oriented from the outset.	12. 2 million pieces/ year. 13. To be specified in the feasibility study.	14. (a) Formation of joint venture company envisaged with equal participation. (b) Labour available in Tunisia and the Libyan Arab Jamahiriya. (c) Agreement will have to be reached with yarn mills in Tunisia for the supply of cotton yarn.

PROJECT PROFILE NO. 96

SUBSECTOR: Agro- and agro-based industries (textiles) SUBREGION: North Africa

1. Project Title: Establishment of a garment factory

2. Objective: To promote the development of the local garment industry with their requirements.

3. Promoter/ sponsor 4. Location	5. Project status 6. Immediate follow-up activities	7. Raw materials 8. Energy 9. Physical infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total investment	14. Additional information including collaboration arrangements already made and type of participation sought by member states
3. Governments of the Libyan Arab Jamahiriya and Tunisia 4. To be determined.	5. Pre-feasibility studies completed. 6. Formation of a joint company to undertake pre-investment studies.	7. Some fabric imported. 8. Available in countries 9. Physical infrastructure available in both countries.	10. Demand in 1985 for the Libyan Arab Jamahiriya alone estimated at 1.5 million shirts and 1.6 million trousers. 11. Local markets in both countries.	12. 1 million pieces/ year (500,000 shirts and 500,000 trousers) 13. To be specified in the feasibility study.	14.(a) Formation of joint venture company is envisaged. (b) Supply of finished cloth or grey sheeting has to be promoted through the construction of weaving mills or imported from countries in the subregion. (c) Labour is available in Tunisia. (d) Possibility of export to other countries in the subregion.

Multinational support projects

72. The strategic core projects identified in paragraphs 1 - 71 above require the simultaneous development of support services such as institutional infrastructure and manpower. These support services are not specific to any one subsector as they provide a broad range of modern industrial logistics that are essential to the smooth running of any core industry.

Institutional infrastructure subprogramme

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

74. Fifteen support projects are included in the initial programme:

(a) Transformation of Serere research station into a subregional R + D centre for the processing of cereals and rootcrops, Uganda (Project profile No. S1);

(b) Assistance to ARSO and AIHTTR (Project profile No. S2);

(c) Assistance to OMVS (Project profile No. S3);

(d) Assistance to CEAO (Project profile No. S4);

(e) Assistance to ECOWAS (Project profile No. S5);

(f) Pharmaceutical industry development centre, ECOWAS (Project profile No. S6);

(g) Subregional development centre for hides, skins, leather and leather products (Leather Research Institute, Zaria, Nigeria) (Project profile No. S7);

(h) Assistance to ARCEDEM (Project profile No. S8);

(i) Assistance to ARCT (Project profile No. S9);

(j) Assistance in integrated industrial development planning for the Liptako-Gourma region (Project profile No. S10);

(k) Establishment of a Mano River Union technology centre (Project profile No. S11);

(l) Assistance to the Customs and Economic Union of Central Africa (UDEAC) (Project profile No. S12);

(m) Assistance to the Economic Community of the Great Lakes Countries (CEPGL) (Project profile No. S13);

(n) Assistance to the African Intellectual Property Organization (AIPO) (Project profile No. S14); and

(o) Assistance to the Burundi regional pharmaceutical laboratory (Project profile No. S15).

PROJECT PROFILE NO. S1

INDUSTRIAL SUPPORT AREA: Institutional infrastructure SUBREGION: Eastern and Southern Africa

1. Project Title: Transformation of Serere research station into a subregional R + D centre for the processing of cereals and root crops

2. Objective: To assist countries in improving food supplies in the subregion by increasing the production of indigenous cereals, root crops and legumes and their utilization in traditional, new and modified food products.

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. Council of Ministers of Lusaka-based MULPOC 4. Uganda 5. US$ 1,095,000	6. At its fifth meeting March 1982, the Lusaka-based MULPOC Council of Ministers endorsed the progress made on composite flour development programmes and adopted a resolution on converting Serere research station into a subregional institution for research and development of composite flours from sorghum, millet and other cereals and cassava. These crops grow well in the subregion and could reduce dependence on imported wheat. Bakery products made from composite flour as against 100 per cent wheat flour offer many advantages to African countries which import wheat in increasing quantities, yet grow non-wheat cereals, roots and tubers suitable for use in composite flour. These benefits are as follows: (a) Reduction of dependence of local bakeries and associated industries on wheat imports, thus leading to foreign exchange savings; (b) Increased utilization of indigenous products thus providing production incentives; (c) Increased industrial investment, thus generating employment; (d) Increased food self-sufficiency; (e) Convenience as a "vehicle" for improved nutrition through the addition of flour(s) from high-protein legumes. The centre would also give demonstrations of industrial-scale processing of those cereals, rootcrops and legumes and provide training in that field.

PROJECT PROFILE NO. S2

INDUSTRIAL SUPPORT AREA: Institutional infrastructure SUBREGION: Eastern and Southern Africa

1. Project Title: Assistance to the African Regional Organization for Standardization (ARSO) and the African Institute for Higher Technical Training and Research (AIHTTR)

2. Objective: To enhance and strengthen the capacity of both institutions to assist countries in improving: (a) national standards, quality control, and (b) services of African technicians, technologists and engineers through producer-oriented training.

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. ECA/OAU/UNIDO/ARSO/AIHTTR 4. Nairobi, Kenya 5. (a) US$ 100,000 for ARSO (b) US$ 200,000 for AIHTTR	(A) ARSO: (a) The immediate project objective is: (i) to harmonize or introduce national standards for priority areas in the subregion; (ii) to harmonize or introduce certification marking schemes in the subregion; (iii) to assist the countries of the subregion in establishing and operating national metrology programmes; (iv) to establish a technical standards documentation and information service at the ARSO Secretariat; (v) to train technical staff in the field of standardization, quality control, certification marking and metrology; (vi) to assist countries of the subregion in strengthening their national standards bodies (NSB); and (vii) to involve the countries of the subregion in the activities of international organizations concerned with standardization, quality control, certification marking and metrology; (b) Project outputs will be: (i) review of standardization, quality control, certification marking and metrology practices in the subregion; (ii) establishment of technical committees in priority fields; (iii) preparation of standards of particular interest to the subregion; (iv) collection and dissemination of data on standardization and related activities in the subregion; and (v) survey of legal and industrial metrology practices in the countries of the subregion. (B) AIHTTR: This project aims at: (i) producing cadres in specific technical fields of importance to industry and R+D; (ii) re-training of technical trainers, emphasizing the technological re-orientation of education and training schemes; and (iii) clearing-house activities, including comparisons/consensus on technical educational standards/qualifications, manpower profiles and data base, and collection and dissemination of information on industrial and technical training.

PROJECT PROFILE NO. S3

INDUSTRIAL SUPPORT AREA: Institutional infrastructure SUBREGION: West Africa

1. Project Title: Assistance to the Organization for the Development of the Senegal River Basin (OMVS)

2. Objective: To increase the resources of the High Commission and OMVS member states in respect of the programming, establishment, appraisal and promotion of community industries.

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. Organization for the Development of the Senegal River Basin (OMVS) 4. The OMVS High Commission, Dakar, Senegal 5. US$1.5 million	6. a) Immediate objectives (i) To establish an industrial data bank to cover national plans and the actual development of member states, the planning and development of the various regions of the Senegal River Basin, the current state of industrialization within the macro-economic context of the CEAO, the planning and development of vocational training, etc. (ii) To prepare pre-feasibility studies, identify and elaborate community projects (iii) To assist member states in their search for financing b) Expected output (i) Establishment of an energy, industrial, mineral and agro-industrial plan for the Senegal River Basin (ii) Feasibility studies for approved projects (iii) Promotion of projects (iv) Development of estimated follow-up structures for the execution of 4 projects and appraisal of their results. c) Proposed duration: 3 years

PROJECT PROFILE NO. S4

INDUSTRIAL SUPPORT AREA: Institutional infrastructure SUBREGION: West Africa

1. Project Title: Assistance to the West African Economic Community (CEAO)

2. Objective: To assist the CEAO Secretariat and member countries in strengthening their capabilities for planning, programming, establishment, appraisal and promotion of community industries.

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

PROJECT PROFILE NO. S5

INDUSTRIAL SUPPORT AREA: Institutional infrastructure SUBREGION: West Africa

1. Project Title: Assistance to the Economic Community of West African States (ECOWAS)

2. Objective: To assist ECOWAS in the formulation and implementation of subregional industrial policies and programmes in its member countries.

