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ACCELERATED DEVELOPMENT OF INDIGENOUS ENTREPRENEURIAL CAPABILITIES
FOR SMALL- AND MEDIUM-SCALE INDUSTRIES IN AFRICA^{1/}

Prepared by
the UNIDO Secretariat

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EXECUTIVE SUMMARY

1. This paper stresses the importance of developing and promoting local entrepreneurial capabilities for small- and medium-scale industries which are essential steps to take in the implementation of Africa's economic recovery and development plans and programmes. Small- and medium-scale industries are particularly important as they are generally labour-intensive, require limited capital investment, utilize simple (often indigenous) technologies and account for more jobs per unit of investment capital.

2. The effective development and promotion of small- and medium-scale industries in African countries would greatly depend upon the development of industrial entrepreneurship. It is now widely recognized that no industrial development plan or economic recovery development programme, whether accelerated or not, can be successfully implemented or sustained without a very large number of industrial entrepreneurs. Any effort by the Government to promote small- and medium-scale industries must therefore include the provision of support services and institutions specifically oriented towards the development and encouragement of indigenous entrepreneurship.

3. In spite of the financial, institutional and other constraints encountered, many African Governments have taken steps to promote the development of entrepreneurial capabilities for small- and medium-scale industries. The situation on the continent as a whole is, however, still very weak as most countries have not incorporated specific national legislation and policies in support of local industrial entrepreneurship in their national development plans; consequently, there are hardly any integrated programmes existing for the development of this important sector of the national work-force.

4. The spectrum of activities and scope of small- and medium-scale industries carried out by local entrepreneurs is very broad, almost unlimited. These cover food production, processing, distribution and conservation; health care industries; education; transport and communications; and energy. In addition to this broad scope, it is also difficult to clearly delineate between small-scale and medium-scale industries and even to obtain a universally accepted definition for small- and medium-scale industries, since what is considered a small- and medium-scale industry in one country may not be considered as such in another country at a different level of industrial and technological sophistication.

5. It is recognized that many African countries have established co-operation programmes and projects with other countries outside the continent. International co-operation needs to be intensified as it can play an important supporting role in accelerating the growth of entrepreneurial capabilities for small- and medium-scale industries in African countries. Such co-operation could assist African countries in taking action in the following important directions: formulation and implementation of policy and legislative measures including financial, fiscal and other incentives; strengthening of existing or establishment of new institutional machinery and formulation and execution of specific co-operative programmes and projects.

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6. Concerning policy and legislative measures, there is an urgent need for African Governments, with the assistance of the international community, especially the World Bank, UNDP, UNIDO and other relevant international organizations, to review existing or establish and implement new policies, legislation and programmes, within the framework of a coherent national strategy, for the development and promotion of indigenous entrepreneurial capabilities for small- and medium-scale industries. Such policies must include the development of talented women entrepreneurs.

7. The policy and legislative measures adopted must provide for financial, fiscal and other incentives to local entrepreneurs. National financial facilities, whether governmental, public or private, need to be urged to adopt more flexible and simplified credit schemes for small- and medium-scale industrial entrepreneurs. The Government also needs to establish a guarantee system for loans granted, not only by local financial institutions but also by external sources, to local entrepreneurs for small- and medium-scale industrial activities. Measures also need to be taken to create facilities for long-term loans to them at more favourable conditions. These measures need to be incorporated and enforced in the national investment code.

8. With regard to institutional infrastructure, there is also an urgent need for national Governments to take action either to strengthen existing institutions or, where they do not exist, establish new ones for the accelerated development and promotion of local entrepreneurial capabilities for small- and medium-scale industries. The national institutions or institutional mechanisms would include institutions charged with the following functions or activities: design and implementation of training programmes; provision of industrial and technological information and extension services; identification and preparation of small- and medium-scale industrial projects and profiles for promotion among potential entrepreneurs and financing institutions; joint procurement of raw materials and intermediates, equipment and technology; organization of subcontracting arrangements between small- and medium-scale industrial enterprises and large industries; design and operation of common facilities for plant and utilities maintenance; mobilization of financial resources including suitable credits and guarantees, and assistance in product marketing both within and outside the country. International co-operation with African countries in strengthening existing and establishing new institutions in support of small- and medium-scale industrial entrepreneurs could be extremely useful by, inter alia, initiating and financing twinning arrangements.

