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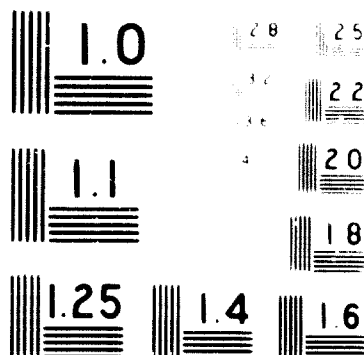
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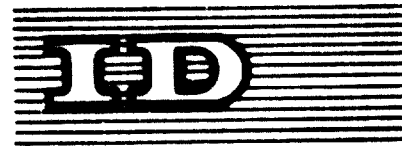
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Agenda Item 7

PROGRAMME OF WORK OF UNIDO
FOR 1968

Submitted by the Executive Director of UNIDO

We regret that some of the pages in the microfiche copy of this report may not be up to the proper legibility standards, even though the best possible copy was used for preparing the master fiche.

Prefatory note

This document is a reproduction of the Programme of Work of UNIDO for 1968 which has been submitted as a preliminary document to the Second Committee of the General Assembly in October 1967 (ID/B/20). It is the same as the October 1967 document except for minor editorial changes and corrections of printing errors.

Since the preparation of this document, the operational programme for 1968 has undergone certain changes through the addition of new projects and the elimination of some projects which have been withdrawn from the programme. Moreover, a limited number of supporting projects have been introduced in the programme of meetings and research, following the recommendations of the International Symposium on Industrial Development. These changes are contained in an addendum to the Programme of Work for 1968 which is submitted to the Board as document ID/B/20/Rev.1/Add.1.

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Introduction

1. This work programme is submitted in response to Resolution ID/B/Res/1 (I) approved by the Industrial Development Board at its first session in May 1967. (Annex 6).
2. The guidelines for the UNIDO work programme established by the Industrial Development Board put the emphasis on operational activities in the field and on the expediting of implementation of projects already approved. The Board recommended that the related activities in the form of expert meetings, seminars, workshops and supporting studies and research be action-oriented and correspond to the needs of the field. It was further recommended that the programme have a dynamic orientation corresponding to the promotional function of UNIDO and its central co-ordinating role in the field of industrial development; in particular, that the field operations and supporting activities provide an impact and leverage effect so as to promote and stimulate industrial projects in the countries involving the input of much larger resources. Finally, it was considered that information on the activities of UNIDO should be given wide diffusion and brought to the attention of governments of developing countries so as to induce them to make the widest use of the facilities offered by the UNIDO programme.
3. The Board requested that the work programme be presented in a form that would enable it to get an over-all view, in terms of budgetary implications, of the activities of UNIDO.
4. The functions entrusted to UNIDO involve substantially the following activities:
 - (a) Field assistance to governments upon their request, in the form of expert services, fellowships and equipment, this assistance to be financed from the resources of the various United Nations technical assistance programmes. The direct support of these activities is provided by the staff of the relevant substantive units of UNIDO Headquarters.
 - (b) Experts meetings, seminars and symposia, designed to give further background support to field assistance through collection, analysis and dissemination of information and know-how, this to be financed either from the resources of the technical assistance programme or from allocations from the regular UNIDO budget.
 - (c) Research, surveys and studies carried out by the substantive units at Headquarters and financed mainly from the regular budget.

Special factors affecting the 1968 work programme

5. The attention of the Board is drawn to certain factors that had to be taken into account for the preparation of this programme. In 1967, the first year of the establishment of UNIDO, the new organization had to contend with a number of major organizational problems: first, the establishment of the new autonomous organization which implied the setting up of a new administrative and managerial machinery for services formerly provided by the United Nations Secretariat; second, the physical move of the UNIDO facilities to Vienna, which involved a certain degree of dislocation of its facilities, primarily because of loss of staff members who were unable for a variety of reasons to share in the move; and third, the additional claims on the secretariat resources in connexion with the organization of the International Symposium on Industrial Development which was held in Athens at the end of the year.

6. As regards the operational programmes, because of the programming procedures, a number of projects in the industrial field were taken over by UNIDO in an already committed form for implementation in 1967, and many of these projects have been carried over into 1968. This is particularly the case for field projects under the UNDP technical assistance programme (formerly EPTA) which was approved in 1966 for the biennium 1967-1968. The projects approved under the Regular Programme for implementation in 1968 were also already established by early 1967. In addition, at the time of the initiation of the activities of UNIDO in January 1967 there were in the pipeline of the former Centre for Industrial Development (C.I.D.) eighteen Special Fund projects in the field of industrial development, which were taken over by UNIDO as executing and participating agency. Under the circumstances the largest part of UNIDO technical co-operation activities to be implemented in 1968 results from programmes in existence prior to the establishment of UNIDO. In addition to new projects that may be expected in 1968 under the contingency allocation, and possibly the UNDP Special Fund programme, only the programme of Special Industrial Services is likely to be a major source of new projects for implementation in 1968. In the implementation of the field programmes in 1968, as well as in the programming of operational activities for the succeeding years, full account will be taken of the recommendations of the Board.^{1/}

^{1/} By the end of 1967 UNIDO had taken over full responsibility for implementation and programming of the technical assistance operations in industry from the United Nations Department of Economic and Social Affairs.

7. It is expected that 1968 will be another transitional year. Allowance will have to be made for a certain degree of adjustment following the transfer of the operations of UNIDO to its new Headquarters; the considerable turnover in staff resulting from the transfer and the serious recruitment problems involved in the filling of vacancies in the professional staff category in a field where the market situation in personnel is extremely tight. As a result, the implementation of the programme of work in 1968 will have to be built up gradually as new staff is recruited and becoming familiar with the work; as necessary contacts with governments, industry and professional associations are being established and developed; and as the operational programme is gaining momentum as a result of the promotional activities of the organization. The programme presented in this document should be considered in this perspective.

8. The programme of work for 1968 has been established on the basis of information available to the Secretariat at the time of its preparation in August 1967. The drafting of the programme reflects the preoccupation of providing it with a certain amount of flexibility so as to allow for adjustments which may be necessary in the circumstances. New operational projects, particularly under the Special Industrial Services programme, will continue to come in during the year, and it is also expected that a certain number of projects under the Special Fund, now in the process of discussion with the governments concerned, will come up in the meantime. The programmes of supporting activities are also likely to be affected by the recommendations of the International Symposium for Industrial Development.

Co-ordination with other United Nations bodies

9. A few remarks appear to be in order concerning the co-operation and co-ordination of the activities of UNIDO in the field of industrial development with those of the other bodies and organizations of the United Nations family.

10. There is close co-operation and consultation with the secretariats of the regional economic commissions as regards activities of UNIDO in the respective regions. A number of meetings and research projects are being implemented at the present time and planned for implementation in 1968 jointly with the industrial development units of the secretariats of the regional commissions and the United Nations Economic and Social Office in Beirut.

11. As regards the co-operation and co-ordination of activities with the specialized agencies, it should be borne in mind that no industrial sector operates as a self-sustained unit independent from the rest of the industrial economy. It is essential that proper linkages be established with both the preceding and succeeding stages of industrial activities since products of one sector represent in many cases inputs into another, and the proper operation of any industrial activity is conditioned by that of the other related sectors.
12. There are a certain number of areas in the field of industrial development in which some specialized agencies, in particular FAO and ILO, have established activities in which they have engaged for some time, for example pulp and paper and the forest and food processing industries as regards FAO, and training and management as regards the ILO and to some extent UNESCO. These agencies have acquired a certain amount of experience in the conduct and implementation of field projects and supporting studies in those areas. UNIDO recognizes the value of this experience and is ready to co-operate with these agencies in the fields of common interest. At the same time, UNIDO has definite responsibilities over the entire field of industrial development under its established terms of reference which provide it, in particular, with a central role in this field.
13. In operational terms, the central role function implies that even in those sectors in which some of the specialized agencies have been maintaining operational and related support activities, UNIDO must comply with its responsibility for assisting governments in the over-all programming of their industrial activities, which involves in particular the proper integration of these sectors into the general industrial structure referred to earlier.
14. In the field of co-operation with the specialized agencies there is also considerable room for complementary programmes. As an example, in the case of fertilizers, it is envisaged that a co-ordinated work programme of FAO and UNIDO will be developed under which FAO would deal with the agricultural aspects of the input of fertilizers and UNIDO with the industrial aspects of promotion and establishment of fertilizer industries in the developing countries. The same pattern would be followed in food processing, where FAO would be involved in promotion of production of the agricultural raw materials and UNIDO in the industrial and engineering aspects of their processing. The co-operation with UNCTAD in the field of export promotion of manufactured goods is based on similar complementary arrangements.

15. Consultations have been initiated with the specialised agencies concerned on the development of inter-agency arrangements, with the participation of the UNDP, for the periodic review and evaluation of the technical assistance programmes in the field of industrial development on a region-by-region or country-by-country basis. The purpose of this mechanism would be to facilitate concerted action in the field and to harmonize in the long run, and in accordance with the countries' development plans, all the technical co-operation activities related to industrialization.

16. These consultations also cover the establishment of formal inter-agency arrangements for reviewing matters of mutual interest including further development of mutual exchange of information through existing procedures, such as the Consolidated Report, and the possibility of broadening the scope of these procedures so as to include information on future programmes and the preparation of analytical reports on activities related to industrial development, as recommended by the Industrial Development Board.

17. Following the recommendation of the First Session of the Industrial Development Board that the links of UNIDO with the field should be strengthened, a certain number of field advisers will be posted in 1968 to selected countries of the four regions, Africa, Asia and the Far East, the Middle East and Latin America. These advisers will assist the Resident Representatives in the countries of the areas for which they are responsible in technical assistance matters and facilitate the contacts of UNIDO with the government agencies or institutions responsible for industrial development and industrial establishments, both public and private. A document to be issued for information of the Board will provide the details of this operation.

Format of the work programme

18. The work programme is presented in two parts. Part I contains a summary review of UNIDO activities programmed for 1968, in the form of synoptic tables accompanied by explanatory text and arranged by the various categories of programmed activities: (a) Field activities; (b) Meetings; and (c) Research surveys and studies.

19. Part II contains the details of the programme arranged by main groups of activities, classified for this purpose by the areas of responsibilities of the three substantive divisions of UNIDO: the Industrial Technology Division, the Industrial Services and Institutions Division and the Industrial Policies and Programming Division (Annex 5). The material under each group is preceded by a section entitled

"General Remarks" which gives a general statement of the nature of the problems in the respective area and an outline of the corresponding activities of UNIDO. This is followed by a detailed description of the field projects; of the expert groups, seminars and other meetings; of the studies and other research projects; the co-operation with regional economic commissions where appropriate; and finally, a list of programmed publications.

20. Budgetary Implications of the Work Programme in terms of staff requirements are contained in Annex 1. Lists of Expert Group meetings; seminars; group training programmes and workshops are given in Annex 2; study and research projects in Annex 3; and Publications in Annex 4.

PART I SUMMARY REVIEW OF UNIDO ACTIVITIES PROGRAMMED FOR 1968

A. Field Activities

Breakdown of field activities by source of funds (Table 1)

21. The value of technical assistance operations in the field of industry, according to sources of funds, is shown in Table 1 below. Because of the differences in programming and operational patterns of the various United Nations technical co-operation programmes no precise global comparison is possible. The figures are therefore presented in the table by individual programmes (Sections A, B and C). For 1968 firm figures could be provided only for assistance under the Regular and UNDP technical assistance projects which are programmed in advance. The figures for the other programmes are estimates computed by extrapolation of past performance.

22. Total short-term and medium-term assistance shown in Section A is financed under the Regular Programme, the UNDP technical assistance (UNDP/TA) component (formerly EPTA) and Funds in Trust. This type of assistance increased from a yearly average of about \$2 million for the biennium 1963-1964 to a yearly average of nearly \$4 million for approved projects for 1967-1968. In the latter biennium, the value of UNDP/TA projects approved for 1968 is less than that for 1967. However, this decline is only apparent and results from the procedures used in programming for the individual years. While the programme is approved for the biennium as a whole, the funds are distributed over the two-year period in such a way as to avoid unspent allocations which are not transferable; as a result, the first year of the biennium is generally over-programmed.

23. In order to evaluate the magnitude of these programmes in their proper perspective the value of technical assistance in industry under the Expanded and Regular programmes should be related to the total value of assistance provided under these programmes by the United Nations family as a whole in all areas of assistance. Under UNDP/TA, the share of assistance to industry for the biennium 1967-1968 in the total programme (\$172 million) is approximately 3 per cent. Under the Regular Programme which amounted to \$6.4 million a year in 1967 and 1968, the share of UNIDO was approximately 16.5 per cent. In spite of the expansion in absolute terms in the volume of assistance to industry in recent years, the flow of assistance resources still falls short of the requirements of developing countries in this vital area.

24. The development of the Special Industrial Services (SIS) - a programme established in 1966 and devoted exclusively to assistance in industrial development - was the subject of a report to the First Session of the Industrial Development Board (ID/B/7 and Addenda 1-3) which noted that the SIS had considerably broadened the scope of aid available for industrial development and offered greater flexibility in programming and procedures of assistance, making it possible to comply with the special requirements of certain forms of assistance in industry. The requests for assistance approved under SIS in 1966 amounted to \$449,000. As the programme became better known and was gaining momentum, the cumulative value of approved requests reached as of the end of July 1967 the figure of \$1,607,175.^{2/} On the basis of that seven-month period, the volume of approved projects for the entire year 1967 is estimated at \$1,870,000; assuming the same rate of growth, the volume for 1968 may be estimated at \$3,740,000. (See Section B of Table 1 below).

25. Under the UNDP/Special Fund component, which provides teams of experts for long-term assistance in partnership with the assisted countries, UNIDO has at the present time the responsibility for eighteen projects as participating and executing agency. The cost of these projects totals \$36,163,100, including \$16,549,100 as the share of the United Nations and \$19,614,000 in contributions by the assisted countries. This form of assistance is presented in Section C of Table 1 in terms of annual flows in terms of the average annual value of the approved projects.^{3/} On this basis the value of the projects under the Special Fund programme was estimated at nearly \$7 million a year for 1967 and 1968.^{4/} For comparative purposes,

^{2/} The actual expenditures amounted to \$66,351 in 1966 and to \$403,648 in the first seven months of 1967.

^{3/} Total project costs divided by the number of years of the programmed operation from date of approval until completion of field operations.

^{4/} Some of the projects approved in 1966 and 1967 are expected to become operational in 1967 and 1968. To the extent that the time lags between approval and initiation of operations may be actually longer, the annual values of the projects in 1967 and 1968 are correspondingly over-estimated. At the same time, it was assumed that two projects (Algeria and Colombia) for which field operation had been completed in 1967, would be extended into Phase II in 1968.

reference is made to the United Nations expenditures actually made on the Special Fund projects under UNIDO's responsibility. The total cumulative expenditures since the approval of the industrial projects for which C.I.D. was the executing agency amounted to \$1,636,000 at the end of 1963; at the end of 1966, total cumulative expenditures had reached \$5,200,000; for 1966 they amounted to \$1,597,000.^{5/} The programme included seven projects in 1963 and nine projects in 1964 with the project in Bolivia subsequently cancelled on government request and two projects which have been completed in the meantime. Advanced negotiations are now in progress for the establishment of three new Special Fund projects in Bolivia, Turkey and the United Arab Republic and for the extension of two existing projects in Algeria and Colombia.

^{5/} The figures of actual expenditures relate to the United Nations contribution only, since data on the contributions of the assisted countries (which include services and contributions in kind, such as buildings) are not readily available.

Table 1

Value of technical assistance operations in
 the field of industry, 1961 - 1968
by source of funds

	<u>1961</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>
	<u>Expenditure</u>			<u>Approved projects</u>		
	Amounts in thousands of US dollars					
<u>Section A</u>						
Regular Programme	546	538	850	888	1,053	1,049
UNDP/TA (formerly EPTA)	1,254	1,599	1,472	2,142	2,927	2,230
Funds in Trust	63	100	186	175	300 ^{a/}	300 ^{a/}
Total Section A	1,863	2,237	2,508	3,205	4,280	3,579
<u>Section B</u>						
Special Industrial Services				449 ^{b/}	1,870 ^{b/}	3,740 ^{b/}

Average annual value of approved projects

<u>Section C</u>						
UNDP/Special Fund	2,116	2,636	3,761	5,804	6,950	6,950

^{a/} Extrapolated. ^{b/} = \$66,351 actual expenditures.

Sources:

Regular Programme; UNDP/TA; and Funds in Trust: Expenditures compiled from IDB/3/Add.2 and DP/RP/3/Add.1; approved projects compiled from DP/RP/3/Add.2; EP/TA/L.5, Parts I and II and DP/TA/L.12.

Special Industrial Services: 1966 approved projects represent the projects established during the first year of the programme (see ID/B/7). The value of approved projects for 1967 is estimated on the basis of the rate of growth observed during 1966 and the first seven months of 1967. It is assumed that in 1968, the value of approved SIB projects will be double that of 1967.

UNDP/SF: Total cost, comprising Governing Council earmarkings and contributions of the assisted countries, compiled from DP/SF Reports, Series B, No. 4, divided by the total number of years from the date of approval until completion of field operations.

Breakdown of field activities by geographical area (Table 2)

26. In view of the differences in programming procedures for the various technical assistance programmes mentioned in para. 21 above, the review of field operations by geographical areas relates necessarily to different base years for the various programmes. For the Regular and UNDP/TA programmes, the distribution by geographical areas applies to projects programmed for 1968. For the UNDP/SF component the breakdown is based on the estimated 1968 value of the eighteen projects currently being executed. For the SIS, where estimates for part of 1967 and 1968 were obtained by extrapolation of past performance, the geographical breakdown by areas was applied only to the projects on hand, i.e. projects approved in 1966 and the first seven months of 1967. The breakdown of the value of technical assistance to industry by geographical areas is shown in table 2 below.

27. Under the 1968 Regular Programme, 35.2 per cent of the assistance is directed to Africa, 23.6 per cent to Asia and the Far East, 15.4 per cent to Latin America, 11.5 per cent to Europe and the Middle East, 14.3 per cent to interregional projects. Under the UNDP/TA programme (formerly EPTA), 35.2 per cent of the assistance goes to Asia and the Far East, 22.1 per cent to Africa, 19.9 per cent to Latin America, 16.7 per cent to Europe and the Middle East area and 6.1 per cent to interregional projects. Under the SIS programme, the geographical distribution of the projects approved in 1966 and the first seven months of 1967 is as follows: 53.1 per cent to Africa, 19.6 per cent to Asia and the Far East, 11.3 per cent to Latin America, 15.3 per cent to Europe and the Middle East, 0.7 per cent to interregional projects. Of the total funds for the eighteen projects under the UNDP/Special Fund component, 36.8 per cent is for Africa, 26.1 per cent for Asia and the Far East, 12.2 per cent for Latin America and 24.9 per cent for Europe and the Middle East.

Table 2

Value of technical assistance in the field of
 industry by geographical area

Area and type of project	Regular Programme approved for 1968		UNDP/TA approved for 1968		SIS projects approved 1966 and Jan-July 1967		UNDP/SF annual average value of 18 projects	
	(a) \$000	Per cent	(b) \$000	Per cent	(c) \$000	Per cent	(d) \$000	Per cent
AFRICA								
Country	254.4	24.2	493.6	22.1	852.0	53.1	2,204	31.8
Regional	115.0	11.0	-	-	-	-	350	5.0
		<u>35.2</u>						<u>36.8</u>
ASIA AND FAR EAST								
Country	123.3	11.7	754.1	33.8	315.3	19.6	1,813	26.1
Regional	125.0	11.9	32.0	1.4	-	-	-	-
		<u>23.6</u>		<u>35.2</u>				
LATIN AMERICA								
Country	60.7	5.8	405.4	18.2	181.6	11.3	343	4.9
Regional	99.9	9.6	37.2	1.7	-	-	510	7.3
		<u>15.4</u>		<u>19.9</u>				<u>12.2</u>
EUROPE AND MIDDLE EAST								
Country	101.4	9.6	373.1	16.7	246.3	15.3	1,731	24.9
Regional	20.0	1.9	-	-	-	-	-	-
		<u>11.5</u>						
INTER-REGIONAL	150.0	14.3	135.0	6.1	12.0	0.7	-	-
Global total	<u>1,049.7</u>	<u>100.0</u>	<u>2,230.4</u>	<u>100.0</u>	<u>1,607.2^a</u>	<u>100.0</u>	<u>6,951</u>	<u>100.0</u>

^{a/} Assistance to approved SIS projects amounted to \$449,140 in 1966 and \$1,158,035 from 1 January to the end of July 1967. For reasons explained in the text, the geographical breakdown is based on the projects actually approved and not on the extrapolations.

Breakdown by industrial activities (Table 3)

26. As indicated above, the programmed activities of UNIDO are classified into fourteen groups. A breakdown of the projects according to this classification is of necessity somewhat arbitrary since in a number of cases a single project may cover more than one area of activity. This applies in particular to some UNDP/Special Fund projects which cover more than one industrial sector or more than one activity (e.g. petrochemicals and fertilizers; research and training).

29. As shown in Table 3 below, the funds under the SIS programme are applied predominantly to assist individual industries. Two thirds of all projects approved from the date of initiation of this programme to the end of July 1967 relate to this area. Because of the nature of the programme, this may be expected to be the case also in 1968. Among individual industries, the heavy industries loom large, with nearly one third of the assistance in this area going to mechanical and electrical engineering and metallurgical industries. The second greatest amount of assistance is for chemical and petrochemical industries (17 per cent), then light industries (12.5 per cent), fertilizers (4.3 per cent) and building materials (1.6 per cent). The assistance in industrial institutions and services, including management and training, absorb 20 per cent of the SIS funds, with nearly 14 per cent going to management and training. Fourteen per cent of SIS funds were programmed for projects in industrial planning and programming and related activities.

30. Under the earlier established programmes (Regular, UNDP/TA and Special Fund), the largest share was absorbed by Industrial Services and Institutions: approximately 60 per cent under the Regular Programme Projects for 1968, 43 per cent under UNDP/TA (formerly EPTA) and 43 per cent under the UNDP Special Fund component. The next largest share was for Industrial Policies and Programming projects, which absorbed an almost equal share of the three programmes - from 31 to 32 per cent of each as shown in Table 3 below.

Table 3

Value of technical assistance in industry (country projects)
and industrial activity

- in percentages -

<u>Industrial activity</u>	<u>Regular programme approved for 1968</u>	<u>UNDP/TA approved for 1968</u>	<u>SIS projects approved for 1966 and Jan-July 1967</u>	<u>UNDP/SF annual average value of 18 projects</u>
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- Amount for each activity as per cent of total -

Industrial Technology Division

1. Engineering	-	6.7	13.8	5.4
2. Metallurgical	1.1	6.1	15.2	-
3. Construction	-	1.2	2.6	-
4. Chemicals, petrochemicals etc.	0.3	8.4	17.2	13.1
5. Fertiliser	-	-	4.3	6.7
6. Light Industries	8.1	3.4	12.5	-
Total Ind. Tech. Division	9.5	25.8	65.6	25.2

Industrial Services and Institutions Division

7. Industrial Legislation	-	1.1	-	-
8. Industrial Research; Standardisation and Quality Control and Industrial Information	10.0	5.3	1.2	34.6
9. Industrial Consulting Services, Industrial Organization and Administration	-	1.4	-	-
10. Ind. Management and Training	20.1	26.0	13.8	-
11. Small-scale Industries and Industrial Estates	29.6	8.8	5.1	8.1
Total Ind. Services and Insts. Division	59.7	42.6	20.1	42.7

Table 3 (continued)

- in percentages -

Industrial activity	Regular programme approved for 1968	UNDP/TA approved for 1968	SIS projects approved for 1966 and Jan-July 1967	UNDP/SF annual average value of 18 projects
- Amount for each activity as per cent of total -				
<u>Industrial Policies and Programming Division</u>				
12. Industrial Planning and Programming; Project Formulation; Industrial Location and Regional Development	27.2	17.6	7.2	32.1
13. Investment Policies and Financing; Financial Planning	3.6	14.0	1.9	-
14. Expert Promotion; Development of Export Oriented Industries	-	-	5.2	-
Total Ind. Pol. and Prog. Division	30.8	31.6	14.3	32.1
Total all activities	100.0	100.0	100.0	100.0
Total value all activities in thousands of US dollars	539.8 ^{a/}	2,026.2 ^{a/}	1,607.0	6,950.0

^{a/} These figures relate to direct field assistance in country projects and therefore differ from the figures in Tables 1 and 2 which include regional and inter-regional projects.

The size of the field programmes in terms of experts and fellowships

(a) Experts

31. The number of experts and corresponding man-months under all technical assistance field projects programmes for 1968 under the various programmes, including the interregional projects, is as follows:

(a) Regular Programme	64 experts for a total of 502 man/months.
(b) UNDP/TA, including projects carried over from earlier approved programmes and contingency allocations	160 experts for a total of 1,200 man/months.
(c) UNDP/Special Fund projects	92 experts for a total of 1,000 man/months.

32. Because of the nature of the Special Industrial Services Programme, as indicated above, it was not possible to provide more than an extrapolated total volume of assistance for 1968. No estimate could be made of the expert component involved, particularly since the execution of the projects may require in some cases subcontracting to consultants. By way of illustration, and as an indication of the order of magnitude of the SIS programme, the figures below provide the information for 1966 and the first seven months of 1967:

1966:	68 experts for a total of 160 man/months
1967:	96 experts for a total of 265 man/months

(b) Fellowships

33. Training of nationals forms an important component of United Nations Programmes for technical assistance. Such training is provided by the experts in the field in the course of implementation of the projects, and through the participation of nationals of the developing countries in meetings, seminars, workshops and other group activities. However, the technical assistance field projects generally contain also a provision for fellowships so as to provide the opportunity for training

nationals in the activity covered by the project. These individual fellowships most of which are in the areas of industrial technology, management and export promotion, are distributed among the various programmes as follows:

Regular Programme	24
UNDP Technical Assistance	155
UNDP Special Fund	51

34. These figures provide only a partial picture of the training activities under the assistance programme, since additional fellowships are generally provided in the course of the year, being financed from savings in the programmes, and by contingency allocations from the UNDP Revolving Fund. The figures above also exclude Regional and Interregional projects which contain a large training component and the group training programmes which are treated separately. (See below Part II, Group 10(b).)

B. Expert group meetings, seminars, workshops and group training

(Table 4)

35. As indicated above, in addition to the direct field assistance provided through experts and fellowships, the programme of UNIDO provides background support to field operations by disseminating information and technical know-how through expert group meetings, seminars, workshops and group training programmes. Table 4 below gives a list of these projects; the details are given in Part II, Section B, under the relevant activity groups. The financial requirements of the activities planned under this heading total an estimated \$1,346,500. Against the planned requirements, an amount of \$172,000 is programmed under the UNDP/TA and Regular Programmes as Category I projects, while \$99,500 has been programmed from the UNIDO regular budget to cover the travel and subsistence of experts attending these meetings. There is thus a substantial gap between the planned programme load and the available funds, even assuming that the funds under the Category II projects will materialise in the course of the year. It is hoped that additional sources of finance will be found to close or at least to reduce this gap.

36. A breakdown of the expert group meetings, seminars, group training programmes and workshops by industrial activity and source of financing indicates that the Industrial Services and Institutions Division would absorb \$656,000 or more than half of total of \$1,346,500 provided for such projects. The share of the Industrial Services and Institutions Division includes the in-plant group training programmes at an estimated total cost of \$343,000 with \$125,000 from Technical Assistance funds Category I; \$130,000 Category II; and \$88,000 envisaged to be forthcoming from Technical Assistance funds not yet specified.

Table 4

Planning of expert group missions, seminars, group training and workshops in 1968 by industrial activity and sources of funds

- Amounts in US dollars -

Industrial activity	Allocations			Subject to availability of funds			Total Programme Load (a)-(g)
	UNIDC Regular Budget (a)	UNEP/TA Cat. I (b)	Total (a)-(b) (c)	UNIDC Budget (d)	Technical Assistance Cat. II (e)	Not yet specified (f)	
Industrial Technology Division (ITD)							
1. Engineering	-	-	-	8,000	-	58,000	66,000
2. Metallurgical	-	-	-	-	125,000	-	125,000
3. Construction	-	20,000	20,000	-	80,000	-	100,000
4. Chemicals	6,000	4,000	10,000	5,000	40,000	-	55,000
5. Fertilizers	10,000	-	10,000	20,000	-	-	30,000
6. Light Industries	16,000	-	16,000	-	-	-	16,000
Total ITD	32,000	24,000	56,000	33,000	245,000	58,000	392,000
Industrial Services and Institutions Division (ISI)							
7. Ind. Legislation	-	11,000	11,000	-	-	-	11,000
8. Industrial Res. Standards Information	-	12,000	12,000	-	-	50,000	62,000
9. Industrial Consulting etc.	20,000	-	20,000	12,000	-	-	32,000
10. Industrial Mgt. & Training: ((1) Group In-plant Training Prog. (11) Other Proj.)	-	125,000	125,000	-	130,000	86,000	343,000
11. Small-scale Ind.	15,000	-	15,000	91,000	-	50,000	156,000
	-	-	-	2,000	-	50,000	52,000
Total ISI	35,000	148,000	183,000	105,000	130,000	236,000	656,000

Table 4 (continued)

Expenditure of current account credits - ASSISTANCE - TECHNICAL ASSISTANCE, STUDY TRAINING AND WORKSHOPS IN 1968
BY INDUSTRIAL ACTIVITY AND SOURCE OF FUNDS

- Amounts in US dollars -

Industrial activity	Allocations				Subject to availability of funds				Total Programme Load (a)-(g) (h)
	UNIDO Regular Budget (a)	UNEP/TA Cat. I (b)	Total (a)-(b) (c)	UNIDO Budget (d)	Technical Assistance			Total (d)-(f) (g)	
					Cat. II	Not yet specified (f)	Total (d)-(f) (g)		
<u>Industrial Policies and Promoting Policies (IPPs)</u>									
12. Ind. Planning	14,500	-	14,500	-	80,000	10,000	90,000	104,500	
13. Investment Policies	18,000	-	18,000	-	-	-	-	18,000	
14. Export Promotion	-	-	-	16,000	-	152,000	168,000	168,000	
Total IPPs	32,500	-	32,500	16,000	80,000	162,000	258,000	290,500	
GRAND TOTAL	99,500	172,000	271,500	154,000	455,000	458,000	1,067,000	1,338,500	

C. Research, surveys, studies and publications

(Table 5)

37. The studies and research activities are planned primarily to provide background support for the other activities; in particular, they provide part of the documentation of the various expert groups and meetings discussed above. A number of studies are prepared for publication in the established periodicals and series published by UNIDO. The studies and research are undertaken by the regular staff, assisted in a number of cases by consultants, who are experts in their respective fields. The total amount of funds programmed for 1968 in the UNIDO budget to provide for consultants and experts under this category is estimated at \$283,000 (at the same level as in 1967). The amount programmed in 1968 for printed publications (sales items) is \$179,150. In addition, a number of published documents will be processed internally. Table 5 below gives a summary of the 1968 budget of consultants and publications by activities. A detailed presentation of studies, research and publications is given in Part II under Sections C and E of the relevant groups.