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. Economic Community of the West African States (ECOWAS) 4. ECOWAS Secretariat, Lagos, Nigeria. 5. Approximately US$ 3.9 million.	6. (a) Background: This project was endorsed by the ECOWAS Secretariat for submission to UNDP for funding. (b) Immediate objective: To assist ECOWAS member countries (through the ECOWAS Secretariat) in: (i) harmonizing the relevant industrial laws and regulations of the Community so as to establish subregional industries as well as formulate and implement industrial co-operation policies; (ii) surveying and identifying areas which lend themselves to development co-operation in the subregion; (iii) carrying out investment-oriented pre-feasibility studies in identified priority sectors; (iv) preparing and maintaining portfolios of investment proposals; (v) strengthening the capabilities of the ECOWAS Secretariat and appropriate governmental institutions in respect of investment promotion and policies so as to control foreign investment and other forms of international industrial co-operation; and (vi) establishing industrial documentation and organizing training programmes on regional project identification, preparation and investment follow-up in the form of seminars and fellowships or through participation in consultancy work. (c) Proposed duration: 5 years

PROJECT PROFILE NO. S6

INDUSTRIAL SUPPORT AREA: Institutional infrastructure SUBREGION: West Africa

1. Project Title: Pharmaceutical industry development centre, ECOWAS

2. Objective: To establish a pharmaceutical industry development centre equipped with a pilot plant and laboratories.

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. ECOWAS 4. ECOWAS Secretariat, Lagos, Nigeria. 5. US$ 2.5 million	6. (a) Background: Project endorsed by the ECOWAS Secretariat for funding by UNDP. (b) Objectives: (i) To improve existing production facilities and adapt new formulation technologies; (ii) to expand existing production units; (iii) to establish new facilities, especially for the production of basic drugs; (iv) to carry out quality control of raw materials and locally-manufactured pharmaceuticals; (v) to train personnel in pharmaceutical production; (vi) to utilize local resources, including medicinal plants; (vii) to prepare feasibility studies, industrial design and economic evaluations for the establishment of pharmaceutical plants; and (viii) to meet in part subregional demand for pharmaceuticals by means of experimental production. (c) Expected output: Establishment of a pilot plant with R+D laboratories; (ii) development of new pharmaceutical products; (iii) training of manpower; and (iv) analysis of problems faced by the pharmaceutical industry. (d) Proposed duration: 4 years

PROJECT PROFILE NO. S7

INDUSTRIAL SUPPORT AREA: Institutional infrastructure SUBREGION: West Africa

1. Project Title: Subregional development centre for hides, skins, leather and leather products, Zaria, Nigeria.

2. Objective: To establish a subregional development centre for hides, skins, leather and leather products at the Leather Research Institute (LERI), Zaria, Nigeria.

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. ECOWAS 4. Zaria, Nigeria. 5. Approximately US $ 1.15 million	6. (a) Objectives: Having established a centre providing needs-based professional training in the subregion, (i) to organize regular training courses (long- and short-term) in such areas as raw material improvement, by-product utilization, leather and footwear technology and marketing; (ii) to assist in project formulation, analysis and assessment in order to improve the technical bargaining capability of the countries in the subregion; (iii) to provide extension services for technical trouble-shooting and industrial advice; and (iv) to provide technical services pertaining to hides, skins, leather and leather products. (b) Expected output: (i) Raw hides and skins of improved quality and better utilization of by-products (ii) increased output of finished leather and manufactured leather products; (iii) leather and leather products of improved quality; (iv) increased number of trained personnel (all levels); and (v) improvement of facilities at LERI to assist the countries in the subregion in R+D, quality control, training, marketing and other aspects of the leather industry. (c) Proposed duration: 3 years

PROJECT PROFILE NO. S8

INDUSTRIAL SUPPORT AREA: Institutional infrastructure SUBREGION: West Africa

1. Project Title: Assistance to the African Regional Centre for Engineering Design and Manufacturing (ARCEDEM)

2. Objective: To assist countries in the subregion in laying the foundation for and promoting accelerated, national and integrated development design and manufacturing capability in engineering goods, particularly capital goods in the strategic sectors of agriculture, transport and construction, the immediate objective being to ensure the purchase of machinery and equipment for production and training in engineering design and manufacture.

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
Estimated cost of assistance 3. ARCEDEM 4. Ibadan, Nigeria 5. (i) Training US$500,000 (ii) Non-expendable equipment US$ 1,000,000 Total US$ 1,500,000	6. The original recognition of the need to establish ARCEDEM stemmed from the desire of the African Ministers of Industry to promote industries producing capital goods, especially those producing machinery and spare parts. A major obstacle was the inadequate development and, in some cases, the absence of any national capability for the conception and design of machinery and equipment. The mandate of ARCEDEM is to help the African countries to develop the facilities and manpower needed for engineering design, and especially to promote the possibility of producing machines and parts locally. The Centre is conceived as a medium-sized industrial establishment with activities centred around the design and production of machines and parts. At present the Centre has 23 member countries and a staff of 32. UNDP has committed around US$ 2.5 million to the Centre since 1978. As host country, Nigeria has pledged $7.5 million towards capital development, and member countries have so far contributed US$ 3 million. Purchase of workshop, machinery and equipment for which funds are already committed will amount to US$ 1.8 million by the end of 1984. It was estimated in 1978 that US$ 7.65 million will be required to equip fully the Centre's four workshops. After 5 years delay, inflation has raised this amount to nearly US$ 11 million, of which US$ 2 million have been secured. Efforts are being made to mobilize funds from all possible sources to fill the gap. US$ 1.5 million now being requested are part of the resources needed to procure a minimum amount of machinery and equipment so as to make the four workshops functional.

PROJECT PROFILE NO. S9

INDUSTRIAL SUPPORT AREA: Institutional infrastructure SUBREGION: West Africa

1. Project Title: Assistance to the African Regional Centre for Technology (ARCT)

2. Objective: To assist ARCT in strengthening its activities, primarily those related to demonstration activities, on-the-job training and the dissemination of information.

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. ARCT 4. Dakar, Senegal and other countries in the subregion/region 5. US$2.4 million	6. The assistance to ARCT would concentrate upon improving the effectiveness of the Centre's services in relation to: (i) pilot plants and demonstration units for enhancing national skills and capacities for rural development; (ii) the demonstration and training units for renewable energy and food-processing technologies; (iii) development of consulting and engineering design capabilities; and (iv) the creation of a regional centre for technology information. Pre-feasibility studies and, in some cases, feasibility studies have been conducted in respect of the above proposals, all of which are at present hampered by the lack of finance.

PROJECT PROFILE NO. S10

INDUSTRIAL SUPPORT AREA: Institutional infrastructure SUBREGION: West Africa

1. Project Title: Assistance in the integrated industrial development planning for the Liptako-Gourma region

2. Objective: The first phase consists of defining the industrial development strategy for the Liptako-Gourma area and determining the priority projects, the development of which will enhance the economic growth of the entire region. In the second phase, prefeasibility studies will be prepared and industrial promotion activities undertaken.

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. The Liptako-Gourma Authority (Upper Volta, Mali, Niger) 4. Directorate-General of the Liptako-Gourma Authority 5. a) UNIDO contribution to the first phase (May to Nov. 1982): US$1.094 million b) To be determined for the second phase.	6. Phase I was implemented between May and November 1982. The mission report was submitted to the Council of Ministers of the Authority and three subregional projects were selected: (i) a phosphate fertilizer factory (ii) a steelworks factory (iii) a cement factory The objectives of Phase II are to: (i) prepare market studies (ii) undertake prefeasibility studies (iii) help develop procedures (iv) give assistance to the Directorate-General of the Liptako-Gourma Authority (v) give assistance to the Directorate-General and the member countries (vi) train staff for the Directorate-General

PROJECT PROFILE NO. S11

INDUSTRIAL SUPPORT AREA: Institutional infrastructure

SUBREGION: West Africa

1. Project Title: Establishment of a Mano River Union technology centre

2. Objective: To assist member states of the Union to initiate, formulate, implement, review, appraise and design new types of technology appropriate to their industries.

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. Mano River Union 4. To be determined. 5. To be determined by future study, but it is assumed that an amount of US$8 million will be required for the first stage.	6. The project is intended to assist countries in the Union to develop and acquire appropriate industrial technology for local uses. Details of financing project as well as terms and conditions of its management are yet to be determined.

PROJECT PROFILE NO. S12

INDUSTRIAL SUPPORT AREA: Institutional infrastructure SUBREGION: Central Africa

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

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

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. UDEAC 4. UDEAC Secretariat, Bangui, Central African Republic 5. US$ 1.4 million.	6. (a) Immediate objective: (i) To determine industrial specialization in each member country, particularly regarding integrated development schemes for energy, mineral resources and industry, including agro-industries; (ii) to identify community projects within UDEAC, particularly in core industrial subsectors; (iii) to prepare pre-feasibility studies; (iv) to assist UDEAC Secretariat and the member countries in organizing bids and financing for their industries; (v) to assist in the evaluation of engineering studies, supervision of plant construction and manpower development; and (vi) to propose statutes for UDEAC industrial enterprises, identifying the operation of such enterprises, including raw material supplies, trading of finished goods and distribution of profits. (b) Expected output: (i) Selection of priority industry subsectors; (ii) pre-feasibility and feasibility studies; (iii) detailed description of identified projects; (iv) assistance in project promotion; and (v) assistance in the evaluation of engineering studies and the supervision of the establishment of community projects. (c) Proposed duration: 4 years.

