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Sixth Session

Vienna, 23 May - 2 June 1972

Agenda item 5a

FOLLOW-UP OF THE 1967 INTERNATIONAL SYMPOSIUM ON INDUSTRIAL DEVELOPMENT



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ON INDUSTRIAL DEVELOPMENT

Corrigendum

Page 16, para.52, line 7

Change the phrase: "of the cases of the underutilization ..."
to read as follows: "of the causes of the underutilization ..."

Page 19, para.68, line 10

Change the phrase: "in the developing countries ..." to read
as follows: "in the developed countries ..."

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INTRODUCTION

1. The Industrial Development Board, at its fourth session, adopted resolution 26(IV) on the "Follow-up of the 1967 International Symposium on Industrial Development". The resolution states, inter alia, the following:

"Bearing in mind General Assembly resolution 2577(XXIV) of 15 December 1969, which invited the Industrial Development Board, with the co-operation of the Executive Director of the United Nations Industrial Development Organization to consider the possibility of including in the Board's annual reports, inter alia, a summary of the progress achieved in the implementation of all the substantive recommendations of the International Symposium on Industrial Development, as well as practical measures and policies for attaining their early implementation, as appropriate,

"1. Invites member States to transmit to the Executive Director of the United Nations Industrial Development Organization, if they so desire, any information they may deem relevant on measures initiated by their respective Governments both as regards policy and implementation in pursuance of the recommendations of the International Symposium on Industrial Development;

"2. Requests the Executive Director on the basis of information available to submit to the Industrial Development Board at its sixth session his comments, observations and recommendations."

2. This document is presented to the sixth session of the Industrial Development Board in pursuance of the above resolution.

ACTION TAKEN BY THE INDUSTRIAL DEVELOPMENT BOARD AND UNIDO

3. At the fourth session of the Industrial Development Board, the Board's attention was drawn, in document ID/B/76 of 10 March 1970,^{1/} to General Assembly resolution 2577(XXIV) (mentioned in the preambular paragraph of the Industrial Development Board resolution quoted above). At its 101st meeting, the Board gave careful consideration to the General Assembly resolution and decided as follows:

"During its proceedings in the successive years of the Second United Nations Development Decade, the Board will seek to summarize the information submitted to it by the secretariat and to evaluate the progress of UNIDO and the salient features of the progress of industrialization of the developing countries. It is suggested that the report on the discussions of the Board and its recommendations will provide in general an evaluation of progress to satisfy the request of the General Assembly in paragraph 2 (a) of resolution 2577(XXIV)."^{2/}

^{1/} "Consideration of General Assembly resolution 2577(XXIV), including the provisions relating to the recommendations and resolutions of the 1967 Symposium on Industrial Development and of the Industrial Development Board; Note by the Executive Director".

^{2/} Document A/8016, para.373.

4. In pursuance of operative paragraph 1 of Board resolution 26(IV), the Executive Director, in a letter dated 10 December 1971, invited the member States of UNIDO "to transmit to him, if they so desire, any information they may deem relevant on measures initiated by their respective Governments both as regards policy and implementation in pursuance of the recommendations of the International Symposium". As of the end of February 1972, nine Governments have replied to the Executive Director's letter. These replies are primarily acknowledgements of the letter and most of them contain no comments. One reply contains a substantive observation, which reads as follows:

"This is to inform you that, after consideration of the matter, the ... Government is of the view that the periodic sectoral review of progress toward the industrial development objectives of the Second Development Decade, which is presumably to be undertaken by UNIDO pursuant to the relevant resolutions of the General Assembly and the Economic and Social Council as part of the programme of over-all review by the United Nations, might, inter alia, be made having in mind the agreed objectives established by the International Symposium which are relevant to such progress."

5. Under the circumstances, there is no basis for the Executive Director to make any comments, recommendations etc. However, it is considered useful to present for the consideration of the Board a brief analytical report mainly devoted to reviewing the progress towards the general objectives identified by the International Symposium on Industrial Development held in Athens in 1967. Furthermore, it may assist the Board in its consideration of the organization of another general conference of UNIDO recommended by the General Assembly in resolution 2823 (XXVI), to be held in 1974 or 1975.

IMPACT OF THE INTERNATIONAL SYMPOSIUM ON GLOBAL ASPECTS OF INDUSTRIALIZATION

6. The International Symposium on Industrial Development was an event having subsequent effects on global thinking and action going far beyond the scope of the issues discussed and the recommendations offered during the actual three-week session at Athens. It made its impact on thinking regarding industrialization problems - an intangible, but none the less effective, achievement of the Symposium - in a number of ways.

7. The Athens Symposium brought to a single international meeting individuals from 78 countries plus representatives or observers from 38 intergovernmental, including the United Nations, and non-governmental organizations. The representatives included some 150 individuals from the commercial sector, financial organizations, technical institutions and industrial enterprises. Thus for the first time, on a global scale, an opportunity was presented to the representatives of the developed and the developing countries to widen their understanding not only of the industrialization process of the developing countries, but also of each other's points of view. During the Symposium, varied and often conflicting opinions were expressed and examined and sometimes modified. An atmosphere of mutual respect and understanding, if not always of agreement, was evident in the discussions.

8. The Executive Director said in his introductory statement to the Symposium that "by strengthening international assistance to and co-operation with the developing countries the

advanced countries will find that they will be substantial beneficiaries. Only those who think in static terms will consider that international co-operation is nothing but a redistribution of income from a fixed output away from the developed to the developing areas.³ Some speakers expressed the view that the rubbing of elbows at such a meeting as the International Symposium was good in itself as it generated a better understanding among people of the problems they were facing. The fact that as many as 200 recommendations could be agreed upon by the representatives attending the Symposium is a good indication of the attitude prevailing and the desire for international co-operation.

9. The Athens Symposium covered in a single meeting the entire spectrum of problems - as far as they could be identified in 1967 - relating to the industrialization process. It was evident from the discussions of the various issues that the developing countries shared many of the same problems. During the discussions it was stated that "The Symposium was important because it was the first time in the history of the United Nations that an opportunity had been provided for getting to know the problems affecting the industrial development of all developing countries; and it had been particularly interesting because it had revealed how far these problems are common problems and are not confined to any particular country or region". On the other hand, it was evident that there could be no standard pattern of industrialization on which individual developing countries could model their policies. It was also evident that the industrializing countries were at many different stages of development and that each country, or each group of economically interdependent countries, would have to develop its own industrial development strategy.

10. In reviewing the development strategies, the Symposium gave attention to problems of import substitution, unreasonably high tariff protection and the creation of internationally non-competitive industrial enterprises. The Symposium encouraged the developing countries to initiate outward-looking strategies which could result in the manufacture of more competitive industrial products. It was pointed out in the discussions that "while there is no such thing as a formula for successful industrialization, attention has to be drawn to the changing relation between import substitution and export promotion as the general aim of industrial policy in developing countries". The Symposium, in underlining the complex nature of the industrialization process and by stressing the difficulties of implementation, contributed to the preparation of more realistic industrial development plans being formulated for the 1970s. The present more realistic planning encouraged by the International Symposium comes after a period during which the problems of industrialization were greatly underestimated.