9. In order to achieve tangible results from various efforts in the promotion of entrepreneurial capabilities for small- and medium-scale industries in Africa, it would be necessary to formulate and implement concrete programmes and projects, not only at the national but also at the bilateral and multilateral levels. In view of the broad spectrum and wide scope of production activities which could be carried out by small- and medium-scale industrial entrepreneurs, it has been considered more appropriate to limit considerations on this matter only to those areas of common interest to all of them. The most important ones include the mobilization of indigenous entrepreneurs, mobilization of financial resources, development and acquisition of technology, development of industrial and technological manpower, and energy.

10. It is important to adopt modalities to ensure the effective implementation of the programmes and projects. To this end, it would be desirable for existing multilateral and bilateral co-operation arrangements to be intensified and new ones established with emphasis on the promotion of indigenous entrepreneurial capabilities for small- and medium-scale industries. The international organizations, especially the World Bank, UNDP and UNIDO, need to accord greater emphasis in their technical co-operation programmes with African countries on the development of entrepreneurial capabilities for small- and medium-scale industries.

11. In view of the paramount importance of mobilizing indigenous industrial entrepreneurs in Africa, integrated entrepreneurship development programmes need to be introduced and institutionalized. These include, in particular, group-training-and-individual counselling mechanisms based on the fact that entrepreneurs are not only "born"; they could be "bred" and developed in a human capital formation effort through behavioural/psychological and commercial/technical inputs. This is achieved by a well-conceived process for the selection, motivation and counselling of potential entrepreneurs, the main elements of the entrepreneurship development programme.

12. In order to assist indigenous entrepreneurs to secure financial resources, there is a need for funds to be earmarked in bilateral and multilateral programmes with African countries for the promotion of small- and medium-scale industrial entrepreneurship. The developing countries and their financial institutions also need to participate more actively in the solidarity and other ministerial meetings organized by UNIDO in African countries. The Member States of UNIDO should also consider increasing their contribution to the Industrial Development Fund (IDF) by making special purpose contributions for the promotion of small- and medium-scale industrial entrepreneurship in Africa, within the framework of the Industrial Development Decade for Africa. Funding agencies and financial institutions in both developed and developing countries should consider financing joint small- and medium-scale projects and twinning arrangements, aimed at accelerating the promotion of indigenous entrepreneurial capabilities for small- and medium-scale industries in African countries.

13. Chapter I of the paper provides a general introduction and structure of the paper. Chapter II presents some of the critical issues involved in the development and promotion of local entrepreneurial capabilities for small- and medium-scale industries in Africa. The central theme of the paper is presented in chapter III and relates to the efforts being made and the additional measures required to accelerate the development of indigenous entrepreneurial capabilities for small- and medium-scale industries in Africa. Cross-references are made to document ODG.4(SPEC.) entitled "Development of human resources for industrialization in Africa" and document ODG.3(SPEC.) entitled "Strengthening the scientific and technological capabilities in African countries for industrial development". In chapter IV, mechanisms and modalities for the implementation of the measures proposed in chapter III are advanced. It is acknowledged that the paper in itself is not exhaustive in respect of the scope and extent of required actions to be taken, not only by African countries but also by the international community, in the development of this important sector of the work-force in Africa.