PROJECT PROFILE NO. S13

INDUSTRIAL SUPPORT AREA: Institutional infrastructure SUBREGION: Central Africa

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

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

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

PROJECT PROFILE NO. 814

INDUSTRIAL SUPPORT AREA: Institutional infrastructure SUBREGION: Central Africa

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

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

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. AIPO 1/ 4. AIPO Headquarters 5. To be determined	6. (a) Background (i) The establishment of a patent documentation and information centre within AIPO under the project RAF/77/012 (financed by the UNDP, FRG, France, Switzerland and the EEC and completed on 31/12/82) enabled the Organization to establish at its Headquarters and in member states (national liaison structures) an institutional infrastructure to serve private industry, research institutions and national administrations. This project aims at promoting the technical and industrial development of member countries, providing them with relevant documents and information on technological developments and inventions. (ii) This project falls within the objectives of (i) above. It is still at the conceptual stage and could be studied in conjunction with such bodies as ECA and UNIDO with which AIPO has signed co-operation agreements. (b) Immediate objectives (i) Develop and strengthen AIDO advisory services in the following fields: the regulation of technologies (patent contracts, technical know-how etc.); the evaluation of patented technologies in relation to project profiles for priority sectors contained in the programme for the Industrial Development Decade for Africa; and the regulation of trade and the exchange of goods or services. (ii) Identify technical requirements in the strategic industries in the initial integrated industrial promotion programme. (iii) Make economic operators aware of the intellectual property component in feasibility studies of national industrial projects and provide appropriate training. (iv) Use scientific and technical information contained in patent documentation in support of the research activities undertaken by small-scale industries and national administrations.

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

PROJECT PROFILE NO. S15

INDUSTRIAL SUPPORT AREA: Institutional infrastructure SUBREGION: Central Africa

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

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

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

Industrial manpower development subprogramme

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

76. Thirteen support projects are included in the inital programme:

(a) Inventory of subregional training facilities, Eastern and Southern Africa (Project profile No. S16);

(b) Managerial and technical personnel training, Eastern and Southern Africa (Project profile No. S17);

(c) Development of industrial consultancy and management capabilities, Eastern and Southern Africa (Project profile No. S18);

(d) Development of local industrial entrepreneurship (Directory of small-scale industrial project profiles), Eastern and Southern Africa (Project profile No. S19);

(e) Assistance to ECOWAS in the development of an industrial training programme (Project profile No. S20);

(f) Development of industrial consultancy and management capabilities, West Africa (Project profile No. S21);

(g) Development of local industrial entrepreneurship (Directory of small-scale industrial project profiles), West Africa (Project profile No. S22);

(h) Assistance to UDEAC/CEPGL in the development of an industrial training programme (Project profile No. S23);

(i) Development of industrial consultancy and management capabilities, Central Africa (Project profile No. S24);

(j) Development of local industrial entrepreneurship (Directory of small-scale industrial project profiles), Central Africa (Project profile No. S25);

(k) Assistance in the development of an industrial training programme, North Africa (Project profile No. S26);

(l) Improvement of industrial consultancy and management capabilities, North Africa (Project profile No. S27); and

(m) Development of local industrial entrepreneurship (Directory of small-scale industrial project profiles), North Africa (Project profile No. S28).

PROJECT PROFILE NO. S16

INDUSTRIAL SUPPORT AREA: Industrial manpower development

SUBREGION: Eastern and Southern Africa

1. Project Title: Inventory of subregional training facilities

2. Objective: To prepare an inventory of industrial training facilities in the subregion and strengthen a limited number thereof in order to improve industrial manpower training in the subregion.

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. SADCC 4. SADCC Industrial Co-ordination Unit, Dar-es-Salaam, Tanzania 5. Information not available	6. The project is designed to provide a complete survey of all training facilities/schemes in the subregion on the basis of which comprehensive subregional training programmes can be prepared and implemented. Although the project is being promoted by the SADCC it is planned to expand its scope to include the other countries in the subregion and to involve AIHTTR and other relevant institutes. In carrying out the survey, information which would contribute to the preparation of an inventory of the industrial structure of the subregion should also be collected.

PROJECT PROFILE NO. S17

INDUSTRIAL SUPPORT AREA: Industrial manpower development

SUBREGION: Eastern and Southern Africa

1. Project Title: Managerial and technical personnel training

2. Objective: To train the managerial and technical personnel required for subregional industrial development

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. SADCC 4. SADCC Industrial Coordination Unit, Dar-es-Salaam, Tanzania. 5. Preparatory phase costs : US$ 25,000 Total cost of implementing the project still to be determined.	6. (a) Background: A project idea discussed during a UNIDO programming mission to certain SADCC countries. (b) Immediate objective: To plan and implement training programmes for managerial and technical personnel at the Eastern and Southern African Management Institute (ESAMI), Dar-es-Salaam, in such areas as: (i) small-scale industries development and management; (ii) project planning, evaluation and management; (iii) production management; (iv) stock control and warehouse management; (v) financial management; (vi) planning, evaluation and management of transport projects. (c) Project activities: Following approval of the project, UNIDO will, in co-operation with ECA and OAU, assist SADCC in conducting a survey (preparatory phase) to determine training needs in the subregion, on the basis of which training programmes to be carried out during the second phase can be planned. The project was initially proposed to last six months. (d) The scope of the project will be expanded to include other countries in the subregion.

PROJECT PROFILE NO. S18

INDUSTRIAL SUPPORT AREA: Industrial manpower development

SUBREGION: Eastern and Southern Africa

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

2. Objective: To develop or strengthen industrial management and consultancy institutions and policies in order to improve industrial management and consultancy in the subregion.

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. SADCC 4. SADCC Industrial Coordination Unit/ Tanzania Industrial Studies and Consultancy Organization (TISCO), Dar-es-Salaam, Tanzania. 5. Total costs: US$891,000	6. (a) Background: A project idea discussed during a UNIDO programming mission to certain SADCC countries. It is proposed that UNIDO, SADCC Industrial Coordination Unit and TISCO meet to draft the project document. (b) Immediate objective: To develop or strengthen industrial management and consultancy institutions and policies designed to contribute to the effective implementation of the subregional industrial development programme. (c) Project activities: Project activities are still to be defined, the scope of which will be expanded to include other countries in the subregion. (d) Prosposed duration: 2 years.

PROJECT PROFILE NO. S19

INDUSTRIAL SUPPORT AREA: Industrial manpower development

SUBREGION: Eastern and Southern Africa

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

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

3. Promoter/sponsor	6. Project description and additional information
4. Location	
5. Estimated total cost	

3. SADCC + PTA
ECA/OAU/UNIDO

4. Addis Ababa

5.

	US$
a) Project personnel	166,000
b) Training workshops and study tours for African entrepreneurs	222,140
c) Equipment	12,000
Total	400,140

6. The project aims at assisting African countries in laying the foundation for the accelerated, rational and integrated development of the small-scale industry subsector with a view to satisfying basic consumer needs and development needs in rural and urban areas, as well as achieving the objectives spelt out in the programme for the Decade. The directory of project profiles is expected to provide local small-scale industrial entrepreneurs with the detailed information and guidance they require for initiating, preparing and implementing small-scale industrial projects, with or without the help of extension services. It is envisaged that the directory of project profiles will be developed into a handbook for entrepreneurs and African investors interested in small-scale industrial promotion units.

ECA undertook an initial project in this field (Reference: ECA/INR/SSI/WP/2 - Directory of project profiles on small-scale industries in Africa).

PROJECT PROFILE NO. S.0

INDUSTRIAL SUPPORT AREA: Industrial manpower development SUBREGION: West Africa

1. Project Title: Assistance to ECOWAS in the development of an industrial training programme

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

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

PROJECT PROFILE NO. S21

INDUSTRIAL SUPPORT AREA: Industrial manpower development SUBREGION: West Africa

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

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

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. ECOWAS 4. ECOWAS Secretariat Lagos, Nigeria. 5. To be determined.	6. (a) Background: The project is still at the conceptual stage and will have to be finalized. (b) Objective: To develop and strengthen industrial management and consultancy institutions and policies in order to implement effectively the subregional industrial development programme.

PROJECT PROFILE NO. S22

INDUSTRIAL SUPPORT AREA: Industrial manpower development SUBREGION: West Africa

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

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

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. African countries 4. ECA, Addis Ababa 5. 1. Project personnel US$ 166,000 2. Training workshops and study tours for African entrepreneurs US$ 222,140 3. Equipment US$ 12,000 Total US$ 400,140	6. The project aims at assisting African countries in laying the foundation for the accelerated, rational and integrated development of the small-scale industry subsector with a view to satisfying basic consumer needs and development needs in rural and urban areas, as well as achieving the objectives spelt out in the programme for the Decade. The directory of project profiles is expected to provide local small-scale industrial entrepreneurs with the detailed information and guidance they require for initiating, preparing and implementing small-scale industrial projects, with or without the help of extension services. It is envisaged that the directory of project profiles will be developed into a handbook for entrepreneurs and African investors interested in small-scale industrial promotion units. ECA undertook an initial project in this field (Reference : ECA/INR/SSI/WP/2 - Directory of project profiles on small-scale industries in Africa).