Table 5
Studies by consultants and printing programme, 1968

<u>Industrial activities</u>	Consultant Studies Estimated Cost	Printing Programme		
		Periodicals and series	Other	Total
<u>Industrial Technology Division (ITD)</u>				
1. Engineering	5,000	g/	g/	g/
2. Metallurgical	7,000	-	-	-
3. Construction	9,000	-	10,400	10,400
4. Chemicals, etc.	15,000	-	18,000	18,000
5. Fertilizer	12,500	-	12,050	12,050
6. Light Industries	16,000	-	-	-
Total ITD	64,500	-	40,450	40,450
<u>Industrial Services and Institutions Division (ISID)</u>				
7. Industrial Legislation	-	-	-	-
8. Industrial Research, etc.	30,000	9,200	6,500	15,700
9. Industrial Consulting, etc.	-	-	7,300	7,300
10. Industrial Management, Training	37,000	-	4,700	4,700
11. Small-scale Ind.	25,000	-	25,250	25,250
Total ISID	92,000	9,200	43,750	52,950
<u>Industrial Policies and Programming Division (IPPD)</u>				
12. Industrial Planning	54,500	21,150	64,600	85,750
13. Investment Policies	9,000	-	-	-
14. Export Promotion	18,500	-	-	-
Total IPPD	82,000	21,150	64,600	85,750
<u>General studies</u>	45,000	-	-	-
Grand Total	283,500	30,350	148,800	179,150

g/ The publication of the papers of the interregional symposium on the development of metalworking industries was approved in the 1967 printing programme at an estimated cost of \$10,000; the publication will be printed in 1968.

PART II DESCRIPTION OF THE PROGRAMME
BY GROUPS OF ACTIVITIES

38. As indicated in the Introduction, the programmed activities of UNIDO are classified in fifteen main groups, including a group for general research projects established as continuing activities (the groups are set out in Annex 5). It should be noted that some of the activities described overlap two or more of the groups; in such cases the main component of the activity determines the classification.

39. The description of UNIDO activities in the following pages is presented in the order of the fifteen groups, each group being preceded by general remarks on the problems involved and the corresponding activities of UNIDO. The general remarks are followed in each case by Section A: Field Projects; Section B: Expert Group Meetings; Section C: Studies and Research; Section E: Publications. For some of the activities a special Section D is included, on aspects of co-operation with regional economic commissions.

40. In addition, the programme includes some research activities of a continuing nature relating to across-the-board problems; these are carried out by two special units: The Industry Reporting Section of the Industrial Technology Division, and the Survey Section of the Policies and Programming Division.

41. The list of field projects presented in Section A under each group includes country projects only.^{6/} These are presented with a brief description of the purpose, an indication of the expert and fellowship component in terms of man-months, and the total cost of the project in 1968. The corresponding data for 1967 are indicated in cases where the activities under the project cover the biennium 1967-1968 and where these activities are spread over a number of years (as in the case of UNDP/Special Fund projects), or for projects approved in 1967 with implementation carried into 1968. Projects programmed for 1967 whose implementation was likely to have been completed before 1 January 1968 are excluded.

42. The field projects are listed by sources of finance. Projects approved under the UNDP/Special Fund sector are followed by the projects approved under the 1968

^{6/} The regional and interregional projects are discussed in Section B dealing with Expert Group meetings.

Regular Programme, the UNDP/TA (formerly EPTA) and projects approved under the UNDP/Revolving Fund. A third group contains the projects under the Special Industrial Services programme (SIS). As indicated in Part I because of the programming procedures of the SIS programme and the UNDP Revolving Fund it is not possible to present the complete list of 1968 projects at this time. Instead, the SIS and UNDP/Revolving Fund projects discussed in Part II relate only to projects that had been approved by the UNDP and UNIDO as of 31 July 1967, with implementation likely to be carried into 1968. The total value of these projects is considerably lower than the 1968 estimated programme values indicated in Part I.

43. The implementation of field projects involves activities of direct support by UNIDO staff at Headquarters. These consist in the formulation of requests, including job descriptions, of the experts; assistance in the recruitment and evaluation of candidates for expert posts; follow-up of the work in the field through evaluation of experts' reports and correspondence with the field; and briefing and debriefing of the experts. These activities absorb a substantial part of the staff resources of the relevant substantive units.

44. The activities described in Section B (expert group meetings, seminars etc.) involve, in addition to the contribution of the regular staff of UNIDO to the preparation of the meetings, expenditures which are financed either from the budget of the technical assistance programme under the category of regional and interregional projects or from the Meetings Fund under the regular budget of UNIDO. When the preparation of documentation for the meetings requires contributions by consultants, the cost is financed from the Consultant Fund of the UNIDO budget; this would then appear as an item under Section C: Studies and Research.

45. The studies and research projects described in Section C are implemented by regular UNIDO staff, generally with the assistance of consultants. The estimated cost of the consultant services is indicated in each case.

46. The publications in the 1968 work programme relate to projects approved by the United Nations Publications Board in June 1967. (Annex 4)

The 1968 publications programme also includes documents to be processed internally. No estimate can be given so far of the cost of these items, some of which may be printed later as sales items.

INDUSTRIAL TECHNOLOGY DIVISION

Group 1 Mechanical and Electrical Engineering Industries

General remarks

47. This group includes manufacturing industries engaged in the design and production of various fabricated metal products, such as machinery and general industrial equipment; machine tools; electrical and electronic equipment and instruments; transportation equipment, agricultural and building machinery and other equipment.
48. The principal industries included in the work programme are the automotive equipment industry; the electrical and electronic equipment industry; the machine tool industry; and the agricultural machinery and equipment industry.
49. These industries play a highly dynamic role in the industrial structure of the developing countries. In the first place, by increasing the domestic supply of capital goods (e.g. industrial equipment and machinery, transport and communication and agricultural machinery), they contribute to reducing the pressure on the balance of payments of new investments. They also provide a training ground for new industrial skills and a nucleus for the development of a number of ancillary industries (repair shops, foundries, parts etc.).
50. Some of these industries are being established by stages - by the assembly of imported spare parts followed by gradual replacement of imported parts by domestically produced parts as the engineering industry develops an increasing degree of sophistication. This is notably the case for the automotive industry.
51. In the particular case of agricultural machinery and equipment, the development of this industry, as well as that of other inputs in agriculture of industrial origin (e.g. fertilisers), is linked to the problem of increasing local agricultural production in the developing countries. ✓

✓ See Group 5, Fertiliser Industries, General remarks.

Group 1 Mechanical and Electrical Engineering Industries (cont'd.)

A. Field projects

1. Special Fund projects

United Arab Republic: Engineering and Industrial Design Development Centre, Nasser City (UAR 55). This aim of the projects is to provide assistance to the Government in the establishment and initial operation of an industrial design and product development centre. In particular, the adaptation of products to local conditions should be perfected to ease foreign exchange difficulties which led to acute shortage of spare parts and accessories.

The projects was approved by the UNDP Governing Council in January 1967 for a duration of five years. The full cost is \$2,259,000 of which \$1,035,100 are Governing Council earmarkings and \$1,224,000 are provided by the assisted country.

Experts (man/months)	1967	3/12	1968	5/60
Fellows (man/months)	1967	2/12	1968	2/24
Equipment costs for 5 years:		\$186,000		

2. Regular programs: UNDP/TA and UNDP/Revolving Fund

Asia and the Far East

Indonesia - UNDP/TA P.S. No. 43/57: Expert to assist the Government in the field of production engineering and maintenance of engineering plants.

Experts (man/months)	1967	1/6	1968	1/12
Fellows (man/months)		-		-
Cost	1967	\$8,000	1968	\$19,000

Iran - UNDP/TA P.S. No. 220/57: Expert on electronics to assist in over-all industrial development in the industrial research and development centre.

Experts (man/months)			1968	1/6
Fellows (man/months)			1968	-
Cost			1968	\$14,000

Iran - UNDP/TA P.S. No. 220/57: Mechanical engineering expert to select industries for development planning by the industrial development research centre.

Experts (man/months)	1967	1/12	1968	1/6
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$22,000	1968	\$11,000

Korea - UNDP/TA P.S. No. 60/57: Expert on metal forming and finishing for technical problem analysis and corrective action to improve various phases of metal production.

Experts (man/months)			1968	1/12
Fellows (man/months)			1968	-
Cost			1968	\$22,000

Group 1 Mechanical and Electrical Engineering Industries (cont'd.)

Philippines - UNDP/TA P.S. No. 79/57: Steel industry adviser for surveys on possibility of establishing subsidiary industries, based on the output of domestic steel plant.

Experts (man/months)	1967	1/12	1968	1/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$22,000	1968	\$22,000

Singapore - UNDP/TA P.S. No. 264/61: Industrial Economist to develop light engineering industries with special emphasis on establishment of bicycle-manufacturing factory.

Experts (man/months)	1967	1/6	1968	1/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$22,000	1968	\$22,000

Singapore - UNDP/TA P.S. No. 264/61: Expert to advise and assist in drawing up a development plan for the diversification of steel products industry.

Experts (man/months)			1968	1/6
Fellows (man/months)			1968	-
Cost			1968	\$14,000

Singapore - UNDP/Revolving Fund 26/66: Extension of the Building Hardware Adviser, who has been in the field under the UNDP/TA since March 1966.

Experts (man/months)	1967	(1/9)	1968	1/9
Fellows (man/months)	1967	-	1968	-
Cost	1967	charged to previous programme	1968	\$22,800

Latin America

Chile - UNDP/TA P.S. No. 130-57: Machine tool expert for the local manufacture of equipment and spare parts to be used in the mining, chemical, steel and petrochemical industries.

Experts (man/months)	1967	-	1968	1/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$11,000	1968	\$22,000

Chile - UNDP/TA P.S. No. 130-57: Boiler plate specialist for local manufacturing of boiler equipment.

Experts (man/months)	1967	1/6	1968	11/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$11,000	1968	\$22,000

Chile - UNDP/TA P.S. No. 111-57: Expert to promote marketing of boiler plate products and machine tools as a follow-up of recommendations made by a 1966 technical assistance mission in the engineering industry.

Experts (man/months)			1968	1/6
Fellows (man/months)			1968	-
Cost			1968	\$11,000

Group 1 Mechanical and Electrical Engineering Industries (cont'd.)

Mexico - UNDP/TA P.S. No. 190-65: Expert to formulate specific projects to be submitted to potential investors in the field of electric generators.

Experts (man/months)	1968	1/12
Fellows (man/months)	1968	-
Cost	1968	\$22,000

Peru - UNDP/TA P.S. No. 195-57: Engineer to explore establishment of new industries in the automotive field, for local market and ALAIC possibilities.

Experts (man/months)	1968	1/3
Fellows (man/months)	1968	-
Cost	1968	\$5,500

Europe and Middle East

Malta - UNDP/TA P.S. No. 124-67: Engineering to assist manufacture of industrial components and identification of potential assembly industries.

Experts (man/months)	1968	1/3
Fellows (man/months)	1968	-
Cost	1968	\$5,400

3. Special Industrial Services Programme (SIS)

Africa

Algeria - SIS 67/68: Hardware specialist to advise the management of the lock factory "serrurerie Chaabia" on streamlining of the production process.

Experts (man/months)	1968	1/6
Fellows (man/months)	1968	-
Cost	1968	\$14,000

Tunisia - SIS 67/74: Production Engineering expert to assist in the selection of equipment for the Société de Fonderie et de Mécanique (SOFOMECA) and to advise on production and industrial management.

Experts (man/months)	1967	1/6
Fellows (man/months)	1967	-
Cost	1967	\$14,000

Asia and the Far East

Iran - SIS 67/58: Expert for the railroad workshops in Teheran to assist in reviewing the present operation of the workshop, ascertaining the existing unused capacities for repairing and maintaining existing rolling stock and building up additional freights and passenger-car capacity.

Experts (man/months)	1968	1/3
Fellows (man/months)	1968	-
Cost	1968	\$6,000

Group 1 Mechanical and Electrical Engineering Industries (cont'd.)

Europe and Middle East

Bulgaria - SIS 66/36: A team of six highly specialized experts for assistance to the Research Institute for Instruments Design.

Experts (man/months)	1968	6/19.5
Fellows (man/months)	1968	-
Cost	1968	\$51,000

Israel - SIS 67/52: Team of experts in selected fields of specialization in the metal-working industries (ferrous casting, tool and die-making; conveying and hoisting equipment; automotive parts production and automation) to assist the Government in solving problems arising out of the change in structure of these industries towards export-orientation.

Experts (man/months)	1967	5/18
Fellows (man/months)	1967	-
Cost	1967	\$71,000

B. Expert group meetings; seminars; group training and workshops

52. The following meetings are planned for 1968:

- (a) Group of Experts on the Design, Manufacture and Utilization of Dies and Jigs. This project is planned following the recommendations made at the Metalworking Symposium held in the USSR in 1966 and deals with a subject of considerable importance for the development of metalworking industries. The background documentation to be assembled for this meeting will be issued as a manual to develop and support operational and training activities in this area.

Estimated cost of the meeting: \$10,000. It is tentatively considered that this meeting will be financed from technical assistance programme funds under the USSR contribution.

- (b) Expert Group on the Status of Technology in the Electric and Electronic Industries with recommendations for application to the developing countries.

Estimated cost of the meeting: \$8,000, to be financed, subject to availability of funds, under the UNIDO Budget.

- (c) Expert Group Meeting on the Automotive Industry in Developing Countries. In a number of developing countries this industry is already well established beyond the assembly stage and includes production of parts. The purpose of the meeting is to assist the developing countries in identifying and solving the technological economic and financing problems connected with the establishment and development of this industry.

Estimated cost of the meeting: \$48,000. The meeting is proposed for financing under technical assistance programme funds.

Group 1 Mechanical and Electrical Engineering Industries (cont'd.)

C. Studies and research

53. The following documentation will be prepared for the meetings listed above:

- (a) Design, manufacture and utilization of dies and jigs: The background documentation will be prepared in 1968 by consultants at an estimated cost of \$5,000.
- (b) Status of technology in the electrical and electronic industries: The preparation of the background documentation which was started in 1967 will be continued in 1968.
- (c) Expert Group Meeting on the Automotive Industries in Developing Countries: The documentation for this meeting was prepared in 1967.

D. Co-operation with the Regional Economic Commissions

54. The Regional Symposia on Industrial Development^{8/} recommended the following research projects in this area:

- (a) Africa: A study on problems and possibilities for standardization, on a regional basis, for important aspects of the design and utilization of the rolling stock.
- (b) Asia: Feasibility studies for investigation and implementation of engineering industry projects, with the assistance of various United Nations Organizations.
- (c) Latin America: Studies of the metal-transforming sector with the purpose of identifying the various aspects of the obstacles to its development; the corrective measures that should be adopted and the prospects for its expansion as regards the opportunities afforded by the domestic market and those of an integrated regional market.

55. UNIDO is in contact with the secretariats of the Regional Economic Commissions, and its staff is available for consultation and comments in connexion with the preparation of these studies.

^{8/} Symposium on Industrial Development in Africa, Cairo, 27 January - 10 February 1966, E/C.5/136.

Asian Conference On Industrialisation, Manila, 6-20 December 1965, E/C.5/102.

Latin American Symposium on Industrialisation, Santiago, Chile, 14-25 March 1966, E/C.5/135 Add. 3. (E/CN.12/755).

Group 1 Mechanical and Electrical Engineering Industries (cont'd.)

B. Publications

56. The publications programme for 1968 relates to studies and reports already completed in preceding years, as well as to support activities undertaken in 1968.
57. The "Development of the Metalworking Industries in the Developing Countries", the edited papers presented to the Interregional Symposium on the Development of Metalworking Industries, held in Moscow in September/October 1966, is to be published in 1968 (ID/6). A report of the symposium will also be published in 1968 (ID/8). The report of the meeting of the Group of Experts on Maintenance and Repair of Industrial Equipment was issued in English in 1967 in mimeograph form (ID/1) and will be reproduced in French and Spanish in 1968.
58. A report on the Development of the Automotive Industry and selected papers on the State of Technology in the Electric and Electronic Industries will be published in connexion with the Expert Groups scheduled to meet in 1968 on these subjects.

Group 2 Metallurgical industries

General remarks

59. The work programme in this area relates to the development of iron and steel, non-ferrous metals and foundry industries in developing countries, in assisting the establishment of new facilities, expansion and modernization of existing plants; promotion of progressive methods of metal production etc. The importance of these activities lies in the fact that in many countries the development of metallurgical industries - both ferrous and non-ferrous - is linked to the commercialization of the deposits of metallic ores which have been so far exported in crude state for processing elsewhere. The development of industries of ore beneficiation, extraction and refining of metals at the point of production of the raw materials in the developing countries themselves represents an important element in the process of industrialization.

A. Field projects

1. Regular Programme and UNDP/TA

Asia and the Far East

Philippines - UNDP/TA P.S. No. 79/57: Expert to investigate and test Philippine coal for use in blast furnaces and coke ovens.

Experts (man/months)		1968	1/6
Fellows (man/months)		1968	-
Cost		1968	\$14,000

Singapore - UNDP/TA P.S. No. 264/61: Foundry industry expert to advise and assist in the expansion and modernization of foundry industry in Singapore.

Experts (man/months)	1967	1/12	1968	1/3
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$22,000	1968	\$5,500

Latin America

Uruguay - UNDP/TA P.S. No. 483/57: Industrial Engineer to make an analysis of the non-ferrous metals and other important industries.

Experts (man/months)		1968	1/6
Fellows (man/months)		1968	-
Cost		1968	\$10,000

Group 2 Metallurgical industries (cont'd.)

Venezuela - Regular (ID-145): Expert to organize the in-plant training of specialists in the field of non-ferrous metallurgy.

Experts (man/months)			1968	1/3
Fellows (man/months)			1968	-
Cost			1968	\$5,700

Venezuela - UNDP/TA P.S. No. 201/57: Expert to assist in the technological development of the metals industry and to advise on technical and economic criteria for productivity investigations.

Experts (man/months)	1967	1/6	1968	1/6
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$12,600	1968	\$12,600

2. Special Industrial Services (SIS)

Africa

Liberia - SIS 67/133: Iron and Steel Expert to be attached to a small unit in the Department of Planning and Economic Affairs to co-ordinate the work of the steel project carried out in Liberia.

In 1967, the Government was assisted under the SIS in investigations and preparations concerning the establishment in Liberia of an integrated iron and steel industry.

Experts (man/months)			1968	1/6
Fellows (man/months)			1968	-
Cost			1968	\$14,000

Europe and Middle East

Jordan: Assistance has been requested in providing the services of two experts in metallurgical engineering for a planned steel rolling mill (smelting and steel rolling). Jordan is taking initial steps in setting up facilities for the production of rolled steel products. A mill is currently being set up, which, as a first stage, will produce reinforcing bars. The steel rolling expert will be expected to supervise and direct the starting up and subsequently the routing production operations. The smelting expert will assist in setting up the smelting facilities and initiate their operation.

Experts (man/months)	1967	2/12	1968	1/6
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$35,000	1968	\$12,000

Group 2 Metallurgical industries (cont'd.)

B. Short-term meetings, seminars, group training workshops

60. The Second Iron and Steel Symposium is scheduled to be held in September and October 1968 in the USSR, under an agreement with the Government of the host country. The symposium will be devoted to the techno-economic aspects of the development of iron and steel industries in the developing countries. It is expected that more than 50 developing countries which have expressed an interest in this Symposium will attend. Approximately fifty papers will be submitted at the Symposium and the number of participants, experts and observers is expected to be about 200.

61. Funds for the Symposium in the amount of \$125,000 were approved in the UNDP/TA programme for 1967-1968 under Category II. It is expected that the meeting will be financed under the USSR contribution.

C. Studies and research

62. Studies on the techno-economic aspects of development of iron and steel industries in developing countries: In co-operation with consultants who are well-known specialists in the iron and steel industry, UNIDO staff will prepare some fifteen studies for submission to the Symposium. The cost of the studies (\$7,000) is to be financed from the UNIDO Consultant Fund.

D. Co-operation with regional economic commissions

63. The co-operation of the regional economic commissions has been enlisted in the preparation of documentation for the Second Iron and Steel Symposium. In co-operation with ECE, studies will be prepared on "world production, market and prices of iron and steel" and "world consumption and resources for steelmaking". In co-operation with ECLA studies will be prepared on "The present status and future of the iron and steel industry of Latin American countries"; in co-operation with ECA, on "Present Status and future of the iron and steel industry in African countries"; and in co-operation with ECAFE, "Present status and future of the iron and steel industry of the Asian countries".

Group 2 Metallurgical industries (cont'd.)

E. Publications

64. The publications programme for 1968 relates to studies and reports of meetings completed in preceding years as well as to activities undertaken in 1968.
65. The following reports of two expert group meetings held in Vienna in September-October 1967 will be published in 1968:
- "Alumina Production from Various Raw Materials", the report of First Expert Consulting Group on Aluminium Industry; and
 - "Modernization and Expansion of Plants in the Copper Industry", the report of the First Expert Consulting Group on Copper Industry.
- As the reports are to be processed internally, no cost estimates are given.

Group 3 Construction and Building Materials Industries

General remarks

66. Construction is one of the largest sectors of economic activity in the developing countries and represents a substantial part of investments; production of building materials and components is a closely associated activity. The activities of both industries are closely related to general economic development. In most developing countries the building materials and construction industries depend to a large extent on national programmes of public investment in infrastructure, agriculture and industry, but there is also the problem of co-ordinating private and public construction activities. From a technical point of view a major problem in the construction industry of the developing countries is the replacement of traditional methods and processes by modern industrial methods in order to raise the productivity of the industry - in other words, by bringing about an industrialization of the construction activities.

67. The objective of the UNIDO work programme for building materials and construction industries is to assist in the development of these sectors. This involves establishment of new facilities as well as revitalization of traditional industry; improvement of local materials and techniques; introduction of new building materials utilising local raw materials to the maximum; standardisation of products and dimensions; rationalization of building methods; typification of designs; and setting up of supporting facilities such as testing and research institutes.

A. Field projects

1. Special Fund Project

Bolivia: At the Government's request, negotiations are under way for assistance in the establishment of a pilot asbestos processing plant.

Group 3 Construction and Building Materials Industries (cont'd.)2. Regular Programs and UNDP/TAAsia and the Far East

Ceylon - P.S. No. 2057a: A ceramics expert is to commission the ceramics factory at Piligandala. The United Nations expert provided under the 1965 expanded programme of technical assistance has been unable to do so owing to delays in construction.

Experts (man/months)	1967	1/12	1968	1/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$19,000	1968	\$19,000

Papua and New Guinea - Revolving Fund 216-67: The Government of Australia has requested the services of a building and construction materials' expert for the territory of Papua and New Guinea.

Experts (man/months)	1967	1/3	1968	1/6
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$7,500	1968	\$11,500

Europe

Romania - P.S. No. 134-64: Expert to advise on the application of modern technology in the construction industry (mechanical and metallurgical) and the production of steel and aluminium control of laminated products, tabular material etc.

Experts (man/months)	1967	1/3	1968	1/3
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$1,200	1968	\$1,200

3. Special Industrial Services (SIS)Africa

Algeria: In connexion with the re-activation of industries in SIS plants that were idle or working below capacity; the Government requested the services of an expert to improve the operation of the glassware industry in Oran.

Experts (man/months)	1967	1/6		
Fellows (man/months)	1967	-		
Cost	1967	\$14,000		

Latin America

Dominican Republic: The Bagasse Building Board project is described in Group 4 including Chemicals and Pulp and Paper.

Group 3 Construction and Building Materials Industries (cont'd.)

Europe and Middle East

Malta - 67/1 67/100: Following the visit by a UNIDO interregional adviser, the Government requested an expert to advise on improvements in factory building methods and materials.

Experts (man/months)	1967	1/2
Fellows (man/months)	1967	-
Cost	1967	\$1,800

B. Expert group meetings, seminars, group training and workshops

68. A joint programme with the United Nations Centre for Housing Building and Planning was started in 1965. The following meetings are jointly planned for 1968, some of them in co-operation with the regional commissions:

- (a) Seminar on Prefabrication in the Building Industries for the Asia and Far East Region to be held, in co-operation with the United Nations Housing Centre and the ECAFE secretariat, in Denmark in 1968. The estimated cost of the meeting is \$20,000, to be financed under UNDP/TA 1967-1968 Programme, Category I.
- (b) A "Workshop on Organization and Technology for the Development of the Building Material Industries" will be held in the USSR in 1968 in co-operation with the United Nations Centre for Housing, Building and Planning and the Office of Technical Co-operation. The estimated cost of the meeting is \$80,000. It will be financed from the USSR contribution. For these meetings studies will be prepared and presented under the Joint Programme with the United Nations Centre for Housing, Building and Planning, as background documents.

C. Studies and research

69. This activity consists of preparing documentation for the above meetings. Studies will also be prepared on the fabrication and use of selected building materials as follows:

- (a) Mineral wool, manufacture and uses: Mineral wool is an excellent thermo-insulating material and widely used in housing. It is produced from blast furnace slag or natural rock. In many countries blast furnace slag, produced as a by-product of the steel industry, is often wasted for lack of knowledge of its utilization.
- (b) Asbestos-cement and similar fibro-cement materials; Uses of substitutes for asbestos will be of special interest as well as the design and applications in building, in particular with respect to roofing material.

Group 3 Construction and Building Materials Industries (cont'd.)

- (c) Cement from gypsum: Gypsum is a raw material source for a process of cement production, where sulphuric acid is generated as by-product. The economy of the process applies in a number of developed countries. It is particularly interesting for countries with large deposits of gypsum, a lack of elemental sulphur and a large demand for sulphuric acid. Some of these countries, which have a considerable export trade in rock phosphate, should be able to upgrade their exports by converting the rock into superphosphates, for which large quantities of sulphuric acid are needed.

These documents will be prepared in 1968 by consultants in co-operation with UNIDO staff. Estimated cost - \$5,000.

D. Co-operation with the Regional Economic Commissions

70. In addition to the joint activities outlined above, the Survey on the Building Materials and Construction Industries will be prepared for the Seminar on Prefabrication in the Building Industries for the Asia and Far East region in consultation with ECAFE secretariat. The survey will be prepared by consultants in co-operation with UNIDO staff. The estimated cost is \$4,000.

E. Publications

71. The following publications are planned for 1968:
- (a) "Small Scale Manufacture of Portland Cement"
 - (b) "Puzzuolana Cement"
 - (c) "Plastics as Building Materials"
 - (d) "Building Lime; its Properties, Uses and Manufacture"

As the documents will be processed internally, no cost estimates are given.

Group 4 Chemicals, Petrochemicals and Synthetics, Insecticides and Pesticides, Pharmaceuticals and Other Related Industries

General remarks

72. The development of these industries, which represent a highly dynamic sector in the industrial structure, is becoming a factor of increasing importance in the industrialization of the developing countries. The coverage of this group is extremely wide and for the purpose of presentation the group is sub-divided into the following sub-groups: Basic chemicals; petrochemicals and synthetics; insecticides and pesticides; pharmaceuticals; other industries, including pulp and paper.
73. While the fertilizer industry is closely related to petrochemicals with respect to the production of ammonia fertilizers, it is considered more expedient to deal with that industry in a separate section, under Group 5.
74. As regards basic chemicals, this area covers primarily inorganic acids, alkalis, and some basic mineral salts such as sodium sulphate, sodium silicate etc.
75. The petrochemical industry is essentially an industry of intermediates since most of its output goes into other producing sectors. In this respect it plays an important role in the industrial structure. Some of these industries are already established in many developing countries; most of them are of limited scope. Since the petrochemical industry generally requires large-scale operations it is highly cost-sensitive to scale and, as regards potential exports, it faces highly competitive international markets. It is also characterized by a rapidly changing technology resulting in a high rate of obsolescence. On the other hand, in certain cases the availability of cheap and abundant raw materials in the developing countries may be an important factor in determining the location of these industries.
76. Thus, under favourable conditions, large units located close to the sources of oil and natural gas could produce competitively for export. Because of requirements of large-scale operation, regional co-operation in the establishment of petrochemical industry is also particularly indicated. There is, however, some room for smaller-scale enterprises such as production of plastic products by moulding, extrusion and other shaping processes in which imported petrochemical raw materials are used.