I. INTRODUCTION

1. The development of indigenous entrepreneurial capabilities for small- and medium-scale enterprises has long been recognized as an essential element in the accelerated economic development of the African countries. The activities carried out by local entrepreneurs cover a wide spectrum. In Africa today, the activities are mostly concentrated in the areas of trade and commerce, construction, transportation, agriculture (co-operatives) and services. An area which has greatly been neglected relates to the establishment of small- and medium-scale industries. In view of this fact and since the nature and operation of the small- and medium-scale enterprises cited above are quite familiar in Africa, it has been considered more appropriate to focus this paper on the accelerated development of local entrepreneurial capabilities for small- and medium-scale industries. It should, however, be recognized that most of what is said in this paper about the development of local entrepreneurial capabilities for small- and medium-scale industrial entrepreneurship is also applicable to the development and promotion of local entrepreneurial capabilities for small- and medium-scale enterprises in other sectors, especially those dealing with agriculture, transportation, construction and services.

2. The paper also presents some of the critical issues involved in the development and promotion of local entrepreneurial capabilities for small- and medium-scale industries in Africa. In order to provide a background for the central theme of the paper relating to efforts in accelerating the development of indigenous entrepreneurial capabilities for small- and medium-scale industries in Africa, it has been considered necessary to briefly touch, in Chapter II dealing with general considerations, on some of those issues relating, in particular, to the importance of small- and medium-scale industrial entrepreneurship to industrial development, as well as the constraints encountered in Africa in the development of small- and medium-scale industrial entrepreneurial capabilities.

3. The central theme of this paper, presented in Chapter III, relates to efforts in accelerating the development of indigenous entrepreneurial capabilities for small- and medium-scale industries in Africa. Co-operation in this endeavour is vital for collective self-reliance in Africa and as such demands, inter alia, the formulation and implementation of policy and legislative measures, including fiscal and financial incentives; strengthening of existing and/or establishment of new institutions for support to small- and medium-scale industrial entrepreneurs; formulation and implementation of co-operative programmes and projects; mobilization of financial resources for both investment and development assistance; acquisition, on more favourable terms, and adaptation of technology; development of industrial and technological manpower; and energy. The recommendations contained in the paper take into account the co-operation already existing between African and other countries in the development of and support to small- and medium-scale industrial entrepreneurs in Africa, and include modalities for their implementation. In Chapter IV, mechanisms and modalities for the implementation of the measures proposed in chapter III are advanced.

4. The paper in itself is not exhaustive in respect of the scope and extent of required actions to be taken, not only by African countries but also by the international community, in the development of this important sector of the work-force in Africa. It is, however, hoped that the points presented would

help to stimulate the thinking of policy- and decision-makers not only in the African countries but also in developed and other developing countries as well as international organizations, whose co-operation with the African countries in this endeavour is extremely necessary.

II. GENERAL CONSIDERATIONS

5. It has become fully recognized throughout the world that small- and medium-scale industries contribute immensely to industrial development. Small- and medium-scale industries are generally labour-intensive and thus usually account for more jobs per unit of capital invested. Their establishment therefore helps to generate employment and income as well as to check population drift from the rural to urban areas. The location of small- and medium-scale industries, particularly in rural areas also encourages the development and use of local raw materials as well as new, renewable and alternative sources of energy.

6. Small and medium-scale industries are also centres for the development of semi-skilled manpower and indigenous entrepreneurial capabilities badly needed for industrialization. Their promotion and expansion would therefore make a significant contribution towards the attainment of the goals and objectives of the Industrial Development Decade for Africa (IDDA), help to satisfy basic needs, ensure more effective utilization of local resources and provide inputs to the formal sector or large-scale industries.

7. It is important, at the outset, to understand what small- and medium-scale industries really mean. There have been several international discussions attempting to define this category of industries which cover a very broad and, indeed, unlimited spectrum of industrial operations. These discussions have not led to any agreement on such a definition nor a clear distinction between small-scale and medium-scale industries. They have, however, helped to crystallize ideas on the nature and scope of small- and medium-scale industries. In general and for the purpose of this paper, small- and medium-scale industries can be considered to consist of those industries that possess limited capital investment and production capacity and are often, but not exclusively, labour-intensive covering both the formal and the informal sectors as well as employing a limited number of workers. They also include those industries in which the technology utilized is generally simple and mostly indigenous, although many of them also utilize sophisticated technologies.