PROJECT PROFILE NO. S23

INDUSTRIAL SUPPORT AREA: Industrial manpower development SUBREGION: Central Africa

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

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

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

PROJECT PROFILE NO. S24

INDUSTRIAL SUPPORT AREA: Industrial manpower development SUBREGION: Central Africa

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

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

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

PROJECT PROFILE NO. S25

INDUSTRIAL SUPPORT AREA: Industrial manpower development SUBREGION: Central Africa

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

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

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

PROJECT PROFILE NO. S26

INDUSTRIAL SUPPORT AREA: Industrial manpower development SUBREGION: North Africa

1. Project Title: Assistance in the development of an industrial training programme

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

3. Promotor/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. ECA/OAU/UNIDO 4. To be determined 5. To be determined	6. (a) Background: The project is still at the conceptual stage and will have to be discussed before finalization. The project will provide a complete survey and evaluation of all training facilities/schemes in the subregion on the basis of which comprehensive subregional training programmes can be prepared and implemented, due consideration being given to existing training facilities in industry.

PROJECT PROFILE NO. S27

INDUSTRIAL SUPPORT AREA: Industrial manpower development **SUBREGION:** North Africa

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

2. Objective: To identify appropriate industrial management and consultancy institutions in the sub-region with a view to strengthening their contribution to the implementation of the programme for the Decade.

3. Promotor/sponsor **4. Location** **5. Estimated total cost**	**6. Project description and additional information**
3. ECA/OAU/UNIDO 4. To be determined 5. To be determined	6. (a) Background: The project is still at the conceptual stage and will have to be discussed further before finalization.

PROJECT PROFILE NO. S28

INDUSTRIAL SUPPORT AREA: Industrial manpower development SUBREGION: North Africa

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

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

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

Other support projects

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

78. Nineteen support projects are included in the initial programme:

(a) Processing of fish and other sea foods, Eastern and Southern Africa (Project profile No. S29);

(b) Improvement and development of the cement industry, Eastern and Southern Africa (Project profile No. S30);

(c) Utilization of steel plant waste for the production of slag-cement, Eastern and Southern Africa (Project profile No. S31);

(d) Development of meat-processing and allied industries, West Africa (Project profile No. S32);

(e) Processing of fish and other sea foods, West Africa (Project profile No. S33);

(f) Development of the cotton textile industry, West Africa (Project profile No. S34);

(g) Establishment of a Mano River Union coastal shipping enterprise (Project profile No. S35);

(h) Establishment of an industrial and technology fair serving the member states of the Mano River Union (Project profile No. S36);

(i) Development of peat resources, Central Africa (Project profile No. S37);

(j) CEPGL five-year industrial development plan (Project profile No. S38);

(k) Assistance to the CEPGL countries in the manufacture of electrical equipment (Project profile No. S39);

(l) Feasibility study on the manufacture of railway equipment in the Central African subregion (Project profile No. S40);

(m) Development of the production of active ingredients for pesticides and insecticides, Central Africa (Project profile No. S41);

(n) Assistance to the Central African Republic in the development of an integrated meat-processing plant (Project profile No. S42);

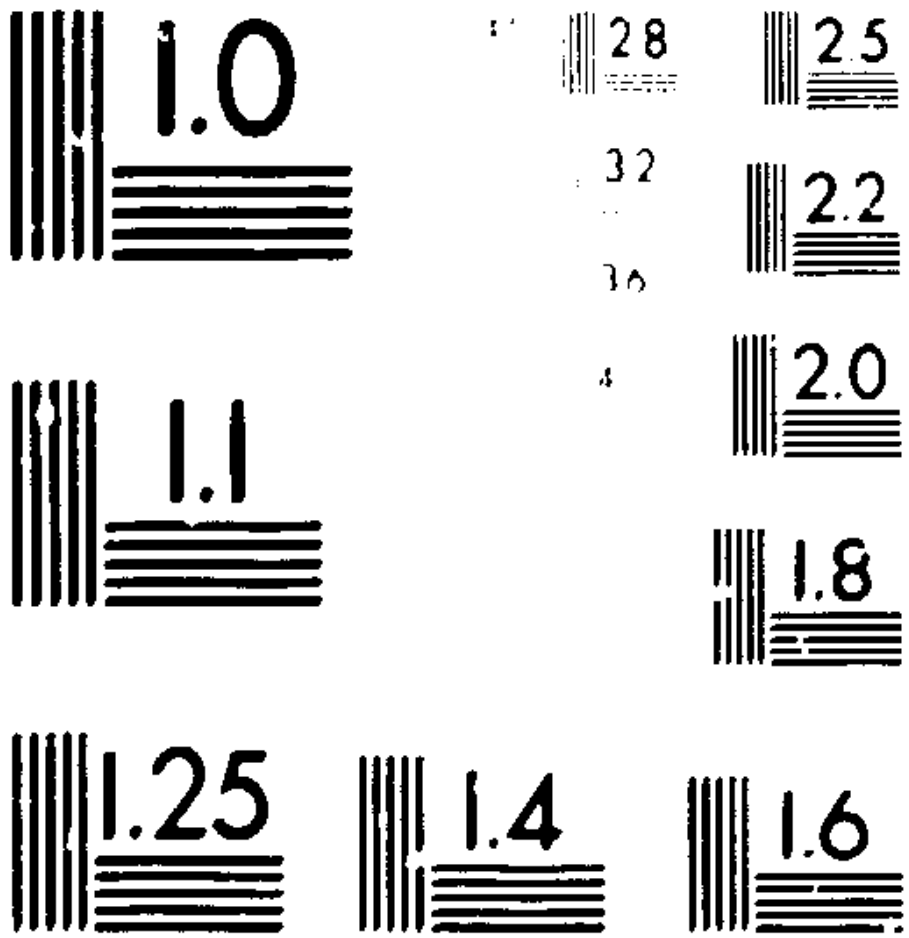
(o) Promotion of the food-processing industry, North Africa (Project profile No. S43);

(p) Upgrading of the Tunisian National Centre for Leather and Footwear into a subregional centre (Project profile No. S44);

(q) African Regional Centres for Genetic Engineering and Biotechnology, North Africa (Project profile No. S45);

(r) Manufacture of rolling stock for passengers and freight, North Africa (Project profile No. S46); and

(s) Subregional forge for the production of wheels and axles, North Africa (Project profile No. S47).



PROJECT PROFILE NO. S29

INDUSTRIAL SUPPORT AREA: Other support projects

SUBREGION: Eastern and Southern Africa

1. Project Title: Processing of fish and other seafoods

2. Objective: To expand existing plants and/or develop new plants for processing fish and other seafoods for the purposes of import-substitution and export.

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. SADCC + PTA ECA/UNIDO/OAU 4. Co-ordination in Addis Ababa 5. The cost of the exploratory study : US$ 40,000	6. Although fish is one of Africa's major economic resources, coastal fishing is in the hands of foreign companies, thus impeding the development of African fishing and processing. The coasts of the subregion offer considerable openings, especially for the fishing of tuna, sardines and shrimps. Most coastal countries in the subregion have fishing ports and some improvements are planned in the course of the Transport and Communications Decade. An exploratory study will determine the range of products such as fish flour, fish oil, fish-protein concentrate and shrimps, as well as the manpower requirements. The exploratory study, which will be followed up by a pre-feasibility study, if needed, will also propose the country or countries best suited to promote the investment project(s).

PROJECT PROFILE NO. S30

INDUSTRIAL SUPPORT AREA: Other support projects

SUBREGION: Eastern and Southern Africa

1. Project Title: Improvement and development of the cement industry

2. Objective: To provide assistance to the SADCC member countries in developing and improving their cement and allie products industries.

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. SADCC 4. SADCC Industrial Co-ordination Unit Dar-es-Salaam, Tanzania. 5. To be determined	6. (a) Background: A project idea discussed during a UNIDO programming mission to certain SADCC countries . (b) Immediate objective: To establish a network of national institutions (co-ordinated by the SADCC Industrial (Co ordination Unit), which will: (i) gather and disseminate technical information related to cement and allied products; (ii) initiate and co-ordinate subregional R+D programmes on cement and allied products, including feasibility studies; (iii) provide consultancy and advisory services; and (iv) organize training programmes, study tours, fellowships as well as meetings and workshops on various aspects of cement and cement-related industries. (c) Project activities: Project activities are still to be derined.