Group 4 Chemicals, Petrochemicals and Synthetics, Insecticides and Pesticides, Pharmaceuticals and other related industries (cont'd)

77. The insecticides and pesticides industry is related in many aspects to the petrochemical industry, many of these products being based on the raw materials produced by the petrochemical industry.

78. As regards pharmaceuticals, considering the low levels of present day production and consumption of pharmaceuticals in the developing countries, this industry represents a considerable potential for development. With the introduction of modern medical facilities, the demand for drugs is rising steeply and the pharmaceutical industry will account for a growing share in the chemical production of the developing countries. The pharmaceutical industry is for the time being limited mainly to formulating active materials imported in bulk. However, in a number of countries, there is also a backward integration of the industry into producing active material from imported intermediates.

79. In some countries advantage could be taken of the existence of traditional medicine by organising production on modern lines and adopting proper standardisation methods for use in areas where modern physical facilities have not yet been introduced. Proper screening methods might also bring to light useful preparations that could be adopted for use in modern medicine.

A. Field projects

1. Special Fund Projects

Africa

Algeria - Industrial and Marketing Surveys on Petroleum Derivatives and Natural Gas ALG-5: The purpose of the project is to assist the Government in feasibility studies on local utilisation of petroleum derivatives and natural gas, as well as the export of natural gas to ensure the fullest development of the country's agricultural, mineral and industrial resources within the framework of the national economic development plan. The United Nations has supplied a team of experts and subcontracts have been awarded to consultants for the elaboration of specific aspects of the project (transportation and blueprints for the petrochemical complex).

The project was approved by the Special Fund Governing Council in June 1965 for a duration of two years. The full cost of the project is \$1,156,900 consisting of \$836,900 Governing Council earmarkings and \$320,000 contributions by the assisted country. The plan of operations was signed on 8 December 1965; the project became operational on 15 April 1966 and will be completed in the first part of 1968. It is expected to be extended into Phase II.

Experts (man/months)	1967	4/36	
Fellows (man/months)	1967	3/36	
Equipment cost for 2 years			\$10,000

Group 4 Chemicals, Petrochemicals and Synthetics, Insecticides and Pesticides, Pharmaceuticals and Other Related Industries (cont'd.)

Rwanda - Pilot Plant for Industrialization and Pyrethrum Production.

Kukingo RWA-1: The purpose of this project is to assist the Government in the establishment and initial operation of a pilot plant for pyrethrum production, with a capacity of 200 tons of extract per annum. The UNDP/Special Fund will provide equipment for the pilot plant, including modern machinery required for the drying, grinding and complete solvent extraction of the flowers and for the refining and processing of the product. In preparation for the operational stage, a market survey was made by a consultant and various specialized firms were invited to submit data concerning costs of installation as well as plant size.

In conjunction with the proposed processing operations, the Government is undertaking a programme for intensified production of pyrethrum flowers. Funds are included for a sub-contract to undertake a specific agricultural development study in order to promote the productivity of small growers, and the European Economic Community has taken steps since October 1966 to assist in the expansion of the production of pyrethrum.

The project was approved by the Special Fund Governing Council in January 1966 for a duration of three years. The full cost is \$1,859,500 including \$1,459,500 in Governing Council earmarkings and \$400,000 provided by the assisted country.

Experts (man/months)	1967	6/82	1968	6,72
Fellows (man/months)	1967	3/36	1968	3/36
Equipment cost for 3 years				\$740,000

(a) Basic chemicals, petrochemicals and synthetics

1. Regular Programs and UNDP/TA

Africa

Nigeria - P.S. No. 10-61: Chemical engineer to assist the Director of the Federal Institute of Industrial Research. (This expert post (under OPEX) is described under Group 8 (a).)

Experts (man/months)	1967	11/12	1968	11/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$15,000	1968	\$15,000

Asia

India - P.S. No. 37/57: Expert to assist in the development of polymers (including acrylics, polyamides, urethanes and systems); organic pigments and dyes.

Experts (man/months)	1968	1/12
Fellows (man/months)	1968	-
Cost	1968	\$22,000

Group 4 Chemicals, Petrochemicals and Synthetics, Insecticides and Pesticides, Pharmaceuticals and Other Related Industries (cont'd.)

Iran - P.S. No. 220/57: Expert to develop dyestuffs industries under the current development plan and to prepare sectoral studies for this industry for the next plan starting in 1968.

Experts (man/months)	1967	1/3	1968	1/3
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$5,400	1968	\$5,400

Latin America

Bolivia - P.S. No. 114/57: Petroleum economist to establish the capacity of the national market and that of neighbouring countries, to absorb an increasing production of petroleum derivatives.

Experts (man/months)	1967	1/12	1968	1/6
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$22,000	1968	\$11,000

Brazil - P.S. No. 27/59: Expert to assist in planning for the development of the chemical industry in the Northeast region of Brazil.

Peru - P.S. No. 195/57: Expert in petrochemicals and fertilizers to prepare specific development programmes and projects for industries that are given special consideration in the national development plan.

Experts (man/months)	1967	1/4	1968	1/8
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$7,400	1968	\$14,600

Middle East and Europe

Turkey - P.S. No. 277/57: Expert to assist in development of chemical and petrochemical engineering in connexion with the industrialisation plans of Turkey.

Experts (man/months)	1967	1/12	1968	1/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$22,000	1968	\$22,000

2. Special Industrial Services

ARABIA

United Arab Republic - 67/143: As a follow-up of the United Nations expert's mission to the United Arab Republic in February/March 1966 on utilization of excess chlorine, the Government requested assistance for the first stage of a chlorine-consuming pilot unit, with possible development into a Special Fund project. United Nations assistance to the Government under the SIS programme is sub-contracted to an engineering firm.

Cost of sub-contract to engineering firm: \$110,000

Group 4 Chemicals, Petrochemicals and Synthetics, Insecticides and Pesticides, Pharmaceuticals and Other Related Industries (cont'd.)

Asia

China - 67/120: Expert to assist the local man-made fibre industry on quality improvement and fibre-blending.

Experts (man/months)	1967	1/6	-
Fellows (man/months)	1967	-	-
Cost	1967	\$15,000	-

China - 67/118: Expert to assist the Government's "Union Industrial Research Institute" (UIRI) in the improvement of production techniques and application of new technology in the field of plastics manufacture.

Experts (man/months)	1967	1/4	-
Fellows (man/months)	1967	-	-
Cost	1967	\$8,000	-

Singapore - 67/130: Expert to advise the Government on the problem of industrial effluents and trade waste disposal, including air pollution. The expert will draft standards, code and enforcement of control on industrial effluents and trade waste discharges.

Experts (man/months)	1967	1/6	-
Fellows (man/months)	1967	-	-
Cost	1967	\$15,000	-

(b) Insecticides and pesticides

See UNIP/Special Fund Project described above under Rwanda: Pilot Plant for Industrialisation and Pyrethrum Production at Makingso.

(c) Pulp and paper

1. Regular Programs and UNIP/TA

Burma and Middle East

Thailand - P.S. No. 294/57: One expert in straw pulp production, a second in pulp technology (bleached and unbleached) and a third in paper coating and sizing to assist the increase in paper production by utilization of deciduous trees, maize husks, straws, reeds, sunflower stalks, etc.

Experts (man/months)	1967	3/24	1968	3/18
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$47,000	1968	\$39,000

Group 4 Chemicals, Petrochemicals and Synthetics, Insecticides and Pesticides, Pharmaceuticals and Other Related Industries (cont'd.)

2. Special Industrial Services

Africa

Nigeria - 66/11: The project, which relates to management of paper mills at Jebbar is detailed under Group 11, Industrial Management and Training.

United Arab Republic - 67/78: Under an earlier SIS project (SIS 66/24) a consultant firm studied the UDFU pulp and paper mill and recommended that a team of four experts be appointed to assist the Government in planning for the efficient running of the mill. The Government has requested this assistance and two fellowships under the SIS.

Experts (man/months)	1967	4/36	-
Fellows (man/months)	1967	2/9	-
Cost	1967	\$71,200	

Latin America

Dominican Republic - 67/146: As a follow-up to an exploratory mission undertaken by a UNIDO staff member for the evaluation of machinery and installations at the "Domingo-Suize S.A.", a bagasse building-boards factory the Government has requested SIS assistance for a study to be undertaken by a specialized consulting engineering firm. The consultants are to prepare a complete inventory with cost estimates of required machinery and equipment; and a market study of products that can be manufactured economically in view of availability and cost of raw materials.

In the event that the study arrives at positive conclusions on the economic viability of the plant, the Government may request further assistance for a feasibility study to include additional investment requirements.

Experts (man/months)	1967	sub-contract to	1968	sub-contract to
Fellows (man/months)	1967	consulting firm	1968	consulting firm
Cost	1967	\$20,000	1968	-

(d) Pharmaceuticals

1. Regular Programs and UNDP/TA

Asia

Iran - P.S. No. 220/57: Expert to advise on development of pharmaceuticals industry within the framework of current Third Development Plan, and to prepare studies on this industry in the next plan period starting in 1968 with due consideration to Iran's commitments within the RCD (Regional Co-operation for Development) according to which Iran, Pakistan and Turkey are conducting country studies of selected industries.

Experts (man/months)	1967	1/12	1968	1/2
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$22,000	1968	\$3,600

Group 4 Chemicals, Petrochemicals and Synthetics, Insecticides and Pesticides, Pharmaceuticals and Other Related Industries (cont'd.)

Middle East and Europe

Israel - P.S. No. 243/57: Experts to assist in pharmacological research and another in the development of fermentation industry.

Experts (man/months)	1967	1/12	1968	1/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$22,000	1968	\$22,000

Poland - P.S. No. 189/60: Experts to assist in development of pharmaceutical industry; there is a high priority for the development of this industry in the Polish plan for 1966-1967.

Experts (man/months)	-	1968	1/1
Fellows (man/months)	-	1968	-
Cost	-	1968	\$1,800

B. Expert group meetings, seminars, group training and workshops

(a) Basic chemicals

80. It is expected that an Expert Working Group will meet in 1968 on the modernization and mechanization of the salt industries based on seawater in the developing countries. This meeting will deal with the various aspects of the manufacturing industries based on extraction of salts from seawater, including their requirements in energy and equipment, and the problem of appropriate materials of construction. The documentation to be submitted to the meeting and the report of the meeting will provide the developing countries concerned with the basic information on this industry and serve for the support of technical assistance projects in this area. The cost of the meeting is estimated at \$6,000, to be financed from the (UNIDO) budget.

81. An interregional seminar is being planned, to be held in the USSR in the latter half of 1968, on the manufacture and use of basic chemicals in developing countries. The estimated cost of the meeting is \$40,000. This project is included in the UNDP/TA 1965 programme under Category II. It is expected that it will be financed from the USSR contribution.

(b) Petrochemicals

82. As a sequence to the Interregional Petrochemical Conference held in Teheran in 1964, a Second Petrochemical Conference on petrochemical industries in the developing countries is envisaged in 1968 or 1969 to review the developments in this industry since 1964. Preparations for the meeting are in progress; the

Group 4 Chemicals, Petrochemicals and Synthetics, Insecticides and Pesticides, Pharmaceuticals and Other Related Industries (cont'd.)

estimated cost is \$60,000. Provision for financing of this project has been made in the UNDP/TA programme for 1968 under Category I. An estimated amount of \$4,000 may be spent in 1968 on preparation for the conference.

83. An expert group meeting on the development of plastics (polymer) industries in the developing countries is planned to be held in Vienna in 1968, subject to the availability of funds. The estimated cost is \$5,000.

C. Studies and research

84. The studies to be submitted to the working group on modernisation and mechanisation of the salt industries are enumerated below. They will be completed in 1968.

- (a) Manufacturing industries based on solar salt
- (b) Energy and fuel requirements and relationships
- (c) Machines used in the solar salt industry
- (d) Materials of construction in the solar salt industry
- (e) Regional and country studies on seawater industries

85. In connexion with the interregional seminar on the manufacture and use of basic chemicals in the developing countries, a series of country studies on basic chemicals is planned on a regional basis in co-operation with the Regional Commissions. Provision in the amount of \$4,000 for consultants has been made in the regular UNIDO budget.

86. A study on "Production, Consumption and Trade in Petrochemicals in the World" is to be produced in 1968 with the assistance of consultants. The study is to be submitted to the Second Petrochemical Conference. The cost of the study is estimated at \$5,000, to be provided from the regular UNIDO budget.

87. A number of studies are to be undertaken in 1968 in the area of the industries of plastics (polymers) so as to provide material for support of technical assistance activities in this field. Studies are being planned in plastics, rubbers, quality control and testing of polymers; pilot plants for the manufacture of monomers, intermediates and polymers, as well as processing of polymers. The estimated cost is \$6,000, to be financed from the regular UNIDO budget.

Group 4 Chemicals, Petrochemicals and Synthetics, Insecticides and Pesticides, Pharmaceuticals and Other Related Industries (cont'd.)

D. Co-operation with the Regional Economic Commissions

88. Continuing contact is being maintained with the work of the secretariats of the Regional Economic Commissions in this area. A certain number of studies, some of which are to be submitted to the meetings indicated above, are being carried out jointly as follows:

- With ECA: Techno-economic studies on rubber, plastics and insecticides sector
- With ECAFE: Feasibility of establishment of petrochemical complexes
Evaluation on production and use of pesticides
- With ECLA: Survey on plastics consumption in the Latin American Region
Regional co-operation in pesticides manufacture

The Regional Commissions are co-operating fully in the preparation of the Second Petrochemical Conference.

E. Publications

89. Papers to be presented to the Expert Group on modernization and mechanization of the salt industries of developing countries based on seawater will be processed internally.

90. Studies on the establishment of the plastics industry in developing countries are being prepared for possible printing in 1969.

Group 5 Fertilizer Industries

General remarks

91. The fertilizer industries occupy a special position in the process of industrialization in that, together with pesticides and agricultural machinery, they provide an industrial basis for modern agriculture of high productivity. Given the urgency of the problem of raising substantially the levels of agricultural output in the developing countries, in particular that of food, the availability of an adequate supply of such "industrial inputs" in agriculture is one of the most important present-day issues in the process of economic development. At the present time these needs are satisfied largely by imports; it is evident however that any substantial increase in demand arising from a drive for increased productivity in agriculture would put a considerable strain upon the balance of payments of the developing countries. The long-run solution would seem to lie in the development of such "agro-allied" industries in the developing countries themselves, at least in those countries that have special advantages in this respect. Thus production of agricultural machinery would be integrated in the development plans for the countries' engineering industries, and large-scale production of fertilisers and pesticides would be undertaken by countries that have cheap and abundant resources of appropriate raw materials (e.g. petroleum derivatives, phosphate deposits etc.).

92. Together with other interested agencies UNIDO participated in an inter-governmental meeting convened in 1967 in Rome under the auspices of FAO, for the discussion of the Food Production Resources Programme, under which assistance would be provided to developing countries in the form of fertilisers, insecticides and agricultural machinery and other industrial inputs. Following the meeting UNIDO contributed to the study of the proposed programme requested by the Inter-governmental Committee as regards the industrial aspects of the programme. The study was submitted to the recent meeting of the FAO Governing Board. UNIDO expects to continue its co-operation in 1968 in the follow-up of this programme.

93. As indicated above, the production of fertilisers is also related to the development of the petrochemical industry. Thus, large-scale production of liquid ammonia is based on petroleum derivatives and natural gas. It is also related to the general problems of commercialisation of mineral deposits which

Group 5 Fertilizer Industries (cont'd.)

are abundantly available in some developing countries (e.g. phosphates) and are now being exported in crude state. Production of fertilizers requires moreover a broadly-based basic chemical industry for the supply of these chemical inputs, in particular as regards the sulphuric and nitric acids. Thus, aside from their role in the development of agriculture, the fertilizer industries represent another dynamic element in the process of industrialization, being related on the one hand to the commercialization of domestic raw materials, and on the other hand to the parallel development of a number of complementary industries.

94. The proposed work programme is based on Government requests for technical assistance in the fertilizer field and on the recommendations of the Interregional Seminar on the Production of Fertilizers, held in Kiev, Ukrainian SSR in 1965 (United Nations Publication Sales No. 66.II.B.7) and the report of the Ad Hoc Expert Group on Fertilizer Production in Countries with Natural Gas Resources, held in New York in December 1966.

A. Field projects

Note: A substantial amount of exploratory and promotion work, carried out in 1967 by UNIDO staff, is expected to result in the establishment of projects under the various programmes and in particular the SIS in a number of countries, namely in Brasil, Cameroon, Chile, Cyprus, Ghana, Hungary, India, Iran, Israel, Jordan, Kenya, Liberia, Madagascar, Pakistan, Romania, Somalia, Sudan, Tunisia, Turkey, Uganda, United Arab Republic and Yugoslavia.

Some projects in the field of fertilizers are presented in other related sections of the work programme (e.g. Group 4 - Chemicals, petrochemicals etc. ^{2/} and Group 13 - General planning of industries).

Pakistan - Special Fund Project PAK-26: Pre-investment studies for the promotion of the fertilizer and petrochemical industries. This project aims to assist the Government in developing the fertilizer and petrochemical industries and to promote the use of fertilizer and petrochemical products. The pre-investment studies are designed to assist the Government in their negotiations with financial institutions to obtain investments.

^{2/} See, for instance, in Group 4, the UNEP/Special Fund project in Algeria on industrial and marketing surveys on petroleum derivatives and natural gas.

Group 5 Fertiliser Industries (cont'd.)

The project was approved by the Special Fund Governing Council in June 1965 for a duration of three years. The full cost of the project is \$2,612,000 including \$1,532,000 Governing Council earmarkings and \$810,000 contributions by the assisted country. The plan of operations was signed on 5 May 1967 and the project became operational on 7 June.

Experts (man/months)	1967	9/108	1968	7/84
Fellows (man/months)	1967	3/24	1968	5/61
Equipment cost for 3 years				\$115,300

Israel - P.S. No. 243/57 (UNDP/TA): Fellowships for maintenance in fertiliser industry and for phosphate fertilisers.

Experts (man/months)	1968	-
Fellows (man/months)	1968	2/8
Cost	1968	\$7,200

Turkey - SIS 67/51: Following an earlier exploratory mission to Turkey the Government will be provided with the services of a consulting firm to analyse tenders for two fertiliser projects designed to produce ammonia, urea, sulphuric acid, phosphoric and triple superphosphate. On the basis of these tenders, a firm is to be selected and negotiations and preparation of contract terms initiated.

Experts (man/months)	1967 and 1968	sub-contract
Fellows (man/months)	1967 and 1968	to consultants
Cost	1967 and 1968	\$40,000

B. Expert group meetings, seminars, group training and workshops

95. The following meetings are planned for 1968:

- (a) Meeting of Ad Hoc group of experts from fertiliser-deficient countries. The estimated cost is \$10,000, to be financed from the regular UNIDO budget.
- (b) Ad Hoc consultative panels of experts and financiers from developed and developing countries. These panels are organised with a view to promoting an interest in the development of fertiliser industries in the developing countries and are intended to bring together the interested parties from both areas. They will be organised by regions, one each for Africa, Asia and Latin America.

The estimated cost is \$10,000 - to be financed from the regular UNIDO budget, subject to the availability of funds.

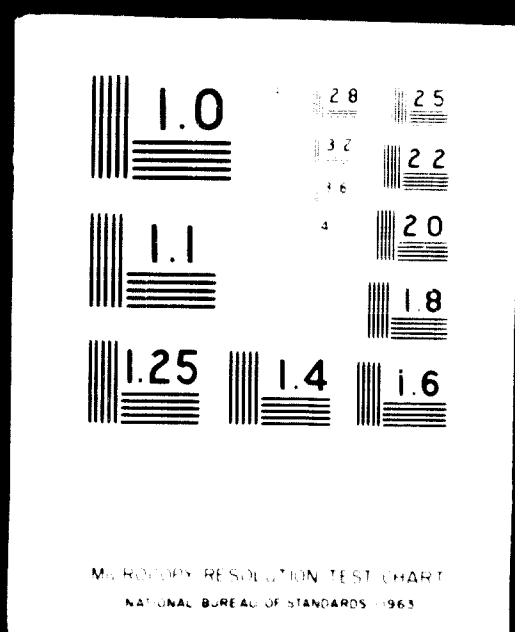


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We regret that some of the pages in the microfiche copy of this report may not be up to the proper legibility standards, even though the best possible copy was used for preparing the master fiche.

Group 5 Fertilizer Industries (cont'd.)

- (c) A preparatory meeting will be held to plan the organization of the World Fertilizer Congress, the convening of which was recommended by the Kiev fertilizer seminar of 1965^{10/}. The meeting is to be held in Vienna. The estimated cost is \$10,000. The implementation of this project will be subject to availability of funds.

C. Studies and research

96. Preparation of a World Directory of Fertilizer Production Facilities. The preparation of this directory is to provide information on fertilizer projects in terms of capacity, types of products, location, processes employed etc. as recommended by the Kiev seminar. The estimated cost of the directory, which is to be prepared by consultants, is \$5,000, to be financed under the UNIDO budget.

D. Co-operation with the regional economic commissions

97. The Regional Symposia on Industrial Development recommended the following studies in the field of fertilizers:

Africa

- (a) Comparative study on production of phosphatic fertilizers, using various processes
- (b) Examination of the economic feasibility of ammonia production in countries of Africa either on a sub-regional or a regional basis compared to import of ammonia
- (c) Studies on production of high analysis fertilizers for internal consumption and exports; on utilization of gypsum for sulphuric acid and ammonium sulphate production; and on utilization of hydrochloric acid for acidulation of phosphate rock.

Middle East

- (d) Studies in potash extraction from the Dead Sea
- (e) Feasibility studies for the manufacture and marketing of multi-nutrient fertilizers

Latin America

- (f) Studies on the supply and demand position of fertilizers in the region and on regional planning to put the industry on an equal footing with those of the industrialized countries.

^{10/} The Report of the Kiev seminar is being published under United Nations Publication Sales No. 66.II.B.7.

Group 5 Fertilizer Industries (cont'd.)

98. UNIDO will co-operate with the regional economic commissions and UNESCO in the preparation of the above-mentioned studies in 1968 and the following years. An amount of \$7,500 is provided in the regular budget of UNIDO for 1968 to assist in the cost of consultants.

99. UNIDO has followed with interest the papers and discussions of the Symposium on Raw Materials for the Fertilizer Industry organized by ECAFE in December 1967.

E. Publications

100. The Fertilizer Manual was published in English as a sales item in 1967 at an estimated cost of \$8,000. French and Spanish versions are being published at an estimated cost of \$11,800. A report on Fertilizer Technology, Production and Use is currently being printed at an estimated cost of \$20,000. This report contains the edited papers presented to the Seminar on Fertilizers held in Kiev, Ukrainian SSR, in August 1966.

101. Following the recommendation of the Kiev seminar, endorsed by ECOSOC resolution E/RES/1179(XLI) of 5 August 1966, a number of techno-economic studies are to be published in 1968. It is also proposed that a "World Fertilizer Report" be published twice a year, with information for developing countries on trends, availability of fertilizer material, prices and technology as recommended by the Kiev seminar.

Group 6 Light Industries

General remarks

102. This group covers a wide range of light industries, producing largely consumer goods. For purposes of organization this group is sub-divided into the following sub-groups: textiles and clothing; food processing; tanning and leather; and wood-working industries.

Textile industries

103. The established textile industries in the developing countries face a number of problems in the areas of production, technology and management, including in particular the problems of cost and marketing. Since the textile factories are generally among the first industries to be established in these countries, the rehabilitation of the industry involves modernization of the existing plants, increase in scale of operations, raising operational efficiency etc. This is particularly important to those textile industries of the developing countries that are producing or intend to produce for foreign markets where they are exposed to international competition in the quality and prices of their exports.

104. Attention must be given not only to the rehabilitation of the existing industries but also to the establishment of new textile industries in developing countries on the basis of domestic resources in fibres of vegetable and animal origin and of synthetic fibres, either imported or domestically produced.

105. The textile industries in the developing countries have also to contend with the technological changes that have taken place in the textile industries in recent years, in particular the increasing use of mixed fibre fabrics and the technological advances in the development of modern textile equipment and machinery which tends to make modern textile industries increasingly capital intensive, while the effect of the labour component of costs is correspondingly reduced as an element of comparative advantage.

Industrial food processing

106. Industrial food processing consists of the preservation of food, extraction, purification and production of food preparations; and the processing of low-value food materials and liquids to high nutrition value products with market acceptability.

Group 6 Light Industries (cont'd.)

Because of the nature of the manufacturing operations, the food processing industry is closely related to the chemical process industry, the so-called unit operations involved being essentially the same. This industry has undergone vigorous development in the last twenty years in engineering methods and equipment, the size of plant, the efficiency and level of automation, and in research and use of special skills. Industrial food processing has an impact not only on food distribution and marketing but also, as experience has shown, it exerts a powerful stimulating effect on increasing the production of food crops and animal feeds in agriculture.

107. The activities of UNIDO in food processing cover various aspects of modernization of existing installations and the establishment of new facilities in the industry. The responsibilities of UNIDO in this area relate in particular to the engineering, equipment and technological aspects. They also cover over-all planning of the industry so as to achieve a proper integration of the food processing industry with and linkages to other related industrial sectors. The latter may be either suppliers of the intermediate products and other industrial inputs in this industry (e.g. chemicals) or involve supplementary activities (e.g. the development of a "cold chain" of storage and distribution). As pointed out above, UNIDO's activities in this area are in many cases complementary to those of FAO and close co-operation with FAO is envisaged.

Tanning and leather and wood products

108. As regards tanning and leather and the wood products industries, UNIDO is continuing assistance to Governments in which its predecessor bodies in the United Nations have engaged for some time. Both industries involve commercialization of raw materials of animal and vegetable origin which are abundantly available in a number of developing countries and are to a large extent being exported in crude state (e.g. crude hides, forest resources). The development of domestic processing is an important contributing element to the process of industrialization of these countries. As in the case of textiles, traditional and often obsolete methods of production still prevail in these industries in a number of developing countries, and their rehabilitation through introduction of up-to-date technological and management methods is anticipated.

Group 6 Light industries (cont'd.)

A. Field projects

1. Textiles and clothing

Regular Programme and UNDP/TA

Africa

Morocco - UNDP/TA P.S. No. 421/5: Textile industry expert to make an extensive survey of the technological and economic aspects of this industry and to draft the main lines for the development policy suitable for this industry.

Experts (man/months)	1967	1/8	1968	1/4
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$14,600	1968	\$7,400

Asia

Ceylon - UNDP/TA P.S. No. ID-482: Textile expert attached to the Chairman of the National Textile Corporation in Colombo, will advise that Corporation on planning, erection of machinery, commissioning, achievement of production targets, production programmes, training and other technical matters.

Experts (man/months)	1967	1/6	-	-
Fellows (man/months)	1967	-	-	-
Cost	1967	-	1968	\$10,000

Ceylon - UNDP/Revolving Fund, ED-482/Rev.3: One year's extension for the services of the textile expert whose contract under the Regular Programme had expired on 30 June 1967.

Experts (man/months)	1967	1/6	1968	1/6
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$7,500	1968	\$7,500

Papua and New Guinea - UNDP/Revolving Fund 216/67: The Government of Australia has asked for the services of an expert in the clothing and textile industries for the industrial development in Papua and New Guinea.

Experts (man/months)	1967	1/3	1968	1/6
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$7,500	1968	\$11,500

Latin America

Argentina - UNDP/TA P.S. No. 111/57: Wool technology expert to advise on research conducted by "Instituto Nacional de Tecnologia Industrial" (National Institute for Industrial Technology) for the development of national industry.

Experts (man/months)			1968	1/3
Fellows (man/months)			1968	-
Cost			1968	\$5,400

Group 6 Light Industries (cont'd.)

Peru - UNDP/TA P.S. No. 195-5: Textile industry expert for preparation of development programme and projects for this industry, which is given special consideration in the national development plan.

Experts (man/months)	1968	1/3
Fellows (man/months)	1968	-
Cost	1968	\$5,500

Middle East and Europe

Spain - UNDP/TA P.S. No. ID-506: Industrial economist to assist in the development of footwear and textile industries.

Experts (man/months)	1968	1/3
Fellows (man/months)	1968	-
Cost	1968	\$5,700

Special Industrial Services (SIS)Africa

Mauritius - SIS 67/138: One textile technologist for jute and one marketing specialist to advise on organization, management and product range of the government sail factory.

Experts (man/months)	1967	2/8
Fellows (man/months)	1967	-
Cost	1967	\$19,000

Asia and the Far East

Malaysia - SIS 67/113: Expert to study the textile industry's present and future domestic and export markets, for various types of cloth. The analysis of present and future trends of consumption will be used for the evaluation of prospects for the establishment of integrated textile plants.

Experts (man/months)	1967	1/6
Fellows (man/months)	1967	-
Cost	1967	\$15,000

2. Food processingRegular Programme and UNDP/TAAfrica

Sudan - UNDP/TA P.S. No. ID-235: Vegetable oil processing specialist to assist the Ministry of Commerce, Industry, Supply and Co-operation in the formulation of a uniform system of grading and in the standardization of oil seeds in the Sudan.

Experts (man/months)	1968	1/11
Fellows (man/months)	1968	-
Cost	1968	\$20,900

Group 6 Light industries (cont'd.)