8. The effective development and promotion of small- and medium-scale industries in African countries depends upon the development of industrial entrepreneurship. It is now widely recognized that no industrial or economic development plan and no process of industrialization, whether accelerated or not, can be successfully implemented or sustained without a very large number of entrepreneurs. Industrialization depends not merely on the establishment of large-scale basic industries (metals, heavy engineering, basic chemicals and petrochemicals, pulp and so on) under the aegis of public or joint enterprises, but even more on the availability of a large number of indigenous entrepreneurs operating small- and medium-scale enterprises.

9. In spite of measures taken in recent years by a number of African countries towards the development and promotion of indigenous small- and

medium-scale industrial entrepreneurial capabilities, the overall situation on the continent is still very weak. Most countries have not formulated specific national legislation nor incorporated well-defined policies on the development of and support to small- and medium-scale industrial entrepreneurship in their national development plans. They have thus failed to fully mobilize the latent local entrepreneurial capacity for small- and medium-scale industries.

10. The development and promotion of small- and medium-scale industrial entrepreneurship has also suffered from the lack of local capacity to collect and disseminate information on the type of goods that can be produced locally, the sources of raw materials, the technology involved, and marketing and distribution systems. This may be attributed to the absence of suitable financial and incentive schemes and institutional infrastructure, specifically designed to assist small- and medium-scale industrial entrepreneurs to enable them to take full advantage of new flows of capital, available technology and skills that have emerged in the developing countries during recent years.

III. THE ACCELERATED GROWTH OF SMALL- AND MEDIUM-SCALE INDUSTRIES AND ENTREPRENEURIAL CAPABILITIES

11. Accelerating the growth of entrepreneurial capabilities for small- and medium-scale industries in African countries would be realized through the identification, elaboration and implementation of programmes and activities aimed at assisting African countries and organizations in that endeavour. The main focus of these actions would have to be at the national level and would relate, in particular, to the formulation and implementation of policy and legislative measures (including fiscal and financial incentives), strengthening of existing or establishment of new institutional machinery and identification, preparation, and implementation of specific co-operation projects. These endeavours at the national level would need to be supported by the international community through North/South and South/South co-operation schemes as well as appropriate bilateral and multilateral industrial co-operation arrangements since the successful development and promotion of entrepreneurial capabilities for small- and medium-scale industries in Africa would call for a massive injection of external financial and technical resources.

A. Formulation and implementation of policy and legislative measures, including fiscal and financial incentives

12. During the last decade, a number of countries in Africa have established policies and programmes for the development of small- and medium-scale industries. In some countries, the Governments have even established industrial estates in urban and rural areas to promote and encourage the development of small- and medium-scale industries. There is, however, an urgent need for these measures to be intensified and, where they do not exist, to be undertaken. It is important to ensure that these policies and programmes are established and implemented within the framework of a coherent national strategy for the development of small- and medium-scale industries in rural areas, taking into account possibilities for intersectoral linkages.

13. The national strategy, policy and programme for the establishment of small- and medium-scale industries must include the provision of support services and institutions specifically oriented towards the development and

encouragement of indigenous entrepreneurship. Support services and institutions set up to encourage indigenous entrepreneurs to enter industry should take into account their characteristics, strengths and weaknesses, sectoral and intrasectoral distribution, susceptibility to particular kinds of incentives etc. Government action should extend beyond providing financial resources and should include an analysis of the environmental factors that may encourage or hinder entrepreneurship, provide a more favourable environment for them to function in, and persuade them to transfer from well-entrenched or over-crowded areas such as commerce to new fields where their presence and activities are essential for the establishment of small- and medium-scale industries.

