



# **OCCASION**

This publication has been made available to the public on the occasion of the 50<sup>th</sup> anniversary of the United Nations Industrial Development Organisation.



#### **DISCLAIMER**

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as "developed", "industrialized" and "developing" are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

#### FAIR USE POLICY

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

# **CONTACT**

Please contact <u>publications@unido.org</u> for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org



# 17783-E

United Nations Industrial Development Organization

Distr. LIMITED

ID/WG.495/4/Rev.1(SPEC.)
2 May 1990

ORIGINAL: ENGLISH

Follow-up Subregional Meeting on the Promotion of Intra-African Industrial Go-operation within the framework of the Industrial Development Decade for Africa (IDDA)\* Bamenda, Cameroon, 28 November - 2 December 1989

SUBREGIONAL CO-OPERATION IN INDUSTRIAL TRAINING, CONSULTANCY
AND ENTREPRENEURSHIP IN THE
INDUSTRIAL SECTOR\*\*

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

<sup>\*\*</sup> The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. This document has been translated from an unedited original.

# CONTENTS

		<u>Paragraph</u>	Page
	Introduction	1 - 3	1
Chapt	er		
I.	GENERAL COMMENTS	4 - 10	1
	Industrial training, engineering consultancy and industrial management services	4 - 6	1
	Industrial entrepreneurship	7 - 10	2
II.	OVERVIEW OF INDUSTRIAL SUPPORT SERVICES IN THE SUBREGION	11 - 52	3
	Industrial training	16 - 30	4
	Engineering consultancy and industrial management services	31 - 42	7
	Industrial entrepreneurship	43 - 51	13
	Obstacles to the development of industrial support services in the subregion	52	15
III.	PROPOSALS FOR THE PROMOTION OF SUBREGIONAL CO-OPERATION IN THE DEVELOPMENT AND USE OF INDUSTRIAL SUPPORT SERVICES	53 - 72	16
	Industrial training	59 - 63	17
	Engineering consultancy and management services	64 - 67	19
	Industrial entrepreneurship	68 - 72	20
IV.	CONCLUSIONS AND RECOMMENDATIONS	73 - 82	22

#### Introduction

- 1. This document has been prepared in the light of discussions at the follow-up subregional meeting on the promotion of intra-African industrial co-operation in the Central African subregion within the framework of the Industrial Development Decade for Africa (IDDA) held at Bamenda, Cameroon, 28 November to 2 December 1989. It attempts to highlight the vital importance and central role of industrial support institutions and services in the industrialization of the subregion, taking account of the stage of development reached by each member country and the infrastructure set up to promote such services over the jast decade.
- 2. Chapter I sums up the reasons for which industrial support services are indispensable in the subregion. Chapter II gives a general idea of the subregion's present support services in terms of industrial training, engineering consultancy and management services and the development of entrepreneurial capability. Chapter III sets forth proposals for the promotion of subregional co-operation aimed at developing and utilizing those support services.
- 3. The purpose of the proposals is to stimulate discussion among the experts attending the meeting. Indeed, bearing in mind the need to promote industrial co-operation within the subregion, participants are expected to share their experience and, at the end of the meeting, to adopt recommendations aimed at stepping up co-operation among the Member States in the area of industrial support services, together with recommendations on the follow-up by UNIDO and the other subregional, regional and international organizations.

#### CHAPTER I

# GENERAL COMMENTS

# Industrial training, engineering consultancy and industrial management services

- 4. One of the most striking issues brought to light by the programme for the Industrial Development Decade for Africa was the development of indigenous factors of production, the most important of them being human resources. Indeed, both the pace and direction of the industrialization process are determined by the availability of suitably qualified manpower in the right numbers, at the right time and at the right place, and with the right balance of technical knowledge and practical skills.
- 5. For the sake of discussion, it might be said that the priorities of the plan for the development of human resources are as follows: resources associated with entrepreneurial activity and related support services; manpower to prospect for, evaluate, mine and market raw materials; management personnel (finance, personnel, raw materials, production, technology and maintenance); manpower for production in the priority sectors of the Lagos Plan of Action (food, textiles, building materials, energy, metals, chemicals, mechanical engineering, forestry products, research and development); personnel assigned to the development of institutional and physical

infrastructure (banking, insurance, marketing, transport and communications, training, etc.).

6. There is ample evidence that the subregional school system has not adequately provided for the training of a sufficient number and adequate quality of specialized skills required to cover the wide range of human resources for industrialization (geologists, mining engineers, food specialists, production engineers, industrial accountants, corporate management and financial experts, design engineers, etc.). Institutions must therefore be set up to make adequate provision for the educational, training, research and support services that the subregion needs if it is to achieve self-sufficient and self-sustained development. Provision must also be made for appropriate instruments to co-ordinate, conduct and monitor the development of industrial manpower and to secure an effective mechanism for consultation and co-operation among the Member States, industrial enterprises and training institutiors. This, of course, calls for substantial investment, beyond the means of any individual country.

### Industrial entrepreneurship

- 7. The countries of the subregion are becoming increasingly aware of the importance of small-scale industries in development. Indeed, such industries tend to be labour-intensive and provide more employment per unit of capital investment than large-scale industries. Their development would therefore create jobs, generate income and help to stem the rural exodus. Those industries are also focal points for the development of semi-skilled manpower and local entrepreneurship, both of which are indispensable to industrialization.
- 8. However, as shown by the industrial structure of the subregion, the industrial sector is still dominated by light industries producing commodities such as beer, soap, cigarettes and textiles. Those industries are generally subsidiaries of transnational corporations whose interests diverge from those of the subregion. Moreover, locals cannot afford to hold shares in such industries and lack the expertise required to do so. As a result, African entrepreneurs turn to activities such as trade, construction and public works, transport, agriculture and services, which do not provide a sound basis for the self-sufficient and self-sustained development of the subregion. It would therefore be useful to wevelop and promote enterpreneurial capability in the area of the small-scale and cottage industries, which can contribute appreciably to the economies of the Hember States.
- 9. It has now been recognized that the effective development and promotion of small and medium-sized industries depends primarily on the development of entrepreneurial capability, since it is human beings who are needed to design, set up, manage and follow up an enterprise, whatever its size. As a matter of fact, the countries of the subregion have devoted special attention to the development of small-scale industry under their national development plans over the past few years. The need to develop industrial manpower is therefore becoming imperative.
- 10. Purthermore, it is not enough simply to train people, for they also have to have at their disposal local resources for gathering and disseminating information on the type of goods that can be produced locally, sources of raw materials, the processes involved and the marketing and distribution networks, as well as facilities to assist them in the identification, evaluation,

implementation and follow-up of bankable projects using local raw materials whenever possible. Such facilities are do not exist in sufficient number in the subregion and are inadequate for want of effective financial planning, incentives and institutional infrastructure, designed to help small- and medium-sized industrial enterprises make the most of the ever-increasing flow of capital, technology and skills into that subsector of industry over the past few years.

