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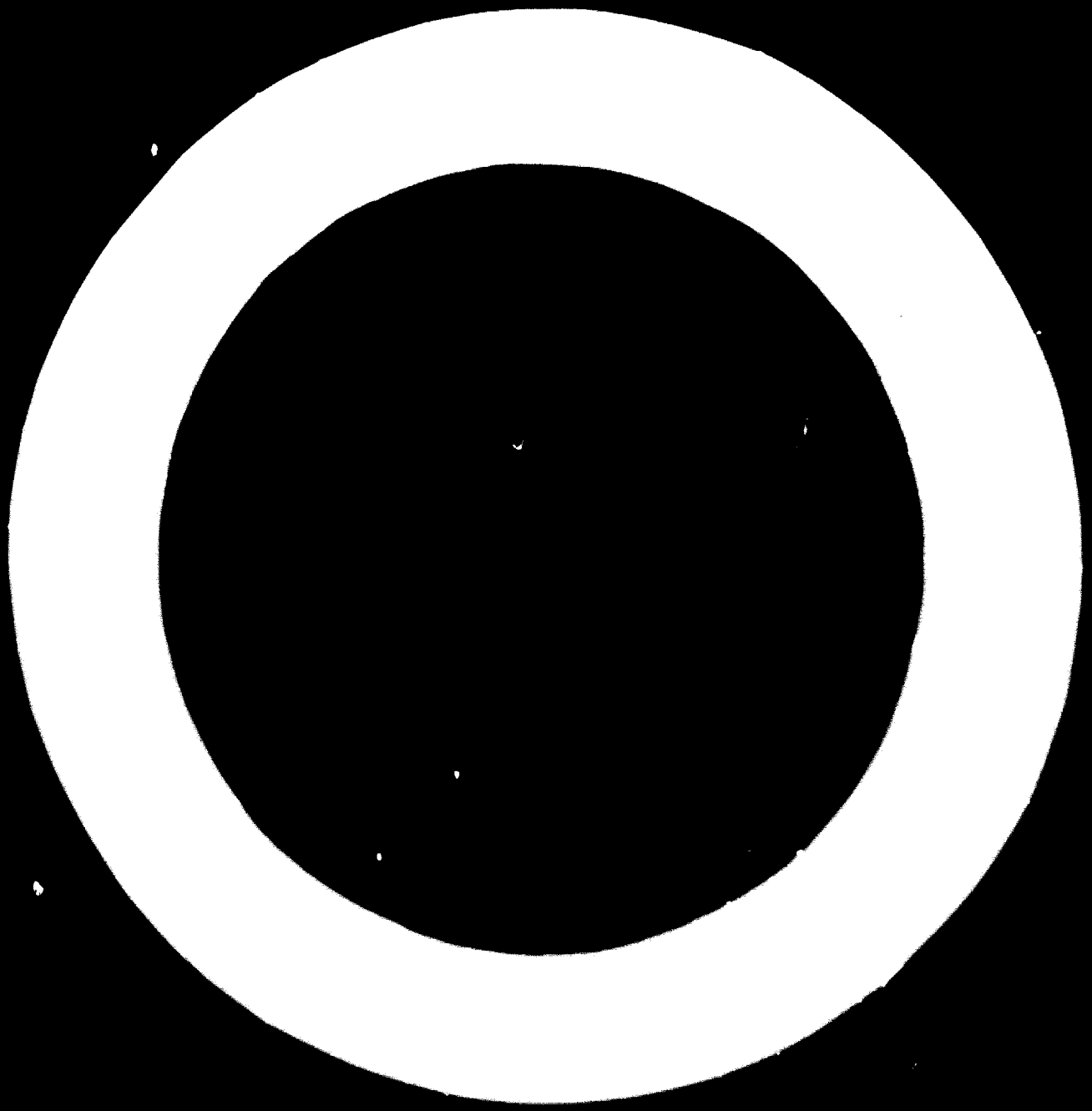
Third Session
Vienna, 24 April - 15 May 1969

Agenda item 5(d)

PROGRAMME OF WORK FOR 1970
OF THE UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

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.