14. In the development and promotion of indigenous entrepreneurship, full account should be taken of the fact that in many African countries women have become important income-earners, mostly through small- and medium-scale enterprises, which have enabled them to become skilful entrepreneurs. Talented and dedicated women, therefore, have an important role to play in the development of small- and medium-scale industries in Africa. In fact, the participation of women in industry has substantially increased during recent years, not only in cottage industries and the informal sector where their contribution is largely unrecorded, but also in the modern sector where their valuable and skilled contribution is likely to influence the redeployment of certain small- and medium-scale industries from developed to African countries. Special attention therefore needs to be given to policy measures aimed at encouraging talented women entrepreneurs to take up more small- and medium-scale industrial activities.

15. Policy and legislative action to be taken at the national level for the development and promotion of small- and medium-scale industrial entrepreneurship must necessarily include fiscal, financial and other incentive measures. National financial facilities, whether governmental, public or private, need to adopt more flexible and simplified credit schemes for small- and medium-scale industrial entrepreneurs. The Government also needs to establish a guarantee system for loans granted not only by local financial institutions but also by external sources to local entrepreneurs for small- and medium-scale industrial activities. Measures also need to be taken to create facilities for long-term loans to them at more favourable conditions. The financial and other fiscal incentives to local small- and medium-scale industrial entrepreneurs need to be incorporated and enforced in the national investment code which should be reviewed or established where it does not exist.

16. International co-operation not only among African countries but also between them and other countries outside the continent can make a very useful contribution to the actions being taken by individual African countries. Such co-operation would enable each African country concerned to benefit from the experiences of the other countries. Such co-operation could be realised through the exchange of visits between policy-makers and experts, during which views could be exchanged on the achievements made and the problems encountered in the formulation and implementation of policy and legislative measures, including incentive schemes, for the promotion of indigenous entrepreneurial capabilities for small- and medium-scale industries. In some cases, experts from the co-operating country could, through direct bilateral arrangements or with the assistance of such international organizations as the UNDP and UNIDO, within the framework of Economic Co-operation among Developing Countries

(ECDC) and Industrial Co-operation among Developing Countries (ICDC), visit the African countries to assist in reviewing existing policy measures and legislation, and to provide advice for their improvement or in the formulation of new ones. Such co-operation could also be undertaken within the context of national economic and industrial development policies, strategies, plans, programmes and investment codes.

B. Strengthening of existing or establishment of new institutions for support to small- and medium-scale industrial entrepreneurs

17. There is an urgent need for national Governments to take action either to strengthen existing institutions or, where they do not exist, establish new ones for the accelerated development of and support to small- and medium-scale industrial entrepreneurs. The national institutions or institutional mechanisms would include institutions charged with the following functions or activities:

- (a) Design and implementation of training programmes and provision of industrial and technological information and extension services relating, in particular, to technology selection and adaptation, plant management and maintenance, and cost accounting;
- (b) Preparation of surveys of raw materials for the identification and preparation of small- and medium-scale industrial projects and profiles for promotion among entrepreneurs in Africa and potentially interested financing institutions;
- (c) Setting-up and operation of suitable arrangements for joint procurement of raw materials, intermediates and equipment; joint acquisition of technology; and subcontracting between small- and medium-scale industries and large industrial enterprises;
- (d) Carrying out of market surveys aimed at opening of new outlets for small- and medium-scale industrial products from African countries, not only in African markets but also in international markets. In this regard, special attention needs to be given to standardization and quality control which are essential in ensuring harmonization and compatibility of those products and in enhancing their acceptability in international markets;
- (e) Design and operation of common facilities (workshops) for the repair and maintenance of equipment, the maintenance of plant utilities such as water, power (electricity), gas and buildings;
- (f) Provision of common engineering design and production, research and development, standardization and quality control services;
- (g) Mobilization of financial resources and securing of loans and guarantees as well as tax and other fiscal incentives for small- and medium-scale industries and entrepreneurs;
- (h) Promotion of co-operation among small- and medium-scale industries not only within the country, within the context of an association of small- and medium-scale industrial entrepreneurs, but also with similar enterprises outside the country.