#### CHAPTER II

#### OVERVIEW OF INDUSTRIAL SUPPORT SERVICES IN THE SUBREGION

- 11. Industrial support services play a crucial part in the identification, preparation, design, implementation and proper functioning of industrial projects throughout the process of industrialization. The importance of setting up national, subregional and regional institutions aimed at accelerating the industrialization of Africa is strongly emphasized in the Lagos Plan of Action and in the programme for the Industrial Development Decade for Africa.
- 12. As a result of the lack or shortage of capability and resources at all project stages, from the outset to commissioning of the industrial plant, including identification, preparation, design, evaluation, project promotion, the procurement of equipment or other materials, the negotiation of contracts and the operation and maintenance of machinery, considerable losses have been incurred, bad starts have been made and capital flows, already a mere trickle in some countries of the subregion, have even slowed down. Most of the projects of the first revised integrated industrial promotion programme have failed to move beyond the stage of identification on account of that situation; this has only increased the subregion's dependence on institutional services that have to be imported at a very high cost. Moreover, the lack of information and knowledge regarding the natural resources of member countries, coupled with the inaction of decision-makers in respect of basic and institutional infrastructure and guidelines concerning legal, fiscal, commercial, monetary and financial policy and instruments, have made it impossible to set up the type of rational planning system that would have been required to achieve the goals of the programme for the Industrial Development Decade for Africa.
- 13. The general information in chapter I of this document highlights some critical aspects of industrial development in the subregion. It emphasizes the need to develop industrial support services in terms of industrial training and engineering consultancy and management services, which are relevant to a wide range of activities. Existing institutions need to be upgraded, the activities of national institutions that are already meeting subregional needs expanded, and exquisite multisectoral training centres set up to train engineers and technical staff in specific fields as well as research workers, economists, managers, industrial project analysts, entrepreneurs, trainers, planners and policy-makers, without whom it will be difficult, if not impossible, to translate into more meaningful terms the self-sufficient and self-sustained development so ardently desired by Hember States.
- 14. Considering the important role that local producers, especially small-scale promoters, can play in speeding up the industrialization process,

the subregion's industrial structure needs to be improved by strengthening existing institutional mechanisms at the national and subregional levels for the development and promotion of entrepreneurial capability in the small-scale industry subsector. Such institutions must be provided with the material, financial and human resources they need to achieve their goals.

15. Engineering consultancy and management services play a very important part in industrial development, since most industrial enterprises cannot afford to hire skilled manpower with specialized training at any time and place. This holds especially true for ad hoc services, which require immediate and efficient action. In Central Africa, just as in the other parts of the continent, the lack of technological and entrepreneurial capability makes it all the more essential to set up industrial consultancy and engineering companies or upgraue those already operational in order to assist enterprises and Governments in the identification, evaluation, implementation and follow-up of industrial projects, as well as in the preparation of industrial master plans and national development schemes. To that end, national and subregional research and development programmes must be set up and incentives provided. In that connection, attention needs to be drawn to the part played by such engineering consultancy and management firms in providing vocational training and in reducing hard currency outflows (industrial consultancy and engineering services generally account for 3-5 per cent of overall project cost when they have to be imported). The situation with regard to the various support services available in the subregion is outlined briefly below.

#### Industrial training

# Gabon

- 16. Industrial training is one of the priorities of the Government of Gabon, which recently established the Masuku University of Science and Technology at Franceville for the purpose of training engineers. The establishment of the National Agency for the Promotion of Small and Medium-Sized Enterprises (PROMOGABON) in 1983 was also prompted by the need to develop a pool of industrial manpower capable of designing, evaluating, implementing, managing and following up industrial projects. Indeed, one of PROMOGABON's functions is to provide training and advanced study for entrepreneurs in the fields of management and technology on the basis of seminars. PROMOGABON has trained 925 promoters since its establishment.
- 17. The Subregional Multimectoral Institute of Applied Technology and Project Planning and Evaluation (ISTA), based in Libreville, was set up by the UDEAC Heads of State with a view to providing the Member States' senior management staff with the post-graduate, multisectoral and advanced vocational training they required to cope with the identification, preparation, evaluation, implementation and supervision of projects and social and economic development planning, especially in respect of industrial, agro-food, agricultural, commercial and handicraft projects as well as projects concerned with self-employed activities. ISTA's training programme was launched in 1983. Since then, 70 trainees out of 100 have been awarded a certificate of competence in project analysis and evaluation. To be eligible for such training, applicants must be civil setvants and nationals of one of the Member States; be a graduate or post-graduate with a degree in economics, a diploma

from a high business school or a diploma in engineering from a specialized university; have at least two years' experience in the administrative and technical services of their country; and be nominated by their Government.

18. In addition to those three major training institutions in Gabon, mention could also be made of: the Institute of Economics and Finance (IEF), which is active in the field of financial and industrial resource management; the School for Public Works Technicians, which trains mechanics in the repair and maintenance of tractors and excavating machines; and the Centre for Training and Advanced Vocational Study (CFPP).

#### Congo

19. Significant progess has been made in the People's Republic of the Congo, where structures for the training of senior staff in the field of industry have been established, in particular: the Higher Institute for Management (ISG), the Faculty of Economic Sciences, the Centre for Rapid Technical Training which is an institution under the National Employment and Manpower Office (ONEMO), the National High School of Technical Training, the Veterinary and Stockbreeding Research Centre (CRVZT) and the Agency for the Development of Small- and Medium-sized Enterprises (ADPME) which began its activities in the area of industrial training by organizing, in October 1988, a workshop for private sector small-scale promoters.

#### **Zaire**

- 20. The Government of Zaire has, over the past few years, centred its attention on developing industrial training institutions in order to promote industrial development. One of those institutions is the Office for the Promotion of Small and Medium-sized Zairian Enterprises (OPEZ), which was set up in 1973 and whose objectives include the training of small-scale local promoters in management methods through the organization of two seminars per month. OPEZ is currently assisted in its work by 64 university graduates (engineers, economists, etc.).
- 21. Another institution is the Centre for Advanced Training in Development Techniques (CEPETEDE), which was established in 1981 to provide training and refresher courses for university graduates employed in government public administration as well as in industry, through the organization of long-course (five months) and short-course (five to 10 days) seminars on management and computerized management. CEPETEDE has so far trained 3,921 senior professionals. The Polytechnic faculty of the University of Kinshasa is training mechanical engineers, electricians and achitects. Other training institutions include: the Faculty of Engineering of the University of Lubumbashi, the Higher Institute of Applied Technologies in Kinshasa, the National Institute of Building and Public Works (INBTB) in Kinshasa and the Faculty of Sciences, Kinshasa, which trains engineers and geologists.
- 22. More recently, the National Association of Zairian Enterprises (ANEZA) set up a Directorate of Small and Medium-sized Enterprises, in co-operation with France, designed to meet the urgent needs of its members. The Directorate provides training in management and organizational methods on the basis of advanced study seminars and courses.