11. The Symposium served to open discussion of a number of issues and policies which are currently being examined and also served to stimulate a world view of the problems of industrial development. The problems of international aid and trade affecting industrial development were brought into a sharper focus and the issues raised at the Symposium have been the subject of discussion since, for example, in the report of the Pearson Commission. Importance was attached to the role of multilateral assistance and its harmonization with bilateral aid. The problem of servicing the growing foreign debt burden was noted.

^{3/} Report of the International Symposium on Industrial Development, United Nations, New York, 1969 (ID/11), p.118.

12. Two of the most important concepts talked about at the Athens Symposium were "promotion" and "co-operation". In order to test the new concept of "promotion", a number of "special guests" representing investors and corporations were invited to attend the Symposium at their own expense. Some 335 individuals did so, representing organizations worth an excess of \$100,000 million. They in turn made contact with 275 individuals, largely from among the delegates, representing potential consumers of industrial capital.

13. The Symposium not only helped to generate a spirit of co-operation but also contributed significantly to co-operative arrangements between the developing and the developed countries as well as among developing countries. An example of practical application of such co-operation is the Expert Group Meeting on Industrial Co-operation between Developed and Developing Countries for Exports, which was held in Bucharest from 8 to 13 May 1970. The emphasis placed during the Symposium on international co-operation also helped to foster the establishment or development of international and regional organizations concerned with industrial development, such as the Asian Industrial Development Council (AIDC) and the Industrial Development Centre for Arab States (IDCAS), established in 1966 and 1969, respectively, on the initiative of regional meetings at Manila and Kuwait. These organizations have become effective instruments for regional co-operation and the promotion of industrial development in the regions they serve.

14. The Athens Symposium, held during the first year of UNIDO's existence, served to provide a basis for the future work of UNIDO. The Symposium considered UNIDO to be the international instrument for action and for the co-ordination of all efforts by the United Nations system of organizations in the area of industrialization. In determining the particular path that should be taken towards more efficient industrialization, UNIDO was called upon to assist in strengthening the will of the international community to act. The general guidance provided by the Symposium and the recommendations for action made to UNIDO are reflected in the work of the organization during the last five years. A brief account is provided in the following paragraphs of the action initiated by UNIDO following the recommendations of the Symposium. This account refers to the efforts of UNIDO not only in implementing selective recommendations directly but also in promoting activities by other organizations in assisting the industrialization of the developing countries.

TANGIBLE ACHIEVEMENTS OF THE INTERNATIONAL SYMPOSIUM ON INDUSTRIAL DEVELOPMENT

15. The tangible and most readily identifiable achievements of the Symposium are the actions resulting from the approximately 200 recommendations adopted by the three Symposium Committees which dealt with the following subjects:

- Committee I - Policies and measures in developing countries (industrial manpower; administrative machinery for industrial development; industrial research and other technical services; promotion of industrial exports and of export-oriented and import-substituting industries; small-scale industry)

- Committee II - Situation, problems and prospects of main industrial sectors (iron and steel; non-ferrous metals; engineering industry; basic chemicals and petrochemicals; synthetic fertilizers; processed food; textiles; building materials and wood products; construction industry; standardization)
- Committee III - General issues of industrial policy and international aspects of industrial development (economic aspects; formulation and implementation of industrial programmes; domestic financing of industry; external financing; regional co-operation; technical co-operation)

The recommendations adopted by the three Symposium Committees were addressed to the Industrial Development Board of UNIDO, the other international organizations concerned, and to both the developing and industrially advanced countries. They called, in particular, for operational activities and supporting research and studies and reflect the emphasis placed by representatives at the Symposium on the practical measures to be taken. This section deals, therefore, mainly with the tangible achievements resulting from selected specific recommendations of the three Symposium Committees; however, a few cases are also cited where so far no action had been possible on certain recommendations for a variety of reasons. The introductory part of the chapter deals also with a few tangible achievements which did not result from concrete recommendations but rather from suggestions made less formally at the Symposium by representatives.

SOURCE MATERIALS ON INDUSTRIALIZATION

16. To facilitate the discussions of the twenty industrial subjects dealt with at the Symposium, background documentation was prepared. This documentation consisted of papers^{4/} on specific industrial subjects which were prepared by the Centre for Industrial Development (predecessor of UNIDO) and the UNIDO secretariat (UNIDO was officially established in January 1967) as well as 83 papers prepared by Governments. In addition documentation had been prepared before the International Symposium for the regional symposia in Asia, Africa, Latin America and the Arab countries.
17. All this documentation, which served to bring out the problems and requirements of the developing countries, is clearly the most evident and tangible result of the Symposium. Some of it was also condensed, analysed and published in the form of 21 concise monographs on industrial development listed in the annex to the present report.
18. The "topics" on which documentation was prepared and which were dealt with at the Symposium have become since "topics" of industrial development thinking. They have been incorporated not only in the work programmes of UNIDO but are also increasingly being incorporated in the work programmes of the other international organizations.

4/ For the list of papers see Report of the International Symposium on Industrial Development, op. cit., pp.195-209.

NATIONAL COMMITTEES FOR UNIDO

19. Another tangible result of a Symposium recommendation addressed to all Governments has been the establishment of National Committees for UNIDO. The Symposium recommended that:

"Member States consider the establishment of National Committees for UNIDO, composed of representatives of government departments and agencies as well as representatives of academic and research institutions and public and private industrial and business establishments concerned with industrialization. The National Committees would serve in an advisory capacity to the Governments and to the member institutions in regard to all questions related to the activities of UNIDO."^{5/}

By the end of 1971 there were 40 National Committees for UNIDO in existence, with the role of advising their Governments and member institutions in regard to questions related to the activities of UNIDO. In addition, sixteen countries had indicated that the matter of National Committees for UNIDO was under consideration.

VOLUNTARY CONTRIBUTIONS

20. The developing countries, in their recommendations to the International Symposium, called for the strengthening of UNIDO "through the provision of adequate and independent funds as a prerequisite of efficient United Nations action to accelerate industrial development and to allow for concrete and useful implementation of the conclusions of the International Symposium ..."^{6/}

21. At the first United Nations Pledging Conference on UNIDO, held at United Nations Headquarters in New York on 4 December 1963, a total of \$1.7 million was pledged by 45 Governments. At the fourth Pledging Conference, held on 25 October 1971, \$1.9 million was pledged by 66 Governments. These voluntary contributions to the UNIDO General Trust Fund constitute an important element in supplementing the resources of UNIDO and represent an expression of support and confidence in the work of UNIDO by the contributing Governments.

ROLE OF UNIDO IN CO-ORDINATION AND CO-OPERATION

22. In regard to UNIDO's role in the co-ordination of all activities of the United Nations system in industry, the delegates from the developing countries at the Symposium recommended:

"That the strengthening of the central role of UNIDO as the co-ordinator of all activities of the United Nations system in the field of industrial development ensure a higher and more efficient degree of co-ordination and operation."^{7/}

For their part, the industrially advanced countries recommended:

"That international organizations co-ordinate their activities in the industrial field, taking into account the central role of UNIDO as the

^{5/} Report of the International Symposium on Industrial Development, op. cit., p.21, para.73.

^{6/} Op. cit., p.109, para.C.7.