Special Industrial Services (SIS)

Algeria - SIS 67/85; SIS 67/86:

Experts (man/months)	1967	2/12
Fellows (man/months)	1967	-
Cost	1967	\$28,000

Congo-Brazzaville - SIS 67/151: Expert to advise the Government on three projects: modernization of palm oil extraction plants; establishment of palm oil refining plant; and establishment of palmetto oil extraction plant.

Experts (man/months)	1967	1/4
Fellows (man/months)	1967	-
Cost	1967	\$9,000

Tunisia - SIS 67/73: Vegetable oil technologist to assist the Société Industrielle de Moknine to bring the plant into high efficiency operation. He will also investigate the feasibility of processing other oil-bearing fruit in order to operate the factory on a year-round basis.

Experts (man/months)	1967	1/6
Fellows (man/months)	1967	-
Cost	1967	\$14,000

3. Tanning and leather

Regular programme and UNDP/TA

Africa

Rwanda - UNDP/TA P.S. No. 217/63: Expert to advise on development of skin production for quantitative improvement of this industry and to promote processing of skins into leather and leather products.

Experts (man/months)	1967	1/12	1968	1/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$22,000	1968	\$22,000

Special Industrial Services (SIS)

Asia

India - SIS 67/17: Footwear specialist to advise on the establishment of a footwear plant, operating within the scope of the State Trading Corporation of India, and primarily export-oriented; specific guidance will be provided for the preparation of a project report, including market study, choice of designs, raw material, machinery, plant location, and training of personnel and quality control.

Experts (man/months)	1967	1/12
Fellows (man/months)	1967	-
Cost	1967	\$32,000

Group 6 Light Industries (cont'd.)4. Wood-working industriesRegular Programme and UNDP/TA

Jamaica - UNDP P.S. No. 951: Furniture production engineer to advise on modern production methods and techniques, factory layout and quality control.

Experts (man/months)	1968	1/1
Fellows (man/months)	1968	-
Cost	1968	\$1,900

Bulgaria - UNDP/TA P.S. No. 269/65: Furniture industry expert to improve production in this basic industry.

Experts (man/months)	1968	1/1
Fellows (man/months)	1968	-
Cost	1968	\$1,800

B. Expert group meetings, seminars, group training and workshops1. Textile industries

109. In connexion with the implementation of resolution 1183(XLI) of the Economic and Social Council, UNIDO has plans for a series of expert group meetings comprising representatives of both the suppliers and users of industrial equipment from private and public sectors in various industries. These groups would engage in a systematic collection, evaluation and analysis of relevant material, with a view to establishing an advisory service in UNIDO to advise governments of developing countries in matters relating to procurement cost and quality of industrial equipment.

(a) A meeting on problems of machinery selection in the cotton industry in developing countries was held in Vienna in October 1967. This meeting had been recommended by the workshop on the textile industry held in Lodz, Poland in 1966. The cost of the meeting was approximately \$3,000, financed under the regular UNIDO budget.

(b) A similar meeting will be held on the selection of machinery in the worsted industry late in 1968 at an estimated cost of \$3,000, to be financed under the regular UNIDO budget.

2. Food processing industries

110. An expert group on refrigeration techniques and equipment will meet in 1968 to discuss problems relating to the engineering and technology of refrigeration from the point of view of the requirements in the developing countries. It is planned that the meeting will be held in the Netherlands, at an estimated cost of \$10,000, to be financed under the regular UNIDO budget.

Group 6 Light Industries (cont'd.)

C. Studies and research

111. Documentation will be prepared for the three meetings referred to in paragraphs 109 and 110 above by consultants, in co-operation with UNIDO staff, as follows:

- (a) A report of the meeting on selection of machinery in the cotton textile industry has been prepared by the participants and is being published as document ID/WG/8/1 in the UNIDO working group series. (Estimated cost of consultant services \$4,000.)
- (b) A similar study will be prepared following the meeting on the selection of machinery in the worsted industry. (Estimated cost of consultant services \$3,000.)
- (c) For the meeting on the technology of refrigeration, a report is planned at an estimated cost of \$4,000 for consultant services.
- (d) A study of "Technological and Economic Aspects of establishing textile industries in Developing Countries" is in publication and will be distributed early in 1968.

In addition, one or two studies are proposed on the planning and engineering aspects of selected food industries at an estimated cost of \$5,000 for consultant services. The consultant services for these studies would be financed from the UNIDO regular budget.

D. Co-operation with the regional economic commissions

112. As regards textiles it is envisaged to co-operate, within the available resources, in the preparation by the regional secretariats of a certain number of research projects recommended by the regional symposia, including the following:

- (a) Feasibility studies on manufacture of ready-made clothing (ECA)
- (b) Establishment of a Regional Textile Research Centre (ECA)
- (c) Guidelines for production of man-made fibres (ECA and ECAFE)
- (d) Feasibility study on the establishment of garment and hosiery industries (ECAFE)
- (e) Reorganization of the textile industry in Latin America (ECLA)
- (f) Maintenance in the textile industry (ECLA).

113. As regards food processing, it is envisaged to engage within the available resources and in co-operation with FAO in the preparation of joint UNIDO/ECLA techno-economic surveys on food processing industries in Latin America; and in a study of production of fish protein concentrates in Chile and Peru, the latter in collaboration with the respective fish research institutes at Santiago and Callao.

Group 6 Light Industries (cont'd.)

114. Co-operation is also envisaged with ECAFE in a study to investigate the possibility of improving the yield in rice processing through extraction-milling and production of protein-rich rice bran for human diet, with a view to developing a regional project in this area; and with ECA in organizing a joint project in cassava, millet and meat processing.

E. Publications

115. The following publications are planned for 1968:

- (a) Guidelines for the selection of machinery in the cotton and worsted industry. These guidelines are intended to be processed internally.
- (b) A manual for engineers in the textile industry is expected to be published in the training for industry series.

INDUSTRIAL SERVICES AND INSTITUTIONS DIVISION

Group 7 Industrial Legislation, Patents and Licensing

General remarks

116. Legislation on taxation, investment, industrial property and patents, industrial standards, and the licensing of technological information and know-how can stimulate industrial development and technological advancement in the developing countries.

117. General Assembly resolution 2151 (XXI) states that in the area of industrial property UNIDO undertakes "measures for the improvement of the international system of industrial property, with a view to accelerating the transfer of technical know-how to developing countries and to strengthening the role of patents consistent with national interests as an incentive to industrial innovations". In addition, resolution ID/B/1(I), para. 2(f), sections (xiii) and (xiv) directed UNIDO to "assist in the dissemination of information on technological innovations originating in various countries and for the developing countries" and to "inform and advise on the systems of patents, industrial property and know-how". Appropriate activities in this area are planned by UNIDO under its 1968 programme.

A. Field projects

Africa

Lesotho - UNDP/Revolving Fund 7-05-252: As a follow-up to a programming mission undertaken in 1966 the Government has requested the services of an industrial mining and legislation expert. (See also request for industrial adviser, under Industrial Planning and Programming.)

Experts (man/months)	1967	1/6	1968	1/6
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$12,500	1968	\$12,500

Asia

Singapore - P.S. No. 264-61: Taxation treaties expert to advise and assist in the preparation of agreements on avoidance of double taxation with various countries as part of the Government's fiscal policy for encouraging overseas investments.

Experts (man/months)	1967	1/12	1968	1/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$22,000	1968	\$22,000

Group 7 Industrial Legislation, Patents and Licensing (cont'd.)

B. Expert group meetings, seminars, group training and workshops

118. An advisory meeting of experts in industrial patents for developing countries and the organization and administration of patent systems and offices in developing countries is planned for 1968. The objective of this meeting is to formulate policies of assistance to developing countries in the field of patents and licensing of industrial processes and equipment, including training of technical personnel from developing countries. The co-operation and participation of the Fiscal and Financial Branch of the United Nations Department of Economic and Social Affairs, of BIRPI and other interested agencies will be sought. It is expected that this meeting will be a forerunner to the establishment of a training centre for patent officials in The Hague. The results of this meeting will provide guidance for the shaping of the future programme of action and technical assistance of UNIDO in the field. The estimated cost of the meeting is \$11,000. Provision for financing has been made under the Regular Programme, Category I (IDS-19).

C. Studies and research

119. As a continuation of previous activities, it is proposed to compile information on laws and regulations affecting industry in an Industrial Legislative Series, which would not be limited exclusively to legislation but would also include pertinent administrative directions, executive orders and other regulations affecting the various subject categories. Co-operation and participation of other interested agencies will be sought in the preparation of material for publication.

Group 8 Industrial Research, Standardization and Quality Control, Industrial Information

General remarks

120. The promotion of industrial activities in developing countries involves the need for establishing and strengthening a certain number of essential industrial services which together provide an institutional infrastructure of the industrialization process. The activities of UNIDO in assistance in the establishment and promotion of the various services are presented under Groups 8 and 9. Group 8 covers (a) industrial research; (b) standardization and quality control; and (c) industrial information. Group 9 covers (a) industrial consulting services; and (b) organizational and administrative machinery for industrial development.

(a) Industrial research

121. The availability of local basic investigation and research facilities and certain technical services is an essential element in the industrialization of the developing countries. Such technical services may include development of ideas and products; adaptation of foreign technology to local conditions; exploitation and use of local materials; diagnosis of problems and solving them on-the-spot; pilot plants whereby results of laboratory research are carried through to the stage of commercialization; feasibility studies; and industrial design. The base for such services is normally an industrial or technological research institute operating as a local organization and serving as a focal point to stimulate and promote technical development and respond to the requirements of the national industry. Such institutes have an element of permanence that is lacking in ad hoc research schemes and investigations and provide an appropriate framework within which foreign experts and imported know-how could be put to best use.

(b) Standardization and quality control

122. In the field of standardization, UNIDO is concerned with assistance to developing countries in the setting up and supporting of their national or regional machinery for standardization activities, in co-operation with the existing international agencies in this field, namely the International Standards Organisation and the International Electro-technical Commission.

Group 8 Industrial Research, Standardization and Quality Control, Industrial Information (cont'd)

123. Closely related to standardization is the problem of quality control which is one of the major problems in the operation of industrial enterprises in the developing countries. The existing industries generally suffer from lack of uniformity in the finished products, failure to meet modern standards of quality and industrial specifications. This represents a major source of weakness, particularly as regards production of manufactured goods intended for foreign markets where it is essential to meet the rigorous standards and specifications of international competition.

(c) Industrial information

124. Industrial growth in developing countries is also dependent on access to industrial data and experiences from advanced and other developing countries. UNIDO's activities in this field will be directed towards accelerating the flow of expertise and industrial information to developing areas, drawing on both the resources of industrial know-how of advanced countries and the experience of developing countries. As part of these efforts to collect, analyse and disseminate industrial knowledge and experience, attention will be paid to marshalling and disseminating the fund of knowledge in the field of industry available in the United Nations system.

125. It is planned to assign the contribution of 5 million schillings (approximately \$200,000) made by the Austrian Government towards the cost of establishing in Vienna, under the auspices of UNIDO, a Central Industrial Information Service. This service is intended to develop into a focal point of information on industrial processes and equipment, existing industries and new initiatives and projects in the industrial field, both in the developed and developing countries, and on industrial opportunities in the developing countries. In addition to putting at the disposal of all interested parties its facilities as a central depository of information in these areas, it will engage in various publications on an ad hoc and continuing basis to disseminate essential information in the form of directories, brochures, pamphlets, newsletters etc. This service will be operated jointly with the UNIDO library.

Group 8 Industrial Research, Standardisation and Quality Control, Industrial Information (cont'd)

A. Field projects

(a) Industrial research

1. Special Fund projects

Africa

Sudan Industrial Development Institute - SUD-12: The purpose of this Institute is to promote industrial development through the application of industrial research and technology adapted to the country's conditions and resources. This involves the establishment of a local source of practical information providing assistance, professional advice and counsel of processes, standards and efficient techniques of industrial production and management technology.

The project was approved by the Special Fund Governing Council in June 1963 for a duration of five years; the project became operational in April 1965. The full cost of the project is \$1,422,900 of which \$748,900 are Governing Council earmarkings and \$674,000 are provided by the assisted country.

Experts (man/months)	1967	8/96	1968	5/60
Fellows (man/months)	1967	1/6	1968	-
Equipment cost for five years				\$150,000

Asia and Far East

Thailand Technological Research Institute - THA-16: The purpose of the Technological Research Institute is to assist the Government with the development of its principal research agency, the Applied Scientific Research Corporation. The work of the Institute is divided into four groups which are concerned with industrial chemistry, based on the utilization of agricultural and other plant products, as well as solar energy and industrial effluent control; minerals and metals; materials of construction and fibres and textiles. The project was approved by the Governing Council in January 1964 for a duration of five years; the project became operational in November 1964. The full cost of the project is \$3,013,300 of which \$846,300 is Government Council earmarkings and \$2,167,000 is provided by the assisted country.

Experts (man/months)	1967	6/72	1968	5/50
Fellows (man/months)	1967	4/24	1968	8/72
Equipment cost for five years				\$260,000

Group 8 Industrial Research, Standardisation and Quality Control, Industrial Information (cont'd)Latin America

Colombia Institute for Technological Research - COL-19: The purpose of this project is to expand the facilities of Colombia's Institute for Technological Research at Bogota, for more effective assistance to the country's industries. The Institute provides assistance in the development of operating techniques for improved utilization of raw materials and equipment and provision of technical advice through consultation, seminars and publications. Industries covered are food, processing of agricultural products, metallurgical, mechanical and chemical products.

The project was approved by the Governing Council in December 1960 for a duration of four years. The full cost of the project is \$1,071,700 of which \$558,700 is Governing Council earmarkings and \$513,000 provided by the assisted country. It is requested to extend the project upon completion of the present series of operations into a second phase.

Experts (man/months)	1967	6/72	
Fellows (man/months)	1967	-	
Equipment cost for four years			\$150,000

Regional: Central American Research Institute for Industry (ICAITI) Phase II - RES-68: The project aims at Central American regional economic integration with techno-economic studies to identify and promote industries of region-wide interest. The Institute has assisted private and public industries in the five countries (Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua) with evaluations of industrial projects involving plant expansion, processes and installations, product quality and standards and market studies. The Institute has also established a programme in scientific and technological research for the training of young Central American professionals in specified techniques by means of practical work in industrial fields of interest for the region.

The second phase of the project was approved by the Governing Council in June 1965 for a duration of three years. The full cost of the project is \$1,539,000 including \$832,500 in Governing Council earmarkings and \$706,500 provided by the assisted countries.

Experts (man/months)	1967	2/24	1968	2/24
Fellows (man/months)	1967	6/72	1968	6/72
Equipment cost for three years				\$325,400

Europe and Middle East

Israel Industrial Research Centre - ISR-11: The purpose of the Institute is to promote the application of the findings of pure research to industrial production as a means of accelerating industrial development. The work of the Centre is devoted initially to food technology, plastics, textiles, fibres and some aspects of inorganic and organic chemistry primarily significant for potential export industries.

Group 8 Industrial Research, Standardization and Quality Control, Industrial Information (cont'd)

The project was approved by the Governing Council in January 1964 for a duration of five years and became operational in April 1966. The full cost of the project is \$5,236,500 including \$1,266,500 in Governing Council earmarkings and \$3,970,000 provided by the assisted country.

Experts (man/months)	1967	16/192	1968	10/60
Fellows (man/months)	1967	10/60	1968	10/120
Equipment cost for five years			\$400,000	

2. Regular Programme and UNDP/TA

Africa

Libya - P.S. 282-63: Senior research chemist to advise and assist the Ministry of Industry in the planning and organization of its applied chemical research programme. The programme was originally started by an expert appointed under funds-in-trust.

Experts (man/months)	1967	1/12	1968	1/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$22,000	1968	\$22,000

Nigeria - P.S. 10-61: Director, Federal Institute of Industrial Research (OPEX Post). Subject to the approval of the Governing Body of the Institute and the National Ministry of Industry, the officer will establish the Institute's policy, co-ordinate its work with related research programmes in other fields (i.e. agriculture) and plan and direct execution of research programmes.

Experts (man/months)	1967	1/12	1968	1/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$15,000	1968	\$15,000

Asia and Far East

Iran - ID-272: Expert to strengthen the operations of the Industrial Research Institute and Standards Organization.

Experts (man/months)	-		1968	1/12
Fellows (man/months)	-		1968	-
Cost	-		1968	\$25,000

Singapore - 26-66: One-year extension of the Industrial Research Adviser who has been attached to the Singapore Economic Development Board (EDB) since March 1966, to advise the Industrial Research Unit of the EDB, in particular its chemical section.

Experts (man/months)	1967	1/8	1968	1/4
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$15,200	1968	\$7,600

Group 8 Industrial Research, Standardization and Quality Control, Industrial Information (cont'd)Europe and Middle East

1. Israel - P.S. 243-57: Three experts to develop administrative and manufacturing techniques, and to accelerate the acceptability by industry of applied research and development policies.

Experts (man/months)	1967	3/3	1968	3/3
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$5,500	1968	\$5,500

(b) Standardization and quality control1. Special Fund projects

Paraguay-Technical Standards National Institute (PAR-8): The purpose of the Institute is to prepare standards of quality and methods of quality control, with particular reference to major export products, meat, timber, vegetable and essential oils, hides, skins and cotton (together these products account for 70 per cent of exports).

Furthermore, the work of the Institute has been expanded, with a view to its functioning as a national bureau of standards. It is organized around four laboratories specializing in testing of construction materials, especially wood; foodstuffs with emphasis on bacteriology, vegetable and essential oils, and fibres, textiles, hides and skins.

The project was approved by the Special Fund Governing Council in May 1962 for a duration of five years. The full cost of the project is \$908,900, including \$543,900 in Governing Council earmarkings and \$365,000 provided by the assisted country.

Experts (man/months)	1967	2/24	1968	2/24
Fellows (man/months)	1967	6/72	1968	6/72
Equipment cost for 5 years				\$90,000

2. Regular Programme and UNDP/TAAfrica

Ethiopia - P.S. 97/63: Industrial standardization expert for the establishment of a national standard institution for the preparation, publication and implementation of national standards and the centralization of standardization methods within Ethiopia; the work will be done in co-operation with national standards institutions of other African countries, especially those of East African sub-regions.

Experts (man/months)		1968	1/12
Fellows (man/months)		1968	-
Cost		1968	\$22,000

Group 8 Industrial Research, Standardization and Quality Control, Industrial Information (cont'd)

Asia and Far East

Afghanistan - P.S. 155/63: Metric system expert to assist the Ministry of Commerce in the introduction and implementation of the metric system.

Experts (man/months)	1967	1/12	1968	1/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$22,000	1968	\$22,000

Singapore - ID-291: Expert on industrial standards.

Experts (man/months)			1968	1/3
Fellows (man/months)			1968	-
Cost			1968	\$5,700

Singapore - ID-291: Expert on export products inspection and specification.

Experts (man/months)			1968	1/6
Fellows (man/months)			1968	-
Cost			1968	\$15,000

Thailand - P.S. 82: Industrial standardization expert to set standards for locally manufactured products, improve facilities for testing, controlling and certification, and institute a laboratory for repairing, building and calibrating of testing instruments and scientific apparatus.

Experts (man/months)	1967	1/12		
Fellows (man/months)	1967	-		
Cost	1967	\$22,000		

Latin America

Argentina - P.S. 111/57: Engineer for components testing to assist the "Instituto Nacional de Tecnologia Industrial" (INTI) in technological research to promote and support development of national industry.

Experts (man/months)			1968	1/3
Fellows (man/months)			1968	-
Cost			1968	\$5,400

Barbados - Implementation delayed into 1967-68: Industrial Standards Adviser to assist the authorities of Barbados in the administration of an efficient industrial standards system, required in connexion with import substitution. The expert is to assist in the development of systems and procedures for the elaboration, application, review and dissemination of standards, specifications and testing methods for industrial products.

Experts (man/months)	1967	1/11	1968	1/11
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$20,200	1968	\$18,000

Group 8 Industrial Research, Standardization and Quality Control, Industrial Information (cont'd)

(c) Industrial information

Africa

Algeria - P.S. 94-6 UNDP/TA: Planning expert to organize a national service of orientation and documentation for industry, through contacts with management and technical staff of industry. The expert will organize a permanent inventory and reference service for industrial, technical and legal problems.

Experts (man/months)	1967	1/6	1968	1/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$14,000	1968	\$19,000

Morocco - ID-82 Regular Programme: Expert to advise on the organization of an industrial information service.

Experts (man/months)	1968	1/3
Fellows (man/months)	1968	-
Cost	1968	\$5,700

B. Expert group meetings, seminars, group training and workshops

126. The following meetings are planned for 1968:

- (a) An interregional meeting on Industrial Research Institute in Developing Countries at an estimated cost of \$12,000 (UNDP/TA P.S. 155/67).
- (b) Subject to the availability of Technical Assistance funds, a seminar on Industrial Quality Control is envisaged to be held in Denmark in the second part of 1968. The estimated cost is \$50,000, to be financed from the Danish contribution.

C. Studies and research^{11/}

127. No research studies are planned in the areas of Industrial Research and Standardization and Quality Control.

128. In the area of industrial information, the following studies are planned which are related to the establishment of the Central Industrial Information Service in Vienna:

^{11/} See also under Group 6 (Light Industries), Section C, paras. 109-111, referring to selection of industrial equipment in the cotton and wool textile industries.

Group 8 Industrial Research, Standardization and Quality Control, Industrial Information (cont'd)

- (a) A study on advisory services on industrial equipment. This study is undertaken in response to ECOSOC resolution 1183 (XI) on the provision of advice to governments of developing countries in matters of selection and procurement of industrial equipment. The study is to be carried out by UNIDO staff with the assistance of consultants in connexion with the expert group meetings of November 1967 in New York. In addition, it is planned to conduct a series of field investigations in a number of selected countries in 1968. The estimated cost of the project is \$20,000, to be financed under the regular UNIDO budget.
- (b) Development of an industrial opportunities matrix. It is planned to undertake the elaboration of a matrix providing up-to-date information on potential industrial development opportunities in each developing country. This project should become instrumental in directing local and foreign investors towards new industrial ventures in developing areas. The project will be carried out by UNIDO staff with the assistance of consultants. Estimated cost of the project, financed under the regular UNIDO budget is \$10,000 for consultant services.
- (c) Work on the directory of industrial agencies (continuing activity). As a follow-up to the report presented to the Committee for Industrial Development at its sixth session on the need for a world-wide directory of industrial agencies, as a reference tool for authorities and local foreign investors, UNIDO will continue the compilation of data on industrial agencies in various parts of the world with a view to publishing a directory some time in 1969. The publication will include information on the organization and functioning of industrial agencies as well as on the administrative procedures established by the different national authorities for the setting-up of new industries.
- (d) Research is also carried out in connexion with the preparation of the publications below.

E. Publications

129. The following publications are scheduled for 1968:

- (a) "Industrial Research and Development News" Vol. II, No. 2, Volume III, Nos. 1 and 2.
- (b) UNIDO Newsletter. This publication, a bi-monthly leaflet of 4-8 pages, is a vehicle for current dissemination of information on UNIDO activities. It is addressed to industrial administrators and managers and provides information on current and forthcoming technical assistance projects, meetings and publications. Six yearly issues are planned to appear in English, French and Spanish.
- (c) A Manual on the Training of Managers of Research Institutes, is programmed to be published in 1968 at an estimated cost of \$6,500.

Group 9 Industrial Consulting Services and the Organisational and Administrative Machinery for Industrial Development

General remarks

(a) Industrial consulting services

130. Developing countries are making increasing use of consulting and engineering services for the preparation of pre-investment and feasibility studies, the preparation of industrial projects and their implementation including construction, procurement and installation of equipment etc. These services are generally provided by firms and institutions from developed countries. The developing countries face problems of selection and procurement so as to obtain fair and objective advice and servicing under most economic conditions. In the longer run the problem is one of training national cadres so that the developing countries should be in a position to satisfy their requirements in consulting and engineering services from local sources of talent and skills.

131. The work programme of UNIDO in this area has the objective of increasing and improving the availability of consulting services to developing countries; assisting these countries in the selection and procurement of industrial consultants; and encouraging the development of local consulting organizations.

132. Following an expert group meeting held in New York in October 1966 on the subject of industrial consultants, a manual has been prepared which explores and discusses items such as the role of consultants, organisation of the consulting profession, the criteria and procedure for selecting consultants, contracting practices, financial arrangements, relationship between client and consultant, and development of local consulting services.

133. Possibilities will be explored in 1968 for the development of new institutional arrangements for making consulting services from industrialised countries available to developing countries. Among the possibilities to be explored are: organizations such as the Executive Service Corps which has been operating for several years in the United States and the formation of a consultants' pool, under which consulting organizations from all developed countries would make some part of their services available on a flexible basis to developing countries under UNIDO auspices at a cost substantially less than their normal commercial fees.

Group 9 Industrial Consulting Services etc. (cont'd)

(b) Organizational and administrative machinery for industrial development

134. For the provision of the industrial services referred to in the preceding sections and of other services that are part of industry's normal "service infrastructure", it is necessary to have established in the countries a certain number of agencies and institutions with appropriate functions. Collectively, these agencies and institutions which provide the administrative framework and the source of a variety of industrial services, represent the organizational and administrative machinery for industrial development. They may be of public, private or mixed public-private character.

135. Examples of such agencies and institutions are ministries and departments of industry, industrial development corporations, industrial development banks, other industrial financial institutions, productivity institutes, bureaus of standards. Those in the private sector would include industrial co-operatives, manufacturers' associations, industrial equipment maintenance centres, labour organizations, professional associations, international equity capital funds and international franchising organizations.

136. The activities of UNIDO in this area are directed to the promotion and strengthening of the institutional framework. Institution building in the field of industry in the developing countries is considered to be an essential task of UNIDO. As an example, it is believed that much more lasting effects can be achieved through the provision of technical assistance if it is provided through the channels of an existing institution or is given in institutionalized form.

A. Field projects

137. This being a new area of activity, only one technical assistance project is programmed in the field under the SIS programme. A number of projects in related areas (e.g. Group 10, Management and Training) deal with some of the aspects covered in Group 9.

China - SIS 67/104: One expert to assist the China Productivity and Trade Centre (CPTC) in setting up consulting services for medium and large enterprises. The expert is to conduct a pilot project for a group of industries or a set of industrial problems in the form of a model consulting service.

Experts (man/months)	1967	1/6
Fellows (man/months)	1967	-
Cost	1967	\$15,000

Group 2 Industrial Consulting Services (cont'd)

B. Expert group meetings, seminars, group training and workshops

1. Regional workshop for employers and consultants (including the staff of local consulting establishments)

138. It is planned to conduct in 1968 a regional workshop for a number of developing countries with the participation of managers of industrial development corporations, industrialists and other employers of consultants and of managing staff of local consulting firms, for an exchange of views on techniques and methods of selecting consultants; contractual and financial arrangements; client-consultant relationships; and implementation of consultant recommendations. The workshop will also examine the problems of the consultant's functions and responsibilities and the ways and means of providing more effective help to industry. The workshop would thus help to train the participants in the use and provision of consulting services; fields of activity of consultants; contractual and financial aspects; assistance from and the relationship with consulting firms in other countries etc.

139. Forty participants from Africa, the Middle East, Asia and the Far East or Latin America, would attend the workshop. The experience gained in this workshop would be used in setting up similar programmes in other regions in the future.

140. The meeting is scheduled to be held for a period of two weeks. The estimated cost is \$20,000 to be financed under the regular UNIDO budget.

2. Regional workshop on the organization and administration of industrial services in Asia and the Far East

141. This project is a continuation of UNIDO's activities in this field. A similar workshop was organized in Africa in 1967. Surveys have been completed by UNIDO staff on industrial services and institutions in a number of countries in Asia and the Far East.

C. Studies and research

142. In addition to the preparatory work for the preparation of the meetings above, it is planned, as a continuing activity, to establish, in co-operation with the interested agencies, a roster of consulting organisations as well as other information on relevant organisational matters and practices.

Group 9 Industrial Consulting Services (cont'd)

E. Publications

143. The printing of a Manual on the Use of Consultants in Industrial Development is scheduled for 1968. The printing, at an estimated cost of \$7,300, was approved for the 1967 publications programme but has been deferred to 1968.

Group 10 Industrial Management and Industrial Training

1. Industrial management

General remarks

144. The relatively slow rate of implementation of industrial projects in many developing countries and problems of low productivity and failure to achieve the set production targets have focused the attention of governments on the need for executive and managerial skills and adoption of advanced managerial techniques.

145. The work of UNIDO in the field of industrial management will be concerned with provision of assistance in the following areas:

- (a) maintenance and plant engineering;
- (b) industrial design and product development;
- (c) material management and inventory planning;
- (d) production planning and control;
- (e) financing planning and control;
- (f) quality control;
- (g) marketing;
- (h) corporate planning.

A. Field projects

1. Regular Programme and UNDP/TA

Africa

Ghana - P.S. No. 46-61: Four OPEX experts in industrial production, marketing development, industrial management planning and financial control and planning respectively, to assist the State Enterprises Secretariat in the establishment of systematic methods of planning and implementation of production targets.

Experts (man/months)	1967	4/48	1968	4/48
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$60,000	1968	\$60,000

Asia and Far East

Japan - P.S. No. 1-57: Commercial accounting expert to advise on the training of senior staff of the Directorate of Commerce, Audit and other boards and corporations in modern management accounting techniques.

Experts (man/months)	1967	1/12	1968	1/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$22,000	1968	\$22,000

Group 10 Industrial Management and Industrial Training (cont'd)

China - Regular ID. No. 599: Expert in Management Research to conduct consulting services to local enterprises for solving management problems related, but not limited to manufacturing process and plant utilization and quality control.