PROJECT PROFILE NO. S31

INDUSTRIAL SUPPORT AREA: Other support projects

SUBREGION: Eastern and Southern Africa

1. Project Title: Utilization of steel plant waste for the production of slag-cement.

2. Objective: The objective of the project is to assist the Zimbabwean authorities in carrying out detailed techno-economic investigations related to the design of a plant using steel plant waste in the production of cement for construction purposes, thereby contributing to the economic viability of the Zimbabwe steel project. (See project profile No. 1)

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. SADCC + PTA 4. Zimbabwe 5. US$150,000	6. As indicated in project profile No. 1, the Government is planning to expand the facilities of ZISCOSTEEL in order to upgrade and diversify production. This will produce a significant amount of waste (slag) which could be utilized in the production of slag-cement. Before embarking on the establishment of the slag-cement plant, it would be desirable to undertake a fully fledged techno-economic feasibility study not only to ensure the viability of the plant but also to define plant size and other technical parameters. Preliminary estimates indicate that the plant could produce 400,000 tons of slag-cement per year based on two alternative processes: one involving an estimated investment of US$ 80 million and the other US$ 25 million. The first alternative would comprise an integrated cement plant with captive plant for slag granulation and intergrinding of cement clinker and slag requiring such raw materials as limestone, clay, gypsum and metal slag. The second alternative would comprise a cement clinker slag grinding plant with captive slag granulation plant. Capital and market participation by other countries will be necessary. Both alternatives would require transport and slag storage facilities, and the second alternative would also require cement silos, and the basic inputs would be cement and metal slag only. The products from the plant would not only meet the local demand in Zimbabwe but also that of the subregion. The work to be carried out would include consultations with Governments in the subregion, given the multinational character of the project and the need to finalize financing arrangements for the establishment of the plant.

PROJECT PROFILE NO. S32

INDUSTRIAL SUPPORT AREA: Other support projects SUBREGION: West Africa

1. Project Title: Development of meat-processing and allied industries

2. Objective: To develop totally integrated meat and allied industries in the countries of the subregion.

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. ECOWAS 4. ECOWAS Secretariat, Lagos, Nigeria 5. US$ 3 million	(a) Background: This proposal is based on a project proposal initially prepared by UNIDO for a subregional integrated meat-processing and distribution network. Further detailed information on finalizing the project to be obtained from the relevant UNIDO section. (b) Objective: To ensure the total integrated development of the meat processing and allied industries, starting from the slaughterhouse up to the processing of by-products, including skins and hides, and other meat products. (c) Activities: Project to be carried out in two phases: Phase I during which survey will be conducted to determine needs and define strategies; and Phase II during which strategies and programmes defined in the first phase will be implemented. (d) Proposed duration: 4 years

PROJECT PROFILE NO. S33

INDUSTRIAL SUPPORT AREA: Other support projects

SUBREGION: West Africa

1. Project Title: Processing of fish and other seafoods

2. Objective: To expand existing plants and/or develop new plants for processing fish and other sea foods for the purposes of import-substitution and export.

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. ECA/UNIDO 4. To be determined 5. Exploratory study: US$ 40,000	6. Fish canning plants are operating in the subregion in such countries as Senegal and the Ivory Coast, but output lags far behind subregional demand, particularly that for canned tuna. West African coastal waters are rich in halieutic resources and increased consumption of fish by the population would help to combat current protein deficiencies in the subregion. An exploratory study will be conducted to assess potential demand, determine suitable products such as canned tuna, fish-protein concentrate and shrimps, and identify manpower requirements. The exploratory study, which will be followed up by a pre-feasibility study, if needed, will also propose the country or countries best suited to promote the investment project(s).

PROJECT PROFILE NO. 834

INDUSTRIAL SUPPORT AREA: Other support projects

SUBREGION: West Africa

1. Project Title: Development of the cotton textile industry

2. Objective: To improve utilization of existing capacities and establish new plants, if necessary, to process locally the cotton fibre that is currently exported.

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3, ECA/UNIDO 4. To be determined 5. Exploratory study: US$ 40,000	6. Local cotton fibre production was of the order of 150,000 tons in 1982. Textile production is to be found in most countries producing enough fibre; however, at least one third of the textiles so produced are exported. On the other hand, the countries in the subregion import large quantities of printed cotton fabrics. Local processing of the cotton fibres currently exported would offer a number of advantages: greater foreign exchange revenue, better utilization of existing mills and facilities. An exploratory study will be undertaken to assess unused capacities, focusing on weaving mills in the subregion. The study will propose ways and means of processing locally the fibres now exported. The output or unbleached material will be either exported or used as inputs into local printed apparel factories. The study will determine the products to be manufactured and production requirements, as well as the countries to promote the project.

PROJECT PROFILE NO. S35

INDUSTRIAL SUPPORT AREA: Other support projects SUBREGION: West Africa

1. Project Title: Establishment of a Mano River Union coastal shipping enterprise

2. Objective: To expedite the movement of persons and goods, thereby enhancing the rapid development of Union industries and trade.

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. Mano River Union 4. To be determined 5. Feasibility study without detailed technical engineering about US$ 0.3 million Project implementation cost: US$ 5-10 million	6. The project is intended to improve on the quality and quantity of transport facilities within the Union so as to expedite the free movement of persons and goods and thus enhance the development of industries and trade within the Union. At present, the project is conceptual, precise details of inputs and outputs will have to be worked out later.

PRCJECT PROFILE NO. S36

INDUSTRIAL SUPPORT AREA: Other support projects SUBREGION: West Africa

1. Project Title: Establishment of an industrial and technology fair serving the member states of the Mano River Union

2. Objective: To promote and develop intra-Union trade in industrial products manufactured by members of the Mano River Union.

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. Mano River Union 4. Within the member countries of the Union, i.e. Liberia, Sierra Leone and Guinea. 5. US$ 546,000	6. (a) Background: The project emerged from the Union's study assessing the level of technology within the Mano River Union member states. (b) The project aims at promoting the flow of industrial and technology information within the Union.

PROJECT PROFILE NO. S37

INDUSTRIAL SUPPORT AREA: Other support projects

SUBREGION: Central Africa

1. Project Title: Development of peat resources

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

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

PROJECT PROFILE NO. 538

INDUSTRIAL SUPPORT AREA: Other support projets

SUBREGION: Central Africa

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

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

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

PROJECT PROFILE NO. S39

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

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

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

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

PROJECT PROFILE NO. S40

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

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

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

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

PROJECT PROFILE NO. S41

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

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

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

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

PROJECT PROFILE NO. S42

INDUSTRIAL SUPPORT AREA: Other support projects SUBREGION: Centr.l Africa

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

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

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

PROJECT PROFILE NO. S43

INDUSTRIAL SUPPORT AREA: Other support projects

SUBREGION: North Africa

1. Project Title: Promotion of the food-processing industry, North Africa

2. Objective: To assist the countries of North Africa to develop food processing and preservation industries based on local raw materials with the aim of achieving self-sufficiency in food production.

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. AIDO and the Arab Federation of Food Industries 4. Baghdad 5. US$ 150,000	6. Background Information: AIDO and the Arab Federation for Food Industries have, in their studies, identified the need to promote the development of food and allied industries in North Africa. There is a shortage of food supplies, hence the subregion is importing a great amount of food such as vegetable oil, sugar, dairy and cereal products, as well as baby and canned foods. Activities In the light of the above, it is proposed to carry out a survey of existing food-processing and preservation industries in the North African countries. On the basis of this study, opportunities will be identified and a programme prepared, consisting of the rehabilitation of existing industries, establishment of new industries and the development of related manpower and technology. Member states will be encouraged to formulate concrete investment projects for inclusion in the subregional programme at a later stage and for the mobilization of the funding required. Priority will be accorded to babyfoods, date-processing and preservation, food canning and packaging, dairy products, and the production of concentrates for soft drinks from local raw materials.

PROJECT PROFILE NO. S44

INDUSTRIAL SUPPORT AREA: Other support projects SUBREGION: North Africa

1. Project Title: Upgrading of the Tunisian National Centre for Leather and Footwear into a subregional centre

2. Objective: To establish a subregional centre for North Africa

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. Tunisia: National Centre for Leather and Footwear 4. Tunisia 5. Studies currently in process in conjunction with UNIDO	6. The project stems from a recommendation made by UNIDO and ECA and subsequently retained by the Conference of African Ministers of Industry. It is planned, with the assistance of UNIDO and UNDP, to: (a) Undertake an appraisal of the current situation at the National Centre for Leather and Footwear; and (b) Take all necessary steps to upgrade that Centre into a subregional centre.

PROJECT PROFILE NO. S45

INDUSTRIAL SUPPORT AREA: Other support projects SUBREGION: North Africa

1. Project Title: African Regional Centresfor Genetic Engineering and Biotechnology

2. Objective: To establish regional centres for genetic engineering and biotechnology.

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. Tunisia (Ministry of Higher Education and Scientific Research)and Egypt 4. To be determined 5. To be determined	6. Background During the negotiations in Vienna on the establishment of an International Centre for Genetic Engineering and Biotechnology, it was recommended to establish initially two centres, one in Italy and the other in India. It was further recommended to establish five component centres in the developing countries, two of which would be located in Africa. Follow-up It is proposed to hold consultations with the countries in the subregion with a view to obtaining their strong support for the decisions made in Vienna to establish two of the component centres in Africa and to decide on their location, as well as to prepare a programme for technical and financial assistance to the host countries in the establishment of the centres.