^{7/} Op. cit., p.108, para.C.2.

co-ordinator of all activities of the United Nations system in the field of industrial development".^{8/}

UNIDO interprets its function in co-ordination as a positive one of promoting collaboration and concerted action by all bodies concerned in addition to the function of avoiding any duplication of effort. It is expected that in the future a large part of the activities of UNIDO will be in the form of co-operative arrangements with other members of the United Nations family. This should lead in the long run to joint programming of activities in industry.

23. Close co-operation exists now with UNCTAD, ILO, FAO, UNESCO and WHO in fields of mutual interest as regards both supporting and operational activities. UNIDO held three programme discussions in Vienna beginning in late 1969 (the latest in late 1971) with the representatives of the regional economic commissions and the United Nations Economic and Social Office in Beirut (UNESOB) on the respective programmes of work and evolved a list of specific projects to be implemented in close collaboration with these bodies during the period concerned.

24. The discussions at the Athens Symposium have also brought about closer harmony between multilateral and bilateral programmes for industrial development. During the previous decade there had been a tendency for multilateral and bilateral agencies to react individually to problems of industrialization as they were brought to their attention by the developing countries. At the same time, many developing countries preferred to negotiate and to programme technical assistance projects individually with each donor. This attitude is now changing with the realization, assisted by the Athens Symposium, that technical and financial assistance could be more effective through a co-operative effort in which all resources, available from any source, would be applied to the solution of a given problem.

SELECTED RECOMMENDATIONS FROM COMMITTEE I: POLICIES AND MEASURES IN DEVELOPING COUNTRIES⁹

Industrial manpower

25. The Symposium considered it essential that all ways and means be exploited to raise rapidly the level and efficiency of industrial labour. In the Committee's report on industrial manpower, it was noted that training systems in most developing countries suffered from fragmentation and lack of co-ordination, making it difficult to formulate comprehensive plans for skill formation. It was recommended in particular that:

- International assistance in the field of industrial manpower should be carefully planned and co-ordinated on both the national and the international level;
- When requested, UNIDO, ILO and UNESCO should help developing countries to draw up plans for industrial education and training;

^{8/} Op. cit., p.111, para.C.2.

^{9/} This section should be read in conjunction with UNIDO's "Programme of work for 1973, report of activities in 1971 and updating of 1972 programme" (ID/B/97(Part II and Add.1 and 2)).

- UNIDO and ILO should increase their activities in the field of management development, and assist developing countries in the rapid transfer of modern industrial managerial techniques adapted to the particular conditions of these countries;
- UNIDO should provide assistance to the developing countries, in particular by encouraging the organization of programmes for training abroad and in the country of manpower for new industrial projects such as its in-plant training for engineers; for training of economic administrators concerned with industrial development; and for training of entrepreneurs, including those of small enterprises;
- UNIDO, in co-operation with other international agencies, should compile and maintain a roster of industrial consultants for possible use by United Nations technical assistance programmes.

26. The activities recommended are now being incorporated into the work programmes of both UNIDO and ILO. Of particular importance to the UNIDO programme of work has been the recommendation which launched the now rapidly expanding in-plant training programme. In 1969, nine group training programmes were carried out which were attended by 160 participants from the developing countries. In 1971, fifteen in-plant training programmes were in operation, in which about 250 persons participated.^{10/}

27. The delegates at the Athens Symposium also examined the possibility of expanding the role of industrial consultants. As a direct result of this recommendation, this new activity was initiated by UNIDO and is demonstrating already its value to the developing countries. By 1971, there were 2,500 individuals and organizations covered by the Roster of Industrial Consultants. Further expansion is planned including a computerized storage and retrieval system. In addition, UNIDO is making use of consultants and consulting firms from both the developing and the developed countries in the implementation of its technical assistance projects.

Administrative machinery for industrial development

28. The importance of establishing effective administrative machinery for industrial development which is closely related to the requirements of the political and socio-economic conditions and policies of the countries concerned was strongly emphasized by the Symposium. It was recommended in particular that:

- UNIDO should undertake a comparative survey of administrative machinery for industrial development and establish a world inventory of institutions and organizations;
- UNIDO, in co-operation with the other organizations concerned, should assist in the training of personnel needed for the administration of industrial services, including industrial property;
- UNIDO should undertake, at the request of national chambers of industry and similar institutions, submitted through their Governments and in co-operation with regional and international organizations concerned, studies of the present status, activities and capabilities of these institutions.

^{10/} The details of the training programmes of UNIDO in various aspects of industrial development are contained in the "Report on the training of national personnel for industrial development" (ID/B/101).

29. UNIDO has already initiated a number of activities in this area and has provided advisory assistance for specialized institutions established by various Governments of developing countries for the purpose of commercial and semi-commercial industrial development activities. It has also organized a Regional Workshop on the Organization and Administration of Industrial Services in Asia and the Middle East, which was held in Tashkent in 1970, and a training workshop for government administrators concerned with industrial development in the Middle East and North Africa is to be convened in 1972 in co-operation with UNESOB, IDCAS and the Government of Kuwait.

30. A comparative survey of administrative machinery is being initiated with the help of UNIDO correspondents who will supply information on industrial legislation in individual countries. However, the suggested "world inventory" has not so far been practicable. Judged in the light of the recommendations, the accomplishments of UNIDO and the other organizations in the direction of improving administrative machinery for industrialization have been marginal.

Industrial research and information

31. The Symposium recommended that UNIDO should in particular:

- Attach high priority to fostering industrial research projects and activities;
- Promote the establishment of training facilities designed to adapt existing technological skills to the needs of developing countries;
- Consider the question of establishment of an international association of industrial research institutes;
- Promote international collaboration between research institutes and organizations in developed and developing countries, as well as regional and interregional co-operation and co-ordination.

32. The activities of UNIDO in the organization and administration of industrial institutions and services have been geared to developing and strengthening the services provided for industrial enterprises by private institutions (e.g. chambers of industry, professional associations and industrial co-operatives) as well as by Governments, either through their respective ministries or through semi-autonomous institutions such as industrial development institutes. Emphasis was placed during 1969 on developing international co-operation among industrial research institutes in the developing and developed countries through the establishment of an international association of industrial research institutes. An expert group meeting approved a draft of the objectives as well as the constitution of such an international association. In 1970, through the efforts of UNIDO, the World Association of Industrial and Technological Research Organizations (WAITRO) was established and its first meeting was held in Vancouver (Canada).

33. In recognition of the importance of making pertinent industrial information available, the Symposium recommended that UNIDO:

- In co-operation with other agencies, should give urgent consideration to the establishment of an international clearing-house for industrial information which would locate sources of information and provide answers to specific inquiries from developing countries;
- Should consider the possibility of compiling, in certain areas directly related to industrial development, comprehensive documentation as a basis for information and advice on request.

34. UNIDO's industrial information service was well established before the Athens Symposium. However, the support given to this activity facilitated a more rapid expansion. Since 1967, UNIDO has continued to develop its industrial information activities in regard to the provision of advisory services, the collection of selected documentation and data, the supply of information in response to specific demands, the dissemination of information on industrial development through periodicals etc. The aim of the clearing-house approach adopted by UNIDO is to set up a centre to which industry in developing countries can refer all types of requests for information, and to provide answers to these inquiries by directing them to competent sources of information. The UNIDO Industrial Inquiry Service dealt with approximately 1,200 inquiries in 1969, and with 1,317 in 1971. Its correspondents are located at 125 agencies, half of them in developing countries and half in industrialized countries, plus fourteen international organizations.