Experts (man/months)		1968	1/6
Fellows (man/months)		1968	-
Cost		1968	\$15,000

Malaysia - P.S. No. 19/66: Two experts to assist the recently established semi-government development organisation in the provision of management and advisory services to industry and commerce.

Experts (man/months)	1967	1/12	1968	1/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$22,000	1968	\$22,000

Europe and Middle East

Syria - Regular ID. No. 513: Expert to advise on management of national industries.

Experts (man/months)		1968	1/6
Fellows (man/months)		1968	-
Cost		1968	\$15,000

Turkey - P.S. No. 277/57: Two industrial economists to provide management assistance for training in the fields of engineering, chemical and petro-chemical engineering, gear manufacturing, forging and management.

Experts (man/months)	1967	2/24	1968	2/24
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$44,000	1968	\$44,000

2. Special industrial services

Africa

Ghana - 66/2: A three-expert team as OPEX personnel is managing the government-owned Fibre Ray Manufacturing Corporation in Kumasi, which is producing jute bags from imported raw materials.

Experts (man/months)	1967	3/36
Fellows (man/months)	1967	1/3
Cost	1967	\$71,000

Group 10 Industrial Management and Industrial Training (cont'd)

Nigeria - 66/11: A paper industry expert undertook in 1966 a survey of the problems connected with the running of the Nigerian Paper Mills at Jebba. As experience in modern processing at marketing techniques is not locally available, the Government as a follow-up of the recommendations of the expert, wishes to sub-contract the management of the mills to a group of consultants. The contacting of consulting firms is undertaken by UNIDO under the SIS programme as a second phase of the earlier project.

Experts (man/months)	1967	1968
Fellows (man/months)	1967	1968
Sub-contract to consulting firms		\$10,000

Asia and Far East

China - 67/11: A five-expert team to assist the China Productivity and Trade Centre (CPTC) in conducting advanced industrial executive development programmes through seminars and training courses, plant visits and demonstration diagnosis of selected plants. The assistance includes formulation of a long-range top executive development plan to meet the needs of the industrial firms and the provision of consulting services to selected enterprises.

Experts (man/months)	1967	5/18
Fellows (man/months)	1967	-
Cost	1967	\$40,000

B. Expert group meetings, seminars, group training and workshops1. Industrial consultation workshops

146. UNIDO has given particular attention to promoting direct contacts with the manufacturing industries and professional organizations in the developing countries, as well as the industrialized countries. In co-operation with industry and management associations in the industrialized countries, a programme of industrial consultation workshops was developed with the participation of executive and technical personnel of industrialized countries, with their counterparts in the developing countries to discuss problems of management of organization and production in their plants.

147. Training programmes in management have been planned for 1968 in response to the requests, either formulated or about to be formulated by Governments as follows: Indonesia (industrial costing and market promotion); United Arab Republic (systems analysis, including the application of electronic computers); Peru (corporate planning and organization in the textile industry); Ghana (operating state-owned enterprises); Yugoslavia (decentralization of industry and market promotion);

Group 10 Industrial Management and Industrial Training (cont'd)

Turkey (industrial design and product development); Bolivia (managerial problems in the mining industry); and El Salvador and Jamaica (industrial management and industrial production). The objective of these training programmes is to identify management problems, to discuss their nature and to determine the course of action to be taken. They provide a forum for the executives in the developing countries to review their problems with executive personnel from the industrialized countries.

148. The cost of the training programmes is \$13,000 for each country. The total of \$91,000 is to be financed under the UNIDO budget, subject to availability of funds.

2. Seminar on quantitative techniques of management in the USSR

149. It is felt that the problem should be explored of adapting current management techniques to conditions in developing countries, taking into account their limited human and material resources. The estimated cost of this meeting is \$50,000. It is envisaged that it would be financed from the USSR contribution.

C. Studies and research

150. The objective of these studies is to evaluate current experience with a view to adapting it to the conditions and needs of the developing countries. The resulting material will also be used in the industrial consultation workshops described above which are planned as a continuing activity of UNIDO in the field of management. The following studies are planned for 1968:

- (a) Corporate planning: Six studies in specific industries are planned in 1968. The estimated cost in consultant services is \$6,000, to be financed under the regular UNIDO budget.
- (b) Quantitative techniques in management: The coverage of the studies, which were initiated in 1967, will be extended in 1968. The material will be reviewed for publication in 1969. The estimated cost in consultant services is \$4,000, to be financed under the regular UNIDO budget.
- (c) Organization and management of the distribution channels for consumer goods in the developing countries: The organization and management of the distribution channels for consumer goods is an essential complementary element to manufacturing. The establishment of a proper balance between capacity to produce and marketing and distribution is a major concern of management in the developing countries. Six studies planned for 1968 will be used as material for a meeting planned for 1969. The estimated cost is \$6,000, to be financed under the regular UNIDO budget.

Group 10 Industrial Management and Industrial Training (cont'd)

- (d) Organization and management of product development within the individual enterprise: This problem is becoming increasingly important in a number of countries. A series of six studies is planned in 1968, two of which will be concerned with the relevant experience and practices in industrialized countries. The studies will be used as material for UNIDO training programmes in management in 1969. The estimated cost in consultant services is \$6,000, to be financed under the regular UNIDO budget.
- (e) Maintenance planning and training: An expert group on maintenance and repair met in New York in 1966. Following the recommendations of this Group^{12/}, four studies in specific sectors of industry are planned in 1968. They will be published in 1968 in the form of a manual to be used for training purposes. The estimated cost in consultant services is \$3,000, to be financed under the regular UNIDO budget.

E. Publications

151. The following publication in the field of industrial management is planned for 1968: Problems of Industrial Maintenance in the Developing Countries. This will be processed internally.

2. Industrial training

General remarks

152. One of the major bottlenecks in the process of industrialisation in the developing countries is the shortage of adequately trained personnel, so that promotion of training in industry constitutes a major field of activity of UNIDO. This activity is designed to assist governments of the developing countries in formulating training policies, evolving programmes and methods of action, and developing an institutional framework to implement the training programmes. UNIDO has initiated, as a part of its long-range programmes in this field, activities in depth for training of engineers and technicians, management personnel, and government officials dealing with industrial development. New approaches to institutional arrangements for promotion of industrial training are continuing to be explored. These activities are being carried out either in direct co-operation or are co-ordinated with those of the interested United Nations specialised agencies, in particular ILO and UNESCO.

^{12/} See the report of the Group, Document ID/1-1967.

Group 10 Industrial Management and Industrial Training (cont'd)

153. The assistance provided by UNIDO in the field of training falls into two main areas: (a) Individual Fellowship Training Programmes, which fall under the general programme of technical assistance and are described in Section A, Field projects below; and (b) Group in-plant training Programmes, which are described under Section B, Expert group meetings, seminars, group training and workshops.

154. UNIDO is engaged in substantive servicing of approximately 300 group and individual training fellowships annually in the field of industrialization, financed under the various United Nations programmes of technical assistance.

(a) Individual fellowship training programmes

155. Fellowships granted upon request of governments are not generally awarded for the pursuit of academic studies leading to degrees or diplomas. They are intended to give persons engaged in industrial activities the opportunity to broaden their professional knowledge and experience by becoming acquainted with advanced methods and techniques. A particular training programme may include academic studies, but the main purpose of a fellowship is to enable the holder to derive from his training an increased ability to solve operational and professional problems upon his return to his country. The fellowship candidates generally fall into the following occupational groups: (i) engineering and managerial personnel of public and private industrial enterprises; (ii) officials of industrial training, extension and research institutions; and (iii) officials of government administrations and industrial development and planning agencies.

156. The available industrial training opportunities include such fields as industrial development planning and programming, industrial technology and practice; technological research, development of new industries, special problems of small-scale industries and industrial management. The three main types of fellowship programmes include study tours; training in universities and educational centres; and training in industry. In each case, UNIDO is involved in the selection of the candidates, their placement, and in the evaluation of the results achieved during the candidate's training period. In order to improve the effectiveness of the training programmes, UNIDO plans to devote increasing attention to the problems of placement as well as to the organisation, supervision and evaluation of the programmes. As a first step, UNIDO plans to initiate in 1968 a research and documentation programme, including the building-up of an adequately documented reference library on the subject.

Group 10 Industrial Management and Industrial Training (cont'd)

(b) Group in-plant training programmes

157. Under these programmes which have been conducted under CID and UNIDO auspices since 1965, the industrialized countries are providing financial support to the trainees within the host country during the period of training thus sharing the training cost with the United Nations and making available their experience, physical facilities and staff. The participating developing countries are contributing by paying the local salaries of their own trainees during the training period and the United Nations is providing round-trip transportation. Each programme is tailor-made in accordance with the facilities available in the host country and the particular needs of recipient countries. In 1968, UNIDO plans to organize six in-plant group training programmes. It is expected that approximately twenty engineers and technicians from the developing countries will participate in each of these training programmes.

158. Training within the developing countries: As a follow-up to the in-plant training in the industrialized countries, a few selected developing countries have been approached with a view to organizing similar in-plant training programmes with the assistance of UNIDO. It is expected that it will be possible to establish a certain number of such training programmes for which the training directors who are now active in the industrialized countries would be used, and in co-operation with nationals who have participated in the in-plant training programmes in the industrialized countries. The teaching materials and training manuals developed for the latter programmes would also be used in these programmes.

A. Field projects

- Notes:
- (1) Individual fellowships are listed under the industrial activity to which they relate in Section A below.
 - (2) Group training fellowships are presented in Industrial Training under Section B; Expert meetings, seminars, group training and workshops.

Group 10 Industrial Management and Industrial Training (cont'd)

Asia and Far East

Iran - Regular No. ID. 272: Two in-plant training experts - one to organize in-plant training for specialists in iron and steel, and one to organize in-plant training for electrical specialists.

Experts (man/months)	1968	2/6
Fellows (man/months)	1968	-
Cost	1968	\$11,400

Singapore - Regular No. 291: Two in-plant training experts to organise in-plant training programmes for specialists in a field which will be known at a later date.

Experts (man/months)	1968	-
Fellows (man/months)	1968	2/12
Cost	1968	\$2,400

Latin America

Peru - Regular No. 837: Expert to work on in-plant training of executives in selected industries. As a first step, UNIDO assisted in this field in 1967 by experts financed from SIS. Continuation of this project in 1968, under Regular Programme.

Experts (man/months)	1968	1/6
Fellows (man/months)	1968	-
Cost	1968	\$11,400

B. Expert group meetings, seminars, group training and workshops

159. Six group in-plant training programmes in six developed countries are planned for 1968 as follows:

	<u>Area of training</u>	<u>Country</u>	<u>Estimated Cost</u>
1.	Cement Industry	Denmark	\$75,000 UNDP/TA, CAT.I. P.S. 119-65 to be financed from the Danish contribution
2.	Diesel oil engines	Czechoslovakia	\$28,000 UNDP/TA, CAT.I. P.S. 172-67
3.	Electrical industries	Sweden	\$22,000 UNDP/TA, CAT.I. P.S. 293-67
4.	Iron and steel industries	USSR	\$130,000 UNDP/TA, CAT.II P.S. 172-67
5.	Textile industry	Poland	\$23,000 Subject to availability of funds
6.	Materials handling	Japan	\$20,000 " " "

Group 10 Industrial Management and Industrial Training (cont'd)

160. As regards in-plant training in developing countries, UNIDO is co-operating with UNESCO in implementing a training project in India which involves the establishment of a National Institute of Foundry and Forge Technology in Ranchi, Bihar, as a Special Fund project, for the training of engineers and technicians. Similar co-operation with ILO is being explored for other Special Fund projects. Projects for the establishment of training centres under the UNDP (Special Fund) programme, as permanent organizations to provide in-plant training to a wide range of industrial personnel, such as recently graduated engineers, are being actively pursued. Requests for such projects prepared with the assistance of UNIDO staff and for which UNIDO is expected to act as executing agency have been submitted by Turkey and Singapore.

161. Subject to the availability of funds in the UNIDO consultant budget, it is also planned to hold in 1968 the meetings described in the following paragraphs:

162. Meeting on training of industrial administrators in industrial development

The Interregional Working Party on Training of Industrial Administrators in Industrial Development held in Paris in 1965, in co-operation with the OECD, recommended that UNIDO should: (a) sponsor, at the most appropriate levels, short seminars or meetings for top-level administrators in the developing countries in development strategy and administration with due emphasis on problems of industrial development; (b) promote and undertake training programmes for the mid-career general administrator on a national and regional basis; and (c) initiate and organize training programmes for technical administrators in specific or specialized subjects or industrialization.

163. It was felt that the most effective approach in implementing the recommendations would be to strengthen and expand the facilities of existing national economic training and research institutes, located in the developing countries. In this connexion, UNIDO is discussing the possibilities of co-operation with the Government of the Netherlands, in organizing a training course in industrial administration for Asian government officials in 1968. This course will be based on a similar training programme for African government officials organized, in 1965, by the United Nations African Institute for Economic Development and Planning, Dakar, in co-operation with the Economic Commission for Africa and the United Nations Centre for Industrial Development.

Group 10 Industrial Management and Industrial Training (cont'd)

C. Studies and research

164. A series of country studies on Manpower Development for Industrialization has been undertaken to serve as a source of information and guideline to developing countries in connexion with their industrial training programmes and policies. It is planned to expand in 1968 the country coverage of these studies by including several of the less-developed countries in the African and Asian regions.

165. It is further planned to initiate in 1968 detailed country or regional studies concerned with the training and manpower problems of specific industry branches, such as fertilizers, cement, food processing etc. The cost of these studies is estimated at \$12,000, to be financed from the regular UNIDO budget.

E. Publications

166. The following publications in the field of industrial training are planned for 1968 at an estimated cost of \$4,700: Training Manual for Engineers and Technicians in the Textile Industry and Policies and Problems of Industrial Training in the Developing Countries. The Training Manual in Textiles will be the first publication in a series of training manuals by industrial branches to be undertaken by UNIDO. The aim of such manuals is to facilitate organizing in-plant training programmes for engineers and technicians in the developing countries themselves. The Textile Training Manual is being prepared and will be evaluated and revised as a result of the experiences gained from the in-plant training programme in textiles being organized by UNIDO in Poland in 1967.

Group 11 Special Problems and Institutions for Small-Scale Industry including Industrial Estates

General remarks

167. The activities of UNIDO in this field cover development programmes policies and measures of promotion of small-scale industries, industrial surveys and feasibility studies for industrial estates; technical and managerial assistance and training; marketing and export promotion; and assistance in establishing and operating common servicing facilities.

168. The development of small-scale industries and the establishment of industrial estates has received considerable encouragement from the United Nations through advisory services, technical assistance operations, seminars and publications. In the future it is expected to devote increasing attention to projects of assistance in obtaining external financing for specific projects through guidance in the preparation of requests; in organization of sub-contracting; in export promotional products of small-scale industries; in problems of rural industrialization and the setting-up of common service facilities for small industries whose scale of operation makes provision of such facilities uneconomic on an individual basis. For stimulation of entrepreneurship in this area it is envisaged to promote enterprise fellowship programmes for training future entrepreneurs in factories in the advanced countries.

A. Field Projects

1. Special Fund Projects

Iran - The Establishment of an Industrial Estate IRA-11: The purpose of the project is to encourage and facilitate the development of small and medium-scale industry in Iran by assisting the Government in establishing an Industrial Estate Authority and by providing for the planning, construction and operation of a demonstration estate at Ahwaz, Iran.

The project was approved by the Governing Council in June 1963 for a duration of five years; the project became operational in September 1965. The full cost of the project is \$1,760,500, including \$637,500 in Governing Council earmarkings and \$1,123,000 provided by the assisted country.

Experts (man/months)	1967	4/48	1968	3/36
Fellows (man/months)	1967	3/18	1968	-
Equipment cost for 5 years		\$110,000		

Group 11 Special Problems and Institutions for Small-Scale Industry including Industrial Estates (cont'd)

Uganda - Small-Industry Development Programme and Establishment of an Industrial Estate UGA-7: The purpose of this project is to assist the Industrial Division of the Ministry of Industry and Commerce in establishing facilities for the servicing and development of small industries, as well as in planning a demonstration industrial estate.

The project was approved by the Governing Council in January 1966 for a duration of five years. The full cost of the project is \$1,875,400, including \$746,400 in Governing Council earmarkings and \$1,129,000 provided by the assisted country.

Experts (man/months)	1968	8/96
Fellows (man/months)	1968	-
Equipment cost for 5 years	\$49,000	

2. Regular Programme

Africa

Central African Republic ID-999: Expert to elaborate the types of small and medium-scale industries which could be created, taking account of the local market.

Experts (man/months)	1968	1/7
Fellows (man/months)	1968	-
Cost	1968	\$13,300

Congo (Brazzaville) ID-955: Expert to assist in the development of small-scale industries.

Experts (man/months)	1968	1/6
Fellows (man/months)	1968	-
Cost	1968	\$11,400

Congo, Democratic Republic of: Industrial economist to advise on development of small-scale industries and industrial estates. Prototype planning will be started for specific industries that are to be encouraged, including financial requirements, equipment, raw materials, manpower and markets.

Experts (man/months)	1967	1/6	1968	1/6
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$11,000	1968	\$11,000

Congo, Democratic Republic of ID-1064: Industrial Economist will advise on the elaboration and execution of a general programme of development for small-scale industries.

Experts (man/months)	1968	1/12
Fellows (man/months)	1968	-
Cost	1968	\$22,000

Group 11 Special Problems and Institutions for Small-Scale Industry including Industrial Estates (cont'd)

Gabon - ID-834: Expert to elaborate, within the framework of the objectives of the development plan, the types of small and medium-scale industries which could be created taking account of local markets (wood transformation, current consumer goods etc.).

Experts (man/months)	1968	1/8
Fellows (man/months)	1968	-
Cost	1968	\$15,200

Kenya - ID-536: Expert to serve, under the OPEX arrangement, as general manager of the Nairobi Industrial Estate. Also to draw up the functions and training programmes of a common technical service centre and advise on personnel to man the centre.

Experts (man/months)	1968	1/12
Fellows (man/months)	1968	-
Cost	1968	\$15,000

Lebanon - No. 217: Expert to advise on industrial estates; this project developed as follow-up to consultative group on Industrial Estates in Beirut, meeting on Industrial Estates.

Experts (man/months)	1968	1/6
Fellows (man/months)	1968	-
Cost	1968	\$11,400

Madagascar - ID-541: Expert to assist the Office of Development and Industrial Promotion on the establishment and implementation of policies, programmes and projects in the field of small-scale industries.

Experts (man/months)	1968	1/6
Fellows (man/months)	1968	-
Cost	1968	\$11,400

Morocco - ID-82: Specialist in industrial estates to study the possibility of creating a pilot industrial estate and to examine the possibility of directing a request to the Special Fund for this purpose.

Experts (man/months)	1968	1/3
Fellows (man/months)	1968	-
Cost	1968	\$5,700

Nigeria - ID-548: This Western Region project is similar to other industrial engineering projects in Nigeria under the EPTA, vis. the feasibility of industrial estate.

Experts (man/months)	1968	1/6
Fellows (man/months)	1968	-
Cost	1968	\$11,400

Group 11 Special Problems and Institutions for Small-Scale Industry including Industrial Estates (cont'd)

Nigeria - ID-548: Expert to advise on matters related to industrial estates in Eastern Nigeria.

Experts (man/months)	1968	1/3
Fellows (man/months)	1968	-
Cost	1968	\$5,700

Senegal - ID-866: Continuation of 1967 project in small-scale industries.

Experts (man/months)	1968	1/6
Fellows (man/months)	1968	-
Cost	1968	\$11,400

3. UNDP/TA Programme

Africa

Nigeria - P.S. No. 10-61: One industrial economist on mission to the Northern Region, another to the Eastern Region to advise on the development of small-scale industry.

Experts (man/months)	1967	2/12	1968	2/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$22,000	1968	\$22,000

Senegal - P.S. No. 180-65: Industrial economist to advise the Directorate of Industry and Handicrafts, the Ministry of the Plan, the National Development Bank of Senegal and other services concerned, on the formulation and implementation of a development policy and programme for small industries.

Experts (man/months)	1967	1/12	1968	1/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$22,000	1968	\$22,000

Rwanda - P.S. No. 217-63: Industrial Economist to advise the Government on measures to be taken, in the financial field as well as in the commercial organization (co-operation) and the extension field, to promote the development and expansion of small-scale industries.

Experts (man/months)	1967	1/12	1968	1/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$22,000	1968	\$22,000

Uganda - P.S. No. 44-65: Industrial economist to advise the Ministry of Commerce and Industry on industrial development with particular emphasis on small-scale industries. The expert will compile a permanent index of industrial investment.

Experts (man/months)	1967	1/12	1968	1/7
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$17,000	1968	\$22,000

Group 11 Special Problems and Institutions for Small-Scale Industry including Industrial Estates (cont'd)Asia and Far East

Laos - P.S. No. 60-61: One expert to continue the work of the expert assigned since October 1961 to the Ministry of Economic Affairs. The purpose of the project is to advise on matters related to the creation and development of small-scale industries.

Experts (man/months)	1968	1/6
Fellows (man/months)	1968	-
Cost	1968	\$11,000

Solomon Islands - P.S. No. 132-67: Industrial economist to advise on the development of small-scale industry, with special reference to identification of industries, production and marketing organizations.

Experts (man/months)	1968	1/12
Fellows (man/months)	1968	-
Cost	1968	\$22,000

Viet-Nam, Republic of, Revolving Fund 232-67: An expert in industrial zones to advise the State Company for the Development of Industrial Zones (SONADEZI) of the Ministry of the National Economy on the development of industrial estates for the small-scale industries, including technical and marketing aid, and credit facilities.

Experts (man/months)	1967	1/8	1968	1/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$14,664	1968	\$22,000

Latin America

Brazil - P.S. No. 27-59: Industrial engineer for the planning and development of industrial estates.

Experts (man/months)	1967	1/6	1968	1/6
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$11,000	1968	\$11,000

Dominican Republic - P.S. No. 194-60: Industrial adviser assigned to the Industrial Development Corporation, for promotion of general industrial development and all matters pertaining to the development of small and medium-scale industries.

Experts (man/months)	1967	1/12	1968	1/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$22,000	1968	\$22,000

Group 11 Special Problems and Institutions for Small-Scale Industry including Industrial Estates (cont'd)

Netherlands Antilles - P.S. No. 100-65: Industrial economist to advise on the development of small-scale industries with emphasis on investigation of technical and economic possibilities.

Experts (man/months)	1968	1/3
Fellows (man/months)	1968	-
Cost	1968	\$5,400

Trinidad and Tobago: Adviser to assist in the formulation of a comprehensive programme for the development of small-scale industries, including management consulting, supervised credit marketing assistance, industrial estates etc. with special emphasis on the stimulation of indigenous entrepreneurship. He will assist the Industrial Development Corporation.

Experts (man/months)	1968	1/6
Fellows (man/months)	1968	-
Cost	1968	\$15,000

Uruguay - P.S. No. 483-57: Small and medium industry expert to advise on possibilities for development of these industries.

Experts (man/months)	1968	1/6
Fellows (man/months)	1968	-
Cost	1968	\$10,800

4. Special Industrial Services (SIS) Programme

Africa

Kenya - 67/123: Mechanical engineer to assist in the setting-up of a workshop within the common facility centre in the Industrial Estate of Nairobi. This includes setting-up a tool room, design office, testing room and selection of staff, machinery, equipment, tools and assistance in the design and production of various tools and fixtures.

Experts (man/months)	1967	1/12
Fellows (man/months)	1967	-
Cost	1967	\$24,000

Asia and Far East

Thailand - 66/35: An industrial economist and an engineer to study the feasibility and to provide cost estimates for the establishment of an industrial estate for small-scale industries in the Bangkok and Thonburi areas.

Experts (man/months)	1967	2/12
Fellows (man/months)	1967	-
Cost	1967	\$50,000

Group 11 Special Problems and Institutions for Small-Scale Industry including Industrial Estates (cont'd.)Latin America

Ecuador - 67/101: Expert to advise on small-scale industries and industrial estates.

Experts (man/months)	1967	1/6
Fellows (man/months)	1967	-
Cost	1967	\$14,000

B. Expert group meetings, seminars, group training workshops

169. It is planned to organize a group training programme on industrial estates at the Small Industries Extension Training Institute (SIET) of Hyderabad, India, in co-operation with the Government of India. The programme, organized for twenty English-speaking participants, would consist of classroom instruction, a study tour of industrial estates in India and of visits of industrial estates in Singapore, West Pakistan or Italy, depending on the direction of travel of the participants. It will include the preparation by the participants of project reports on industrial estates corresponding to requirements in their own countries. The estimated cost of the project is \$50,000. The holding of this meeting in 1968 is conditioned by availability of funds in that year.

170. Plans are also made for the organization in 1969 of similar programmes for French-speaking participants, probably in Italy, and for Spanish-speaking participants in Puerto Rico.

171. Consultations are under way for the organization of an Expert Group on Financing of Small-Scale Industries in Latin America as a joint project of ECLA and UNIDO. The Group would bring together experts from some of the countries which participated in the Seminar on Small-Scale Industry in Latin America, in Quito in 1966, and would be concerned with measures for facilitating credit to small industrial enterprises, and technical co-operation in this field. UNIDO would provide documentation for the meeting.

C. Studies and Research

172. The following studies are scheduled for 1968:

- (a) Financing of small-scale industries: Studies of financing begun in 1967 will be pursued and new studies will be undertaken in 1968. The studies will be submitted to an Interregional Seminar on Financing of Small-scale Industries, to be held in 1969, perhaps in India. Preparations for this Seminar will be made in 1968.

Group 11 Special Problems and Institutions for Small-Scale Industry including Industrial Estates (cont'd)

- (b) Techno-economic studies in sub-contracting: The analysis of sub-contracting carried out in 1967 is to be followed by research on the types of industrial activities lending themselves to the establishment of sub-contracting relationships. A series of techno-economic studies will be carried out on the contribution of small-scale industries to the production of selected producer and consumer goods as sub-contractors to large firms or under joint production programmes among small producers.
- (c) Small-scale industries in centrally-planned economies: A study of small-scale industries in Poland will be the first in a series of projects in this area.
- (d) Common service facilities on industrial estates: The study of the tool-room undertaken in 1967 will be completed and a study of the testing and quality control laboratory will be carried out, as part of a series of projects on common service facilities on industrial estates. This will be followed by studies of machine and tool lease shops and workshops for specialized industrial estates.
- (e) Specialized industrial estates: A study of the functional industrial estate will be undertaken as the first in a series of projects on specialized industrial estates. It will be followed by studies of the ancillary industrial estate for small industries engaged in sub-contracting relationships, port and airport industrial estates, privately sponsored industrial estates, and industrial estates and industrial areas for export industries, including those set up in free trade zones.

The total estimated cost of these studies in consultant services is \$25,000, to be financed under UNIDO regular budget.

D. Publications

173. The following publications are included in the 1968 programme:

- (a) Small-scale Industries in Latin America: The publication will include the Report on the Seminar on Small-scale Industry in Latin America held in Quito in 1966 and some of the papers prepared for the Seminar.
- (b) Interrelations between Small and Large Industries: A study of sub-contracting. A survey of sub-contracting in France, India, Japan, the United States and Puerto Rico and a general analysis focused on sub-contracting as a means of promoting small-scale industries in the developing countries.
- (c) Technical Services and Facilities for Small-scale Industries: The publication will include the report of the Interregional Symposium on this subject held in 1967 in Denmark and some of the papers prepared for the Symposium.
- (d) The Role of Small-scale Industry in Industrialization Policies and Programmes: A statistical analysis of the place of small-scale industry in the industrial framework of selected industrial and developing countries.

The total cost (English, French and Spanish) is \$25,250.

INDUSTRIAL POLICIES AND PROGRAMMING DIVISION

Group 12 Industrial Programming and Projects

General remarks

174. This group covers industrial planning and programming; project formulation and evaluation; industrial location and regional development. The programme of work of UNIDO in these areas includes essentially the following activities: formulation of development plans and programmes; determination of priorities in industrial development strategy; identification of investment opportunities; preparation of feasibility studies; preparation of bankable reports for submission to the international financing agencies; evaluation of projects; training programmes in project formulation and evaluation; establishment of institutions for project formulation and evaluation, of implementation and follow-up of industrial projects.

A. Field projects

1. Special Fund Projects

Africa

The Maghreb Countries (Libya, Algeria, Tunisia and Morocco (REG-72)): The purpose of the project is to assist in the establishment and setting in operation of a Centre for Industrial Studies for the Maghreb countries whose main function will be: to prepare, at the request of the four countries concerned, general industrialization surveys and specific feasibility studies, including market and location surveys. Preference is given to studies affecting two or more countries. The Centre is also to render industrial advisory services to the Maghreb countries as well as training of persons in the region. The project was approved by the Governing Council in January 1966 for a duration of five years. The full cost of the project is \$2,099,900, of which \$1,454,900 are Governing Council earmarkings and \$645,000 are provided by the assisted countries.

Experts (man/months)	1968	1/12
Fellows (man/months)	1968	-
Equipment cost for 5 years:	\$50,000	

The figures for experts are tentative, pending the signature of the plan of operation by the Governments of the Maghreb countries.

Group 12 Industrial Programming and Projects (cont'd)

Tanzania (United Republic of): Industrial Studies and Development Centre, Dar-es-Salaam (TAN-10). The purpose of the project is to advise the Ministry of Industry, Mineral Resources and Power on industrial policy and organization; to assist in the investigation necessary for better utilization of the country's natural resources; to prepare industrial feasibility studies and advise on the implementation of projects; to provide advisory extension services to private industrial concerns; and lastly, to advise on regional aspects of industrial projects, taking into account the possibility of complementary development in the economies of neighbouring East African countries.