18. The establishment and operation of institutions for support to local small- and medium-scale industrial entrepreneurs is an area that lends itself to international co-operation, given the significant amount of experience already acquired by many countries outside Africa. A most pertinent approach to promoting international co-operation in strengthening existing or establishing new institutions relates to the modality of "institutional linkage" or the so-called twinning arrangement. International organizations such as UNIDO could provide useful assistance to African countries by identifying reputable institutions in both developed and other developing countries and initiating twinning arrangements with similar institutions in interested African countries.

19. The advantages of such a twinning arrangement are manifold. Firstly, it provides for a permanent and flexible co-operative arrangement between both institutions. The institutions in Africa could call on the "sister" institutions to provide, at short notice, advice on specific aspects of their work including extension services to small- and medium-scale industries. Secondly, the arrangement would allow for a continuous training of staff from the institutions in the African countries in the "sister" institutions, often at reduced cost. Thirdly, both institutions could co-operate in carrying out joint projects which could be initiated by institutions in the African countries and completed, due to limited facilities, in the "sister" institutions. In other cases, where the institution in the African country may not dispose of the total range of expertise required for the successful implementation of the project, it could call on the "sister" institution to fill in the gap. Such joint projects often entail joint financing.

20. The most important and invisible advantage is a moral one. The "sister" institution often takes the arrangement as a challenge and, in "adopting" the institution in the African country, implicitly undertakes to make it a success. International organizations such as the UNDP and UNIDO, as well as bilateral programmes, could provide valuable assistance by putting forward "seed" money, within the framework of Technical Co-operation among Developing Countries (TCDC) and Industrial Co-operation among Developing Countries (ICDC) for financing the initial phases of the arrangement, thereby laying the foundation for its success.

C. Programmes and projects for the accelerated development of indigenous entrepreneurial capabilities for small- and medium-scale industries in Africa

21. As indicated in paragraph 11, a number of African countries have taken steps towards the development and promotion of small- and medium-scale industries and entrepreneurship. In addition to the measures taken by Governments, significant initiatives have also been taken at the private or enterprise level. In several African countries, especially in Eastern Africa, one would find a relatively highly developed small- and medium-scale industrial sector promoted largely by foreign entrepreneurs. It should, however, be noted that most of the small- and medium-scale industrial activities carried out by foreign entrepreneurs are not fully integrated in national industrial development programmes, thus limiting their impact in overall economic development.

22. In the light of the above and in order to achieve tangible results in the development and promotion of local small- and medium-scale industrial

entrepreneurship in Africa, it would be necessary to formulate and implement concrete programmes and projects, not only at the national but also at the bilateral and the multilateral level.

23. In consideration of the above, the following suggestions are being advanced as an illustration of the types of programmes and projects that could be developed, for the accelerated development and promotion of small- and medium-scale industrial entrepreneurship in selected priority areas. In view of the broad spectrum and wide scope of production activities which could be carried out by small- and medium-scale industrial entrepreneurs, it has been considered more appropriate to limit these illustrative examples to areas of common interest. The most important ones include the mobilization of motivated entrepreneurs supported by measures to secure financial resources; to develop and acquire technology; to develop industrial and technological manpower, and to secure energy.

Mobilization of entrepreneurs

24. In order to secure the effective mobilization of indigenous entrepreneurial capabilities, it is desirable to formulate an entrepreneurship development programme. Such a programme would aim at systematizing efforts at the national, regional and subregional levels to conduct well co-ordinated, long-term and coherent strategies for inducing indigenous potential entrepreneurs to undertake industrial activities, as well as in increasing the sources of entrepreneurship among under-represented or disadvantaged human resource groups. Based on international experience (generally referred to as entrepreneurship development programmes or EDPs), specialized techniques and methods are designed and adopted for the identification, selection and nurturing of those with entrepreneurial talents in starting new industrial ventures or expanding existing ones.

25. UNIDO and other international organizations have long recognized the need to foster the entrepreneurial spirit, especially where the entrepreneurial supply is small or inefficient and non-competitive in export markets. More recently, the impetus to cater for this need has come from both industrialized and developing countries who realise that EDP is a viable alternative to traditional options for creating new jobs and mobilizing untapped human resources to further industrial developmental strategies.