35. A new, related activity has been initiated by UNIDO in the field of industrial legislation, patents and licensing, as a direct result of the following recommendations:

UNIDO, in co-operation with other international and national organizations, should study present arrangements for industrial property with regard to the special situations and problems of the developing countries. Upon request, UNIDO should assist developing countries in securing advice in the administration of industrial property. UNIDO should assist requesting countries in locating sources of patents and know-how and advise on the terms for acquiring such patents.^{11/}

Promotion of industrial exports

36. The Symposium recommended that UNIDO, in co-operation with UNCTAD and GATT, and within the framework of the joint United Nations export promotion programme, should provide technical assistance for the promotion of industrial exports from developing countries, and, more particularly, assist in:

- Identifying viable export-oriented industries;
- Studying problems relating to the standardization, packaging and presentation of products;
- Studying, in co-operation with the other international organizations concerned, the evolution of the supply of and demand for industrial products on international markets.

37. UNIDO has evolved an active programme of work in this area and co-operates closely with the United Nations and UNCTAD, and in particular the UNCTAD/GATT International Trade Centre (ITC).

38. A training programme in export promotion and marketing was organized jointly by UNIDO and the UNCTAD/GATT/ITC in November 1968, at Zagreb, Yugoslavia. Also in 1968 UNIDO, in co-operation with UNCTAD and ECAFE, undertook studies in Hong Kong, Indonesia, the Philippines,

^{11/} UNIDO's work in this area is described in paras.50-52 of document ID/B/97(Part II,Add.1). This activity needs to be expanded to the extent that available resources allow.

the Republic of Korea and Thailand on export possibilities for manufactures and semi-manufactures. The most recent activities include international subcontracting and product adaptation and implementation of the Generalized System of Preferences.

Small-scale industry

39. For some years both UNIDO and its predecessor, CID, had attached importance to the development of small-scale industry. The delegates at the Athens Symposium reaffirmed the importance of this activity and suggested its further expansion.

40. UNIDO has followed up the recommendation for increased assistance for the financing of industrial estates and small-scale industries by establishing contacts with the International Bank for Reconstruction and Development (IBRD) and the regional development banks. Activities in the field of subcontracting were also accelerated following the recommendations of the Symposium. UNIDO carried out studies and organized an expert group meeting on the subject in Paris in 1969, in co-operation with OECD. Active assistance in establishing subcontracting exchanges is now being provided by UNIDO in India and other countries. In the programme of work of UNIDO special attention is being given to the provision of extension services to small-scale industries as well as to assistance to the least developed among the developing countries. An expert group meeting on the latter subject was organized by UNIDO in November 1971, and its recommendations will be implemented.

SELECTED RECOMMENDATIONS FROM COMMITTEE II: SITUATION, PROBLEMS AND PROSPECTS OF MAIN INDUSTRIAL SECTORS

41. A number of specific recommendations were made regarding the development of various industrial sectors, and UNIDO has formulated its programme of work to reflect the main elements of these recommendations. UNIDO has continued to develop its activities in the following industrial branches: metallurgical industries, engineering industries, chemicals, pharmaceuticals, pesticides, petrochemical industries, fertilizers, construction and building materials and light industries.

Metallurgical industries

42. UNIDO provided assistance to developing countries in the development of metallurgical industries to supply the local market. Other activities in the metallurgical sector were concerned with the transfer of know-how relating to both extractive metallurgy and transformation (rolling, forging, casting etc.). An expert group meeting on recent developments in lead and zinc production and another meeting on the utilisation of non-ferrous scrap metal were held in 1969. Work was initiated by UNIDO in 1970 on identifying problems faced by the developing countries in establishing foundry shops to produce cast iron, steel, aluminium and copper alloy casting. In 1971, UNIDO organized an expert group meeting on technology transfer in the metallurgical industries in India.

43. UNIDO has given particular attention recently to the recommendation to establish national centres for the development of the metallurgical industry. The activities of these centres could

range from market studies to engineering consultancy work for the construction of specific production units. The national centres would also be able to offer specialized assistance to other countries.

44. Certain of the Symposium recommendations are being acted on by UNCTAD, which is carrying out, for example, a project on the interregional trade patterns of iron ore, with the co-operation of UNIDO.

Engineering industries

45. The Symposium recommended, inter alia, that:

- UNIDO should study the pattern of production and demand of machine tools and associated equipment in several developing countries, thus helping machine tool producing nations "to estimate their own short and long-term needs and formulate their goals".
- UNIDO should assist developing countries in developing some engineering product and tool design capacity of their own to ensure the functioning of imported products under varying local conditions.

46. Taking into account these and other recommendations made at the Symposium, UNIDO has assigned priority to the following engineering sectors: agricultural machinery and implements; electrical and electronics equipment; metalworking and transportation equipment; and maintenance and repair. In late 1969, UNIDO organized a meeting in Vienna to consider the production of telecommunication equipment in the developing countries, and made recommendations to be implemented in co-operation with the International Telecommunication Union (ITU), as well as putting forward guidelines for the manufacture of telecommunications equipment, including low-cost radio and television receivers. The feasibility of manufacturing machine tools in the developing countries was also given considerable attention. A seminar on the establishment and development of the automotive industry in the developing countries was held in 1969 in Czechoslovakia. Shipbuilding and ship repair also continued to receive the attention of UNIDO.

47. The ECAFE/AIDC/UNIDO fact-finding team on industries manufacturing agricultural machinery, which surveyed the farm machinery sector in twelve countries of the ECAFE region for the first time, reported in 1969 on the results of its study mission. Following the completion of the above survey, an expert group meeting on agricultural machinery industry in developing countries was organized by UNIDO in Vienna in August 1969. Forty-eight participants from 31 developing and industrialized countries attended, as well as representatives of ECAFE, ECE, FAO and the International Commission on Agricultural Machinery. The expert group recommended guidelines for action and suggested that UNIDO-sponsored missions be sent to other regions. The first such mission visited several countries in the UNESOB region during early 1970.

48. UNIDO's emphasis on the promotion of the agricultural machinery industry has already resulted in 30 requests from various developing countries for assistance in establishing this industry in the form of studies, surveys and pre-investment analysis.

Maintenance and repair of industrial equipment

49. The Symposium recommended that:

In collaboration with other interested specialized agencies of the United Nations, UNIDO should give top priority to promoting maintenance and repair, so that valuable equipment would not be underutilized, and should help to set up pilot operations in this area.

In response to this recommendation an outline of a long-term programme to improve maintenance and repair facilities in the developing countries was presented by UNIDO to the Industrial Development Board at its third session in 1969. Fifty-one countries have since expressed interest in receiving such assistance and in having their maintenance facilities surveyed. Consequently, survey missions were sent in 1969 to twelve countries in various regions in order to assess the situation and to identify possible areas of assistance. There are some 50 projects being implemented, and another twenty are under consideration. With the co-operation of the Government of the Federal Republic of Germany, UNIDO organized an interregional symposium on maintenance and repair in 1970. UNIDO also conducted a maintenance week in Turkey in 1971, which brought together government officials and managerial and technical personnel in Turkish industry to review problems of maintenance. A number of Governments have expressed their willingness to contribute to the programme by supplying either fully equipped machine shops or equipment.