The project was approved by the Special Fund Governing Council in January 1965 for a duration of three years. The plan of operation was signed on 4 February 1966, and the project became operational on 18 February 1966. The full cost of the project is \$653,400 including \$483,400 in Governing Council earmarkings and \$170,000 provided by the assisted country.

Experts (man/months)	1967	6/50	1968	5/60
Fellows (man/months)	1967	2/12	1968	2/12
Equipment cost for 3 years:				\$25,500

Tunisia - National Centre for Industrial Studies (TUN-15): The purpose of the project is to assist in the establishment and initial operation of a Centre for Industrial Development for Tunisia, whose functions will be to advise the Government on industrial programmes and policies; to undertake technical and economic studies of specific industrial projects and to prepare feasibility studies.

The project was approved by the Governing Council in June 1966 for a duration of five years. The full cost of the project is \$1,796,700 including \$771,700 in Governing Council earmarkings and \$1,025,000 provided by the assisted country.

Experts (man/months)	1967	2/24	1968	6/72
Fellows (man/months)	1967	2/24	1968	2/24
Equipment cost for 5 years:				\$30,000

Asia

Iran - Research Centre for Industrial and Trade Development (IRA-16): The purpose of the project is to strengthen the Government's Research Centre for Industrial and Trade Development, which has been established by the Ministry of Economy for the formulation of industrial plans; preparation of investment priorities; preparation and evaluation of industrial projects; preparation and evaluation of feasibility studies; and the formulation of industrial and trade policies.

The project was approved by the Governing Council in January 1967 for a duration of five years. The full cost of the project is \$2,618,900 including \$1,058,900 in Governing Council earmarkings and \$1,560,000 provided by the assisted country.

Experts (man/months)	1967	7/84	1968	6/72
Fellows (man/months)	1967	2/24	1968	2/6
Equipment cost for 5 years:				\$115,000

Group 12 Industrial Programming and Projects (cont'd)

Jordan - Centre for Industrial Development (JOR-13): The purpose of the project is to assist the Government of Jordan in establishing a Centre for Industrial Development whose functions are: to prepare surveys of the industrial structure; to advise and assist the Jordan Development Board in the formulation of industrial plans; to conduct feasibility studies; to formulate and evaluate industrial projects; and to establish standards and quality control of products. A portion of the project is sub-contracted to ILO.

The project was approved by the Governing Council in January 1967 for a duration of four years. The full cost of the project is \$1,685,107 including \$1,153,100 in Governing Council earmarkings and \$532,000 provided by the assisted country.

Experts (man/months)	1967	7/84	1968	9/108
Fellows (man/months)	1967	6/36	1968	6/36
Equipment cost for 4 years				\$70,000

Saudi Arabia - Industrial Studies and Development Centre, Riyadh (SAA-14): The purpose of the project is to assist in the establishment and initial operation of an Industrial Studies and Development Centre whose functions are: to advise the responsible authorities on industrial policy and programming; to assist in carrying out or commissioning industrial feasibility studies; to advise on the establishment of new industries as well as on the financing and implementation of such industries; to assist in the planning and establishment of industrial estates and their management and operation; to provide for the establishment and initial operation of a model industrial estate.

The project was approved by the Governing Council in June 1965, for a duration of three years. The plan of operation was signed on 14 February 1966 and the project became operational on 3 March 1966. The full cost of the project is \$2,582,900, including \$582,900 in Governing Council earmarkings and \$2,000,000 provided by the assisted country.

Experts (man/months)	1967	5/30	1968	5/60
Fellows (man/months)	1967	5/36	1968	2/12
Equipment cost for 3 years				\$60,000

Group 12 Industrial Programming and Projects (cont'd)

2. Regular Programme and UNDP/TA

Africa

(a) Regular Programme

Algeria (ID-582): Industrial economist to advise "Direction Generale des Plans" and the "Ministère de l'Industrialisation et de l'Energie" on project evaluation in connexion with economic development plans for 1965-1966 and later years.

Experts (man/months)	1968	1/12
Fellows (man/months)	1968	-
Cost	1968	\$21,400

Cameroun (ID-340): Industrial engineer attached to Ministère des Affaires Economiques des Plans to prepare feasibility studies on projects considered for the Second five-year Development Plan, 1966-1971.

Experts (man/months)	1968	1/7
Fellows (man/months)	1968	-
Cost	1968	\$13,300

Dahomey - (ID-868): Industrial economist to advise Direction des Affaires Economique du Ministère des Finances on industrial policy, project evaluation, feasibility studies and consulting services to industrial enterprises.

Experts (man/months)	1968	1/12
Fellows (man/months)	1968	-
Cost	1968	\$21,400

Liberia - (ID-971): Industrial engineer attached to the Department of Planning and Economic Affairs to elaborate branch studies for creation of industries, including project evaluation and establishment of institutional mechanism.

Experts (man/months)	1968	1/6
Fellows (man/months)	1968	-
Cost	1968	\$15,000

Niger - (ID-362): Industrial economist to assist in industrial development programming and project evaluation.

Experts (man/months)	1968	1/7
Fellows (man/months)	1968	-
Cost	1968	\$13,300

Group 12 Industrial Programming and Projects (cont'd)

Somalia - (ID-777): Expert to assist government in industrial project formulation, evaluation and implementation, and setting-up of industrial development corporation (industrial adviser).

Experts (man/months)	1968	1/6
Fellows (man/months)	1968	-
Cost	1968	\$11,400

(b) UNDP/TA

Cameroon - (P.S. No. 259-63): Industrial economist to participate in the evaluation of projects proposed by the "Société Nationale d'Investissements".

Experts (man/months)	1968	1/12
Fellows (man/months)	1968	-
Cost	1968	\$22,000

Lesotho - UNDP/Revolving Fund 7-050-252: Industrial planning and programming adviser requested as follow-up to a programming mission undertaken in 1966.

Experts (man/months)	1967	1/6	1968	1/6
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$12,500	1968	\$12,500

Mali - UNDP/TA: Implementation delayed into 1967-1968. An industrial economist under an OPEX appointment in the Ministry of Public Works, Communications and Energy for the development of iron and steel, aluminium and cement industries from the resources surveyed in the west, north-west and south-east of the country.

Experts (man/months)	1967	1/6	1968	1/6
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$11,000	1968	\$11,000

Mali - UNDP/TA P.S. No. 6-66: An industrial economist to evaluate the key industrial projects envisaged under the National Development Plan 1960-1965.

Experts (man/months)	1967	1/12	1968	1/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$15,000	1968	\$15,000

Group 12 Industrial Programming and Projects (cont'd)

Morocco - UNDP/TA P.S. No. 421-57: An industrial planning expert to study the feasibility of economic development and to set up industrial development projects within the framework of the present and future plans.

Experts (man/months)	1967	1/8	1968	1/4
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$14,600	1968	\$7,400

Nigeria - UNDP/TA P.S. No. 10-61: An industrial economist for industrial development planning in the western region on the basis of local resources.

Experts (man/months)	1967	1/1	1968	1/6
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$11,000	1968	\$11,000

Togo - UNDP/Revolving Fund DP/RP/TA 67-7; 67-49: Two experts to assist in industrial development programming with industrial project evaluations and market studies.

Experts (man/months)	1967	2/18		
Fellows (man/months)	1967	-		
Cost	1967	\$38,000		

Asia and Far East

(a) Regular Programs

Afghanistan - (IX-33): An industrial economist, OPEX post, attached to the President of Industry, Ministry of Mines and Industries, to direct feasibility studies, prepare evaluations of proposals and bids submitted, and advise on contract formulation.

Experts (man/months)			1968	1/12
Fellows (man/months)			1968	-
Cost			1968	\$18,000

Ceylon - (ID-842): An expert attached to the Industrial Programming Branch of the Development Division of the Ministry of Industries and Fisheries, to assist in the preparation of demand projections and detailed investment programs.

Experts (man/months)			1968	1/6
Fellows (man/months)			1968	-
Cost			1968	\$10,000

Group 12 Industrial Programming and Projects (cont'd)(b) UNDP/TA

Afghanistan - implementation delayed into 1967-1968. Two industrial engineers, to assist the Planning and Projects Departments of the Ministry of Mines and Industries on planning and co-ordination of industrial projects. The experts will advise on feasibility studies for specific industries, including factory planning; specifications and evaluation of tenders; and follow-up of project implementation.

Experts (man/months)	1967	2/12	1968	2/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$22,000	1968	\$22,000

Cambodia - P.S. No. 4-60: Industrial planning expert to advise the Ministry of Industries in all matters related to industrial planning and assist the Ministry in a study of development of existing and new industries.

Experts (man/months)	1967	1/12	1968	1/6
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$22,000	1968	\$11,000

Fiji - P.S. No. 150-67: An industrial economist to formulate industrial projects after a survey and take steps for their implementation.

Experts (man/months)	1967	1/6	1968	1/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$11,000	1968	\$22,000

Iran - P.S. No. 220-57: An industrial adviser to assist the Ministry of Economy with the implementation of the current Third Development Plan and to assist in the preparation of the Fourth Development Plan.

Experts (man/months)	1967	1/12	1968	1/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$22,000	1968	\$22,000

Malaysia - P.S. No. 19-66: A planning and evaluation expert to carry out feasibility studies of industrial projects and to assess effectiveness of measures for industrial promotion.

Experts (man/months)	1967	1/12	1968	1/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$22,000	1968	\$22,000

Group 12 Industrial Programming and Projects (cont'd)

Malaysia - P.S. No. 264-61: A deputy director of the Economic Development Board to advise and assist in the operation of the Board.

Experts (man/months)	1967	1/12	1968	1/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$15,000	1968	\$15,000

Singapore - P.S. No. 264-61: An industrial planning expert to improve the techniques of industrial planning and programming and follow-up of implementation.

Experts (man/months)	1967	1/12	1968	1/6
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$22,000	1968	\$11,000

Latin America

Argentina - P.S. No. 111-57: Two experts in Industrial Complexes location to advise on co-ordinated development based on decentralization and optimum use of available provincial resources for a regional development plan.

Experts (man/months)			1968	2/6
Fellows (man/months)			1968	1/6
Cost			1968	\$14,000

Argentina - P.S. No. 111-57: An industrial economist to assist the CONSEJO FEDERAL DE INVERSIONES - Federal Investment Council - in advising on co-ordinated development based on decentralization and optimum use of available provincial resources.

Experts (man/months)	1967	1/9	1968	1/3
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$17,000	1968	\$5,400

Colombia - P.S. No. 135-57: An industrial programmer to advise the Government on industrial development goals in the national development plan, and on questions of industrial development policy.

Experts (man/months)	1967	1/6	1968	1/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$11,000	1968	\$22,000

Group 12 Industrial Programming and Projects (cont'd)

Ecuador - P.S. No. 51-60: An industrial programmer to assist the national organisations working toward industrial development, consistent with the Industrial Development Plan.

Experts (man/months)	1967	1/12	1968	1/10
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$22,000	1968	\$20,800

Guyana - P.S. No. 230-65: One industrial engineer to prepare feasibility studies for the Guyana Industrial Development Corporation.

Experts (man/months)			1968	1/12
Fellows (man/months)			1968	-
Cost			1968	\$22,000

Paraguay - P.S. No. 189-57: A general industrial adviser to the Ministry of Industry and Commerce to orient industrial development policy in order to take advantage of negotiations with member nations of LAFTA.

Experts (man/months)	1967	1/12	1968	1/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$22,000	1968	\$22,000

Middle East and Europe

Cyprus - Regular ID-503: An expert to advise the Ministry of Commerce and Industry on industrial development; initiate studies for identification of industrial projects; evaluate projects and advise on measures to promote industrial investment.

Experts (man/months)			1968	1/6
Fellows (man/months)			1968	-
Cost			1968	\$11,000

Kuwait - UNDP/Revolving Fund XBO-215: Extension of the services of the industrial economist appointed under the Funds-in-Trust for the period 16 October 1967 to 15 October 1968.

Experts (man/months)	1967	1/2	1968	1/10
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$3,500	1968	\$19,500

Group 12 Industrial Programming and Projects (cont'd)

Lebanon - P.S. No. 26-58: Industrial development expert to study the development of industry in a balanced economy, and to promote and encourage industrialization in the private sector.

Experts (man/months)	1968	1/12
Fellows (man/months)	1968	-
Cost	1968	\$22,000

South Arabia - UNDP/Revolving Fund DP/RP/TA-67/18: One expert to advise on the formulation of industrial development policy; necessary legislation and measures to implement the government's industrial programme.

Experts (man/months)	1967	1/6
Fellows (man/months)	1967	-
Cost	1967	\$11,000

3. Special Industrial Services Programme

Africa

Liberia - SIS 67/79: In connexion with the SIS steel project a fellowship award has been granted for an industrial economist. The economist has been assigned as a counterpart to an UNTA expert to be attached to a special co-ordinating unit established within the country's Department of Planning and Economic Affairs for the steel project.

Experts (man/months)	1967	-
Fellows (man/months)	1967	1/8
Cost	1967	\$3,600

Ethiopia - SIS 67/70: Two experts in connexion with the third Five-Year Plan, to provide an over-all survey of the manufacturing industry in the country, setting up capacity targets, review existing feasibility studies, and formulate specific industrial projects.

Experts (man/months)	1967	2/6	1968	-
Fellows (man/months)	1967	-	1968	-
Cost	1967	-	1968	\$32,000

Latin America

Costa Rica - SIS 67/59: An adviser to the Banco de Costa Rica to assist in the formulation and evaluation of industrial projects.

Experts (man/months)	1967	1/6
Fellows (man/months)	1967	-
Cost	1967	\$21,500

Group 12 Industrial Programming and Projects (cont'd)

Guatemala - SIS 67/150: An expert to assist the Guatemala Institute for Production Development (INFOP) in its reorganization. The expert is expected to assist in adapting the structure of the Institute in all its divisions to make it able to work efficiently in industrial promotion; formulation and evaluation of industrial projects; evaluation of industrial loan requests etc. In general terms, to re-orient it towards industrialization.

Experts (man/months)	1967	1/3
Fellows (man/months)	1967	-
Cost	1967	\$5,700

B. Expert group meetings, seminars, group training and workshops

175. International Working Party on Industrial Programming Data: This Working Party is intended to provide the link between various United Nations offices concerned with "data-bank" services for industrial programming. It was felt that there was need to establish a link between industry-level statistics and project-level programming data, as well as a reasonable degree of inter-country comparability at the level of compilation of primary data. The Working Party will meet from time to time at various places, in connexion with field operations for which its services may be required. In 1968 it is envisaged to hold this meeting in Vienna at an estimated cost of \$10,000, to be financed under the UNIDO regular budget.

176. Workshops on Industrial Project Formulation and Evaluation: This project aims at training local personnel in formulation and evaluation of industrial projects. It is planned to organize in 1968, subject to availability of funds: three workshops for technical personnel and orientation seminars for policy-makers to train local personnel.

177. It is planned to organize in 1968 in Turkey, a Workshop for Training in Implementation of Industrial Projects. The workshop will deal with the responsibilities of programmers and project executives in implementation and follow-up. Training will concentrate on procedures for implementation, objectives, step-by-step implementation, and attainment of development targets. The objective is to develop a group of programmers in developing countries who would be able to train in turn local personnel, in addition to carrying out programming of implementation. The estimated cost of this project is \$10,000. Its financing is subject to the availability of funds.

Group 12 Industrial Programming and Projects (cont'd)

178. An Interregional Seminar on Industrial Location and Regional Development is planned to be held in 1968 in Minsk (USSR), subject to availability of funds under the UNDP/TA Programme. The seminar will review methods and criteria for regional location of industries especially suitable to developing countries, attention being given to the relationship between alternative patterns of regional location of industry and the growth objectives of developing countries; the programming methodology and the appropriate government policies. The seminar will discuss the objectives, the various programming methods and data requirements, and the impact of several policy instruments. Throughout the discussions reference will be made to actual country experiences and to the existing institutional framework.

179. Comprehensive documentation is being prepared, consisting of discussion papers prepared by UNIDO staff; analytical studies prepared by independent experts and institutions, and country cost studies. It is expected that the seminar will be attended by 35 participants from developing countries and under United Nations fellowships a number of observers. The meeting is scheduled to be held in mid-August at an estimated cost of \$80,000.

180. Training courses in Industrial Development in Collaboration with the United Nations Development Planning Institutes. UNIDO is collaborating with the United Nations African Institute for Economic Development and Planning in carrying out a training course in Industrial Development for African officials. The training course in 1968 is planned to be held in Lusaka. It is envisaged that 25 to 30 officials from various African countries will attend the course which is planned to last for four to six weeks. The cost of this project is \$4,500 in meeting funds, to be financed under the UNIDO regular budget.

C. Studies and Research

1. International Programming Data

181. (a) Profiles of Manufacturing Establishments. This is a continuing activity which is being carried out as part of the supporting services for technical assistance activities. New additions to the sample of enterprises that are being analysed draw upon new factories and enterprises in the developing countries. The

Group 12 Industrial Programming and Projects (cont'd)

data edited into summary tables are published as additional Volumes of Profiles under the Industrial Planning and Programming Series. The cost of the project is \$20,000 in consultant funds, for collection and evaluation of primary data from selected manufacturing establishments in various countries. The cost is to be financed under the UNIDO regular budget.

182. (b) Comparative analysis of the "Profiles" data and of other industry statistics. This is a continuing activity in the form of supporting research of the UNIDO "Profiles" series. It consists of an appraisal of the data of the "Profiles" and of reference programming data in the context of feasibility studies and diagnosis of projects. The analysis is intended at the same time to provide additional information on such factors as economies of scale, flexibility of factor proportions, capacity utilization etc. The results will be published in the Industrial Planning and Programming Series as a supplement to the Profiles Series. The cost of the project in 1968 is estimated at \$3,000 in consultant services, and \$7,000 in computer services, to be financed under the UNIDO regular budget.

2. Survey of Industrial Plans and Programmes

183. A survey has been initiated to examine industrial plans and programmes in developing countries from the point of view of methodology and performance. This will be conducted in two phases. The initial phase will be limited to a sample of five or six countries selected on the basis of availability of data, contacts with experts in the field and local authorities, relevance of the country's experience, type of economic organization etc. In a second stage, the study will be expanded to include twenty to twenty-five countries; in addition, country study groups will be established along the recommendations of an ad hoc expert group meeting to organize the flow of data and other information from the field. The survey is to be prepared by UNIDO staff assisted by outside consultants. Outlines and preliminary results of the study will be circulated in mimeographed form among experts during 1968. The cost is estimated at \$17,000 in consultant funds, to be financed under the UNIDO regular budget.



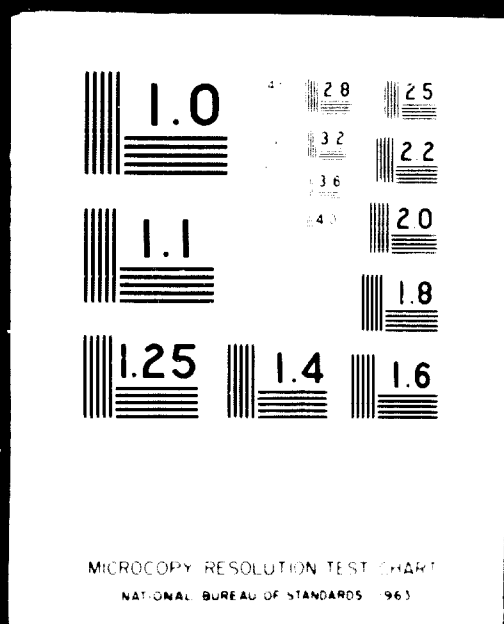
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Group 13 Industrial policies and industrial financing (cont'd)

199. As a follow-up of this work, it is expected to hold at some future date a series of regional meetings of representatives of industrial development banks.

E. Publications

200. The report of the experts' group meeting on fiscal incentives for industrial development is expected to be processed internally.

We regret that some of the pages in the microfiche copy of this report may not be up to the proper legibility standards, even though the best possible copy was used for preparing the master fiche.

Group 12 Industrial Programming and Projects (cont'd)

3. Regional Planning and Location

184. It is planned to engage in 1968 in preliminary work for the preparation of an Operational Guide to Regional Industrial Planning and Supporting Studies on Industrial Location. The Guide will provide technical assistance experts and regional planners with basic reference information relating to the planning of industrial projects on a regional basis, as well as providing guidance on the carrying out of regional analysis. It will provide a description and explanation of the criteria of industrial location, to be used as basic references; and an outline of technical assistance on organization of location planning offices and regional industrial studies. It will also contain an annotated bibliography on location of industry and regional development. The Guide could also be used later as teaching material for training courses in this field.

185. After a preliminary exploration of the areas to be covered, an Ad Hoc Meeting of Experts, to be held in 1969, will assist in the mapping of the general approach and planning of the programme. The Guide will be prepared by UNIDO staff assisted by consultants, subject to availability of funds.

186. As preparatory work to be carried out in 1968, a series of empirical studies is envisaged on the dominant locational orientation of individual industries; the role of the major factors influencing the regional distribution of industrial activity (such as natural resources, markets, urbanization economies, scale economies etc.), the relevance of transport costs on different inputs and products; the industrial potential of regions within developing countries; and the requirements in data and methodology for programming industrial location on a regional basis.

187. A number of papers have already been commissioned, and others are being prepared by UNIDO staff, in connexion with the Seminar on Industrial Location and Regional Development, scheduled to be held in Minsk (see above). A selection of these papers will be edited, published and circulated to governments and technical assistance experts. The cost of this project is estimated at \$9,000 in consultant funds, to be financed under UNIDO regular budget.

Group 12 Industrial Programming and Projects (cont'd)

4. Sectoral Planning and Programming Studies

188. To bridge the gap between the over-all economic plan and the development of feasible projects involves programming of industrial branches or sectors and that of specific industries. In this connexion, UNIDO is engaged in a series of studies on sectoral planning programming, with the aim of providing information on programming data and techniques used in planning and programming on the sectoral or industry level. This is a continuing activity designed to cover gradually a certain number of key industry sectors^{14/}. The studies, in printed form, will be made available to United Nations technical assistance experts in the field as well as to planning offices or government agencies engaged in industrial programming in developing countries.

189. Subject to availability of funds under the UNIDO regular budget, it is planned to study in 1968 the programming of the metalworking and basic metals industries.

D. Co-operation with the Regional Economic Commissions

190. Industrial Programming Manual: The purpose of the manual is to provide a basic reference source for training courses, workshops and seminars, as well as for briefing and substantive support of technical assistance experts in the field. Preparation of the manual is planned to be carried out in 1968 in co-operation with the Secretariats of ECAFE and ECLA, the Asian Institute for Economic Development and Planning in Bangkok and the Latin American Institute for Economic and Social Planning in Santiago. First drafts will be circulated also for comments and evaluations to experts in the field of programming, including United Nations

^{14/} Two studies - "Programming Data Summary for the Chemical Industry" and "Programming Data for the Petroleum Refining Industry" - were recently published in the Bulletin on Industrialization and Productivity No. 10. No. 2 of the series Studies in Economics of Industry is a study on "Pre-Investment Data for the Aluminium Industry"; No. 1 of the Industrial Planning and Programming Series is devoted to a study of "Techniques of Sectoral Economic Planning: The Chemical Industries".

Group 12 Industrial Programming and Projects (cont'd)

technical assistance personnel. The cost of the project is estimated at \$5,500 in consultant funds, to be financed under UNIDO regular budget.

E. Publications

191. The following publications have been approved for printing in 1968:

	<u>Estimated cost</u> US \$
1. <u>Industrial planning and programming series</u>	
No. 2 - International Comparisons of Inter-industry Data	9,200
No. 3 - Planning for Advanced Skills and Technologies	5,650
No. 4 - Profiles of Manufacturing Establishments in Selected Countries (Vol.II)	7,500
No. 5 - Industrial Project Formulation and Evaluation, Vols. I, II and III.	9,450
No. 6 - Structure of Material Inputs in Manufacturing Industries and Inter-industry Relations	12,100
No. 7 - Profiles of Manufacturing Establishments in Selected Countries (Vol.II)	11,000
2. Bulletin on Industrialization and Productivity.	
No. 12	5,100
No. 13	11,450
No. 14	4,600
3. Manual on the Role of Industrial Co-operation in Industrial Development	4,300
4. Studies in Economics of Industry, No. 3: Iron and Steel Metalworking Industries	5,400

Group 13 Industrial Policies and Industrial Financing

General remarks

(a) Industrial policies

192. While there can be no generally applicable set of policies to stimulate and guide the process of industrialization, it is useful to study and analyse the experience gained in this field by various countries including those of different phases of industrialization. On the basis of this information, each country will develop the particular set of policies appropriate to its problems, conditions and institutions. The studies in the area of industrial policies under the 1968 programme of UNIDO are designed with this objective in mind.

(b) Industrial financing

193. There is a considerable body of experience and information available in the development banks of many developing countries in the field of financing of industrial projects, and exchange of information and experience among industrial development banks is highly desirable. Another important area of activities is promotion of financing of industrial projects by prospective investors. These activities have been given considerable emphasis by the Industrial Development Board at its first session.

194. Assistance to developing countries in this particular field will be in the form of: (i) advice on investment promotion facilities, and assistance in their establishment; (ii) strengthening and improvement of operation of promotion agencies; (iii) advice on appropriate sources of financing in capital-exporting countries for specific projects and establishment of contacts between prospective investors and promoters of industrial projects; (iv) in the case of countries that cannot afford the cost of operating their own investment promotion centres, bringing industrial investment opportunities to the attention of prospective foreign investors.

Group 13 Industrial Policies and Industrial Financing (cont'd)

(c) Financial planning

195. Industrial projects that are sound from technical and economic viewpoints may sometimes fail because of poor financial planning, such as inadequate provisions of working capital, unrealistic capital structure or unrealistic schedules of repayment of debts. These weaknesses may exist in public as well as private enterprise. Training programmes, expert advice and data on financial planning will be made available in 1968 to developing countries through a series of field workshops and seminars and technical assistance to be provided upon request by the countries concerned.

A. Field projects

1. Regular Programme and UNDP/TA

Africa

Malawi - P.S. No. 268-65: Industrial adviser to guide the Malawi Development Corporation during its formative years to stimulate investment in the private sector.

Experts (man/months)	1967	1/12	1968	1/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$16,000	1968	\$16,000

Nigeria - P.S. No. 10-61: Industrial adviser for a mission to the Mid-Western Region to advise on industrial investment policies.

Experts (man/months)	1967	1/6	1968	1/6
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$11,000	1968	\$11,000

Sudan - P.S. No. 225-61: Four experts to conduct a general survey of industrial investment opportunities in the Sudan with a broad feasibility study of a few major priority projects as revealed by the survey.

Experts (man/months)			1968	4/48
Fellows (man/months)			1968	-
Cost			1968	\$88,000

Zambia - P.S. No. 139-65: Industrial adviser to assist the industrial Development Corporation of Zambia on large and small-scale industries for development.

Experts (man/months)	1967	1/12	1968	1/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$22,000	1968	\$22,000

Group 13 Industrial policies and industrial financing (cont'd)Asia and Far East

India - P.S. No. 37-57: Five experts to undertake an industry investment survey.

Experts (man/months)	1967	5/36	1968	5/36
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$67,200	1968	\$67,200

Pakistan - P.S. No. 73-57: Four experts to assist the Investment Corporation of Pakistan in their organization of Investment Advisory Services. The main functions of the experts are: one expert to give professional counsel on underwriting techniques; second to advise on loan utilization, with visits to industrial projects; third to appraise loans made to chemical and allied industries; fourth to appraise projects and advise on contractual arrangements.

Experts (man/months)	1967	4/48	1968	4/24
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$88,000	1968	\$44,000

Singapore - UNDP/Revolving Fund DP/RP/TA 67-49: One expert to review the development policy of the Government and to advise on the industrial investment promotion programme.

Experts (man/months)	1967	1/0.75	-
Fellows (man/months)	1967	-	-
Cost	1967	\$4,100	-

Latin America

Honduras - P.S. No. 24-51: Industrial adviser to the General Secretariat of the National Economic Council for the formulation, evaluation and coordination of the national industrial programme, and investment policies.

Experts (man/months)	1967	1/12	1968	1/12
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$22,000	1968	\$22,000

Nicaragua - P.S. No. 181-57: Industrial economist to advise the Ministry of Economy on fiscal incentives and industrial development policies.

Experts (man/months)	1967	1/9	1968	1/3
Fellows (man/months)	1967	-	1968	-
Cost	1967	\$16,500	1968	\$5,500

Uruguay - P.S. No. 483-57: Industrial economist to identify potential co-operation with the industrialized countries on the basis of transferring industries from those countries to Uruguay.

Experts (man/months)	1968	1/6
Fellows (man/months)	1968	-
Cost	1968	\$10,800

Group 13 Industrial Policies and Industrial Financing (cont'd)

B. Expert groups, seminars and other meetings

1. Meeting of experts on specific industrial fiscal incentives

196. As a continuation of the work by UNIDO in compilation and analysis of individual country incentive laws, it is proposed to hold in June 1968 a meeting of experts on an evaluation of the design, operation and effectiveness of industrial fiscal incentives, with a view to making recommendations to governments on their fiscal incentive policies; in addition the meeting would suggest guidelines for a work programme. The estimated cost of the project is \$7,000, to be financed from the UNIDO regular budget.

2. Expert meeting on assistance in investment promotion

197. Within the programme of investment promotion outlined above, it is planned to hold in 1968 a meeting to follow up the 1967 meeting in New York. The 1968 meeting will be devoted to the problems faced by developing countries in their investment promotion efforts and the assistance that UNIDO could provide in this field. The meeting is to be held in Vienna. The estimated cost is \$11,000 to be financed from the UNIDO regular budget.