PROJECT PROFILE NO. S46

INDUSTRIAL SUPPORT AREA: Other Support Projects SUBREGION: North Africa

1. Project Title: Manufacture of rolling stock for passengers and freight

2. Objective: To ensure complementarity in the manufacture of rolling stock for passengers and freight

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. Various countries 4. Various countries 5. To be specified	6. On the basis of the potential of each country in the subregion, the project will determine a complementary industrialization programme between the various countries in the subregion. Plants manufacturing railway trucks are in operation in Tunisia and Algeria, while Egypt and Morocco manufacture carriages. On the basis of the capacities of the four countries, a complete industrialization programme embracing subcontracting, manufacture of components and assembly is envisaged for the four countries so as to meet the needs of the subregion.

PROJECT PROFILE NO. S47

INDUSTRIAL SUPPORT AREA: Other support projects

SUBREGION: North Africa

1. Project Title: Subregional forge for the production of wheels and axles

2. Objective: To establish an industry for forged products, especially those used in rail transport (annual production capacity 10,000 tons).

3. Promoter/sponsor 4. Location 5. Estimated total cost	6. Project description and additional information
3. Tunisia 4. Tunisia 5. About 22 million Tunisian dinars.	6. The project is essentially geared towards the manufacture of wheels and axles for railway trucks, spare parts for diesel engines and agricultural equipment. The demand for freight cars in the countries of the subregion is as follows: Tunisia: 450 units/year (domestic) 210 units/year (export) Algeria: 1,500 units/year Morocco: 600 units/year Egypt : 1,500 units/year The project with an envisaged annual capacity of 10,000 tons should meet demand as follows: 100% Tunisia, 50% Algeria, 25% Morocco and 50% Egypt.

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

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

At the national level

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

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

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

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

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

(e) If designated lead country, official submission of the project to financial institutions:[1/]

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

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1/ This might include, but not be restricted to such institutions as the African Development Bank (ADB), the Arab Bank for Economic Development in Africa (BADEA) and the World Bank, all the more so as the success of the programme hinges upon as broad an involvement as possible of all parties concerned.

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

At the subregional level

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

(a) Formal endorsement of the initial integrated industrial promotion programme by the intergovernmental organizations in the subregion and inclusion thereof in their subregional development plans and programmes;[2/]

(b) Establishment or strengthening of subregional intergovernmental committees (in concert with initiatives taken by existing intergovernmental organizations) to co-ordinate, monitor and advise governments on the selection and implementation of multinational projects in each subsector;[3/]

2/ In the Eastern and Southern African subregion, the intergovernmental organizations listed were PTA, SADCC and the Lusaka-based MULPOC Council of Ministers given that the industrial priorities set for those organizations coincided with thos of the Decade. In the Central African subregion, the intergovernmental organizations were ECCAS, UDEAC, CEPGL and the Yaoundé- and Gisenyi-based MULPOC Council of Ministers. In the North African subregion, the intergovernmental organizations listed were AIDO and the Tangier-based MULPOC Council of Ministers, while the inclusion of the subregional programme in the plan of those organizations was contingent upon the projects endorsed being in compliance with feasibility or pre-investment studies being undertaken by those organizations. In the West African subregion, the words 'and implementation' were inserted after the word 'endorsement' in the first line.

3/ In the West African subregion this paragraph was amended to read:

(b) Involvement of subregional technical committees on a sector-by sector basis within the framework of the Association of Intergovernmental Organizations of West Africa (in concert with initiatives taken by existing intergovernmental organizations) to co-ordinate, monitor and advise governments on the selection and implementation of multinational projects in each subsector.

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

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

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

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

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

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

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

(vii) Standardization and quality control.

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

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

(ii) Purchase of intermediate and final products;

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

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

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

(vi) Exchange of information;

(vii) Management of the enterprise;

(viii) Subcontracts, where feasible.

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

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

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

Role of co-ordinating and other agencies

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

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

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

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

(c) Establishment of a subregional co-ordinating committee[4/] to review and update the regional integrated industrial promotion programme, monitor its implementation and co-ordinate the activities of the subsectoral committees described in paragraph 3 (b);[5/]

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

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

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

4/ In the Central African subregion it was felt that this could be the industrial co-operation committee provided for in the treaty establishing ECCAS and protocol IX thereof.

5/ In the West African subregion, this paragraph was amended to read: "Operations of the Association of Intergovernmental Organizations of West Africa relating to reviewing and updating the regional integrated industrial promotion programme, monitoring its implementation and co-ordinating the activities of the technical committees described in paragraph 3 (b)." In the Eastern and Southern African subregion, it was amended to read: "Establishment of a subregional co-ordinating committee, under the aegis of the PTA and SADCC, to review and update the subregional integrated industrial promotion programme, monitor its implementation and co-ordinate the activities of the subsectoral committees described in subparagraph 3 (b)."

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

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

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

ANNEX I

Criteria for selecting multinational and subregional industrial core projects

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

I. Basic requirements

The project:

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

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

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

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

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

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

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

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

II. Additional requirements

The project:

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

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

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

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

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

ANNEX 2

List of projects: Eastern and Southern Africa

STRATEGIC CORE PROJECTS

Metallurgical industry

Iron and steel subprogramme

(1) Upgrading and diversification of products from ZISCOSTEEL, Zimbabwe

(2) Expansion of iron and steel mill, Uganda

(3) Integrated iron and steel mill, Kenya

Engineering industry

Agricultural machinery and equipment subprogramme

(4) Manufacture of agricultural machinery (four-wheel tractors), Zimbabwe

(5) Manufacture of pumps and irrigation equipment, Zambia

Road and transport equipment subprogramme

(6) Manufacture of diesel engine-mounted chassis for lorries, trucks and buses, Ethiopia, Mozambique and Tanzania

(7) Manufacture of diesel engines for tractors, trucks, lorries and buses, Zimbabwe or Kenya

(8) Manufacture of low-cost, standard multipurpose vehicles, Botswana, Madagascar, Mozambique, Uganda and Zambia

Energy equipment subprogramme

(9) Re-rolling mills for sections and bars for high-tension electricity transmission in Eastern and Southern Africa

(10) Copper fabrication plant, Zambia

(11) Manufacture of transfomers, Zambia

Chemical industry

Fertilizer subprogramme

(12) Potash project, Ethiopia

(13) Multinational ammonia/urea project, Tanzania

(14) Phosphate fertilizer plant, Uganda

(15) Phosphate fertilizer plant, Zimbabwe

Basic chemicals subprogramme

(16) Production of caustic soda, Kenya

Non-metallic mineral products subprogramme

(17) Sheet glass production, Madagascar

Building materials industry

Cement industry

(18) Mauritian Cement Corporation

MULTINATIONAL SUPPORT PROJECTS

Institutional infrastructure subprogramme

(1) Transformation of Serere research station into a subregional R + D centre for the processing of cereals and rootcrops, Uganda

(2) Assistance to ARSO and AIHTTR

Industrial manpower development subprogramme

(3) Inventory of subregional training facilities

(4) Managerial and technical personnel training

(5) Development of industrial consultancy and management capabilities

(6) Development of local industrial entrepreneurship (Directory of small-scale industrial project profiles)

Other support projects

(7) Processing of fish and other sea foods

(8) Improvement and development of the cement industry

(9) Utilization of steel plant waste for the production of slag-cement

ANNEX 3

List of projects: West Africa

STRATEGIC CORE PROJECTS

Metallurgical industry

Iron and steel subprogramme

(1) Establishment of a sponge iron plant

(2) Installation of electric arc furnace plants in the subregion

(3) Installation and expansion of re-rolling mills in the subregion

(4) Establishment of an integrated iron and steel plant for flat and tubular products

(5) Establishment of foundries

Engineering industry

Agricultural machinery and equipment subprogramme

(6) Manufacture of four-wheeled tractors, Senegal and Nigeria

(7) Manufacture of agricultural tools and implements, Sierra Leone

(8) Manufacture of diesel engines for irrigation pumps and generators, Guinea

(9) Manufacture of agricultural implements and equipment, Nigeria

(10) Production of mobile mini palm-oil mills, Mano River Union

Road and rail transport equipment subprogramme

(11) Manufacture of railway wagons, Senegal and Upper Volta

(12) Manufacture of diesel engines for tractors, trucks, lorries and buses, Nigeria

(13) Manufacture of diesel engine-mounted chassis for lorries, trucks and buses, Nigeria

(14) Manufacture of low-cost, standard multipurpose vehicles, Guinea and the Ivory Coast