Chemicals and petrochemicals

50. The Symposium recommended a number of measures to be taken by UNIDO. In particular, it recommended that UNIDO should:

- In co-operation with the regional economic commissions, render technical assistance in the establishment of regional industrial projects;
- Assist in the establishment of demonstration plants in the developing countries;
- Convene an expert group to study the technical feasibility of using coal for the production of chemicals;
- Study problems relating to the production of synthetic rubber;
- Give priority to technical assistance in petrochemical industries linked to agricultural production.

51. The most important activity in this group which followed from the Symposium recommendations was the organization of interregional meetings and symposia, disseminating information on technological progress, marketing etc. Other activities include the formulation of interregional projects such as the pharmaceutical programmes for the East African Community and the Maghreb countries. A similar programme is also being considered for the Middle East region in co-operation with UNESOB. In addition, assistance is being given to the marine salt, industrial fermentation and pulp and paper industries, and in regard to essential oils, the utilization and disposal of industrial wastes and the production of chemicals from coal. Work has continued on petrochemicals, the use of plastics in agriculture, production trends and competition between natural and synthetic rubber, production of proteins from hydrocarbons etc.

Fertilizer industry

52. The following are some of the most important specific recommendations of the Symposium on the fertilizer industry:

- UNIDO should endeavour to draw up a strategy on a world scale for the production and use of fertilizers based on food and agricultural requirements in accordance with the recommendations made by FAO and WHO in this field;
- A study should be made by UNIDO of the cases of the underutilization of productive capacity;
- UNIDO, upon request, should assist in carrying out exhaustive techno-economic studies;
- IBRD and other appropriate international institutions should consider the possibility of treating the fertilizer industry, from the credit standpoint, as infrastructure on a par with projects such as irrigation and transportation;
- UNIDO should organize an efficient system for the exchange of information between developing and developed countries concerning their respective needs and possibilities;
- The economic possibilities of any techniques calculated to reduce the consumption of sulphur should be studied.

53. Following the recommendations of the fertilizer industry, studies have also been conducted on:

- The experience of the Union of Soviet Socialist Republics with processes for reducing the use of sulphur in fertilizer manufacture;
- The direct use of rock phosphate as fertilizer and in cattle feed;
- The techno-economics of nitrophosphate fertilizers;
- The utilization of by-products, gypsum and phosphoric acid for production of sulphuric acid and cement clinker.

54. UNIDO has focused particular attention on the use of indigenous raw materials, such as natural gas and naphtha. Attention has also been paid to the utilization of existing capacity, problems of preventive maintenance, problems of supply of raw materials and problems of marketing. Studies in supply and demand and price trends of sulphur have been undertaken.

55. The Second Interregional Fertilizer Symposium was organized by UNIDO in 1971 in Kiev and New Delhi. During 1972, an ad hoc working group of UNIDO, FAO and IBRD has met to review fertilizer projects for financing.

Light industry

56. With regard to food processing, the Symposium recommended that UNIDO, in co-operation with other international organizations, and in particular FAO, should consider:

- Giving increased attention to problems of establishing food processing industries in developing countries;
- More systematic dissemination of information on food processing and on model projects;
- Assistance to developing countries in finding the right type of food processing equipment, in establishing training and technical institutes and in implementing agro-industrial projects.

57. Through its recommendations, the Athens Symposium encouraged UNIDO's activities in food processing by stimulating thinking on new processing methods. Of particular importance is the work now being undertaken on fish meal protein and on soy protein production and the work initiated on the microbiological production of protein. This activity will continue to expand. However, there are still two factors which keep the food industry from reaching its full potential. In many countries, there is a division of responsibilities between the production of food and its processing. A similar division exists among international organizations. Closer co-operation and integration is required in many instances at both levels. The programme of work of UNIDO and the co-operation arrangements it has developed to implement its programme are described under Group 6 in ID/B/97(Part II).

58. With regard to the textile industry, a number of recommendations were addressed to UNIDO, in particular:

- To survey existing training and research facilities for textiles with a view to increasing the effectiveness of present institutions and to promote the establishment of such institutions on a regional, sub-regional or national basis;
- To undertake feasibility studies for the production of man-made fibres, with particular reference to raw materials required and their influence on production based on natural fibres;
- To assist in advising on adequate plant size, types of products, selection of raw materials and machinery.

59. Two of the Symposium recommendations with respect to the textile industry have been given particular attention by UNIDO. An international in-plant training activity has been established at Łódź in co-operation with the Polish Government. Increasing attention has also been given by UNIDO to the production of man-made fibres. This latter work is expected to expand, particularly as competition for arable land with food crops increases the production cost of natural fibres. Thus, the possibility exists of improving both the agricultural and industrial economies through judicious planning of man-made fibre production.

Building materials and construction industries

60. A number of recommendations were addressed to UNIDO with regard to the building materials and construction industries. In particular it was recommended that:

- UNIDO, on request, should assist in drawing up national and regional long-term programmes for the production of building materials having regard to plans for construction industries and surveys of relevant natural resources;
- UNIDO should assist in the establishment of testing and training centres for a more efficient use of traditional and modern building materials and the setting-up of research facilities to promote the application of modern production techniques;
- UNIDO, in co-operation with other international organizations, should advise developing countries regarding the organizational, administrative and contractual set-up in their construction industries in order to improve performance and efficiency and to promote standardization;
- UNIDO should, on request, assist developing countries in the establishment of design organizations and in setting up working groups to promote designing activities in accordance with local conditions.

61. Particular attention has been given by UNIDO to the Symposium recommendations that higher priority be given to the building materials industries and to the promotion of the better utilization of raw materials. Work has already been undertaken on prefabricated housing components, the plate glass and glass container industry, the use of plastics in building materials, the use of reinforced building materials etc. An expert working group to develop the fibro-cement industries in the developing countries was organized in Vienna in October 1969. UNIDO continued to assist the developing countries in feasibility studies on the establishment of building materials industries and in improving existing plants. Assistance was also provided in the fields of glass, dressed stone, refractory products and building panels.

62. Most UNIDO activities have been designed to assist those industries which produce building materials rather than to assist the construction industry which consumes building materials. The United Nations Centre for Housing, Building and Planning gives some assistance to the construction industry. In general, however, little attention has been paid to date by any international organization to the specific recommendation regarding the promotion of the construction industry.^{12/} The Athens Symposium underlined the importance of the promotion of the construction industry, particularly in the newly developing countries, in that this industry may offer employment and investment opportunities for indigenous entrepreneurs and managers. As resources become available, UNIDO will be examining ways of contributing to the implementation of this recommendation.

Prototype commercial plants (i.e. "demonstration plants")

63. The delegates at the Symposium suggested that UNIDO assist the developing countries in the establishment of "demonstration plants" (prototype commercial plants), and in particular that:

- UNIDO and UNDP should render assistance to the developing countries in establishing, where appropriate, demonstration plants utilizing improved or alternative methods of production of basic chemicals and petrochemicals;
- UNIDO should undertake to install pilot plants and equipment, particularly for the production and application of liquid fertilizers and pesticides, and formulation plants for pesticides and growth-control agents;
- UNIDO should examine the feasibility of smaller-scale local cement plants having regard to the high transport costs for imported cement.

