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**INDUSTRIALIZATION
IN THE LEAST DEVELOPED COUNTRIES:
ISSUES PAPER***

Prepared by
the UNIDO Secretariat

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PREFACE

As a follow-up to the Paris Declaration and Programme of Action adopted at the Second United Nations Conference on the Least Developed Countries (LDCs), held in Paris from 3 to 14 September 1990, UNIDO, with financial support from the Government of Italy, is organizing a Workshop on Industrial Development in the Least Developed Countries. The aim of the workshop is to review the status of industry and to analyse some key issues of industrial development in the LDCs, in order to draw up recommendations for an Industrial Action Plan for the LDCs to be submitted to the Fourth Session of the General Conference of UNIDO in November 1991.

In connection with the workshop and the preparation of an Industrial Action Plan, a number of background papers have been prepared. They include papers dealing with the status of industry in the LDCs, industrial policies, linkages between manufacturing and other sectors of the economy, rural small-scale industrialization, the training of industrial managers, aid co-ordination, the potential role of official development assistance (ODA) in other sectors for stimulating industry, and the promotion of international support measures.

The present paper is intended to provide a framework for the discussions at the workshop on the main issues to be covered by the Industrial Action Plan. It is intended to stimulate debate on some key questions of industrial development in LDCs, in which the views, emphases and conclusions of the participants can be gathered. The background papers, as can be seen from the list, do not themselves cover all possible issues related to industrial development in LDCs, although it is felt that a wide coverage has been given to some central issues. Equally, the present issue paper has had to be selective in the subject areas that it is addressing. It is not intended to replace the background documentation and the conclusions arrived at there, nor, least of all, to replace the opinions and experiences of the LDC participants at the workshop. With these caveats in mind, it is hoped, nevertheless, that the issue paper will be found useful in focussing discussions on some major areas of policy debate.

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I. THE GLOBAL CONTEXT FOR INDUSTRIALIZATION IN LDCs^{1/}

Socio-economic development in the Least Developed Countries (LDCs) faces numerous well-known internal obstacles. These include poor infrastructure and communication, inadequate health and educational services, scarce and unreliable power supply, and insufficient agricultural and industrial services, together with generally weak institutional and administrative capacities for development. Progress often falters or is lost in the face of civil unrest and natural disasters. Vicious circles of poverty can be found in many LDCs, where abject poverty in rural areas may lead to environmental degradation through unsound farming, or to rapid urbanization as a result of migration away from rural areas.

Compounding the already precarious situation of development in LDCs are several uncertainties about the international economic environment. These include the following: changing patterns of industrial competition; changes in geographic and product composition of trade; changes in the determinants and magnitude of foreign direct investment (FDI) and financial flows; the development of new technologies resulting in new production processes and new skill requirements; the development of strategic industrial partnerships and agreements across national borders; the building of new regional trading blocks; and uncertainties in exchange rates and raw material prices.

Developing countries in general, and LDCs in particular, are on the periphery of the international trade and development process. The latter's share in world exports amounted to only 0.3 per cent in 1988, as compared to 1.4 per cent in 1960. Three-fifths of world trade takes place within the three major blocks, namely, North America, Western Europe and Asia/pacific. Almost every globally significant R&D, technology, investment and marketing programme originates from this block constellation. Also, there is a tendency for FDI flows to concentrate more than before on OECD host countries and on the most advanced developing countries. There is a danger that LDCs may become further marginalized. National efforts to remedy this situation will be limited partly by the heavy burden of debt-servicing requirements and low rates of domestic savings in the LDCs and partly by inherent market and infrastructural constraints.

The state of the global economy and the situation of the LDCs thus raise the following questions which warrant full attention, although no simple answers can be given to them:

What are the expectations for the magnitude and pattern of world economic growth in the coming years, and how will this affect LDCs?

Given the marginalization of LDCs in the world economy, what trends in trade, investment and the organization of production are of most significance to them and what are the driving forces behind these?

What are the prospects for increased manufactured exports from LDCs to world markets, and what are the policies and measures at the national level of LDCs through which these could be attained?

^{1/} See especially the paper "Status of industry in the Least Developed Countries (LDCs) (ID/WG.515/7 (SPEC.))".

What are the implications of international technology trends (automation, biotechnology, new materials) for LDCs?

What new international support measures may be needed to assist LDCs in the development of indigenous and absorption of external technological capabilities?

What new initiatives can be conceived for co-operation among developing countries for technology development and transfer?