(15) Establishment of a central press workshop, Nigeria

Energy equipment subprogramme

(16) Manufacture of aluminium conductors and cables, Ghana and Guinea

(17) Manufacture of power transformers, Togo

(18) Manufacture of steel towers, Nigeria

(19) Manufacture of hurricane lamps, Senegal

Chemical industry

Fertilizer subprogramme

(20) Establishment of a phosphoric acid plant, Togo

(21) Subregional ammonia project

(22) Establishment of a phosphate fertilizer plant

Basic chemicals subprogramme

(23) Establishment of salt/soda production, Mano River Union

Pharmaceuticals subprogramme

(24) Establishment of a pharmaceutical plant, Sierra Leone

(25) Establishment of a pharmaceutical plant, Nigeria

(26) Rehabilitation and extension of the Sereddu station, Guinea

Pesticides subprogramme

(27) Plant for phytosanitary products, Upper Volta

Non-metallic mineral products subprogramme

(28) Manufacture of glass containers, West Africa

(29) Manufacture of glass containers, Liberia

Building materials industry

Cement subprogramme

(30) Establishment of a subregional cement factory in the Liptako-Gourma region

Ceramics and tiles subprogramme

(31) Establishment of a ceramics factory, Togo

Agro- and agro-based industries

Food-processing subprogramme

(32) Integrated complex for poultry production, Liberia

(33) Food-processing plant, Guinea

(34) Fruit-processing plant, Guinea

Forest industries subprogramme

(35) Establishment of pulp and paper board factory, the Ivory Coast

MULTINATIONAL SUPPORT PROJECTS

Institutional infrastructure subprogramme

(1) Assistance to OMVS

(2) Assistance to CEAO

(3) Assistance to ECOWAS

(4) Pharmaceutical industry development centre, ECOWAS

(5) Subregional development centre for hides, skins, leather and leather products (Leather Research Institute, Zaria, Nigeria)

(6) Assistance to ARCEDEM

(7) Assistance to ARCT

(8) Assistance in integrated industrial development planning for the Liptako-Gourma region

(9) Establishment of a Mano River Union technology centre

Industrial manpower development subprogramme

(10) Assistance to ECOWAS in the development of an industrial training programme

(11) Development of industrial consultancy and management capabilities

(12) Development of local industrial entrepreneurship (Directory of small-scale industrial project profiles)

Other support projects

(13) Development of meat processing and allied industries

(14) Processing of fish and other sea foods

(15) Development of the cotton textile industry

(16) Establishment of a Mano River Union coastal shipping enterprise

(17) Establishment of an industrial and technology fair serving the member states of the Mano River Union

ANNEX 4

List of projects: Central Africa

STRATEGIC CORE PROJECTS

Metallurgical industry

Iron and steel subprogramme

(1) Rehabilitation of the Maluku steel plant, Zaïre

Aluminium subprogramme

(2) Integrated development of the aluminium industry, Cameroon

Tin subprogramme

(3) Expansion of a tin plant, Rwanda

Engineering industry

Agricultural machinery and equipment subprogramme

(4) Manufacture of agricultural machinery and equipment, Rwanda

Precision engineering subprogramme

(5) Manufacture of watches and watch components, Central African Republic

Chemical industry

Fertilizer subprogramme

(6) Production of ammonia fertilizers

Pharmaceuticals subprogramme

(7) Establishment of a laboratory for pharmaceutical products, the Central African Republic

Non-metallic mineral products subprogramme

(8) Expansion and diversification of production at a glass manufacturing plant, the Congo

Petrochemicals subprogramme

(9) Establishment of a petrochemical complex for the manufacture of plastic products, Gabon

(10) Expansion of a petroleum refirery, the Congo

Other chemicals subprogramme

(11) Upgrading potash deposits for the manufacture of chemicals, the Congo

(12) Production of calcium carbide, Rwanda

(13) Establishment of a methanol production plant, Zaïre

(14) Pilot project for the production of alcohol, Rwanda

Building materials industry

Cement subprogramme

(15) Expansion of the Loutete cement plant, the Congo

(16) Expansion of the Mashyuza cement plant, Rwanda

(17) Reactivation of the Katana cement plant, Zaïre

Agro- and agro-based industries

Food-processing subprogramme

(18) Rehabilitation and expansion of the sugar industry, Angola

(19) Upgrading of a sugar factory, the Congo

(20) Establishment of a distillery, Burundi

(21) Integrated cattle product and processing complex

(22) Integrated development of the fish-processing industry

(23) Establishment of an agro-industrial complex processing cassava

Forest products subprogramme

(24) Establishment of a wood-processing complex

MULTINATIONAL SUPPORT PROJECTS

Institutional infrastructure subprogramme

(1) Assistance to the Customs and Economic Union of Central Africa (UDEAC)

(2) Assistance to the Economic Community of the Great Lakes Countries (CEPGL)

(3) Assistance to the African Intellectual Property Organization (AIPO)

(4) Assistance to the Burundi regional pharmaceutical laboratory

Industrial manpower development subprogramme

(5) Assistance to UDEAC/CEPGL in the development of an industrial training programme

(6) Development of industrial consultancy and management capabilities

(7) Development of local industrial entrepreneurship (Directory of small-scale industrial project profiles)

Other support projects

(8) Development of peat resources

(9) CEPGL five-year industrial development plan

(10) Assistance to the CEPGL countries in the manufacture of electrical equipment

(11) Feasibility study on the manufacture of railway equipment in the Central African subregion

(12) Development of the production of active ingredients for pesticides and insecticides

(13) Assistance to the Central African Republic in the development of an integrated meat-processing plant

ANNEX 5

List of projects: North Africa

STRATEGIC CORE PROJECTS

Engineering industry

Agricultural machinery and equipment subprogramme

(1) Establishment of tractor assembly plants, Egypt and the Sudan

(2) Manufacture of pumps for irrigation purposes

Road and rail transport subprogramme

(3) Manufacture of diesel engines for tractors, trucks, lorries and buses

(4) Establishment of a diesel engine manufacturing plant, Tunisia

Machine tools and allied machinery subprogramme

(5) Manufacture of lathes and milling machines, Morocco

(6) Manufacture of woodworking machinery, Tunisia

Electrical equipment subprogramme

(7) Establishment of a compressor plant

Chemical industry

Basic chemicals subprogramme

(8) Establishment of a lithopone production plant, Tunisia

Non-metallic mineral products subprogramme

(9) Establishment of a sheet glass production unit, the Sudan

Building materials industry

Cement subprogramme

(10) Establishment of the Port Sudan cement factory, the Sudan

(11) Establishment of a plant to produce white cement, Tunisia

Ceramics and tiles subprogramme

(12) Manufacture of marble tiling, the Sudan

Agro- and agro-based industries

Food-processing subprogramme

(13) Establishment of sugar mills, the Sudan

Forest products subprogramme

(14) Establishment of a paper factory, the Sudan

Leather products subprogramme

(15) Establishment of a footwear production plant

Textiles subprogramme

(16) Establishment of a spinning mill

(17) Expansion of a kenaf sack production plant, the Sudan

(18) Establishment of a knitwear factory

(19) Establishment of a garment factory

MULTINATIONAL SUPPORT PROJECTS

Industrial manpower development subprogramme

(1) Assistance in the development of an industrial training programme

(2) Improvement of industrial consultancy and management capabilities

(3) Development of local industrial entrepreneurship (Directory of small-scale industrial project profiles)

Other support projects

(4) Promotion of the food-processing industry in North Africa

(5) Upgrading of the Tunisian National Centre for Leather and Footwear into a subregional centre

(6) African Regional Centres for Genetic Engineering and Biotechnology

(7) Manufacture of rolling stock for passengers and freight

(8) Subregional forge for the production of wheels and axles

ANNEX 6

STRATEGIC CORE PROJECTS

Metallurgical industry

Iron and steel subprogramme

(1) Upgrading and diversification of products from ZISCOSTEEL, Zimbabwe

(2) Expansion of iron and steel mill, Uganda

(3) Integrated iron and steel mill, Kenya

(4) Establishment of a sponge iron plant, West Africa

(5) Installation of electric arc furnace plants, West Africa

(6) Installation and expansion of re-rolling mills, West Africa

(7) Establishment of an integrated iron and steel plant for flat and tubular products, West Africa

(8) Establishment of foundries, West Africa

(9) Rehabilitation of the Maluku steel plant, Zaïre

Alumimium subprogramme

(10) Integrated development of the aluminium industry, Cameroon

Tin subprogramme

(11) Expansion of a tin plant, Rwanda

Engineering industry

Agricultural machinery and equipment subprogramme

(12) Manufacture of agricultural machinery (four-wheel tractors), Zimbabwe

(13) Manufacture of pumps and irrigation equipment, Zambia

(14) Manufacture of four-wheeled tractors, Senegal and Nigeria

(15) Manufacture of agricultural tools and implements, Sierra Leone

(16) Manufacture of diesel engines for irrigation pumps and generators, Guinea

(17) Manufacture of agricultural implements and equipment, Nigeria

(18) Production of mobile mini palm-oil mills, Mano River Union

(19) Manufacture of agricultural machinery and equipment, Rwanda

(20) Establishment of tractor assembly plants, Egypt and the Sudan

(21) Manufacture of pumps for irrigation purposes, North Africa

Road and rail transport equipment subprogramme

(22) Manufacture of diesel engine-mounted chassis for lorries, trucks and buses, Ethiopia, Mozambique and Tanzania