C. Studies and research

198. Studies will be carried out by UNIDO staff, assisted by consultants, for the preparations of the 1968 meetings described in the previous section. The research work will deal also with the preparation of meetings and seminars in the following years and provide the necessary support of technical assistance. UNIDO has initiated a project in the latter part of 1966 to promote co-operation among industrial development finance institutions in exchanging information and experience in training of industrial projects and promoting joint projects such as research and training programmes and joint ventures. Work will continue in this area in 1968. Information circulars will be published from time to time containing information on selected projects promoted or financed by development banks to serve as reference material for the interested agencies. This material is to be prepared by UNIDO staff, with the assistance of consultants. The cost of consultants in the amount of \$9,000 is provided in the regular budget of UNIDO





Group 14 Promotion of Exports of Manufactures and Semi-Manufactures

General remarks

201. At the United Nations Conference on Trade and Development in 1964 the various aspects of the problem of diversification and expansion of exports of manufactures and semi-manufactures of developing countries were examined in detail. It was shown that in order to widen the base for accelerated industrial growth and improve the balance of payments, industrial development of the developing countries should be given a new orientation with emphasis on export-oriented industries. The resolution passed at the first session of the Industrial Development Board in April 1967 stipulated that UNIDO should render assistance to developing countries:

- (a) "in developing and improving marketing and distribution techniques and in providing solutions for marketing and distribution problems of specific industrial products";
- (b) "in the development of export-oriented industry and in the solution of its particular problems";
- (c) "in establishing or strengthening national and multi-national institutions to deal with various aspects and problems of industrial development" in such fields as (among others) marketing and export promotion.

202. The problem of exports of manufactures and semi-manufactures was also considered at the meetings of the Executive Secretaries of the United Nations regional economic commissions held in January and June 1967, with the participation of officials of UNIDO, UNCTAD and other interested agencies. The January meeting established a combined United Nations Programme in Export Promotion, with the participation of UNIDO, UNCTAD, the regional commissions and other interested agencies (e.g. GATT).

203. The areas of activities of UNIDO in export promotion are to assist governments in (i) formulation of integrated policies in promotion of exports of manufactures; (ii) identification and programming of industrial sectors with an export potential; (iii) development of competitive export-oriented industries; (iv) promoting co-operation among developing countries on programmes and projects in the field of export industries; (v) establishing or strengthening national and multi-national institutions to deal with various aspects and problems of industrial

Group 14 Promotion of Exports of Manufactures and Semi-Manufactures (cont'd)

exports. As mentioned above, some of these activities are to be carried out in co-operation with other interested agencies; in particular, a certain number of projects are either carried out or planned for implementation in 1968 under the United Nations Combined Programme for Export Promotion referred to above.

204. Within the framework of co-operation with UNCTAD, two joint UNIDO-UNCTAD advisory experts groups were convened, respectively, in October 1966 and June 1967, with a view to advising the heads of the two organizations on formulation of a programme of technical assistance to governments in promotion of exports. The recommendations of these groups are being taken into account in the shaping of the UNIDO programme of work in this field.

205. Promotion of exports of manufactures is a relatively new field to which governments of many developing countries did not have the opportunity of devoting sufficient attention. There has been consequently little activity under the United Nations technical assistance programme. In order to inform governments of the activities that are now being undertaken by the United Nations in this area and of the possibilities of assistance offered under the operational programmes, it is planned to organize in 1968 under the Combined United Nations Programme in Export Promotion, a series of regional exploratory missions, jointly sponsored by UNIDO, UNCTAD/UNDP and the respective regional commissions, to selected countries in Asia, Africa and Latin America. The objective of these missions which will be composed of three experts designated by the participating parties, is to discuss with the governments concerned the setting-up of an integrated programme of technical assistance for promotion of exports of manufactured goods and strengthening of the export potential of the industries of the respective countries.

A. Field projects

1. UNDP/TA Programme

Argentina (In co-operation with UNCTAD), P.S. No. 111-57: A five-man team consisting of one co-ordinator and four experts in machine tools, agricultural machinery, processing of hides, and leather goods, sponsored by the Ministry of Foreign Trade and the National Development Council (CONADE).

The objective of the project is to promote exports of manufactured goods produced in the four industries enumerated above. The experts

Group 14 Promotion of Exports of Manufactures and Semi-Manufactures (cont'd)

will first make a detailed investigation in Argentina of the economic and technological conditions in the industries, with a view to ascertaining its competitive position as regards cost, quality, terms of delivery and so on. They will then engage in an on-the-spot investigation of the marketing possibilities in a number of countries that are likely to be potential outlets for these goods. The findings of this project should provide guidance to the Argentine Government in promoting an export drive of the products of these industries.

The project was originally scheduled for 1967; because of the delay in implementation, it is likely to be carried out in 1968.

Experts (man/months)	1967	5/30
Fellows (man/months)	1967	-
Cost	1967	\$75,000

2. Special Industrial Services Programme

Mexico SIS 67/132: An expert will be assigned to the Nacional Financiera S.A., for one year to assist in the evaluation of manufacturing projects with regard to their impact on other sectors of the economy. He will be expected to:

- a) Study productivity in the manufacturing sector;
- b) Prepare methodology for the evaluation of investment projects for consideration in the public and private sectors;
- c) Establish central parameters for these methodologies, including accounting procedures in manufacturing, and examine their effects on the national economy;
- e) Formulate guidelines for economic policy measures for the implementation of the economic development objectives.

The Government of Mexico requested contingency financing for this post. Since no savings are available in the Mexico technical assistance programme, the UNDP authorities suggested that this project could be initially financed under SIS (the request asks for a two-year assistance, of which six months will be financed by the Government).

Experts (man/months)	1968	1/12
Fellows (man/months)	1968	-
Cost	1968	\$21,000

B. Expert group meetings, seminars, group training and workshops

206. A training course for export promotion personnel of the developing countries is planned for 1968. It is to be held with the co-operation of UNCTAD in Zagreb and arrangements for the organization of the course have been discussed with the

Group 14 - Promotion of Exports of Manufactures and Semi-Manufactures (cont'd)

Yugoslav Government. Teaching material for this course is being prepared by UNIDO. The cost of the project is estimated at \$80,000. The provision of the necessary funds is being discussed with UNDP.

207. Preliminary work is also carried out for preparation of two other meetings to be held in 1968, subject to availability of funds under the UNDP/TA programme: (a) a Seminar on institutional aspects of export promotion, and (b) an Expert group meeting on promotion of export marketing organizations. The cost of these meetings is estimated at \$60,000 and \$12,000 respectively.

208. Joint UNIDO-UNCTAD-UNDP exploratory missions of expert teams are to be sent to selected countries in three regions: Asia or Far East, Africa and Latin America, to advise governments on formulation of integrated programmes of assistance in promotion of exports of manufactured goods. The estimated cost is \$5,000 for each team. The total cost of \$15,000 is to be shared in equal parts by UNIDO, UNCTAD and UNDP.

209. Subject to availability of funds, the following two meetings are planned for 1968, to be financed under UNIDO regular budget:

- (a) Expert Group on utilization of excess capacity on manufacturing for exports, to be held in 1968 in Latin America. Fifteen participants. Estimated cost \$8,000.
- (b) Expert Group on metalworking as a potential export industry of the developing countries, to be held in 1968 at a place and time to be determined. Estimated cost \$8,000.

C. Studies and research

210. The following studies, some of which are intended to provide documentation for the meetings listed under the previous section, are planned for 1968. The cost in consultant services is to be financed under the UNIDO regular budget.

- (a) Development of the Metalworking Industries as Potential Export Industries: This is a continuing project, the objective of which is to develop a methodology for the programming of metalworking industries with a view to potential exports in the world markets at the same time as they are supplying domestic demand in substitution of imports. An empirical study initiated in 1967 is under way in Israel, in conjunction with an SIS project which is being implemented there in the same area. It is planned to carry out in 1968 another country study in Hungary. Both studies are

Group 14 Promotion of Exports of Manufactures and Semi-Manufactures (cont'd)

produced by consultants. The estimated cost of consultant services in 1968 is \$10,000;

- (b) Industrial co-operation in promotion of industrial exports between developing and industrialized countries: The first study in this area, to be carried out in 1968, will relate to co-operation with the socialist countries. Estimated cost in consultant services \$3,000;
- (c) Optimization of policy measures for the promotion of export-oriented industries;
- (d) Interregional co-operation between developing countries;
- (e) Utilization of manufacturing excess capacity for exports;

Studies (c), (d) and (e) are to be carried out by consultants at a total estimated cost of \$5,500.

- (f) Feasibility of repayment of credits and interests in the form of industrial exports from developing countries to creditor countries;
- (g) Methodological aspects of inclusion of exports of manufactures in industrial planning;

Studies (f) and (g) to be carried out by UNIDO staff, and no outlay in consultant fees is involved.

- (h) As a continuing activity, UNIDO staff is engaged in the collection and analysis of data and material on export possibilities and existing market opportunities for specific products of industries of the developing countries, with a view to providing information to interested parties upon request. This work is to be carried out in conjunction with the activities of UNCTAD and GATT in this area, particularly with those of the joint UNIDO-GATT International Trade Centre in Geneva.

D. Co-operation with the regional commissions

211. As indicated in the preceding sections, a number of projects in this group involves co-operation with the regional commissions.

E. Publications

212. The following studies are planned for publication in 1968:

- (a) Teaching material for training of export promotion personnel;
- (b) Methodological aspects of the inclusion of exports of manufactures in planning procedures;

Group 14 Promotion of Exports of Manufactures and Semi-Manufactures (cont'd)

- (c) Report of the expert group meeting on expert marketing organizations.

These papers are to be processed internally, and do not involve printing costs.

Group 15 General research projects established as continuing activities

213. In addition to the study and research projects programmed under the groups of activities described above, the following general research activities are carried out as a continuing activity by special units of UNIDO Secretariat.

214. The first is the preparation of an annual World Industrial Survey by the Survey Section of the Programming and Policies Division. The first issue of the Survey was published in 1967 and submitted to the International Symposium on Industrial Development.

215. The second volume of the Survey for 1968 will review the main trends and developments in the developing countries in industry and related fields; the general demand and supply influences; the developments in manpower, natural resources and technology; the use and availability of finance; and other problems affecting industry growth. In addition, during 1968, attention will be given to the following issues affecting the process of industrialization of the developing countries: (a) the impact of the Kennedy Round of tariff negotiations and import duty reductions on the establishment and expansion of export industries in the developing countries; and (b) problems in financing of industrial projects.

216. The Survey Section will also engage in the preparation of a number of country studies. These will deal with a detailed analysis of the industrial sector of the selected countries and of its relation to the general economic situation of these countries. These studies will be useful for policy guidance of governments and as background information in connexion with the technical assistance programmes in industry in the countries concerned.

217. These studies are to be carried out by UNIDO staff with assistance of consultants. The estimated requirements in consultant funds are \$25,000 for the Survey and \$10,000 for the country studies, to be financed under UNIDO's regular budget.

218. The second project consists in collection, analysis and periodic publication, on a continuous basis, of basic industrial data relating to the branches covered in Groups 1 through 6, such as the economic and financial structure of the industry, its capacity, state of technology, productivity and market conditions.

Group 15 General research projects established as continuing activities (cont'd)

The information will also include statistical data on investment, production, consumption and trade in the products of the industry.

219. This activity is under the responsibility of a special Industry Reporting Unit in the Industrial Technology Division, in co-operation with the technical staff of the industry units concerned. The work is to be carried out by UNIDO staff, assisted by consultants as required. The estimated cost in consultant services is \$10,000, to be financed under UNIDO's regular budget.

ANNEX 1

BUDGETARY IMPLICATIONS OF THE WORK PROGRAMME
IN TERMS OF STAFF REQUIREMENTS

1. The total budget of UNIDO for 1968 is estimated as \$9,202,000 (Section 20, Budget Estimates for the financial year 1968, L/6705). Budgetary implications of the work programme outlined in the present report relate only to the following chapters and items of the over-all budget:

Chapter III: Summary of established posts totalling 670 (professional and general service);

Chapter III item (iii): Individual experts and consultants (\$290,000);

Chapter II: Meetings of experts and advisory bodies (\$96,000);

Chapter X item (i): Printing (\$180,000).

2. The budget estimate for 1968 provides for a total of 313 established posts at professional and director levels, consisting of 18 posts for the Office of the Director; 10 posts for Industrial Field Advisers; 108 posts for the Division of Administration, including Conference Services; 31 posts for the Technical Co-operation Division; and 146 posts for the three substantive divisions - Industrial Technology, Policies and Programming, and Services and Institutions, of which 136 are professional posts.

3. The three substantive divisions are directly involved in the activities described in the present Work Programme, being responsible for:

(a) Direct support of operational field activities (Section A of Part II of the Work Programme); and

(b) Other supporting activities (Sections B to E) of Part II of the Work Programme.

The following table indicates the availabilities and requirements in professional staff for these three divisions. In order to take account of staggered recruitment and other factors, staff availabilities have been calculated in terms of effective man-months according to a formula indicated in the table as distinguished from nominal man-months corresponding to the 1968 manning table figures. The requirements have been indicated in terms of the two categories of activities indicated above ((a) and (b)).

Staff Availabilities and Requirements for
 the 1968 Work Programme (Part II)

	Substantive Divisions			
	Industrial Technology	Industrial Services and Institutions	Industrial Policies and Programming	
	- Number of staff members -			
1. Personnel as of 31 December 1967	14	18	27	59
2. Recruitment during 1968	32	26	19	77
3. Personnel as of 31 December 1968	46	44	46	136
	- Number of man-months -			
4. Total effective man/ months in 1968 ^{a/}	264	294	381	939
(a) Direct Support to Field Operational Activities (Section A)	172	118	133	423
(b) Supporting Activities (Section B)	92	176	248	516

^{a/} The availability in terms of effective man-months is less than the nominal man-months derived from the manning table because of the staggering of the recruitment of new staff over 1968, and the loss involved in the adjustment of new staff to their duties. The figure shown for effective man-months in 1968 represents the sum of the man-months in 1968 to be worked by staff on the payroll as of 31 December 1967 plus 25 per cent of the man-months of personnel to be recruited during 1968.

ANNEX 2

EXPERTS GROUP MEETINGS, SEMINARS, GROUP TRAINING AND WORKSHOPS
PLANNED FOR 1968 a/

<u>1. Engineering industries</u>	<u>Date</u>	<u>Place</u>
Experts Meetings on the Design, Manufacture & Utilization of Dies & Jigs	Mid 1968	USSR
Experts Group on Status of Technology in Electric and Electronic Industries	Mid 1968	Vienna
In co-operation with ECLA: Seminar on Automotive Industry in Developing Countries	Late 1968	Latin America
<u>2. Metallurgical industries</u>		
Second Iron and Steel Symposium	September/ Oct. 1968	USSR
<u>3. Construction and building materials industries</u>		
In co-operation with UN Housing Centre: Inter-regional Seminar on the Development of Clay Building Materials in Developing Countries	1968	Denmark
In co-operation with ECAFE: Seminar on Prefabrication in the Building Industries for Asia and the Far East Region	1968	Denmark
In co-operation with UN Housing Centre and Regional Economic Commissions: Interregional workshop on Administration and Organizational Measures for increasing productivity in the housing, construction and building materials industry	1968	USSR
<u>4. Chemicals, petrochemicals and synthetics, insecticides and pesticides, pharmaceuticals and other related industries</u>		
<u>Basic chemicals</u>		
Experts Working Group on modernization and mechanization of the salt industries, based on seawater in the developing countries	1968	Vienna
Interregional Seminar on Manufacture and Use of Basic Chemicals in Developing Countries	2nd half 1968	USSR

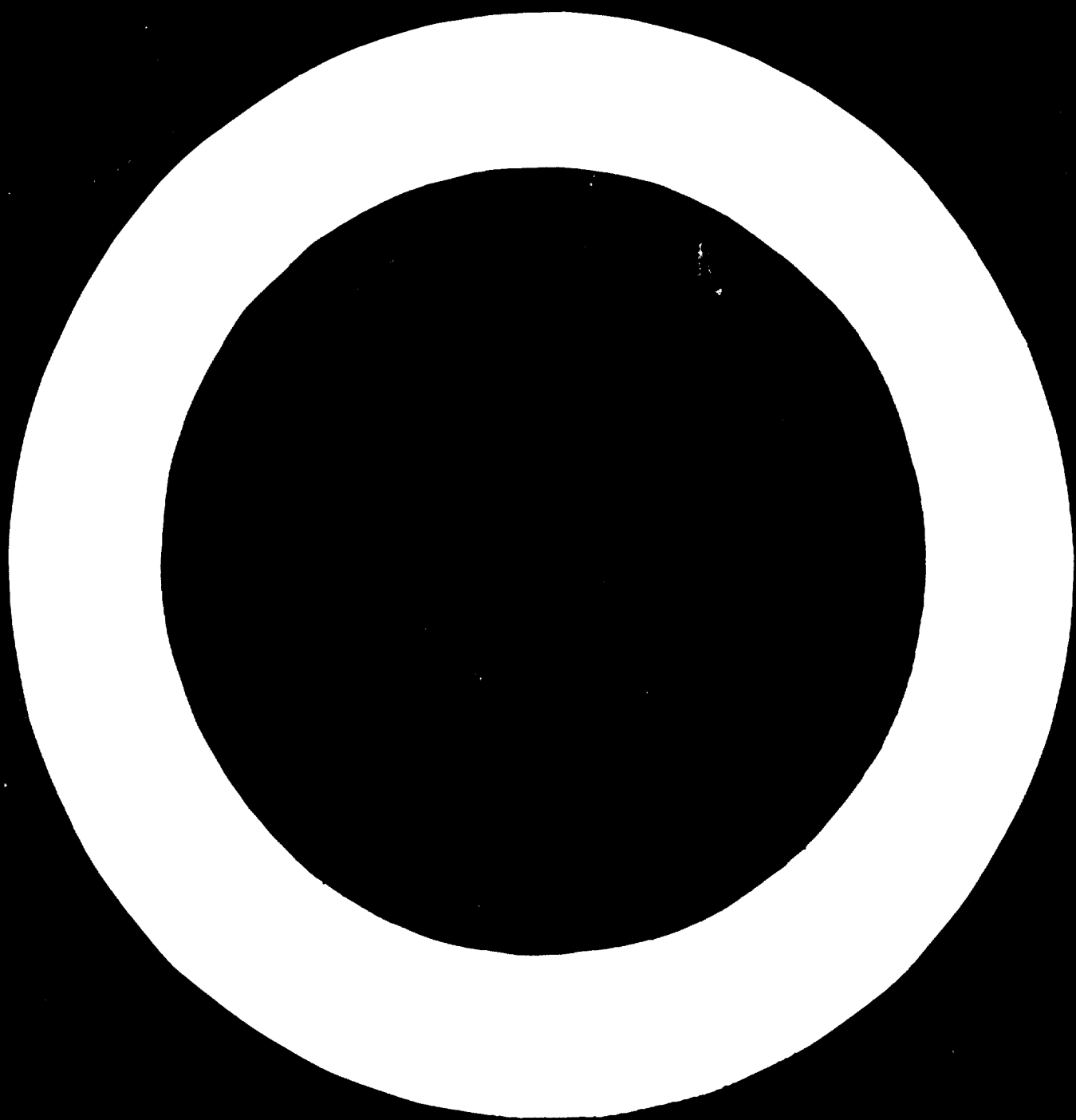
a/ As indicated in the text, the implementation of some of these projects is subject to availability of funds.

	<u>Date</u>	<u>Place</u>
<u>Petrochemicals & synthetics</u>		
Second Interregional Conference on Petrochemical Industries in Developing Countries	1968 or 1969	
Experts Group Meeting for Development of Plastics (Polymer) Industries in Developing Countries	1968	Vienna
5. <u>Fertilizer industries</u>		
Ad Hoc Expert Group Meeting from Fertilizer Deficit Countries	1968	Vienna
Consultative panels on development of fertilizers	1968	Africa, Asia, Latin America
Preparatory Meeting for 1969 World Fertilizer Congress	1968	Vienna
6. <u>Light industries</u>		
(a) <u>Textile industries</u>		
Experts Group Meeting on Machinery Selection for textile industry in developing countries:		
Cotton	1968	Vienna
Wool	1968	Vienna
(b) <u>Food Processing</u>		
Refrigeration techniques and equipment	1968	
7. <u>Industrial legislation, patents and licensing</u>		
Advisory Meeting of Experts in Patents for Developing Countries	1968	New York
8. <u>Industrial research; standardization and quality control; industrial information</u>		
Interregional Meeting on Industrial Research Institutes	1968	Denmark
9. <u>Industrial consultant services; industrial organization and administration</u>		
Regional Workshop for Employers of Consultants	1968	
Seminar on the Organization and Administration of Industrial Services in Asia and the Far East		

	<u>Date</u>	<u>Place</u>
10. <u>Industrial management and training</u>		
(a) <u>Industrial management</u>		
(1) Industrial consultation workshops:		
Industrial Costing and Market Promotion	1968	Indonesia
Systems Analysis, including application of Electronic Computers	1968	USSR
Corporate Planning and Organization in the Textile Industry	1968	Peru
Operating State-owned Enterprises in Ghana	1968	Ghana
Decentralization of Industries and Market Promotion	1968	Yugo- slavia
Industrial Design and Product Development	1968	Turkey
Economic and Technical Managerial Problems in the Mining Industry	1968	Bolivia
(2) Seminar on Quantitative Techniques of Management in the USSR	1968	USSR
(b) <u>Industrial Training</u>		
(1) Group in Plant Training Programmes:		
Cement Industry	1968	Denmark
Diesel Oil Engines	1968	Czecho- slovakia
Electrical Industries	1968	Sweden
Iron and Steel Industry	1968	USSR
Metallurgical Industries	1968	Italy
Machine Manufacturing	1968	Italy
Textile Industry	1968	Poland
Maintenance	1968	Japan
Machine Tool Industry	1968	Germany
(2) <u>Ad Hoc Experts Meeting on Estimation of Managerial and Technical Personnel Requirements in selected Industrial Branches</u>		

	<u>Date</u>	<u>Place</u>
<u>11. Special problems and institutions for small-scale industry, including industrial estates</u>		
Group Training Programme on Industrial Estates at the Small Industries Extension Institute (SIET) of Hyderabad (India)	End 1968 or early 1969	India
In co-operation with ECLA: Experts Group on financing of small-scale industries in Latin America	1968 or 1969	Santiago
<u>12. Planning and programming; project formulation; industrial location and regional development</u>		
International Working Party on Industrial Programming Data	1968	Vienna
Workshops on Industrial Project Formulation and Evaluation (3 workshops for technical personnel and orientation seminars for policy makers to train local personnel)	1968	Africa, Asia, Latin America
<u>Ad Hoc</u> Expert Group Meeting on Project Implementation and Follow-up	1968	Vienna
Workshop Training for Implementation of Industrial Projects	1968	Turkey
Industrial Location and Regional Development Planning	1968	Minsk
Co-operation in Industrial Development Training Course of 4 to 6 weeks, in collaboration with the United Nations Development Planning Institute of Dakar	1968	Lusaka
<u>13. Investment policies; industrial investment financing; financial planning</u>		
Meeting of Experts on Specific Industrial Fiscal Incentives	June 1968	
Experts Meeting on Assistance in Investment Promotion	1968	

	<u>Date</u>	<u>Place</u>
14. <u>Export promotion: development of export-oriented industries</u>		
Jointly with UNCTAD:		
Training Course for Export Promotion Personnel of Developing Countries	1968	
Seminar on Institutional Aspects of Export Promotion	1968	
Experts Group Meeting on Promotion of Export Marketing Organizations	1968	
Experts Group on Utilization of excess capacity in manufacturing for Export	1968	Latin America
Experts Group on Metal-working as a potential export industry of the Developing Countries	1968	



ANNEX 3

1968 WORK PROGRAMME - STUDY AND RESEARCH PROJECTS

1. Engineering industries

Design, Manufacture and Utilization of Dies and Jigs.

Status of Technology in the Electric and Electronic Industries.

Survey of the Automotive Industry: to be prepared by ECLA in consultation with UNIDO.

In co-operation with Regional Economic Commissions:

With ECA: Rolling Stock Standardization Aspects.

With ECAFE: Feasibility studies and other programmes for the Investigation and implementation of Engineering Industry Projects.

With ECLA: Studies on Metal Transforming Sector.

2. Metallurgical industries

Studies on the Techno-economic aspects of the development of iron and steel industries in the developing countries.

In co-operation with Regional Economic Commissions:

With ECE: World production, Market and Prices of Iron and Steel, World Consumption and Resources for Steel Making.

With ECLA: Present Status and Future of the Iron and Steel Industry of Latin American Countries.

With ECA: Present Status and Future of the Iron and Steel Industry of African Countries.

3. Construction and building materials industries

Studies of selected products: Mineral wool, Manufacture and Uses;

Asbestos Cement and similar Fibro-Cement Materials;

Cement from Gypsum;

In co-operation with ECLA: Surveys on the building materials and construction industries in Latin America.

4. Chemicals, petrochemicals and synthetics, insecticides and pesticides, pharmaceuticals and other related industries

(a) Basic chemicals

Studies on modernisation of and mechanization of the salt industries based on seawater:

Manufacturing industries in solar salt;
Energy and fuel requirements and relationships;
Machines used in the solar salt industry;
Materials of construction in the solar salt industry;
Regional and country studies on seawater industries.

Manufacture and use of basic chemicals in the developing countries

(b) Petrochemicals and synthetics

Production, Consumption and Trade in Petrochemicals in the World.

A series of studies in Plastics, Rubbers; quality control and testing of polymers; pilot plants for the manufacture of monomers, intermediates and polymers; processing polymers.

In co-operation with Regional Economic Commissions:

With ECA: Techno-economic studies on rubber, plastics and insecticides sector.

With ECAFE: Feasibility of establishment of petrochemical complexes.

With ECLA: Survey on Plastics consumption in the Region. Regional co-operation in Pesticides Manufacture.

5. Fertilizer industries

World Directory of Fertilizer Production Facilities.

In co-operation with Regional Economic Commissions:

With ECA: a) Comparative study on production of phosphatic fertilizers, using various processes. b) Examination of the economic feasibility of ammonia production in countries of Africa either on a sub-regional basis or a regional basis compared to import of ammonia. c) Studies on production of high analysis fertilizers for internal consumption and exports; on utilization of gypsum for sulphuric acid and ammonium sulphate production; and on utilization of hydrochloric acid for acidulation of phosphate rock.

Middle East: a) Studies in potash extraction from the Dead Sea. b) Feasibility studies for the manufacture and marketing of multi-nutrient fertilizers.

With ECLA: Studies on the supply and demand position of fertilizers in the region and on regional planning to put the industry on an equal footing with those of the industrialized countries.

6. Light industries

(a) Textiles:

Selection of equipment in the cotton industry;
Selection of equipment in the woolen industry;
Technology of refrigeration;
Engineering aspects of selected food industries;

In co-operation with Regional Economic Commissions:

With ECA: Feasibility study on ready-made clothing; feasibility study on the establishment of a textile research centre.

With ECA and ECAFE: Guidelines for production of man-made fibres.

With ECAFE: Feasibility study on the establishment of hosiery and garment industries.

With ECLA: Reorganization of textile industry.

Maintenance in the textile industry

(b) Food processing

With ECLA: Techno-economic surveys of the food processing industry in Latin America.

With ECLA and Fish Research Institutes at Santiago and Callao: Fish Protein concentrates in Chile and Peru.

With ECAFE: Study to improve the yield of rice.

With ECA: Study in processing of cassava, millet, meat.

7. Industrial legislation, patents and licensing

Compilation of an Industrial Legislative Series for Information on Laws, administration directives and regulations affecting industry.

8. Industrial research; standardization and quality control; industrial information

Industrial information

Study on Advisory services and Industrial Equipment

Industrial Opportunities Matrix

Directory of Industrial Agencies

9. Industrial consultant services; industrial organization and administration

Roster of Consulting Organizations.

10. Industrial management and training

(a) Industrial management

Corporate planning (studies in specific industries)
Quantitative Techniques in Management;
Organization and Management of the Distribution Channels for Consumer goods in the Developing Countries;
Organization and Management of Product Development within Individual Enterprises (Studies);
Flexibility of Use of Electronic Computer and Systems. Analysis on the Developing Countries.

(b) Industrial training

Manpower Development for Industrialization.

11. Special problems and institutions for small-scale industry including industrial estates

Financing of Small-scale Industries;
Techno-Economic Studies in Sub-contracting;
Small-scale Industries in Centrally Planned Economies;
Common Service Facilities on Industrial Estates;
Specialized Industrial Estates.

12. Planning and programming, project formulation, industrial location and regional development

Industrial Planning and Programming Series:

Profiles of Manufacturing Establishments (Summary of tables to be published (Vols. I and II));
Comparative Analysis of the Profiles data and other Industry Statistics, (Vol. III);
Survey of Industrial Plans and Programmes;
Operational Guide to Regional Industrial Planning;
Sectoral Planning and Programming Studies: Metal working industries;
Co-operation with Regional Economic Commission: Industrial Programming Manual.