United Nations
Industrial Development Board

Third Session
Vienna, 24 April - 15 May 1969

Agenda Item 5(1)

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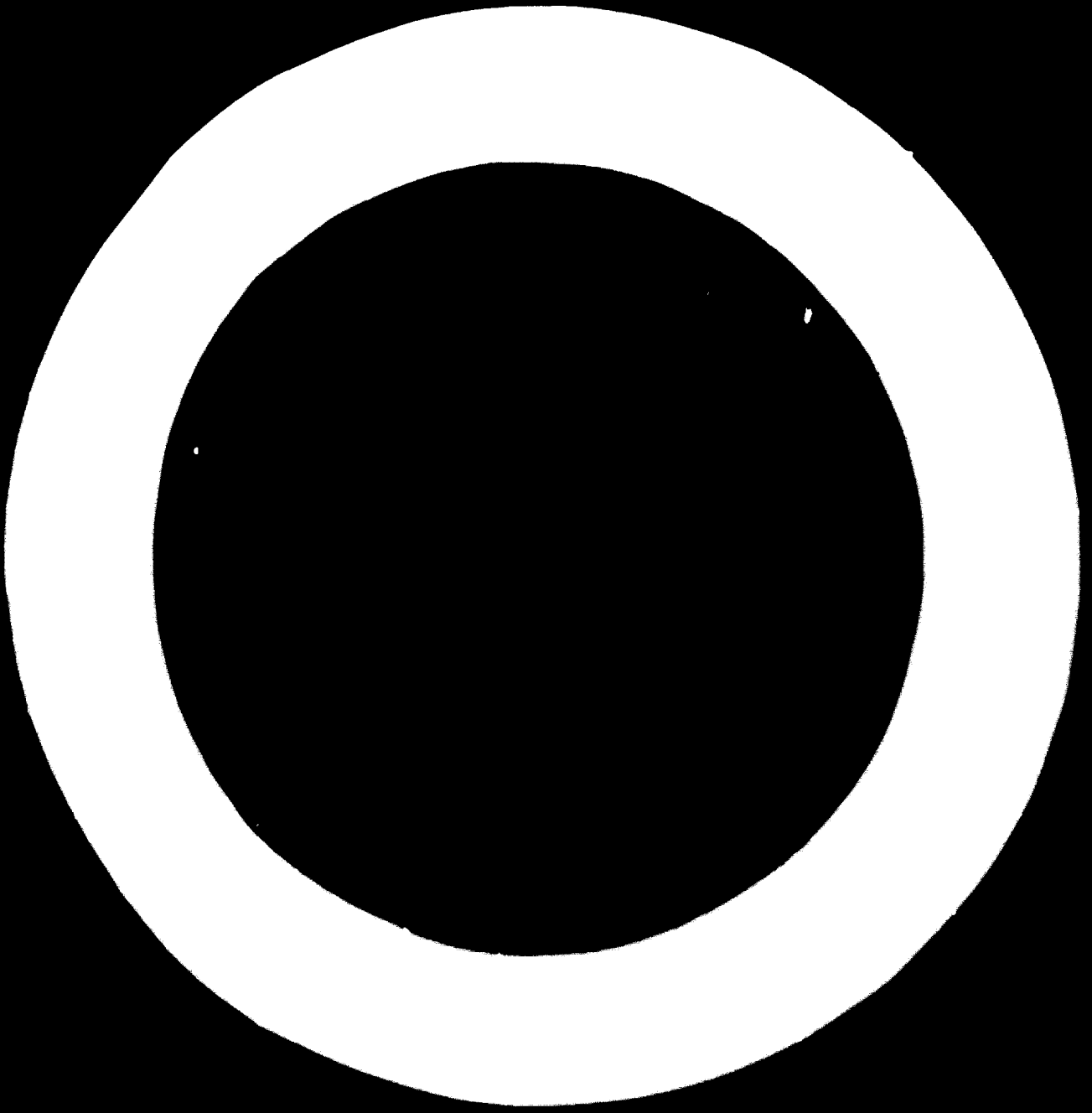
PROGRAMME OF WORK

OF THE UNITED NATIONS INDUSTRIAL DEVELOPMENT BOARD

Annex I

Page 130, para. 20

Delete the second sentence of paragraph 20, which reads: "The Board shall also consider the possibility of developing a level training programme for the industrial sector.".