# Burundi

- 23. The development of specialized industrial training to meet the growing needs of industry in Burundi has recently taken on considerable importance. One of the main institutions providing industrial training is the Centre for Indutrial Promotion (CPI), which trains enterprise management personnel by arrangin; and holding seminars and advanced study courses. The Centre also develops and promotes management techniques among small—and medium—scale enterprises. Another is the Higher Institute of Enterprise Management (ISGE), which was established in 1987 to provide for the specialization and advanced training of professionals holding managerial positions in public and private sector enterprises, refresher training for enterprise management personnel through specialized courses, seminars and conferences, and the organization and circulation of documentation on management among the said enterprises in the form of various publications. In pursuance of its objectives, ISGE has equipped itself with a range of teaching aids and a team of highly-qualified instructors.
- 24. Other institutions include the Centre for In-Service Advanced Training, the Vocational Training Centre, the Institute of Applied Sciences and the Institute of Agronomic Sciences, which train technical staff and engineers in their respective fields.

#### Rwanda

- 25. Rwanda's industrial training programme is only just beginning to take shape. Indeed, besides university education and advanced training and cottage industry centres, the Government has just been granted UNDP assistance with UNIDO as its executary agency to set up an industrial promotion centre which will, inter alia, train national promoters.
- 26. The African and Maurítian Institute of Statistics and Applied Economics (IAMSEA), which operates alongside national training institutions, such as the National Institute of Public Finances, Kigali, and the Saint Fidèle Institute, Gisenyi, which provide high-level training in the fields of accounting and computerization, was founded at Bangui in 1974 by the Heads of State or Government of OCAM. IAMSEA, which is based in Kigali, opened in 1976. It trains statistical accommists and organizes refresher courses and think-tanks on the generation and compilation of statistical data. Over 230 trainees and students have been awarded its statistical engineering diploma since the establishment of the Institute. The Conference of Heads of State of the CEPGL subregion decided in January 1989 to establish an engineering training institute to be located in Rwanda.

#### Cameroon

27. Industrial training is fairly well developed in Cameroon. The institutions that play an important part in turning out skilled manpower are: the Higher National Polytechnic (ENSP), which trains electro-mechanical and electronics engineers and builds prototypes; the Higher National School for the Agro-food Industries of Cameroon (ENSIAAC), which is concerned with industrial design and builds prototypes; Douals University, which carries out research work on industrial production processes; the National Veterinary Laboratory; .ne Higher National School for Technical Education (ENSET), which provides technical training and teacher training in the fields of mechanical,

electrical and civil engineering at the post-graduate level; the OMBE Trade Centre, which provides advanced training for professionals in the fields of trade, metalworking, mechanics and carpentry; the CIMEEMA, which provides training in the design and manufacture of farm machinery and equipment and their adaptation to local conditions; and the Douala Higher School of Economics and Commerce (ESSEC), which teaches business management, accountancy, economics and trade.

# **Equatorial Guinea**

28. Industrial training in Equatorial Guinea is still embryonic. Institutions there include: the Escuela Politécnica de Bata, which provides training in commerce, mechanics, electricity and carpentry; the "12 de octubre" Centro Profesional, which gives courses in metalworking and motor vehicle servicing; and the Escuela Macional de Agricultura, Pesca y Forestal which trains agricultural engineers.

# Central African Republic

29. In the Central African Republic, reference should be made to the Technical Academy of Bangui, which trains specialized construction workers, electricians and mechanics; and the Centre for Assistance to Small and Medium-Sized Enterprises and to the Cottage Industry (CAPMEA), whose functions include the vocational training of local small-scale entrepreneurs. Mention should also be made of the National Interprofessional Training Organization (ONIFOP) which trains technicians in various fields.

## Chad

30. The Chadian Office for Industrial Promotion in Chad (OPIT) was recently set up to meet urgent needs in the instruction of small-scale industrial entrepreneurs. Chad also has other training institutions, such as the National School of Public Works (ENTP), the National School for Livestock Technology (ENATE), the Higher Institute for Management (ISG), the Centre for Vocational and Further Training (CFPP) and the Higher Institute for Exact Sciences.

# Engineering consultancy and industrial management services

31. Although the importance of engineering consultancy and industrial management services has been stressed at the various meetings of subregional, regional and international organizations, it was not until quite recently that a number started to operate in the subregion, within an economic environment that was hardly favourable on account of the competition of transnational corporations and the lack of incentives and protective mechanisms. Such services often lack the benefit of experience and try to cover all project areas and the entire project cycle. Some of them are reviewed country by country below.

#### Rwanda

32. There are currently some 21 engineering firms operating in Rwanda, of which the best known are Consulting International, TEKHWE-Rwanda, Architechna, AGINCO, Lavalin International, Bayer Keller, BAUMAN Ingenieur,

NSENGIYUMVA Jean, Technoserve, La Rwandaise, SOGEREP and BUNEP. However, only three or four of them have national shareholders and are incorporated under Rwandese law. Among these, special attention should be drawn to BUNEP, AGINCO and SOGEREP.

## BUNEP (National Project Design Office)

BUNEP, which was set up in 1978, is an autonomous enterprise, administratively and financially independent of the civil service. Its function is to carry out, at the request of the Government or private individuals, studies on economic and social projects due for implementation under the policy laid down in the national development plan. As such, its functions include the preparation of the technical, financial and economic documentation for submission to financing agencies, the documentation required for invitations to tender and various other studies on subjects such as economic and social reform, as well as project supervision and evaluation during implementation.

BUNEP's staff consists of five economists, four civil engineers, one geologist, one land surveyor, one industrial engineer, one electrical engineer, one sociologist, one legal expert and two architects who are nationals on study assignment. In 1979 BUNEP received assistance from UNDP in organizing its structure and in getting its operations under way. It has also enjoyed the benefits of bilateral co-operation with the Netherlands, the Federal Republic of Germany and Italy in training its personnel and setting up its data-processing system.

# AGINCO (Engineering and Construction Project Agency)

The purpose of AGINCO, which was established in 1979, is to study and carry out civil and rural engineering, architectural and general construction projects and other types of industrial ventures in which engineers have a part to play. As consultant engineers, the concern is commissioned to prepare the technical documentation and administrative procedures required for various projects; it contracts work out to other specialized agencies; provides entrepreneurs with the specifications and technological advice required for their operations and, indeed, provides various types of consultancy services.