2. THE ROLE OF MANUFACTURING IN SOCIO-ECONOMIC DEVELOPMENT OF LDCs^{2/}

Industrialization is an indispensable part of general socio-economic growth and development. Industry is capable of producing a wide range of consumer goods and a range of intermediate and capital goods for the other branches of the economy such as agriculture, services, mining, construction and utilities, as well as the equipment needed for various manufacturing industries themselves. Directly and indirectly, industry is also capable of generating substantial employment, and is the most dynamic sector of the economy in generating and disseminating technological change. A shift of labour and other resources from the low-productivity primary sector to high productivity manufacturing (thus providing and increasing personal incomes and creating effective demand for manufactures, services etc.), and the creation and fostering of linkages between manufacturing, agriculture, mining etc., are part of the conditions for reaching higher living standards through a dynamic growth process. However, industrialization obviously does not have the same potential in all LDCs. The potential is determined inter alia by market size and access, and natural and human resources, and LDCs differ widely in these. The overall potential of industrial development can only be realized through specific national strategies and policies varying in scale, scope, and timing.

Individually and collectively, LDCs are far away from the expected or possible gains of industrialization cited above. Manufacturing production in most LDCs is characterized by a dominance of the consumer goods industry (for example, food products, beverages, tobacco etc.) which accounts for more than half of total manufactured output. Their production and/or importation is likely to be particularly dependent on the availability of FDI and project aid.

There is a need to critically reassess the current pattern of industrial development and growth in individual LDCs and to elaborate alternative options on which focussed international assistance endeavours can be based. Among the critical issues for such an assessment are:

What are the most promising routes for industrial diversification in different types of LDCs?

In which industrial branches and through which specific measures can LDCs be more closely integrated into the international division of labour?

How can the strong import dependence of industrial production in LDCs be gradually reduced?

^{1/} See especially the paper "Status of industry in the Least Developed Countries (LDCs) (ID/WG.515/7 (SPEC.))".

Which pattern of industrial development would best serve the objectives of poverty eradication and employment creation? Which crucial trade-offs are to be taken into consideration?

3. INDUSTRIAL POLICIES^{3/}

The formulation of effective industrial policies remains a major issue of industrial development in the LDCs. Industrial growth presupposes an efficient institutional, technological and informational environment conducive to a rational resource allocation within the industrial sector as well as the encouragement of structural change in response to external and internal trends. While macro-economic reforms are essential to create such a framework, they are not sufficient to remedy structural inadequacies such as lack of indigenous entrepreneurs, obsolete technology, insufficiently trained managerial and technical personnel and many others. There is a clear need for a focussed industrial policy and specific measures to alleviate structural weaknesses at the industry and enterprise level.

A central question raised by the wave of industrial policy shifts underway throughout the world is that of the appropriate role of the state. There is a growing consensus on the role of government in providing a suitable "enabling environment" for industry and other sectors to grow. Privatization programmes figure prominently on the policy agenda of many LDCs. They pose a formidable challenge in the context of limited resources, a lacking sophisticated financial system, a long history of public sector dominance in industry, and a narrow base of domestic private entrepreneurship. In order to launch a successful privatization process, LDC governments need to undertake a realistic assessment of the major issues involved and the capabilities needed - in terms of policy initiatives, financial and institutional support, investment promotion and human resource requirements.

Apart from efforts to reduce direct state control of industrial development and to assign a greater role to the private sector, the question remains on which areas to focus the limited investment resources available.

Should governments confine themselves to create an infrastructure and an "enabling environment" for industry or should specific branches of industrial activity be targeted for promotion? If so, how should these target areas be identified?

Is the dominant reliance on available natural resources (agriculture, forestry, minerals) still a valid approach for LDCs or could different priority areas for industrial strategies in the 1990s be conceived?

Industrial rehabilitation efforts are of critical importance in many LDCs. However, the concept of industrial rehabilitation needs to be broadened: it should combine an understanding of both macro-economic forces and problems at the sectoral and plant level. The best ways of putting this into practice have to be established and how international assistance can be mobilized and combined for this purpose.

^{3/} See especially the paper "Industrial policies in the Least Developed Countries: major challenges (ID/WG.515/2(SPEC.))".

How can it be ascertained that privatization and rehabilitation programmes are pursued in an integrated manner and in a proper sequence?

Through which mechanisms can foreign technology and managerial expertise be made available for rehabilitation efforts?

What is the role to be played by development finance institutions in this respect, in particular in view of a widespread lack of sophisticated capital markets?