64. An expanding programme for the transfer of new technologies through the establishment of prototype commercial plants is being implemented by UNIDO. A UNDP/SF project for an experimental production plant for asbestos processing has been approved for Bolivia; a pilot plant for pyrethrum production for Rwanda; a fertilizer plant for Togo; and a demonstration pesticide production plant for Egypt. Further innovative applications of this recommendation are being explored in order to accelerate the practical application of new technologies.

^{12/} See ID/B/56 (Fourth consolidated report) and ID/B/57 (Analytical report of the activities in the field of industrial development of the United Nations system of organizations).

Standardization and quality control

65. The Symposium recommendations regarding standardization and quality control stressed:
- The need for accelerating the establishment of institutional machinery to formulate national standards;
 - The importance of the proper initial choice of certain fundamental standards in order to eliminate difficulties and costs associated with a later change-over (e.g. metric or imperial systems).
66. During 1969, most of the operational projects of UNIDO in the field of standardization were in the Asian region. Since then UNDP/SF projects for promoting standardization have been undertaken elsewhere; these projects are being implemented in co-operation with UNESCO. UNIDO is also actively co-operating with ISO in implementing its programme of work. In 1971, UNIDO organized a training workshop in Africa, to be continued on an annual basis, for personnel responsible for quality control connected with the central testing laboratories of Governments. This workshop dealt with the various elements of quality control as well as with the appropriate organizational structure.

SELECTED RECOMMENDATIONS FROM COMMITTEE III: GENERAL ISSUES OF INDUSTRIAL POLICY AND INTERNATIONAL ASPECTS OF INDUSTRIAL DEVELOPMENT - COUNTRY SURVEYS

67. The International Symposium made a number of recommendations in regard to policies and measures in developing countries and suggested in particular that UNIDO should assist the developing countries in the formulation and implementation of industrial projects, and participate actively in industry survey missions. Following these recommendations UNIDO has initiated and completed some 30 country surveys to date, their main objective being to review past performance, identify potential for future industrial development, identify follow-up technical assistance and train local counterparts. This activity will be accelerated during the 1970s as part of UNIDO's work in the Second United Nations Development Decade.

Social aspects of industrialization

68. The Symposium addressed the following recommendations to UNIDO with regard to social aspects:
- UNIDO should consult with the appropriate United Nations agencies in the formulation of technical assistance policies for the developing countries in matters relating to social infrastructure designed to serve the requirements of industrial development;
 - Its experts should consider the social aspects of industrial development in their formulation of technical assistance recommendations;
 - UNIDO should publish a list of international or national institutions and organizations in the developing countries which are capable of rendering technical assistance regarding the social and health aspects of the establishment of specific industries;
 - It should examine and disseminate pertinent data regarding the social aspects of various stages of the industrialization process, in consultation with the appropriate United Nations agencies.

69. While UNIDO is very much aware of the importance of the social aspects of industrialization, it has not been possible to do substantial work in this area. The broader problem of incorporating social development considerations into industrial development planning has so far proved intractable. While it should in theory be possible to incorporate many social considerations into industrial programmes (which should, in turn, reduce the need for external social development activities), in practice this is most difficult to achieve. However, the trend toward increased consideration by industrial planners of the problems of unemployment, urban-rural disparities and housing indicates that progress can be made.

Industrial programming

70. The Symposium made four specific recommendations on industrial programming, to be carried out in co-operation with appropriate international, regional and other agencies, inviting UNIDO to:

- Explore immediately the possibility of putting into effect a "data bank" service in order to create permanent effective machinery for the systematic centralization and exchange of information;
- Assist in improving and rationalizing methods and means for compiling and evaluating industrial programming data for developing countries;
- Dispatch special experts to help developing countries in project planning and in working out programmes for their implementation;
- Develop a sustained programme of training courses for personnel in developing countries in industrial planning, the preparation and evaluation of identified projects, the programming of the implementation of such projects and their follow-up.

71. UNIDO has shaped its activities in industrial programming, project planning and industrial regional co-operation in accordance with the above recommendations. Some 130 technical assistance field projects falling under this heading were in operation in 1971.

72. In November 1969, UNIDO organized an international working party on industrial programming data which considered, in particular, a proposal for an industrial programming "data bank". In its deliberations, the working party agreed that a well-conceived programme in the field of industrial programming data should be established and operated on a national level by and for the national authorities, and that an industry file system on a pilot basis should be structured by UNIDO for a given country. Accordingly, in late 1969, UNIDO organized at Nairobi, in co-operation with the East African Community, an East African working party on industrial programming data whose main aim was to elaborate this data bank proposal further. The working party agreed on a general methodology and a set of organizational principles to be followed in subsequent field activities for the final development and implementation of specific IFS (industry file system) projects.

73. The existing UNIDO industrial data programming project, the Profiles of Manufacturing Establishments, was expanded between 1967 and 1969 to provide 600 case studies from fourteen countries for programming purposes, and three volumes were published. Simultaneously with this expansion of the original Profiles series, a parallel programme, the Analytic Industry Profiles, was developed. These Profiles differ from the older series in that they provide techniques for active study and diagnosis of the problems of industrial plants.

Promotion of industrial financing

74. Many delegates at the Symposium felt that the major barriers to more rapid industrialization of developing countries were the inadequate levels of foreign financial assistance and technical assistance. While stressing the concept of self-help, they considered that increased international action would be most important to the industrialization efforts of the developing countries. International steps to promote foreign investments, it was suggested, should be supported by the appropriate international bodies, and might include the promotion of methods, criteria, organizational forms and conditions for the financing of industrial programmes and projects.

75. Following the Symposium recommendations, UNIDO has given increased attention to promotional activities^{13/} in organizing investment promotion meetings where both "buyers" and "sellers" from the developing and industrial countries can meet. UNIDO acts strictly as an intermediary. A national meeting devoted to external financing was organized in 1969 at Tunis and another regional meeting for the African countries was organized in the same year at Rabat. So far four regional meetings have been held, two in Africa and two in Asia. Another national investment promotion meeting is planned for 1972.

76. The Athens Symposium also recommended that UNIDO assist in the formulation of prototype financial arrangements which might be used for bilateral and multilateral negotiations. The objective of these agreements is to help promoters of a project in a developing country to obtain the best terms and conditions and to assist the parties concerned in negotiating and drafting joint venture agreements. UNIDO has already published a document on joint venture agreements and another one is planned on technology contracts.

77. The Symposium recommended, to encourage domestic savings, that:

- Governments of developing countries should encourage the retention within industry of a reasonable percentage of profits, offer guarantees to financial institutions to cover part of their industrial risks, and promote efficient domestic financial institutions;
- UNIDO, at the request of Governments, should co-operate with the appropriate international financial institutions in giving assistance to developing countries in achieving the above aims.

78. The work of UNIDO in assisting industrial financing institutions to solve problems encountered in their initial operations has been expanded considerably. UNIDO is assisting six new industrial financing institutions to overcome their initial problems and is also providing various expert services to eight other financial institutions. It is also drafting prototypes of by-laws for industrial development banks.

^{13/} The term "promotion", as used in this context, refers to those activities of UNIDO which bring together interested persons and institutions from the developing countries on the demand side and their counterparts from the developed countries on the supply side in relation to the various prerequisites of the industrialization plans and programmes of the developing countries.