AGINCO currently has a full-time staff of five civil engineers, two architects, four construction and public works specialists, one statistician, one land surveyor, one secretary/accountant and three office clerks, plus a part-time staff of one expert agronomist, one expert geologist, one electro-technical engineer, one electro-mechanical engineer and one economist.

# SOGEREP (Management, Research and Representation company)

SOGEREP, which is incorporated under Rwandese law, started to operate in 1986. It conducts market surveys, pre-investment and feasibility studies and socio-economic surveys on behalf of it; clients. SOGEREP co-operates with Price Waterhouse in conducting auditing exercises and assists enterprises in the areas of accountancy and management. Generally speaking, it provides its clients with comprehensive services by which to overcome the various problems arising in business management through

rapid and efficient action tailored to the specific requirements of each client.

In pursuing its objectives, SOGEREP operates from 280 m<sup>2</sup> of fully equipped office space with the support of a team of full-time experts (five senior professionals) who keep fully abreast of developments in their field, and a team of consultants and/or agents who can be fielded on a selective basis, as required by clients. The company is fully computerized.

#### Zaire

- 33. A number of firms offering engineering consultancy and industrial management services have emerged in Zaire over the past decade in order to meet the growing need for a better selection of investment opportunities and for ever more efficient enterprise and service management in the public and private sectors alike. The best known firms though this is not an exhaustive list are Cooper & Lybrand; Price Waterhouse; International Service; COGEPAR; SMITS Engineering; African Consulting; UNI-CONSULT; Société de Gestion et Mandat; OPEZ and CEPETEDE.
- 34. A number of other firms providing engineering consultancy and industrial management services are an integral part of larger enterprises or government departments (ministries). A number of university professors, civil servants from government departments and one or two highly-qualified academics also provide engineering consultancy and industrial management services in an independent capacity.
- 35. Among those engineering consultancy and industrial management firms, COGEPAR (Management and Participation Consultancy), OPEZ and CEPETEDE are prominent in the field of auditing, although they also conduct economic and financing studies, provide assistance in accountancy organization and expertise and give legal advice. OPEZ, in particular, assists small and medium-sized enterprises, whereas CEPETEDE helps enterprises with the recruitment of their professional staff.

#### Burundi

36. The establishment of project study offices in Burundi is a recent development. None the less, there are at least 11 of them, of which the best known at present are CPI, SOGES and SOGEAC.

# CPI (Industrial Promotion Centre)

CPI is a public enterprise which was established in 1981 to assist industrial enterprises in project study and implementation, management and legal matters. The Centre employs nine national professionals. It is equipped with the appropriate infrastructure and enjoys a network of contacts in Burundi and abroad. During the first five years of existence, CPI received technical assistance from UNIDO so as to increase its capability to undertake feasibility studies and provide extension zervices to enterprises. CPI is, at the moment, in negotiation with the same institution on a second phase of the project.

#### SOGES (General Service Company)

SOGES was set up in November 1983 on the initiative of the Burundi Financing Company (SBF) to promote the participation of national experts in project studies and implementation. It currently belongs to 17 shareholders in the form of a private company with initial equity amounting to FBU 5 million. The majority shareholder is the SBF, which holds 84 per cent of the share capital. The other shareholders are managers, engineers, economists and lawyers, who acquired their experience in various areas of business management.

At present, the company has a permanent staff of 13, including five professionals who are management graduates and post-graduates, and is in the process of recruiting five more. In addition, it enjoys the services of a variety of external consultants and collaborates with the University of Burundi and several other engineering consultancy firms in Burundi and abroad.

# SOGEAC (Management, Research, Auditing and Consultancy Company)

SOGEAC, which is incorporated under Burundian law, was established in 1988 to cater to the needs of para-statal, State and private companies by providing services in the fields of management, project studies, auditing and consultancy. Although it is still at an early stage of development, SOGEAC has succeeded in making a name for itself, both at home and abroad, through the active work of its experts who have established relations with companies such as SOGEREP in gwanda. In order to protect their interests, design centres in Burundi have organized themselves, under the Industrial Promotion Centre (CPI), into an association of independent Burundi design and consultancy firms.

#### Congo

37. In the People's Republic of the Congo, one can cite the Agency for the Development of Small and Medium-Sized Enterprises (ADPME); the Technical Design and Construction Office (BERETEC); and the Centre for the Development of Mineral Resources in Central Africa (CAMRDC), the Engineering and Industrial Maintenance Company (SIMI), the Centre for Expertise and Evaluation of Investment Projects (CEPI), as well as many other consultancy firms recognized by UDEAC and DBCAS.

#### ADPME (Agency for the Development of Small and Medium-Sized Enterprises)

ADPME was established in 1987 to promote and develop small and medium-sized enterprises by providing them with services in the fields of management, project design and legal advice. However, ADPME began to operate only towards the end of 1988 and still lacks the resources required to achieve its objectives.

# BERETEC (Technical Design and Construction Office)

BERETEC was set up in January 1983 and immediately applied itself to areas of major concern to the African countries: general country planning, interregional planning, rural and forestry development, agro-industry, industry and land development, and the promotion of small

and medium-sized enterprises. At present, BERETEC has a staff of eight full-time senior professionals and 22 associate professionals. The company is recognized by the Central African Development Bank (BDEAC); the West African Development Bank (BOAD); the African Development Bank (ADB) and many other development funding institutions.

# CAMRDC (Centre for the Exploitation of Mineral Resources in Central Africa)

CAMEDC was set up in 1981 by the States Members of ECCAS with a view, intercalia, to providing themselves with consultancy services in mining and geology, notably by conducting technical and feasibility studies on mineral deposits as well as market surveys. However, the Centre has only just started to operate and the results it has achieved have fallen far short of expectations.

#### Gabon

38. Among the engineering concerns established in Gabon, reference should be made to the National Agency for the Promotion of Small and Medium-Sized Enterprises (PROMOGABON) and the Subregional Multisectoral Institute of Applied Technology and Project Planning and Evaluation (ISTA).

# PROMOGABON (National Agency for the Promotion of Small and Medium-Sized Enterprises)

The Government of Gabon has accorded priority to the development of small-scale local enterprises by setting up PROMOGABON in 1983, whose purpose is to be instrumental, in collaboration with government authorities, in the establishment and development of small and medium-sized enterprises, either wholly Gabonese or with Gabonese majority shareholding and management. PROMOGABON's activities include the identification and selection of projects, the preparation of documentation for submission to the Selection Committee, technical assistance in the negotiation of joint venture contracts, follow-up of the registered small and medium-sized enterprises financed by the Assistance and Security Fund, and advice in organizational matters.

As at 1 January 1989, PROMOGABON had a staff of 71, including 14 technical experts in addition to its directors, heads of department and branch office heads. However, the material, human and financial resources made available to the Agency are both insufficient and inadequate. That is why it has recently requested UNDP to help train a total of 14 highly-qualified professionals and perform more effectively the duties entrusted to it.