It has been demonstrated that decentralization of economic decision-making and a regional approach of industrial development can foster rural development and achieve both efficiency and equity objectives. The question arises of the policy and institutional implications and in particular what role regional development councils can play in such a process.

How can policies in fields such as infrastructure, human resource development, finance, etc. be decentralized so as to support industrial development of key subsectors in various regions?

What are the requirements in terms of reorganizing the institutional machinery and which potential conflicts have to be considered in such a process?

Which criteria should guide the selection of regional growth poles and what kind of analytical support is needed for this selection?

How can international co-operation be geared more strongly than in the past to enhance regional development?

In the advanced industrialized countries, industrial information is published in bulletins, trade and technical journals, newsletters, and the general news media, abstracts and other reports. In LDCs, however, such publications are usually unavailable or very restricted. Information on technology, markets, consumption and production patterns, innovations, financial sources etc. does not reach the entrepreneur or the consumer, nor is it available for development planning and aid co-ordination.

How can information flows be improved? Are general measures sufficient (e.g. unhindered circulation of media) or is there a need for specific institutional action?

4. FOREIGN DIRECT INVESTMENT^{4/}

Foreign direct investment (FDI) can play an important role in the industrial development of LDCs, both in terms of new investment and investment related to rehabilitation of existing production capacities. Most LDCs have recently placed much emphasis on attracting increased FDI flows and have put in place a conducive legal, administrative and incentives framework. Through enhanced FDI, they hope to obtain not only investment capital but also new technology, managerial expertise and access to export markets.

^{4/} See especially the paper "Industrial policies in the Least Developed Countries: major challenges (ID/WG.515/2(SPEC.))".

It is clear, however, that in order to attract and absorb FDI there is a need for establishing complementary human and physical infrastructure and services. Crucial factors include availability of a local pool of entrepreneurs, skills, and support industries and services, including banking, transport and communication. This involves substantial investments in a long-term perspective and thus poses a tremendous challenge to the limited resources available in LDCs. Nevertheless, it is essential to move in that direction in a gradual, incremental manner rather than to put unrealistic hopes in the provision of financial investment incentives. If LDCs succeed in attracting limited additional amounts of FDI in selected fields, this may in itself contribute to build up further industrial capabilities and represent an incentive for subsequent investment flows. It needs to be examined how such support networks of infrastructure and services for FDI can be built up, and what role international co-operation can play in this regard.

The following are some of the main issues involved:

Besides the - often overestimated - role of investment codes and investment incentives in attracting FDI, in what other ways can LDCs promote a favourable climate for attracting FDI? Can international assistance contribute to creating the required institutional infrastructure?

The role of small- and medium-scale enterprises (SMEs) in FDI flows has grown in recent years in some developing countries, especially in the South-East Asian region. They have specific characteristics: high flexibility, relatively labour-intensive technologies, greater adaptability to local economic conditions, capability to serve small communities etc. How can LDCs attract FDI specifically involving SMEs? Which role can domestic development finance institutions play in such attempts?

Given that the small size of domestic markets in most LDCs may pose a major deterrent to FDI, regional co-operation could help to overcome this. What are the prospects for and constraints to such co-operation in the various regions? What special steps may be needed?

The importance of an efficient banking sector and capital markets to provide complementary domestic capital to FDI is well recognized. What is the experience and the perception of the various LDCs in this respect?

To what extent is it possible for LDCs to be selective in the attraction of FDI? Can they actively search for and promote only specific types of FDI (in terms of branches, technology etc.) and how should these be determined in the light of national development objectives?

5. HUMAN RESOURCE DEVELOPMENT^{5/}

Generally, LDCs face a severe shortage of the skills necessary for industrial development. Training and education, especially higher education, has in most cases not been sufficient to meet the increasing skill demands of

^{5/} See especially the paper "Training industrial managers in Least Developed Countries (LDCs) (ID/WG.515/7(SPEC.))".

modern industry. Secondary and tertiary education together with vocational training have to be made much more responsive to the demands of industry, especially when future industrial development is to be based increasingly on private sector and small-scale development operating in a more competitive economic environment. In technical education, what is needed is a combination of basic skills and the flexibility to react to the increasing pace of change in industrial technology and structure. For instance, skills in maintenance and production engineering are essential to ensure adjustment capability, reduce spare parts inventories, ensure quality control etc. Legal and social security frameworks that encourage worker mobility and thus skill diffusion and new skill acquisition, are also needed, together with knowledge access. Assessment of the human resource development requirements is complicated by the fact that official statistics on occupational skill structure by industrial branch are often missing or inadequate. Among the issues in human resource development pertaining to industry, the following appear most essential:

- Improving and expanding the quality of human resources for industry should be an integral part of industrial policies.