26. This programme therefore provides an effective mechanism for an integrated approach to EDP by:

- (a) Increasing entrepreneurial awareness among human resource target groups;
- (b) Introducing the adaptation of scientifically developed instruments for identifying potential entrepreneurs with particular attention to those with little or no traditional backgrounds;
- (c) Designing proper mechanisms for incubating the entrepreneur and his/her new industrial project up to the take-off stage; and
- (d) Establishing network arrangements to facilitate access to the required institutional support systems.

27. By focusing on the primary and central agents of desired or projected

entrepreneurial activities (i.e. owner-managers or industrial leaders), the programme also provides a way of ensuring that financial and technical assistance are given to those who are able to use them effectively. The main objective is quality: the emergence of effective industrial leaders who have developed their own projects and are therefore committed to seeing them through to successful implementation; are capable of operating entrepreneurially in a complex and highly competitive environment; and are oriented towards developmental concerns.

28. The programme would thus enhance both start-up and growth-oriented industries in the small-scale sector as well as in public and large-scale enterprises. In the former, this is achieved by developing the potential entrepreneur in a simulated environment or by nurturing the entrepreneur-cum-project idea right from the conceptual stage to the execution stage when the enterprise is actually established and operated. In the case of the latter, large enterprises could be helped by identifying innovative or redundant but entrepreneurial-oriented employees (intrapreneurs) who are encouraged to set up smaller business units either within the company's structure or outside (as spin-offs) with initial company support.

Mobilization of financial resources

29. In the formulation of programmes and projects relating to the mobilization of financial resources, the following examples are among the points which should be taken into consideration.

- (a) Exchange of information and experiences among African countries as well as with countries outside the continent in the mobilization and optimum utilization of both domestic and external financial resources for the promotion of small- and medium-scale industries;
- (b) Clear perception by African countries and organizations in the identification and preparation of small- and medium-scale industrial projects and profiles for promotion among African indigenous entrepreneurs and potential financing institutions;
- (c) Active participation of potential industrial and financial partners from the public and private sectors in financing small- and medium-scale industries as well as in long-term industrial partnership agreements with small- and medium-scale project sponsors and financing institutions in African countries;
- (d) Increased support by members of the governing boards of the World Bank, UNDP, United Nations and other multilateral financial institutions to small- and medium-scale industrial programmes and projects in Africa, especially those related to the programme for the Industrial Development Decade for Africa (IDDA);
- (e) The use of special UNDP allocations in national or regional Indicative Planning Figures for ECDC to finance small- and medium-scale industrial co-operation programmes in African countries.

Development and acquisition of technology

30. Programmes and projects related to the development, acquisition and

adaptation of technology would, inter alia, consist of:

- (a) Exchange of information on technologies and available capabilities and expertise, particularly suited for the establishment of small- and medium-scale industries in African countries;
- (b) Formulation of co-operative arrangements not only among African countries but also between them and countries outside the region through the creation and strengthening of a network of research and development (R & D) institutions involved with the development and commercialization of indigenous technologies as well as the acquisition and adaptation of foreign technologies suitable for small- and medium-scale industries in African countries;
- (c) Greater access by African countries and R & D institutions to technological information on major breakthroughs in R & D contracts and licenses in the small- and medium-scale industries through, inter alia, the UNIDO/ARCT Technology Information Exchange System (TIES) and the Industrial and Technological Information Bank (INTIB);
- (d) Co-operation in the development of technological capabilities, including institutions for the development, acquisition and adaptation of technologies for small- and medium-scale industries.