13. Investment policies, industrial investment financing, financial planning documentation for experts meetings on:

Specific Industrial Fiscal Incentives
Investment Promotion

14. Export promotion, development of export-oriented industries

Optimisation of Policy Measures for the Promotion of Export-oriented Industries;

Interregional Co-operation between Developing Countries;

Utilisation of Manufacturing Excess Capacity for Exports;

Development of the Metal Working Industries as Potential Export Industries;

Industrial Co-operation between Developing Countries and Socialist Countries (Combine with above Studies)

Study of the Feasibility of Repayment of Credits and Interests in the form of Commodities;

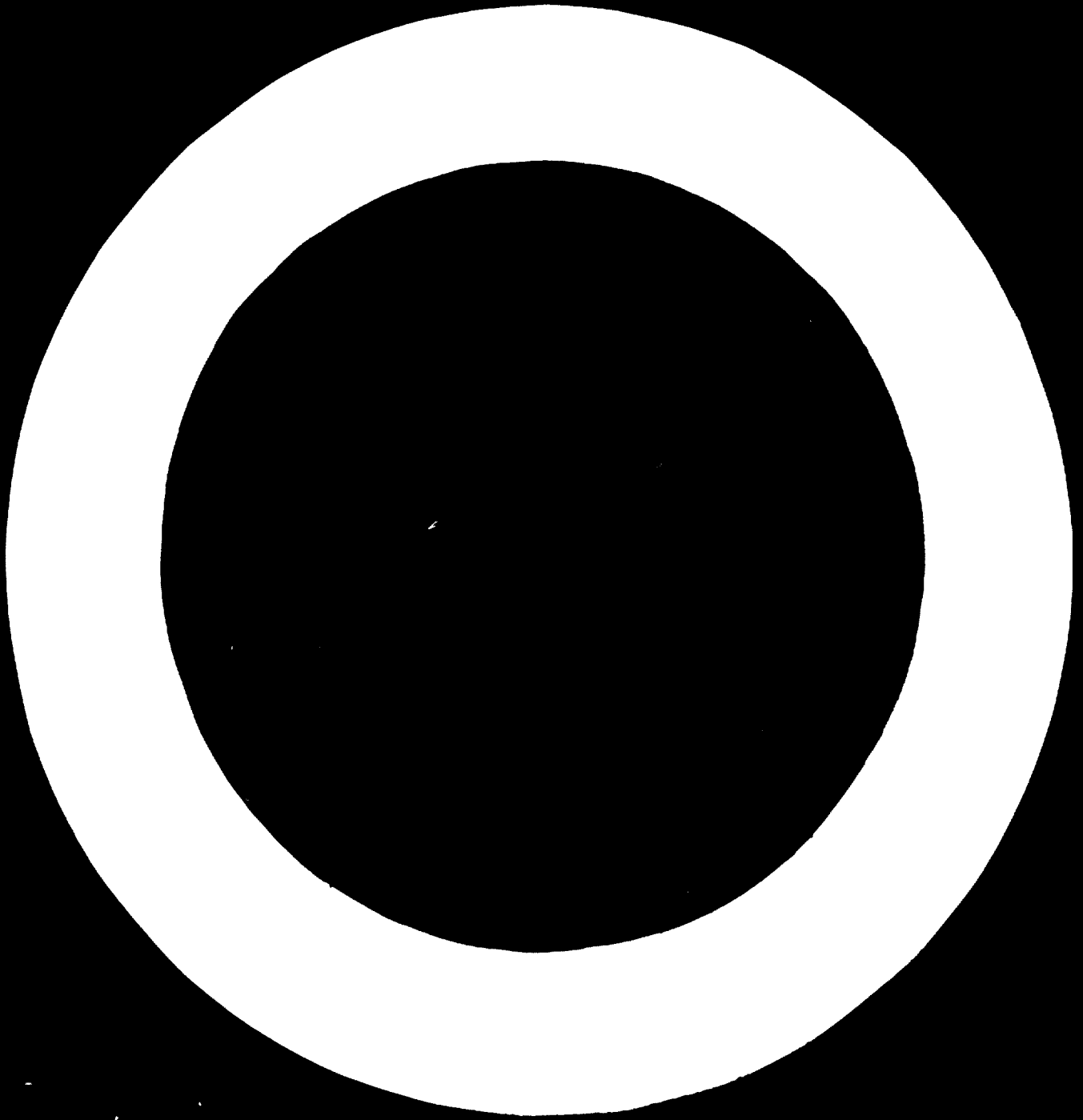
Methodological Aspects of the Inclusion of Exports of Manufactures in Industrial Planning.

15. General studies

World Industrial Survey

Country Studies

Industry Studies



ANNEX 4

PUBLICATIONS

NOTE: This list is prepared in accordance with the publications programme submitted to the United Nations Publications Board in paper 67/15/6, Rev. 1. The list includes sales items to be printed at total cost of \$179,150 and major documents to be processed internally.

INDUSTRIAL TECHNOLOGY DIVISION

Group 1 Mechanical and electrical engineering industries

- a) "The Development of the Metal Working Industries in the Developing Countries". Report by participants of United Nations Interregional Symposium on the Development of Metalworking Industries; Moscow, USSR, September/October 1966.
- b) Report of the Group of Experts on Maintenance and Repair of Industrial Equipment in Developing Countries.
- c) Operational Manual on Design, Manufacture and Maintenance of Dies and Jigs.
- d) Operational Manual on Status of Technology of Manufacturing, Electrical and Electronic Industries.

Group 2 Metallurgical industries

- a) Alumina Production from Various Raw Materials (50 pp.)
- b) Modernization and Expansion of Copper Plants (50 pp.)

Group 3 Building materials and construction industries

The Technology of Manufacturing Building Materials.

Group 4 Chemicals, Petrochemicals and synthetics

- a) Papers presented to the Experts Group on Modernization and Mechanisation of the Salt Industries of Developing Countries, based on Sea-water.
- b) The Establishment of the Plastic Industry in Developing Countries.

Group 5 Fertilizer and pesticides industries

- a) Fertilizer Production Technology and Usage.
- b) World Fertilizer Report.

Group 6 Light Industries

- a) Guidelines on the Selection of Machinery in the Cotton Industry and the Wool/Worsted Industry.
- b) Manual for Engineers in the Textile Industry (to be published as No.4 of the Training for Industrialisation Series; See Group 10).

Publications (continued)

INDUSTRIAL SERVICES AND INSTITUTIONS DIVISION

Group 7 Industrial legislation, patents and licensing

Group 8 Industrial research, standardization and quality control, industrial information

- a) Industrial Research and Development News (IRDN) Vol. III, No.1 and 2.
- b) UNIDO Newsletter
- c) Manual on the Training of Managers of Research Institutions.

Group 9 Industrial consulting services, organization and administrative machinery for industrial development

Institutional Framework for Industrial Development.

Group 10 Industrial management and industrial training

a) Industrial Management:

Problems of Industrial Maintenance in the Developing Countries.

b) Industrial Training:

Training for Industrialization Series:

No. 4: Manual for Engineers in the Textile Industry

No. 5: Policies and Problems of Industrial Training in Developing Countries.

Management of Industrial Enterprises in Developing Countries.

Group 11 Special problems and institutions for small-scale industry, including industrial estates

- a) Small-scale Industries in Latin America
- b) Inter-relations between Small and Large Industries.
- c) Technical Services and Facilities for Small-scale Industries.
- d) The Role of Small-scale Industries in Industrialization Programmes and Policies.

INDUSTRIAL POLICIES AND PROGRAMMING DIVISION

Group 12 Industrial programming and projects

a) Industrial Planning and Programming Series:

No.2 International Comparisons of Inter-industry Data.

No.3 Planning for Advanced Skills and Technologies.

No.4 Profiles of Manufacturing Establishments in Selected Countries (Vol. I)

No.6 Structure of Material Inputs in Manufacturing Industries and Inter-industry Relations.

Publications (continued)

Group 12 Industrial programming and projects (continued)

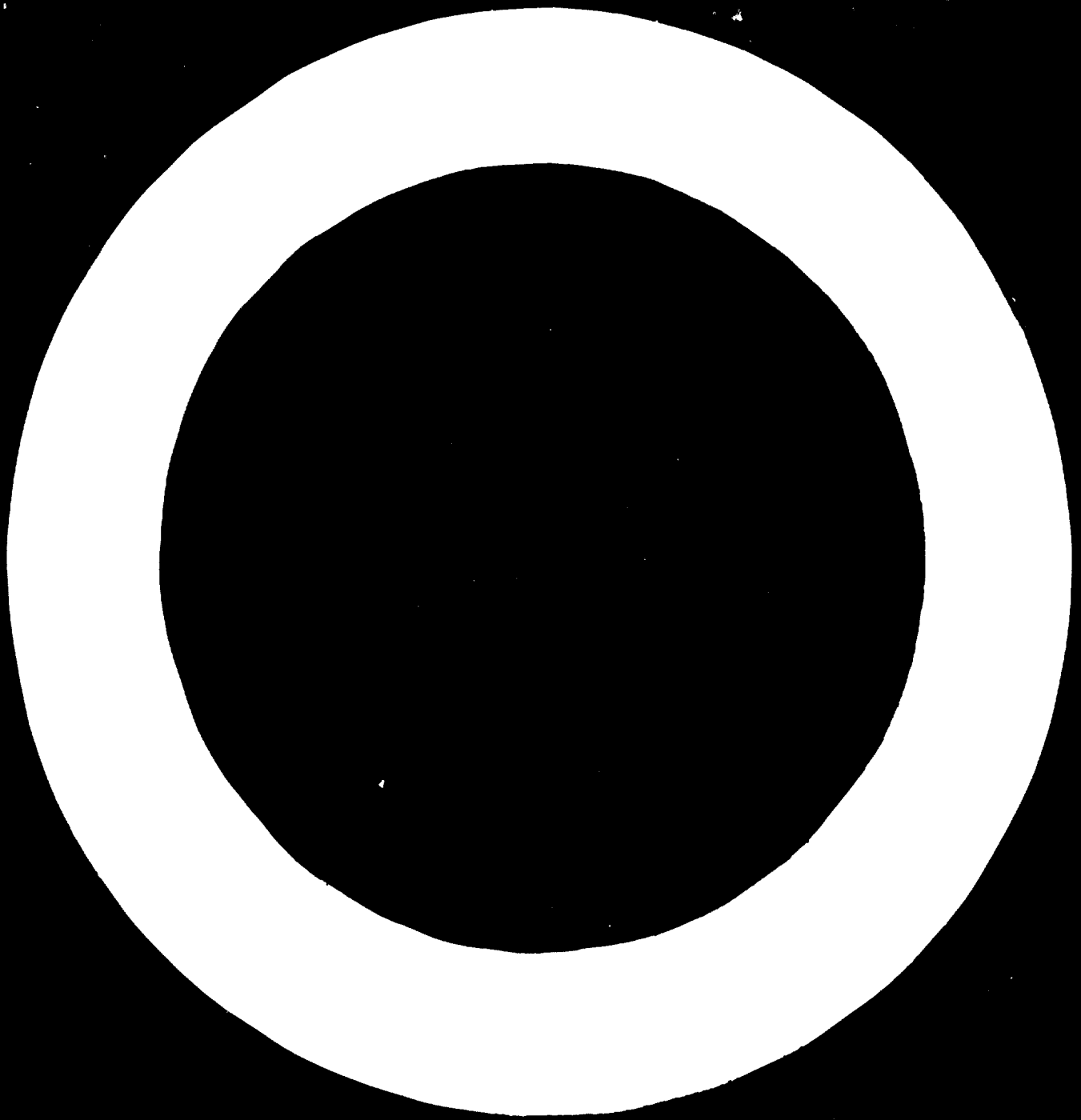
- No.7 Profiles of Manufacturing Establishments in Selected Countries
(Vol. II)
- b) Bulletin on Industrialization and Productivity:
 - No. 12
 - No. 13
 - No. 14
 - c) Manual on the Role of Industrial Co-operation in Industrial Development
 - d) Studies in Economics of Industry: No. 3 Iron and Steel Metalworking.

Group 13 Industrial policies and industrial financing

Report of Experts Group Meeting on Fiscal Incentives for Industrial Development

Group 14 Promotion of exports of manufactures and semi-manufactures

- a) Teaching material for training of Export Promotion Personnel
- b) Methodological Aspects of the Inclusion of Exports of Manufactures in Planning Procedures
- c) Report on Export Group Meeting on Export Marketing Organisation.



ANNEX 5

UNIDO WORK PROGRAMME - GROUPS OF ACTIVITY

INDUSTRIAL TECHNOLOGY DIVISION (Groups 1-6)

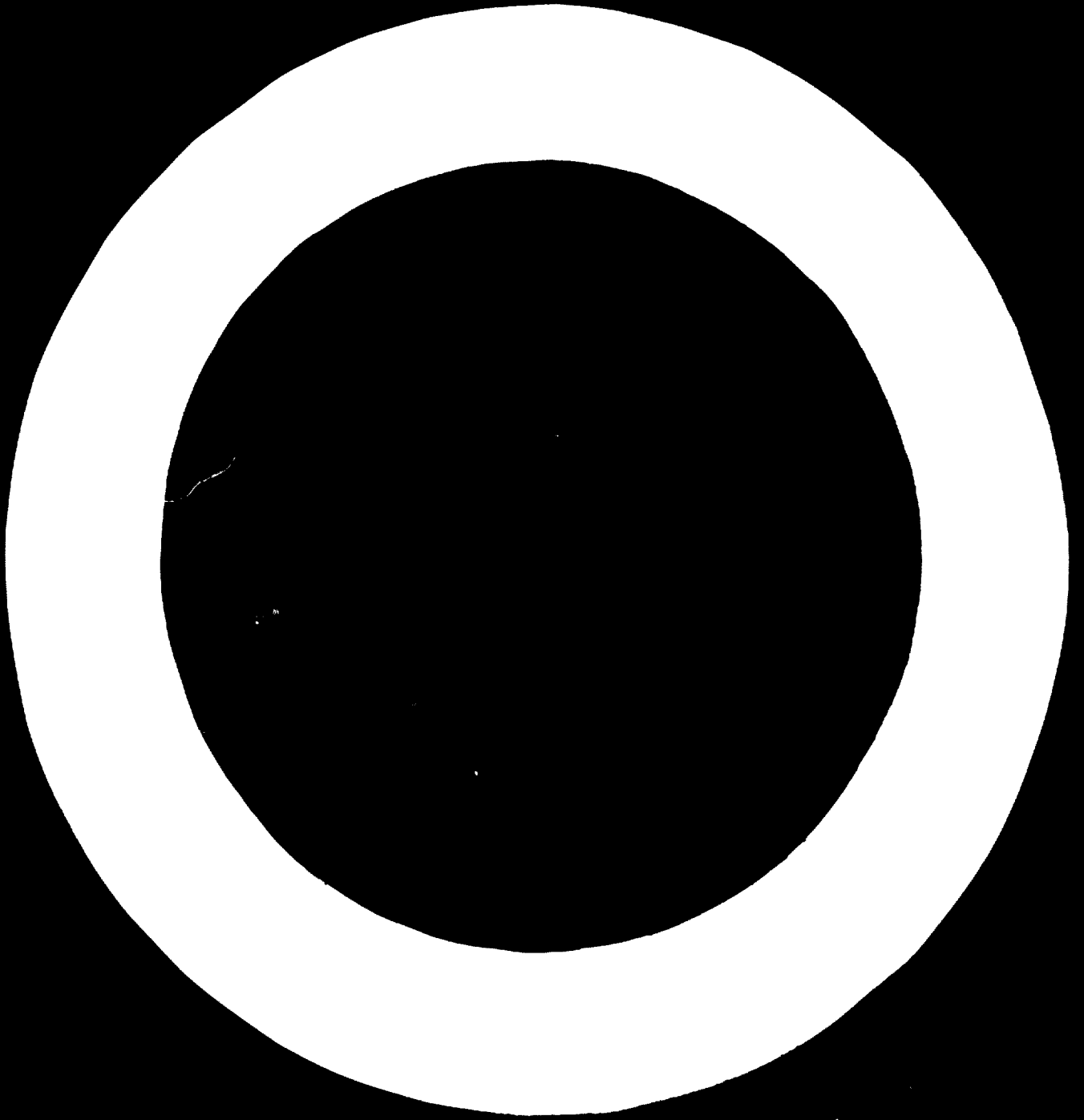
1. Engineering industries
2. Metallurgical industries
3. Construction and building materials industries
4. Chemicals, petrochemicals and synthetics, insecticides and pesticides, pharmaceuticals and other related industries
5. Fertilizer industries
6. Light industries

INDUSTRIAL SERVICES AND INSTITUTIONS DIVISION (Groups 7-11)

7. Industrial legislation, patents and licensing
8. Industrial research; standardization and quality control; industrial information
9. Industrial consultant services; industrial organization and administration
10. Industrial management and training
11. Special problems and institutions for small-scale industry including industrial estates

INDUSTRIAL POLICIES AND PROGRAMMING DIVISION (Groups 12-15)

12. Planning and programming; project formulation; industrial location and regional development
13. Investment policies; industrial investment financing; financial planning
14. Export promotion; development of export-oriented industries
15. General research projects established as continuing activities



ANNEX 6

Resolution 1 (I) of the Industrial Development Board

(adopted at the 35th plenary meeting, 4 May 1967)

Future programme of work and activities of the
United Nations Industrial Development Organization

The Industrial Development Board,

Recalling the provisions of General Assembly resolution 2152 (XXI) of 17 November 1966,

Recognizing that the work programme of the United Nations Industrial Development Organization has to be geared to the fulfilment of its purpose and the best possible implementation of its functions as set forth in General Assembly resolution 2152 (XXI),

1. Decides that the United Nations Industrial Development Organization shall carry out its functions essentially on the basis of meeting the urgent needs of the developing countries in accelerating their industrial development through promotional and operational activities supported by relevant research;

2. Requests the Executive Director to exercise his responsibilities in accordance with the following guidelines:

(a) Operational activities of the United Nations Industrial Development Organization, whether financed from contributions made directly to it or undertaken through participation in the United Nations Development Programme or by the utilization of the appropriate resources of the United Nations regular programme of technical assistance or under the programme of special industrial services, should be undertaken only at the request of Governments;

(b) Measures should be undertaken to expedite the implementation of projects already approved under the United Nations Development Programme, the regular programme of technical assistance and the programme of special industrial services, and also such requests as may be forthcoming during 1967 and 1968;

(c) Operational activities of the United Nations Industrial Development Organization should be expanded through the establishment of closer and direct contacts with the developing countries and of better access to the experience and knowledge of the advanced countries;

(d) Research activities of the United Nations Industrial Development Organisation as provided for in paragraph 2 (b) of General Assembly resolution 2152 (XXI) should be based on the following considerations:

- (i) Action-oriented studies and research programmes of the United Nations Industrial Development Organisation should be designed especially to facilitate the undertaking of operational activities which result from requests from the developing countries in the framework of the functions of that Organisation. Research activities undertaken by the United Nations Industrial Development Organisation should also be directed to achieving improved effectiveness of operational activities. It is, furthermore, recognized that certain types of studies and surveys have an important role both in the analysis and evaluation of the experience gained in the field and in the determination of the proper direction of future operational assistance activities;
 - (ii) Research activities of the United Nations Industrial Development Organisation which do not necessarily have an immediate and direct supporting role in relation to operational activities can, nevertheless, serve useful longer-range development needs such as the formulation of alternative industrial development strategies. In such cases the United Nations Industrial Development Organisation should, wherever possible, draw on appropriate work of other institutions, and, as necessary, encourage them to undertake such research in areas which the experience of its operational activities would indicate to be fruitful. The United Nations Industrial Development Organisation may also undertake useful compilations and indexing of relevant information, classifications of conclusions derived from comparative studies of actual cases, and the periodic evaluation of industrial trends, especially in the developing world, to measure achievements and identify important industrial development problems;
 - (iii) Seminars and workshops should be undertaken in response to clear needs and after adequate preparation. Documentation preparatory to, and resulting from, such seminars and workshops should consist of short and clear papers which can be used to guide similar discussions and study groups in developing countries. Such documentation should be as up-to-date as possible and made available promptly in order to be of maximum value;
- (e) A more dynamic approach should be increasingly built into the programme of the United Nations Industrial Development Organisation in such a way that the field activities may provide a leverage for such larger undertakings within the promotional role of the Organisation. Promotional activities in turn should lead to the expansion and greater effectiveness of studies and field operations;

(f) The operational activities of the United Nations Industrial Development Organization as hereunder elaborated should be widely publicized and brought specifically to the attention of Governments of developing countries in order to assist them in formulating their requests under the operational programme of the Organization, in the immediate future:

- (i) Assistance in carrying out comprehensive general surveys of industrial development possibilities in individual countries or in groups of countries, e.g., in regions or subregions;
- (ii) Assistance in the formulation of industrial development plans and programmes and the determination of priorities and the formulation of appropriate policies, incentives and other measures in individual countries or in groups of countries;
- (iii) Assistance in identifying those branches of industry which should be developed in order to ensure accelerated industrialization and better standards of living;
- (iv) Assistance in conducting pre-investment studies of specific industrial possibilities and the evaluation of specific projects;
- (v) Assistance in executing necessary detailed technical and economic feasibility studies to elaborate specific bankable projects and in the economic and financial planning and evaluation of specific projects including the identification of possible domestic resources;
- (vi) Assistance in obtaining external financing for specific industrial projects, including additional financing for expansion and improvement of existing industrial plants, by the giving of guidance in the preparation of specific requests, including information on the terms and conditions of the various financing agencies, and by advice to financing agencies on the technical and economic soundness of the projects submitted for financing;
- (vii) Advising at the various stages of implementation and follow-up of industrial projects, including the preparation of detailed project reports or their evaluation, selection of processes, technologies and machinery and equipment, preparation of invitations for tenders, evaluation of tenders, supervision of construction work, and commissioning and testing of industrial plants;
- (viii) Assistance in achieving the efficient utilization of new and existing industrial capacity in developing countries; in particular, help in all phases of production, including the solution of technical and technological problems, improvement and control of quality, the recruitment of competent management and its surveillance to ensure high performance;

- (ix) Assistance in developing and improving marketing and distribution techniques and in providing solutions for marketing and distribution problems with specific industrial products;
- (x) Assistance in the development of export-oriented industry and in the solution of its particular problems;
- (xi) Assistance in the training of technical and other appropriate categories of personnel, specifically in relation to particular existing or planned industries, including such forms of training as management workshops, in-plant training etc., using the services of specialists of both the developed and developing countries;
- (xii) Assistance in promoting co-operation among developing countries on programmes and projects of industrial development and in developing export potential;
- (xiii) Assistance in the dissemination for the developing countries, of information on technological innovations originating in various countries, assistance in the implementation of practical measures for the application of such information, the adaptation of existing technology and the development of new technology especially suited to the particular physical, social and economic conditions of developing countries through the establishment and improvement, inter alia, of technological research centres in these countries;
- (xiv) Information and advice on the systems of patents, industrial property and know-how;
- (xv) Assistance in establishing or strengthening national and multinational institutions to deal with various aspects and problems of industrial development in such fields as:
 - (a) Planning and programming;
 - (b) Project formulation and evaluation;
 - (c) Engineering and design;
 - (d) Training, management and productivity;
 - (e) Technological applied research;
 - (f) Standardisation, quality control, weights and measures administration
 - (g) Marketing and export promotion;
 - (h) Services to small-scale industry, including industrial estates;
 - (i) Investment promotion;
- (xvi) Assistance on experimental projects designed:
 - (a) To adapt existing technology to the very different factor endowments in the developing countries;

- (b) To investigate alternative possible new uses for local raw materials;
 - (c) To devise, wherever possible, linkages between various products and stages of processing which may form the base for a viable industrial complex;
- (xvii) Assistance in establishing pilot plants and experimental factories and in obtaining the supply of industrial inputs otherwise unavailable, to initiate industries which are likely to mature quickly;
- (xviii) Organization, as appropriate, of seminars and workshops on specific aspects and problems of industrial development;

(g) Assistance may be provided to Governments at their request in the preparation of their projects through appropriate means, including the sending of field missions or experts. To this end, the secretariat should urgently develop the requisite technical capacity;

(h) The United Nations Industrial Development Organization shall co-operate with the United Nations Regional Economic Commissions and the United Nations Economic and Social Office in Beirut, assist the regional and sub-regional economic groupings and co-operate with them at the request of the Governments concerned in the elaboration and/or implementation of national or multinational programmes and projects in the developing countries;

(i) As appropriate, assistance should be provided pursuant to the provisions for co-ordination and co-operation contained in General Assembly resolutions 2152 (XXI);

3. Requests the Executive Director to present future work programmes of the United Nations Industrial Development Organization on the basis of the following considerations, taking into account the need to develop gradually the central co-ordinating role of the Organization in the field of industrial development:

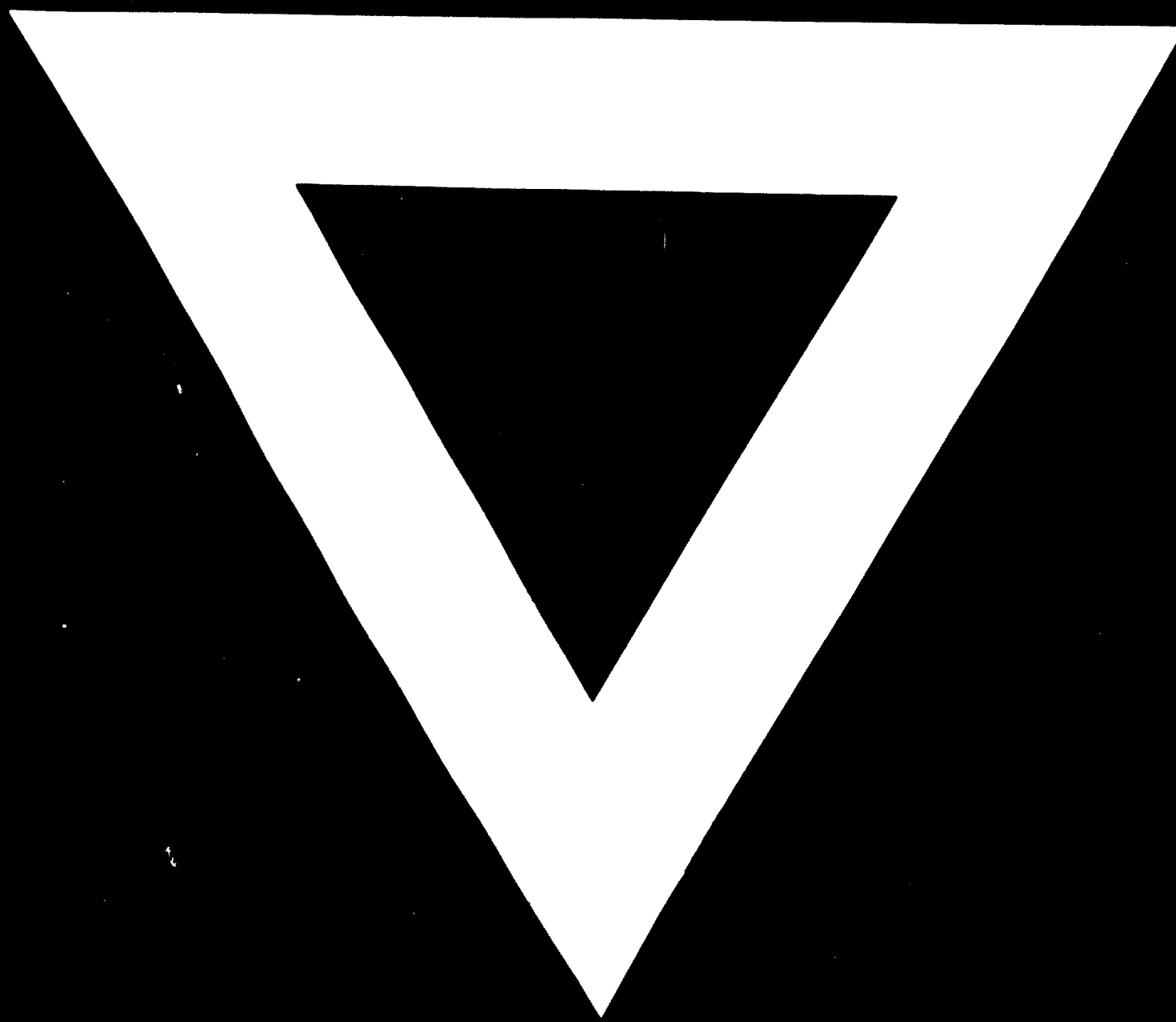
(a) The work programmes should be in a form which will enable the Industrial Development Board to have an over-all view, in budgetary terms, of the operational and headquarters activities of the United Nations Industrial Development Organization and hence to consider their budgetary implications;

(b) The same framework should be used for presenting summary reports on earlier activities of the United Nations Industrial Development Organization and future trends, in order to enable the Industrial Development Board to follow, year by year, the over-all evolution of these activities;

(c) The framework for presenting the work programme should, in particular, indicate clearly the breakdown:

- (i) Among the fields of activity in broad categories in the recipient countries;
 - (ii) Among the various types of activities, comprising on the one hand operational activities (technical assistance measured in man-months or in scholarships and fellowships, studies and services or other operations measured in monetary units) and on the other hand headquarters activities, which are considered as supporting the operational activities (management and control of operational projects, dissemination of information, general studies and research and general administration);
 - (iii) Among sources of finance, distinguishing between the United Nations Industrial Development Organization's own resources and other funds and programmes of the United Nations system;
- (d) This presentation should enable the Industrial Development Board in particular to:
- (i) Obtain a clear view of the relationship between the field of activities, the type of activities and financial resources;
 - (ii) See the relationship between the total amount of the operational budget and that of the administrative budget;
 - (iii) See to what extent the headquarters activities are serving more or less directly to support the operational activities;
 - (iv) Gain a clear picture of the level achieved in the co-ordination of all industrial development activities within the United Nations System;
4. Approves the programme of work contained in the report submitted by the Executive Director (ID/B/4), subject to such changes as may be deemed appropriate by him in the light of the guidelines indicated in paragraph 2 above.





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