# <u>ISTA</u> (Subregional Multisectoral Institute of Applied Technology and <u>Project Planning and Evaluation</u>)

ISTA, which is based in Libreville (Gabon), was founded at Brazzaville on 19 December 1980 by the Heads of State of the Central African Customs and Economic Union (UDEAC). Among other things it concerns itself with the identification, feasibility and implementation of national and community development projects commissioned by States or private investors.

#### Cameroon

39. In order to meet the growing need for a better selection of investment opportunities, a number of firms offering industrial consultancy, engineering and management services have emerged in Cameroon over the past decade. Some of them are: the EXIM Consult Africa Group; Akintola Williams and Company; and the African Consulting Enterprise (ACE).

# EXIM Consult Africa Group

EXIM Consult Africa Group, which has only been recently established, is equipped to work in a wide variety of fields, such as industrial feasibility, marketing and sectoral studies. Its staff comprises nine senior professionals, including the director.

# Akintola Williams and Company

Akintola Williams and Company is prominent in the fields of auditing and management consultancy. It uses the services of 15 full-time experts and works in close contact with the firm Touch Ross International.

### African Consulting Enterprise (ACE)

African Consulting Enterprise (ACE) was founded in 1982 with a view to assisting enterprises in organization and management, project planning, execution and supervision.

40. Other companies providing industrial consultancy, engineering or management services include:

Bureau d'Etudes Liger Cameroum (BELCA) (Yaoundé) Dar Al Handash, Consultants (Yaoundé) Gauff Engineering Cameroon (Yaoundé) J. Redonnet (Yaoundé) Société Africaine de Topographie (SATET) (Yaoundé) Société Centrale Pour l'Equipement du Territoire (SCET) (Yaoundé) Société d'Etudes pour le Développement de l'Afrique (SEDA) (Yaoundé) Société d'Etudes Techniques et Economiques (SETET) (Yaoundé) Société d'Etudes de Travaux et de Gestion (SETIMEG) (Yaoundé) Société d'Entreprises de Travaux Topographiques et d'Edition (SETTE) (Yaoundé) Société d'Etudes Techniques et d'Entreprise Générale (SODETEG) (Yaoundé) W.S. Atkins and Partners (Yaoundé) Société d'Etudes Financières d'Audit Comptables et de Conseils (KOOH & MURE) (Yaoundé) Société d'Etudes Financières d'Audit Comptable et de Conseils (SEFAC) (Yaoundé) Bureau d'Etudes Liger Cameroon (Douala) Cabinet Montilier Bernard (Douala) Chomette Henri (Douala) Euroafrique S.A. (Douala) Bureau d'Etudes Jean-Marie (Douala) Société Africaine de Topographie (SATET) (Douala) Société d'Entreprises de Travaux Topographiques et d'Edition (SETTE) (Douala)

Société d'Etudes Financières d'Audit Comptable et de Conseil (SEFAC) (Douala)
Tamajong Noumu & Partners Ltd. (Limbe)
SAMCO Enterprises (Limbe)

# Central African Republic

41. The engineering companies established in the Central African Republic are very recent and are still at a very early stage of their development. Nonetheless, mention needs to be made of the Centre for Assistance to Small and Medium-Sized Enterprises and to the Cottage Industry (CAPMEA), which is developing a capacity in the field of pre-investment and feasibility studies and small-scale industrial project implementation and follow-up.

#### Chad

42. Attention should be drawn to the establishment of .he Office for Industrial Promotion in Chad (OPIT) designed to meet the urgent need to develop small-scale industry. OPIT's functions are to identify, devise and follow up small-scale industrial projects and to assist small-scale industrial enterprises in management and planning.

# Industrial entrepreneurship

# Gabon

43. The importance attached to the development and promotion of small-scale industrial entrepreneurs has been translated into reality in Gabon by the creation of the Ministry for Small and Medium-Sized Enterprises, which, in turn, has been successful in setting up the National Agency for the Promotion of Small and Medium-Sized Enterprises (PROMOGABON) and the Assistance and Security Fund. PROMOGABON assists small-scale entrepreneurs in selecting projects, conducting research, preparing the documentation for clearance under the small and medium-sized business regulations, and marriaging and monitoring their enterprises, whereas the Assistance and Security and acts as a guarantor for bank loans. Furthermore, the Government of Gabon has introduced a package of tax and non-tax measures as incentives to Gabonese nationals to invest in the small-scale industry subsector.

# Congo

44. The Government of the Congo has recently decided to give priority to the development of small-scale and cottage industries by establishing in 1987 the Agency for the Development of Small and Medium-Sized Enterprises (ADPME). It is intended to assist local promoters in the management of their industries, the assembly of bankable schedules and in the implementation and follow-up of small-scale industrial projects. At the same time, the Assistance and Security Fund was established primarily for the purpose of helping to secure investment loans granted by banks. Under special provisions of the Investment Code, eligible small-scale enterprises are entitled to customs and tax relief.

#### Zaire

45. The special attention given by Zaire to small and medium-sized enterprises is reflected in the early establishment in 1973 of the Office for the Promotion of Small and Medium-Sized Zairian Enterprises (OPEZ) whose function is to steer, plan and co-ordinate all small-scale business

activities, as well as to select projects and provide consultancy services. In order to secure the short-, medium- and long-term loans and suppliers' loans granted to Zairian enterprises by banks and financial institutions, the Executive Board provided OPEZ with a Security Fund. The National Association of Enterprises in Zaire (ANEZA) recently set up, within its own infrastructure, a directorate of small and medium-sized enterprises responsible for training, consultancy services and market research in small-scale industry, and for identifying and putting studies into effect. Incentives, including tax and customs relief, have been introduced by the Government in order to promote the development of entrepreneurial capability.

#### Burundi

46. The establishment of the Industrial Promotion Centre (CPI) and the Mational Security Fund (FRG) was the outcome of the efforts made by the Government of Burundi to set up mechanisms to help small-scale national promoters manage their production units more efficiently. Like the other similar institutions, CPI assists Burundi's entrepreneurs in conducting studies and assembling bankable schedules, and provides them with management consultancy services. The National Security Fund, for its part, is responsible for guaranteeing certain loans granted to small-scale promoters by financial institutions and banks. In addition, some development finance institutions, such as the National Economic Development Bank (BNDE) and the Burundi Financing Society (SBF), have been set up by the Government of Burundi with a view to assisting national industrial promoters. Also, USAID had recently provided funds to the Government for the promotion of small-scale industrial entrepreneurs (Fonds APEX).