Development of industrial and technological manpower

31. In the area of industrial and technological manpower development, document ODG.3(SPEC.) entitled "Strengthening the scientific and technological capabilities in African countries for industrial development" and document ODG.4(SPEC.) entitled "Development of human resources for industrialization in Africa" prepared by the UNIDO secretariat provide comprehensive proposals for industrial and technological manpower development in Africa. Some of the salient features of those proposals of particular relevance to the accelerated development of small- and medium-scale entrepreneurial capabilities for small- and medium-scale industries in African countries include the following:

- (a) Identification of training needs for small- and medium-scale industries and the formulation of suitable programmes, at the national and subregional levels, for meeting those needs;
- (b) Identification and promotion of suitable national, subregional and regional training institutions and centres of excellence suitable for training in small- and medium-scale industrial operations, and willing to accept trainees from other African countries and subregions;
- (c) The establishment of operational links with similar institutions as those mentioned in (a) above in other regions and countries outside Africa with the ones in Africa;
- (d) Collection and exchange of information and experiences, not only among African countries but also between African countries and those located outside the continent, on the development of R & D findings and industrial entrepreneurial capabilities for small- and medium-scale industries;

- (e) Joint production of teaching/learning materials, equipment and aids including radios, television sets, video cassettes and video discs, for mass training, especially in rural areas in small- and medium-scale industrial activities. This would include the training of trainers and instructors and the application of the results of recent research into new teaching/learning processes and methods.

Energy

32. In formulating programmes and projects in the area of energy, the following examples are among the points which should be taken into account:
- (a) Exchange of information and experience on the development and utilization of energy in small- and medium-scale industries;
 - (b) The development and implementation of energy programmes should put special emphasis on mini-hydropower, biomass and solar energy particularly needed for small- and medium-scale industries located in the rural areas;
 - (c) Carrying out of individual and collective research, development and demonstration programmes on the development of energy technologies, equipment and appliances, including design of prototypes, especially designed to meet the needs of small- and medium-scale industries;
 - (d) Development and implementation of programmes for energy management, conservation and efficient utilization in small- and medium-scale industries.

IV. MODALITIES FOR IMPLEMENTATION

33. In order to ensure effective acceleration of the development of indigenous entrepreneurial capabilities for small- and medium-scale industries in African countries, it would be desirable for the national authorities and the international community to reinforce existing or to develop and adopt new mechanisms and modalities. To this end, national conditions and existing multilateral and bilateral arrangements, not only among African countries but also between African countries and organizations and their counterparts outside Africa, should be intensified and new ones established in order to ensure their more effective contribution to the development of and support to local small- and medium-scale industrial entrepreneurship.

34. Within the framework of multilateral assistance, the World Bank, UNDP, UNIDO and other relevant United Nations and international organizations should intensify their assistance, within the framework of TCDC and ICDC, to African countries and organizations in the implementation of their special programmes for the development of entrepreneurial capabilities for indigenous small- and medium-scale industries.

35. In view of the paramount importance of mobilizing indigenous industrial entrepreneurs, concerted effort needs to be made to institutionize systematic entrepreneurship development programmes focusing on the entrepreneur, the person who catalyses resources, risks and manages them so as to establish a viable, sustained and employment-generating industrial enterprise. This

requires a sound combination of imaginative development programmes and policies backed up by sound institutional support.

36. In order to secure financial resources for the implementation of the programme, there is need for allocations in the national development budgets to be made for this purpose. There is also a need for funds to be earmarked in bilateral and multilateral programmes with African countries for the promotion of small- and medium-scale industrial entrepreneurship. The developing countries and financial institutions are also urged to participate more actively in the Solidarity Ministerial meetings organized by UNIDO in African countries. The member States of UNIDO should also consider increasing their contribution to the Industrial Development Fund (IDF) by making special purpose contributions for the promotion of small- and medium-scale industries and entrepreneurship in Africa, within the framework of the Industrial Development Decade for Africa (IDDA), which could be utilized for the implementation of specific programmes and projects.

37. Funding agencies and financial institutions in both developed and developing countries should consider financing joint small- and medium-scale industrial projects and twinning arrangements aimed at promoting the development of indigenous entrepreneurial capabilities for small- and medium-scale industries in African countries.