79. In order to promote an exchange of experience, a meeting of representatives of 60 development and investment banks from both developed and developing countries was held in Paris in 1970. UNIDO was requested by the representatives to prepare concrete proposals for the establishment of a mechanism to facilitate the exchange of experience between the various institutions; this was the subject of a meeting on industrial financing institutions organized by UNIDO in 1971 in Copenhagen.

Regional co-operation

80. The relevant Symposium Committee, in dealing with this item, considered, in particular, what ways and means could appropriately be adopted at the regional, subregional or interregional levels for promoting industrial co-operation. It recognized the importance of such co-operation as an essential factor in achieving rational industrial development. It was suggested specifically that UNIDO should:

- Strengthen its relationships with the regional economic commissions, UNESOB and the intergovernmental organizations concerned;
- Appoint, in addition to field advisers in individual countries, regional liaison officers at the headquarters of regional commissions;
- Participate actively in industry survey missions and other similar activities when the regional commissions so recommended;
- Assist in the preparation of regional symposia or regional conferences on industrialization organized by the commissions.

81. Following the above recommendations, considerable efforts have been and are being devoted by UNIDO to problems concerning regional co-operation for industrial development both in direct field activities and in supporting activities. For example, in response to a request received from the RCD (Regional Co-operation for Development) countries,^{14/} a team consisting of a project manager and an industrial economist is being sent by UNIDO. They will prepare studies on the basis of which the three participating countries will take decisions on locational distribution of given projects and on a mechanism for suitable co-operative arrangements.

82. In addition, an interregional seminar on industrial location and regional development was held in Minsk in 1968. It dealt in particular with regional development problems within the developing countries, but the issue of regional co-operation and multinational co-ordination of development plans was also discussed.

83. An expert working group on regional co-operation in the field of industrial development was organized by UNIDO in 1971 in co-operation with UNCTAD and five subregional groups.

^{14/} Iran, Pakistan and Turkey.

CONCLUDING OBSERVATIONS

84. UNIDO has taken into account many of the recommendations of the Symposium along with the guidance and directives received from the Industrial Development Board and the General Assembly. The Industrial Development Board has already suggested that its discussions and recommendations provide in general an evaluation of progress as called for in General Assembly resolutions 2178(XXI) and 2577(XXIV).

85. The question, however, is not simply whether the recommendations have or have not been duly implemented, but whether the present level of implementation by all countries and by all organizations is sufficient to meet the challenge of the Second United Nations Development Decade. The deliberations and recommendations of the International Symposium might provide a basis on which priorities for action in the 1970s can be formulated. These can be stated as follows:

- International co-operation for industrialization;
- Mechanism for implementation of industrialization programmes in the 1970s;
- Development of skills and attitudes and refinement of the objectives of industrialization.

These "priority issues" do not by any means represent all the objectives to be attained if industrial growth is to be accelerated in all developing countries. Rather, they may serve to illustrate a more systematic approach to the task of ensuring the effective attainment of development objectives. A brief review of these priority areas is relevant to the discussions at the Athens Symposium and it is hoped that, by focusing attention on these issues, one might facilitate a sustained joint effort to meet the objectives of International Development Strategy in the field of industry.

INTERNATIONAL CO-OPERATION FOR INDUSTRIALIZATION

86. At the International Symposium the theme of international co-operation to promote the industrialization of the developing countries was accorded high priority, and it is likely to remain a priority issue during the Second United Nations Development Decade. The discussions covered the flow of public and private capital into and the flow of industrial goods out of the developing countries; the related flow of industrial information on technology and scientific discoveries on which to base new technologies; and co-operative action to increase these flows. Further co-operation among all countries during the 1970s in aid of industrialization could accelerate the industrialization process and also reduce the present polarization of countries into "industrializing" and "industrial" groups. The rate of transfer of skilled personnel, capital, technology, industrial products and, in particular, industrial information could grow both among the industrializing countries at various stages of development and between the developing and the industrialized countries. As the tradition and modes of co-operation are developed it will be increasingly recognized that many additional countries can contribute

effectively to the international pool of industrial specialists; that the financial needs of a project in one country can be an investment opportunity for another; that the shortage of equipment in one country can stimulate sales by another; that a new export potential for industrial goods on the part of one developing country may mean a lower-cost import source for another country, either a regional neighbour or a more distant country - industrial or industrializing. Scope also exists for increased accumulation and transfer of information on successfully applied technologies, the structure of institutions, and industrialization strategies capable of being adapted within the industrializing world.

87. The principal task for the 1970s, then, is to strengthen this co-operative effort among the various countries: by removing the barriers to the various types of transfer; by exploring new relationships among industrial enterprises, financial and technical institutions and Governments to facilitate this transfer; and by seeing that international organizations undertake even more innovative promotional activities. This objective may become the corner-stone for a concerted action programme in the industrial field for the Second Development Decade.

MECHANISMS FOR IMPLEMENTATION

88. International co-operation in promoting an increased transfer of resources and exchange of experience is one means of bringing about accelerated industrialization. A supplementary approach is to improve the mechanisms and procedures for deploying the resources or employing them as effectively as possible. The Symposium suggested a number of actions in this connexion. The idea of the establishment of National Committees for UNIDO took shape at the Symposium. Attention was also given to possible improvements in the administrative machinery for industrialization and it was suggested that the civil service systems in the various developing countries might have to be modified to meet the requirements of accelerated industrial growth. Particular attention was given to the possibility of an expanded role for implementation activities by the commercial sector organizations - that is, by chambers of industry, co-operatives etc.

89. Many of the industrialized countries as well as a number of the developing countries are experimenting with new or improved mechanisms for providing technical and financial assistance. Public and private institutions and enterprises are being brought into this transfer process. New forms of co-operation with international organizations are being examined increasingly by donor countries. The international organizations have also established or are considering the establishment of new or improved mechanisms. The UNDP Capacity Study may well result in organizational innovations designed to bring about the more effective deployment of multilateral assistance to the developing countries. Many of the developing countries have also been examining new mechanisms for the utilization of technical and financial assistance for the accelerated implementation of their respective industrial development programmes.

SKILLS AND ATTITUDES

90. The Symposium gave special attention to three aspects of the development of industrial skills. The first had to do with the relationships between the needs of industry for skilled personnel at all levels and the plans being made to impart the exact skills required. Here the

Symposium was most specific in suggesting that the proper utilization of skills was at least as important as the creation of new skills. Secondly, the Symposium considered how industry in any given country might participate more fully in education and training activities directed towards preparation for work in industry. As a result, plans for "in-plant" training were given further impetus. Thirdly, concern was expressed that attitudes favouring more rapid industrialization should be developed further. For example, the Governments of the developing countries and UNIDO in particular were asked to assist in the "training of entrepreneurs". All the above could be facilitated by the temporary loan of specialists; the Symposium recommended that UNIDO establish special facilities for the speedy recruitment of competent technical assistance personnel.

91. The increased demand for industrial personnel anticipated during the Second United Nations Development Decade has heightened the concern already expressed at the Symposium. It is realized increasingly that any action directed towards a higher rate of industrial growth requires effective instruments for its implementation - skilled and motivated administrators, managers, technicians and workers. All countries, industrial as well as industrializing countries (and this applies also to international organizations), are short of these skills. A much greater effort is needed to develop the attitudes required for efficient modern industry. The pace of industrial development anticipated during the Second Development Decade requires accelerated training in the most practical way possible of the vast numbers of individuals expected to be drawn into the industrialization process.