#### Cameroon

47. The establishment of the National Centre for Assistance to Small and Medium-Sized Enterprises (CAPME), Fonds d'Aide et de Garantie des Crédits aux Petites et Moyennes Entreprises (FOGAPE) and Société Nationale d'Investissement (SNI) is a reflection of Cameroon's concern to develop entrepreneurial capability in small-scale industry. Accordingly, their purpose is to promote small and medium-sized enterprises, including the cottage industry. The assistance they provide extends to the establishment of new enterprises, the improvement of professional organizations and protection of the common interests of small and medium-sized enterprises, as well as the procurement of loans or administrative clearance. The Government of Cameroon has also introduced tax and non-tax incentives to encourage potential and operational promoters to invest in the small-scale industry subsector.

#### Central African Republic

48. As in Cameroon, the Centre for Assistance to Small and Medium-Sized Enterprises and to the Cottage Industry (CAPMEA) assists local small-scale entrepreneurs in identification, promotion, implementation and follow-up of bankable small-scale industrial projects. It also provides training and consultancy services on enterprise management and supervision.

#### Chad

49. The small-scale industry and handicrafts subsector is still embryonic, despite the recent establishment of the Office for Industrial Promotion in Chad (OPIT). Its organizational structure has only recently been established, and it will take some time before the office can start to function properly.

#### Angola

50. Angola has so far been unsuccessful in setting up mechanisms to promote small and medium-sized enterprises. A think-tank has just been set up within the Ministry of Industry with instructions to put forward specific proposals on ways and means of assisting local small-scale entrepreneurs. The Government attaches special importance to this subsector and hopes that the think-tank will provide it with its conclusions at the earliest possible juncture.

#### Rwanda

51. It was reported that the Government of Rwanda had benefited from UNIDO and UNDP assistance in setting up a support service for small—and medium—scale enterprises and handicrafts (SERDI). The objective of the service (which was currently being established) was to assist the promoters to identify projects and secure proper training. Its eventual expansion into an industrial promotion centre was envisaged. A special guarantee fund had been established to assist promoters who could not offer the financial institutions firm guarantees. The Centre de Recherches Goopératives (IWACU) based in Kigali advised production co-operatives on management matters and provided training for sponsors.

# Obstacles to the development of industrial support services in the subregion

- 52. Despite the efforts made by the countries of the subregion and the institutional infrastructure serving industry, the results achieved so far have been meatre. At this point it might therefore be interesting to look at a few of the constraints obstructing the strengthening of such institutions.
  - (i) There are no national or subregional policies or legislation specifically geared to the development of those institutions and incorporated into national development plans. Consequently, there is no integrated industrial development programme;
  - (ii) The subregion, just like the rest of Africa, suffers from poor management and the lack of will to utilize competent professionals capable of carrying out satisfactory technical evaluations, designing or selecting appropriate methods, analysing production processes and estimating costs, overcoming technical and management problems, and planning and deciding on the policies and strategies to be followed;
  - (iii) The lack of financial resources in relation to the scale of the investment required to provide the industrial sector, particularly small-scale industry, with high-grade services compels States either to postpone projects, or to turn to the developed countries, which provide most of the technology currently used in the subregion, or to transnational corporations. This course of action increases their dependence on foreign partners;
  - (iv) Unfair competition on the part of engineering firms which are subsidiaries of transnational corporations jeopardizes the survival of recently established and defenceless domestic companies. The

same applies to small and medium-sized industrial enterprises, which find it difficult to establish a position on their domestic markets which have long been dominated by larger firms;

- (v) The absence of vertical integration based on subcontracting between large- and small-scale industrial enterprises prevents the small-scale industries from improving the quality of their products and the creation of an environment conducive to the development of skills and the transfer of technology;
- (vi) There is no genuine subregional industrial co-operation aimed at self-reliant and self-sustained development through the pooling of scarce resources;
- (vii) For traditional reasons and for fear of exposure to greater risks, African entrepreneurs turn more readily to trade than to industrial activities.

#### CHAPTER III

PROPOSALS FOR THE PROMOTION OF SUBREGIONAL CO-OPERATION IN THE DEVELOPMENT AND USE OF INDUSTRIAL SUPPORT SERVICES

- The proposals put forward in this chapter take account of the problems and constraints outlined in the preceding chapter and of the fact that no individual country in the subregion is endowed with sufficient and adequate human and financial resources or has the appropriate technology and physical infrastructure required to stimulate the development of industrial support institutions at the national and subregional levels that can (i) put into effect projects currently under negotiation or implementation; (ii) set up the specialized support services that some countries require; or (iii) to improve some of the existing bodies in addition to the support services approved at the meeting held at Bujumbura (Burundi) in January 1986.
- 54. The second revised integrated industrial promotion programme includes proposals for the establishment of a number of national and subregional support services responsible, inter alia, for:
  - Designing production processes and producing mechanisms to support certain projects;
  - Identifying, planning and developing a range of industries to support other industries by providing them with the products, components and spare parts they require;
  - Equipping laboratories to test and analyse various industrial products;
  - Maintenance and industrial project study services to ensure that existing industrial enterprises can function efficiently and regularly;
  - Disseminating technological and industrial information.

- 55. In this respect, mention needs to be made of the decision of ECCAS Member States to set up an Industrial Development Centre in the subregion, with the aim of promoting industrial identification and preparation of pre-feasibility and feasibility studies on Community projects and the provision of technical assistance and advisory services to Member States in the field of industrial development.
- 56. The experience acquired by certain countries of the subregion in the development of human resources and in the organization of engineering consultancy and management services could prove useful to others. An examination of the situation in the subregion shows that there are hardly any support services for such basic industries as metallurgy, mechanical engineering, chemicals and agro-industries. It is therefore important to take urgent steps towards the organization of such a service at the subregional level with a view to assisting Member States in identifying, designing and implementing major core projects. Indeed, the services being provided by some of the national institutions could be extended to the other countries, thereby providing the basis for such a regional service. Consideration should also be given to the eventual establishment of appropriate mechanisms, within the framework of existing intergovernmental organizations, that would initiate and co-ordinate co-operation activities in the fiel ' ... industrial training, consultancy and engineering services at the suoregional level. Such a mechanism must be supported by sufficient and adequate human, financial and material resources to enable it to accomplish its task.
- 57. Within the subsector of small-scale industry, attention should be given to the adoption of measures aimed at facilitating the marketing of finished products and the procurement of raw materials and intermediate goods, etc. at stable prices through national and subregional marketing institutions set up specially for small-scale enterprises.
- 58. It follows that a programme could usefully be drawn up to promote closer co-operation between the States of the subregion with a view to developing and employing industrial support services. This would greatly help to step up the subregion's self-reliance and self-sufficiency in that area. In that connection, it might be advisable to select a number of centres or institutions whose performance has been outstanding in the subregion and upgrade their technical capability so as to enable them to meet the needs of other countries in the subregion.