(23) Manufacture of diesel engines for tractors, trucks, lorries and buses, Zimbabwe or Kenya

(24) Manufacture of low-cost, standard multipurpose vehicles, Botswana, Madagascar, Mozambique, Uganda and Zambia

(25) Manufacture of railway wagons, Senegal and Upper Volta

(26) Manufacture of diesel engines for tractors, trucks, lorries and buses, Nigeria

(27) Manufacture of diesel engine-mounted chassis for lorries, trucks and buses, Nigeria

(28) Manufacture of low-cost, standard multipurpose vehicles, Guinea and the Ivory Coast

(29) Establishment of a central press workshop, Nigeria

(30) Manufacture of diesel engines for tractors, trucks, lorries and buses, North Africa

(31) Establishment of a diesel engine manufacturing plant, Tunisia

Energy equipment subprogramme

(32) Re-rolling mills for sections and bars for high-tension electricity transmission, Eastern and Southern Africa

(33) Copper fabrication plant, Zambia

(34) Manufacture of transformers, Zambia

(35) Manufacture of aluminium conductors and cables, Ghana and Guinea

(36) Manufacture of power transformers, Togo

(37) Manufacture of steel towers, Nigeria

(38) Manufacture of hurricane lamps, Senegal

Precision engineering subprogramme

(39) Manufacture of watches and watch components, Central African Republic

Machine tools and allied machinery subprogramme

(40) Manufacture of lathes and milling machines, Morocco

(41) Manufacture of woodworking machinery, Tunisia

Electrical equipment subprogramme

(42) Establishment of a compressor plant, North Africa

Chemical industries

Fertilizer subprogramme

(43) Potash project, Ethiopia

(44) Multinational ammonia/urea project, Tanzania

(45) Phosphate fertilizer plant, Uganda

(46) Phosphate fertilizer plant, Zimbabwe

(47) Establishment of a phosphoric acid plant, Togo

(48) Subregional ammonia project, West Africa

(49) Establishment of a phosphate fertilizer plant, West Africa

(50) Production of ammonia fertilizers, Central Africa

Basic chemicals subprogramme

(51) Production of caustic soda, Kenya

(52) Establishment of salt/soda production, Mano River Union

(53) Establishment of a lithopone production plant, Tunisia

Pharmaceuticals subprogramme

(54) Establishment of a pharmaceutical plant, Sierra Leone

(55) Establishment of a pharmaceutical plant, Nigeria

(56) Rehabilitation and extension of the Sereddu station, Guinea

(57) Establishment of a laboratory for pharmaceutical products, the Central African Republic

Pestidices subprogramme

(58) Plant for phytosanitary products, Upper Volta

Non-metallic mineral products subprogramme

(59) Sheet glass production, Madagascar

(60) Manufacture of glass containers, West Africa

(61) Manufacture of glass containers, Liberia

(62) Expansion and diversification of production at a glass manufacturing plant, the Congo

(63) Establishment of a sheet glass production unit, the Sudan

Petrochemicals subprogramme

(64) Establishment of a petrochemical complex for the manufacture of plastic products, Gabon

(65) Expansion of a petroleum refinery, the Congo

Other chemicals subprogramme

(66) Upgrading potash deposits for the manufacture of chemicals, the Congo

(67) Production of calcium carbide, Rwanda

(68) Establishment of a methanol production plant, Zaïre

(69) Pilot project for the production of alcohol, Rwanda

Building materials industry

Cement subprogramme

(70) Mauritian Cement Corporation

(71) Establishment of a subregional cement factory in the Liptako-Gourma region

(72) Expansion of the Loutete cement plant, the Congo

(73) Expansion of the Mashyuza cement plant, Rwanda

(74) Reactivation of the Katana cement plant, Zaïre

(75) Establishment of the Port Sudan cement factory, the Sudan

(76) Establishment of a plant to produce white cement, Tunisia

Ceramics and tiles subprogramme

(77) Establishment of a ceramics factory, Togo

(78) Manufacture of marble tiling, the Sudan

Agro- and agro-based industries

Food processing subprogramme

(79) Integrated complex for poultry production, Liberia

(80) Food-processing plant, Guinea

(81) Fruit-processing plant, Guinea

(82) Rehabilitation and extension of the sugar industry, Angola

(83) Upgrading of a sugar factory, the Congo

(84) Establishment of a distillery, Burundi

(85) Integrated cattle product and processing complex, Central Africa

(86) Integrated development of the fish-processing industry, Central Africa

(87) Establishment of an agro-industrial complex processing cassava, Central Africa

(88) Establishment of sugar mills, the Sudan

Forest industries subprogramme

(89) Establishment of pulp and paper board factory, the Ivory Coast

(90) Establishment of a wood-processing complex, Central Africa

(91) Establishment of a paper factory, the Sudan

Leather industry subprogramme

(92) Establishment of a footwear production plant, North Africa

Textiles subprogramme

(93) Establishment of a spinning mill, North Africa

(94) Expansion of a kenaf sack production plant, the Sudan

(95) Establishment of a knitwear factory, North Africa

(96) Establishment of a garment factory, North Africa

ANNEX 7

MULTINATIONAL SUPPORT PROJECTS

Institutional infrastructure development subprogramme

(1) Transformation of Serere research station into a subregional R + D centre for the processing of cereals and rootcrops, Uganda

(2) Assistance to ARSO and AIHTTR, Eastern and Southern Africa

(3) Assistance to OMVS, West Africa

(4) Assistance to CEAO, West Africa

(5) Assistance to ECOWAS, West Africa

(6) Pharmaceutical industry development centre, ECOWAS, West Africa

(7) Subregional development centre for hides, skins, leather and leather products (Leather Research Institute, Zaria, Nigeria)

(8) Assistance to ARCEDEM, West Africa

(9) Assistance to ARCT, West Africa

(10) Assistance in integrated industrial development planning for the Liptako-Gourma region

(11) Establishment of a Mano River Union technology centre

(12) Assistance to the Customs and Economic Union of Central Africa (UDEAC)

(13) Assistance to the Economic Community of the Great Lakes Countries (CEPGL)

(14) Assistance to the African Intellectual Property Organization (AIPO)

(15) Assistance to the Burundi regional pharmaceutical laboratory

Industrial manpower development subprogramme

(16) Inventory of subregional training facilities, Eastern and Southern Africa

(17) Managerial and technical personnel training, Eastern and Southern Africa

(18) Development of industrial consultancy and management capabilities, Eastern and Southern Africa

(19) Development of local industrial entrepreneurship (Directory of small-scale industrial project profiles), Eastern and Southern Africa

(20) Assistance to ECOWAS in the development of an industrial training programme

(21) Development of industrial consultancy and management capabilities, West Africa

(22) Development of local industrial entrepreneurship (Directory of small-scale industrial project profiles), West Africa

(23) Assistance to UDEAC/CEPGL in the development of an industrial training programme

(24) Development of industrial consultancy and management capabilities, Central Africa

(25) Development of local industrial entrepreneurship (Directory of small-scale industrial project profiles), Central Africa

(26) Assistance in the development of an industrial training programme, North Africa

(27) Improvement of industrial consultancy and management capabilities, North Africa

(28) Development of local industrial entrepreneurship (Directory of small-scale industrial project profiles), North Africa

Other support projects

(29) Processing of fish and other sea foods, Eastern and Southern Africa

(30) Improvement and development of the cement industry, Eastern and Southern Africa

(31) Utilization of steel plant waste for the production of slag-cement, Eastern and Southern Africa

(32) Development of meat processing and allied industries, West Africa

(33) Processing of fish and other sea foods, West Africa

(34) Development of the cotton textile industry, West Africa

(35) Establishment of a Mano River Union coastal shipping enterprise, West Africa

(36) Establishment of an industrial and technology fair serving the member states of the Mano River Union

(37) Development of peat resources, Central Africa

(38) CEPGL five-year industrial development plan

(39) Assistance to the CEPGL countries in the manufacture of electrical equipment

(40) Feasibility study on the manufacture of railway equipment in the Central African subregion

(41) Development of the production of active ingredients for pesticides and insecticides, Central Africa

(42) Assistance to the Central African Republic in the development of an integrated meat-processing plant

(43) Promotion of the food-processing industry, North Africa

(44) Upgrading of the Tunisian National Centre for Leather and Footwear into a subregional centre

(45) African Regional Centresfor Genetic Engineering and Biotechnology, North Africa

(46) Manufacture of rolling stock for passengers and freight, North Africa

(47) Subregional forge for the production of wheels and axles, North Africa