92. The social and particularly the behavioural sciences are now producing new educational technologies which are potentially just as important to the broader industrialization process as the more familiar engineering technologies. These new technologies may facilitate the implementation of some of the recommendations made during the Symposium. New forms of in-plant training, of occupational education and training in organization development and of achievement training for industrial leaders are being introduced. The specialized training of industrial consultants and their more general utilization can help to disseminate skills over wider areas.

93. The task for the 1970s is thus to improve the level of skills, increase the number of skilled individuals, assist in the development of new attitudes and at the same time discover how to relate training more exactly to the requirements of industry.

REFINING THE OBJECTIVES OF INDUSTRIALIZATION

94. A number of developing countries, having achieved relatively high industrial growth rates, are turning their attention to the "quality" of the resulting industrialization. Others are also concerned with "quality" with respect to the most effective utilization of resources or to the achievement of social as well as economic growth. Thus certain of the questions discussed at the Symposium take on added significance as developing countries refine their objectives and development strategies in preparation for accelerated growth during the Second Development Decade.

95. A selection of these questions follows:

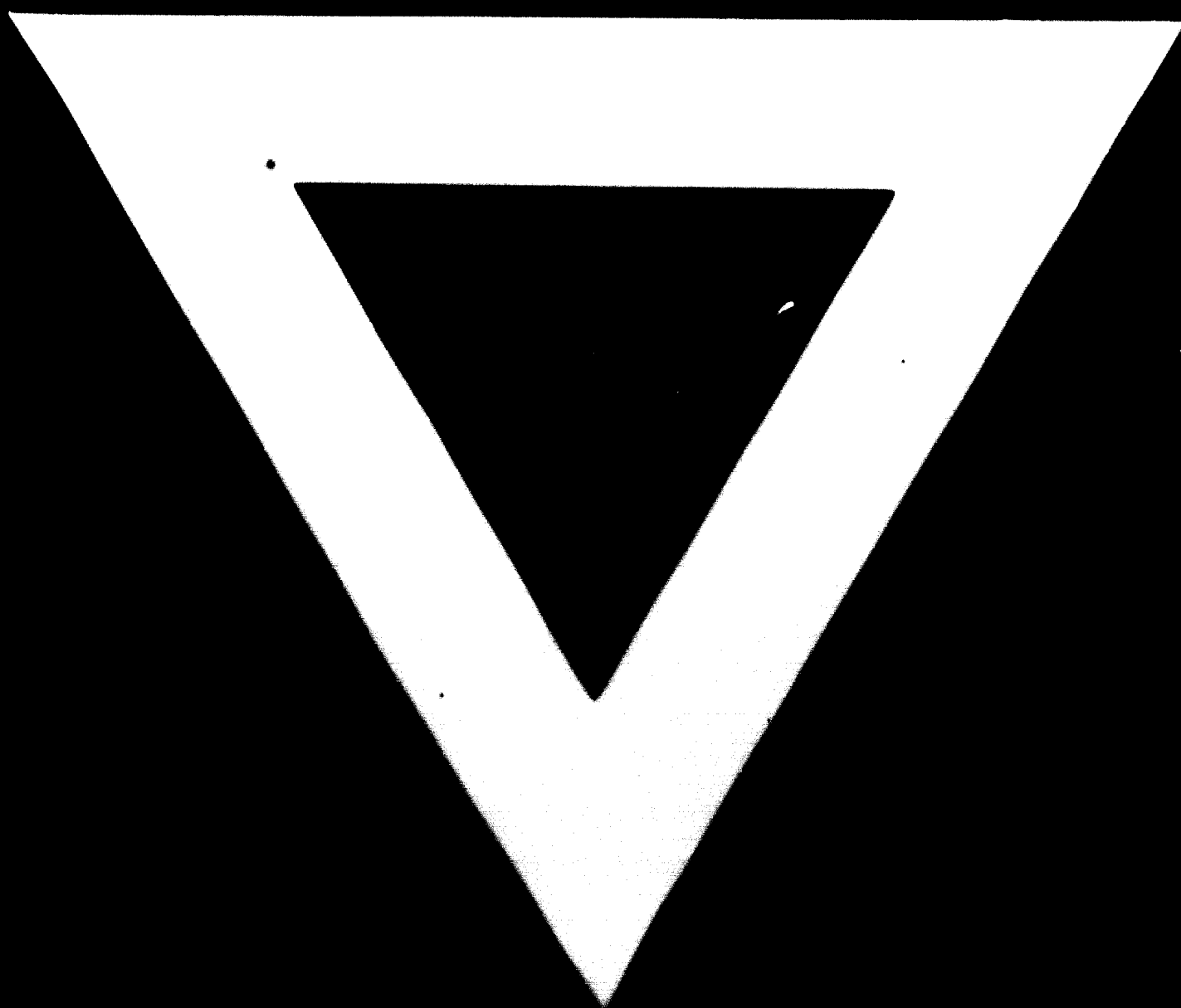
- To what extent has industrialization been instrumental in ameliorating basic social problems, namely unemployment, poor housing and poverty?
- Can the integration of industry into the whole economy, particularly with respect to agriculture, be improved?
- Is the structure of industrialization, as now established in the developing countries, preparing the way for a reduction in the foreign debt burden and an improvement in the balance of payments?
- Is there a possibility in the near future of improving the quality of manufactured products and making them competitive in international trade?
- What more can be done to reduce capital requirements through better utilization of the present industrial equipment and through the selection of more appropriate industrial technologies?
- What may be done through industrialization to reduce the growing income disparities in most countries between the metropolitan and non-metropolitan areas?

96. These are some of the basic questions of substance concerning the process of industrialization. They need to be examined and consideration needs also to be given to the mechanism for such examination.

ANNEX

**LIST OF UNIDO MONOGRAPHS ON INDUSTRIALIZATION OF
DEVELOPING COUNTRIES: PROBLEMS AND PROSPECTS**

<u>Title of publication</u>	<u>United Nations Publication Sales No.</u>
Non-ferrous metals industry	E.69.II.B. 39, Vol.1
Construction industry	E.69.II.B. 39, Vol.2
Building materials industry	E.69.II.B. 39, Vol.3
Engineering industry	E.69.II.B. 39, Vol.4
Iron and steel industry	E.69.II.B. 39, Vol.5
Fertiliser industry	E.69.II.B. 39, Vol.6
Textile industry	E.69.II.B. 39, Vol.7
Chemical industry	E.69.II.B. 39, Vol.8
Food-processing industry	E.69.II.B. 39, Vol.9
Industrial research	E.69.II.B. 39, Vol.10
Small-scale industry	E.69.II.B. 39, Vol.11
Standardisation	E.69.II.B. 39, Vol.12
Industrial information	E.69.II.B. 39, Vol.13
Manpower for industry	E.69.II.B. 39, Vol.14
Administration machinery	E.69.II.B. 39, Vol.15
Domestic and external financing	E.69.II.B. 39, Vol.16
Industrial planning	E.69.II.B. 39, Vol.17
Regional co-operation in industry	E.69.II.B. 39, Vol.18
Promotion of export-oriented industries	E.69.II.B. 39, Vol.19
General issues of industrial policy	E.69.II.B. 39, Vol.20
Technical co-operation in industry	E.69.II.B. 39, Vol.21



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