### Industrial training

- 59. It might be a good idea, within the framework of the subregional programme, to adopt the establishments listed below as regional training centres or centres of excellence in the various fields under consideration. The list could be amended and supplemented as and when new centres are set up. In this regard, special mention needs to be made of the following subregional centres whose establishment has already been sanctioned by their respective legislative authorities:
  - ECCAS Centre for Industrial Development;
  - CEPGL Engineering School;

# <u>Burundi</u>

- Higher Institute of Enterprise Management (ISGE), Bujumbura;
- Institute of Agronomic Science, Bujumbura;

- Industrial Promotion Centre (CPI), Bujumbura;
- Institute of Applied Sciences, Bujumbura;

### Cameroon

- Higher Mational School of Agro-food Industries (EMSIAAC), Yaoundé;
- University Centre, Douala;
- Pan-African Institute of Management, Douala;
- Advance Institute of Technology, Yaoundé;
- University Technical Institute, Mgoundere;
- Fonds d'Aide et de Garantie des Crédits aux Petites et Moyennes Entreprises (FOGAPE), Yaoundé

### Congo

 Centre for the Exploitation of Mineral Resources in Central Africa (CAMEDC), Brazzaville;

#### Gaboa

- Subregional Multisectoral Institute of Applied Technology and Project Planning and Evaluation (ISTA), Libreville;
- University of Science and Technology, Masuku;

# Rwanda

 African and Mauritian Institute of Statistics and Applied Economics (IAMSEA), Kigali;

#### Zaire

- Centre for Advanced Training in Development Techniques (CEPETEDE),
   Kinshasa:
- African Centre for Industrial Research (CARI), Kinshasa;
- 69. The programme should provide for the establishment of centres of excellence and a system of regular and timely information on the training needs and opportunities in the countries of the subregion. Indeed, subregional networks could usefully be set up with national branches capable, first, of compiling a directory of technology, raw materials, technological and scientific manpower and existing infrastructure; and, second, of gathering, processing and storing information and data on those subjects. Such networks should also be responsible for disseminating the information and updating the data banks on raw materials, science and technology and the development of industrial manpower.
- 61. The education and training of junior professionals and specialized workers could be organized on a co-operative basis. For example, it might be useful to consider the joint establishment of educational and training institutions or associations, the joint preparation of teaching materials and joint research into the teaching and learning processes as applied to the industrial sciences. A very effective form of co-operation would consist in providing teachers, instructors, and technical facilities or resources for teacher training.

- 62. Accelerated training programmes should be set up to cover those industrial sectors which are heavily dependent on the skills of expatriates. Training at the national level is a matter of necessity. However, in some industrial sectors, training at the subregional level is also valuable and conducive to other forms of subregional and regional co-operation.
- 63. More detailed proposals aimed at speeding up the development of industrial and technical resources are set forth in two UNIDO documents: "Strengthening the scientific and technological capabilities in African countries for industrial development" (document ODG.3(SPEC.)) and "Development of human resources for industrialization in Africa" (document ODG.4(SPEC.)). Those proposals take into account the need to select a number of national training centres that could be converted into subregional centres with the assistance of UNIDO.

# Engineering consultancy and management services

- 64. The low level of industrialization in most of the countries in the subregion demands serious effort to expand and diversify engineering consultancy and management services. Industrial product design, the application of processing techniques, production control and quality assurance, stock management and value analysis are but a few of the many aspects of industrial organization that a manufacturing industry requires. Furthermore, techniques acquired abroad must be adapted and improved, and the traditional techniques stemming from local laboratories must be put to commercial use. New processes (microelectronics, genetic engineering and biotechnology, remote sensing, etc.) and their potential for the scientific and technological development of the countries of the subregion must be brought into play.
- 65. Another critical area is that of the mining, evaluation, transport and marketing of industrial raw materials. Not only does this require engineering know-how, but such activities also call for skill in systems analysis, operational research, design and construction, cost analysis and social and economic benefits, feasibility studies, project reporting and so forth.
- 66. As has already been pointed out in chapter II of this document, engineering consultancy and industrial management services have been set up in many countries of the subregion to meet the urgent needs of local enterprises and Governments in a wide variety of areas, including feasibility studies, market surveys, training, management and control. It now remains for some of them to be upgraded and given a subregional dimension. To that effect, a network could be set up as a subregional branch of the Federation of African Consultants (FECA) to ensure better complementarity between the services provided. Such a network could be set up on the basis of the following industrial management and engineering consultancy services:

## Burundi

- General Services Company (SOGES), Bujumbura;
- Management, Research, Auditing and Consultancy Company (SOGEAC), Bujumbura:
- Industrial Promotion Centre (CPI), Bujumbura

#### Cameroon

- EXIM Consult Africa Group, Cameroon;
- Akintola Williams and Company, Cameroon;
  - African Consulting Enterprise (ACE), Cameroon.

#### Congo

- Technical Design and Construction Office (BERETEC), Brazzaville;
- Centre for the Exploitation of Mineral Resources in Central Africa (CAMRDC), Brazzaville;

# <u>Gabon</u>

 Subregional Multisectoral Institute of Applied Technology and Project Planning and Evaluation (ISTA), Libreville;

# Rvanda

- Engineering and Construction Agency (AGINCO), Kigali;
- National Project Designy Office (BUNEP), Kigali;
- Management, Research and Representation Company (SOGEREP), Kigali;

# Zaire

- Management and Participation Consultancy (COGEPAR), Kinshasa;
- 67. In order to promote the subregional consultancy and engineering services, the agencies and bodies of the United Nations as well as the subregional organizations and financial institutions should accord them higher priority by using them more frequently. Special emphasis must be placed on the development of those engineering services which are lacking in the subregion. Implementation of the second revised programme will undoubtedly call for an integrated and multidisciplinary approach that takes into account the promotion of engineering consultancy and management services. To that end, the Member States should set up mechanisms to accelerate the promotion and development of such institutions at the national and subregional levels.