How can a conceptual framework of HRD in industry be developed and quantitative/qualitative targets for HRD be set and applied at the macro-level, sectoral level, industrial branch level and enterprise level?

What form of co-ordinating mechanism would bring skill training closer to industry's demand, e.g. through participation of private sector industrial associations in designing, implementing and monitoring of human resource policies and training programmes?

What kind of financial measures could facilitate cost sharing of training between industry and government?

What are the training/retraining priorities in terms of industrial skills and/or occupational categories emerging from rehabilitation and modernization of the public sector?

How can the perceived need for training of industrial managers be integrated into the restructuring and privatization policies?

How can training support be made an integral part of financial schemes promoting/assisting small- and medium-scale industry in urban and rural areas?

- The content of training programmes has to reflect changing trends in manufacturing production in line with the globalization of international trade and technology development.

How significant is the impact of technological change in developed countries in terms of labour force restructuring and skill requirements in LDCs?

How can these requirements be met by dividing areas of responsibility for formal education, vocational training, research and development, and on-the-job training between the public and the private sector?

In what areas of training would subregional and regional co-operation be realistic and most effective?

- Human resource development programmes for industry should be seen as a priority area for international co-operation.

What type of economic and financial measures would commit foreign investors to technology transfer compatible with national objectives for development of technological capabilities?

In what way can UNIDO increase and better focus its assistance in the formulation and implementation of a policy framework for integrating HRD into industrial strategies?

In what areas of industrial and industry-related training can UNIDO's contribution, as compared with other providers of technical assistance, be most effective?

What role should UNIDO play in co-ordinating HRD for industry activities within the UN system?

6. RURAL INDUSTRIAL DEVELOPMENT AND INDIGENOUS ENTREPRENEURSHIP^{6/}

With the majority of the population living in rural areas in most LDCs, rural development is an important dimension of industrial policy for increasing agricultural and manufactures production. It can also contribute to creating employment, improving the income distribution and reducing rural-urban migration and its unpalatable consequences for both the rural and urban economies of LDCs. Closely related to rural industrial development and to industrialization in general, the promotion of indigenous entrepreneurship needs to receive priority attention. The low level of industrialization highlights the importance of small and medium industry (SMI) and the need to encourage domestic entrepreneurial activities.

However, generating entrepreneurship and helping local entrepreneurs, often is a difficult task. A systematic process of identifying and developing local entrepreneurial talents for industrial growth in the LDCs will need particular attention. To some extent it may even be necessary to make a choice between promoting entrepreneurs and promoting projects. Among the many issues for attention are the following:

What are the effects/weaknesses of prevailing macro-economic and regulatory frameworks in LDCs in respect of the development of local entrepreneurship?

What are the costs and benefits of establishing rural industrial estates or "clusters" of rural enterprises and to what extent should these be promoted?

What is the scope for linkages and what are the prospects for subcontracting between urban small-scale industrial enterprises and rural small-scale enterprises (RSIEs)?

^{6/} See especially the papers "Stimulating rural small-scale industries in developing countries (ID/WG.515/4(SPEC.))", "Training industrial managers in Least Developed Countries (LDCs) (ID/WG.515/6(SPEC.)) and Industrial policies in the Least Developed Countries: major challenges (ID/WG.515/2(SPEC.)).

With respect to credit provision for RSIEs, what are the main sources, constraints, and prospects and what are the most efficient and appropriate ways to make credit available to small enterprises: through commercial banks, or voluntary organizations as credit intermediaries, etc.?

What are the prospects and possible mechanisms for establishing equity funds for small enterprises through international aid?

Should credit services be integrated with other services to local entrepreneurs? If so, how is this to be co-ordinated?

What level of technical assistance is desirable in such fields as accounting, inventory control, vocational skills etc., to upgrade and boost entrepreneurial skills?

How should policies and measures for the encouragement of rural industry take into account the specific role and potential of women?

How can entrepreneurs best be assisted to select and acquire appropriate technologies for industrial production?

What is and could be the role of information institutions for developing entrepreneurial and management skills, especially in rural areas?

Could the establishment of Regional Development Corporations assist the establishment of new rural industries and the expansion of existing ones?

7. INDUSTRIAL LINKAGES TO OTHER ECONOMIC SECTORS^{1/}

A viable industrialization strategy for LDCs will need to be associated with the complementary development of other economic sectors, especially including those on which industrial growth particular depends, such as infrastructure, telecommunications, and the industrial services sector. Moreover, the widening and deepening of linkages with local agriculture may offer the only realistic sectoral options for many if not most LDCs, at least in the short term. Within manufacturing itself, there will also be possibilities for strengthening the domestic industrial base through subcontracting, increased value-added processing, expansion of packaging activities, links with the informal sector, etc. Many LDCs have failed in the past to fully exploit the potential linkage effects: often large-scale industries were established which generated no linkage effects and also were not explicitly encouraged to do so. The question of how to promote industrial linkages to other economic sectors within and among the LDCs thus constitutes an essential issue of industrial development.

A major weakness for linkage development in most LDCs and for increased industrial competitiveness is the absence of supporting institutions. These include institutions for industrial standards, testing, supporting exports, quality assurance, design, training; technology acquisition, dissemination and adoption; finance and research and extension services. Which priorities can be set? What is the role of regional co-operation? Should private sector institutions be encouraged to take the lead in providing some of these services?

^{1/} See especially the paper "Linkages between manufacturing and other sectors of the economy in the Least Developed Countries (LDCs) (ID/WG.515/1(SPEC.))".

Within the industrial sector, few linkages exist between public and private industries and between large-scale and small-scale industries. Which mechanisms could enhance such linkages? In which areas can potentials for subcontracting arrangements be found? What is the role of public procurement practices in this respect?

8. INTERNATIONAL CO-OPERATION FOR DEVELOPMENT^{8/}

The problem of aid co-ordination has been addressed by the international community at several levels. Given the overriding importance of ODA for many LDCs, and the small share of it directly devoted to industrial development, the question of aid co-ordination not only relates to avoiding overlap and duplication of efforts but more importantly to reassessing the role of industry in the economy and thus the role of industry in development co-operation.

How can LDCs themselves be more directly involved in the process of co-ordination? By which means can this national co-ordination capacity be enhanced?

What is the desirable role of international organizations, especially UNIDO, in the co-ordination process?

How can the private industrial sector be best involved in these processes?

To what extent is the small share of ODA devoted to industry a consequence of inadequate co-ordination, and to what extent is it a reflection of low priorities for industrial development among donor countries and/or recipient countries?

How can international awareness of and support to industry in LDCs be enhanced?

Projects executed by international and bilateral agencies in the LDCs require a variety of different manufactured products. Infrastructural projects, for example, would need construction materials such as cement, bricks, concrete, wood, as well as paint, furnishings and fittings. In principle, donor projects are expected to be integrated into the long-term development plan in order to stimulate manufacturing capabilities in the LDCs. Yet in practice, large parts, if not most of the manufactured products used for aid projects, are imported. To stimulate the use of local manufactured products and utilization of local resources in LDCs, relevant information and promotional measures are needed on domestic sourcing possibilities and constraints, including inventories of products produced by local industries.

How can domestic sourcing potentials in the LDCs be better utilized by aid projects with a view to reducing these projects' import content?

^{8/} See especially the papers "The potential role of Official Development Assistance (ODA) projects in promoting industry in the Least Developed Countries (LDCs) (ID/WG.515/3(SPEC.))", "Aid co-ordination and industrial development in the Least Developed Countries (LDCs) (ID/WG.515/8(SPEC.))" and International support for industrialization in the Least Developed Countries (LDCs) (ID/WG.515.5(SPEC.)) and ID/WG.515/5/Corr.1(SPEC.)).

9. SUMMARY AND CONCLUSION

This paper is to provide a basis for discussion at the Workshop on Industrial Development in the Least Developed Countries (LDCs) to be held in Vienna, 19-23 August 1991. The workshop is to lead to an Industrial Action Plan for LDCs to be submitted to the General Conference of UNIDO in November 1991.

The Industrial Action Plan is intended to provide basic guidelines for industrialization strategies of LDCs in the years to come. It will address many of the questions raised in the background papers and summarized here. They include the role of manufacturing in socio-economic development and the policies best suited to encourage it, the better use of linkages and the encouragement of foreign direct investment, together with human resource development and the creation and formation of indigenous entrepreneurship. A final set of questions is that of international co-operation for industrialization of the LDCs and its enhancement for long-term socio-economic development in which industry plays a full part.