#### Industrial entrepreneurship

68. In Central Africa, just as elsewhere on the continent, industrial entrepreneurship is largely concentrated in the small-scale or cottage industry subsector. Entrepreneurs often lack the technical, material and financial inputs and facilities required to operate their enterprises efficiently. The countries of the subregion have made considerable efforts over the past few years to promote and develop entrepreneurial potential by establishing a number of industrial promotion institutions, a few of which are listed below:

#### Burundi

- Industrial Promotion Centre (CPI), Bujumbura;

#### Cameroon

 Mational Centre for Assistance to Small and Medium-Sized Enterprises (CAPME), Douala;

- Fonds d'Aide et de Garantie des Crédits aux Petites et Moyennes Entreprises (FOGAPE), Yaoundé;
- Société Nationale d'Investissement (SNI), Yaoundé;

# Central African Republic

- Centre for Assistance to Small and Medium-Sized Enterprises and to the Cottage Industry (CAPMEA), Bangui

#### Chad

- Office for Industrial Promotion in Chad (OPIT), N'Djamena;
- National School for Public Works
- National School for Livestock Technology

#### Congo

 Agency for the Development of Small and Medium-Sized Enterprises (ADPME), Brazzaville;

#### <u>Gabon</u>

 National Agency for the Promotion of Small and Medium-Sized Enterprises (PROMOGABON), Libreville;

# Rwanda

- Industrial Development Assistance Service (SERDI)
- Co-operatives Research Centre (IWACU)

#### Zaire

- Office for the Promotion of Small and Medium-Sized Zairian Enterprises (OPEZ), Kinshasa;
- 69. The Governments of the Member States should upgrade those institutions and establish others as may be required to assist small-scale promoters in the identification, preparation, implementation and follow-up of small-scale industrial projects. Those institutions could also compile and gather information and make it available to small-scale local entrepreneurs, and look after distribution and maintenance, production and marketing.
- 70. The upgrading of existing support institutions or the establishment of new institutions for the benefit of small-scale industrial promoters is an area that lends itself to international co-operation. A highly appropriate approach would be to consider the possibility of "institutional linkages" or "twinning arrangements". International organizations such as UNDP and UNIDO, and the bilateral programmes, could provide valuable assistance to the countries of the subregion as part of the technical and industrial co-operation between developing countries (TCDC/ECDC) by selecting competent institutions in the subregion that could be twinned with institutions in other interested countries.
- 71. The success of subregional efforts to develop and promote small and medium-sized industrial enterprises depends on concerted action within each

country and within the subregion. Detailed proposals on that subject are put forward in the UNIDO document entitled "Accelerated development of indigenous entrepreneurial capabilities for small- and medium-scale industries in Africa" (document ODG.5(SPEC.)).

- 72. Industrial support services are one of the areas in which UNIDO can provide valuable assistance to the countries of the subregion. Its assistance should centre on the following priority activities:
  - (a) Assessment of training needs, programmes and opportunities;
- (b) Development of comprehensive and fully integrated programmes geared to the training of technical experts, local entrepreneurs and industrial trainers:
- (c) Trengthening and/or establishment of mutli-purpose training institutions, specialized bodies or centres of excellence to provide training in specific core industrial sectors and subsectors;
  - (d) Strengthening of training links between universities and industry;
- (e) Establishment of "teaching companies" and facilities for the local production of textbooks and teaching materials, such as video tapes, kits and handbooks:
- (f) Organization of special training programmes for industrial maintenance and rehabilitation, the integration of women in industrialization and the development and promotion of small-scale industry, especially in rural areas;
  - (g) Mobilization of financial resources for industrial training;
- (h) Promotion of intra-African co-operation, technical co-operation between developing countries and international co-operation in industrial training.

# CHAPTER IV

#### CONCLUSIONS AND RECOMMENDATIONS

- 73. The policy of import substitution and the establishment of community organizations such as the Central African Customs and Economic Union (UDEAC), the Economic Community of the Great Lakes Countries (CEPGL) and the Economic Community of the Central African States (ECCAS) have so far failed to provide a sound basis for self-sufficient and self-sustained industrialization in the subregion. On the contrary, community industrial projects have not gone beyond the stage of project concepts or feasibility studies, and the subregion's manufacturing sector, whose average contribution to the gross domestic product amounts to no more than 10 per cent, is currently dominated by agro-food industries (beverages, especially beer, sugar, textiles, clothing, tobacco and leather). Moreover, most of those industries utilize only 20-30 per cent of their installed capacity.
- 74. The economic situation prevailing in Central Africa is due to a number of obstacles including the unavailability of adequate physical and institutional

infrastructure, the shortage of human and financial resources needed to gather information and data on raw material reserves, technology and the skilled manpower required to set up policies, technological plans and consistent mechanisms for integrated development at the national and subregional levels.

- 75. The establishment of institutions in support of industrial development and the development of entrepreneurial and technological potential require massive investment, which is often beyond the means of individual countries. Subregional co-operation must therefore be organized in those areas in order to lend momentum to the process of self-sufficient and self-sustained development of the subregion.
- 76. Co-operation in the field of industrial training might cover:
  - (i) The harmonization of national policies and programmes for the development of skilled industrial manpower;
  - (ii) The compilation of a directory of industrial manpower with a view to its development and exchange throughout the subregion;
  - (iii) The establishment in the subregion of multisectoral training centres, especially for managers, technologists, skilled workers and industrial project analysts;
  - (iv) The establishment of relations between the institutions concerned with advanced technical training in the subregion with a view to avoiding duplication and, more specifically, to enable their staff to exchange experience.
- 77. Despite the efforts made by the Member States and nationals of the subregion to promote the establishment of engineering consultancy companies, the latter are finding it difficult to make a name for themselves because of a number of difficulties confronting them. Indeed, apart from a few such companies that are on the commercial resisters, many of them are unknown (such as independent consultants). Furthermore, there is no relevant legislation at country level. Hence it might be appropriate to consider setting up national and subregional systems to promote engineering consultancy services which could assist the Member States in the identification, preparation, implementation and follow-up of projects. The frequent use of national firms could serve as an incentive.
- 78. Generally speaking, human resources are the key factor in any self-sufficient and self-sustained industrialization process since machines cannot operate alone, however sophisticated they may be. People are needed to design them, build them, programme them and maintain them in working order. It was for that reason that the Lagos Plan of Action and the Industrial Development Decade for Africa programme placed special emphasis on the development of national and subregional entrepreneurial potential.
- 79. Considering that the Governments of the subregion already allocate a large portion of their budgets to education and training, more effective ways of using those resources and training suitably qualified personnel for the industrialization of those countries must be sought. Industry must also play a more active part in all types of training, and action must be taken to tackle the labour shortage and the imbalance in training.

- 80. In view of the importance of small-scale industry to the process of industrial development, special attention is being devoted to the advancement of local entrepreneurial capability through the establishment and upgrading of institutions promoting the small-scale industry subsector. Incentives must be provided and training programmes meeting that need must be prepared and implemented at the national and subregional levels.
- 81. In connection with the financing of co-operation activities in the areas under consideration, a subregional bank must be established or strengthened, specializing in industrial and mining development and capable of promoting industrialization on the basis of the processing of local raw materials, and the use and development of existing entrepreneurial and technological capability. To that end, a possible course of action might be to strengthen the Central African Development Bank (BDEAC) and/or the Development Bank of the Great Lakes Countries (BDEGL) by setting up a security and transfer fund and a fund for research and development.
- 82. A system must be created at the national and subregional levels to co-ordinate the training activities carried on through private initiatives (industries, commercial enterprises, and commercial and non-profit training institutions) by both the governments in the subregion and by the intergovernmental and international organizations.