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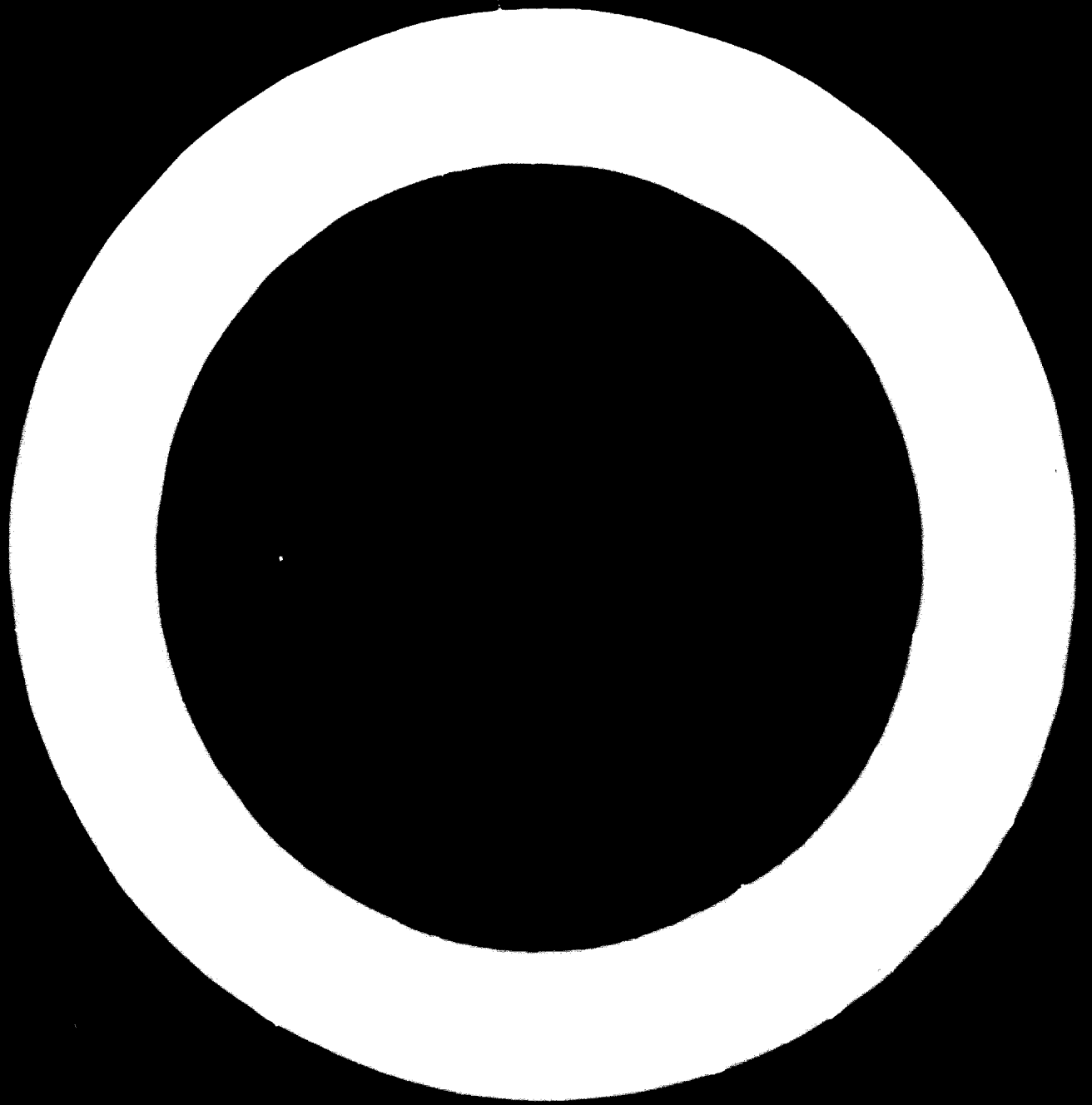
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Introduction

1. This report of the Programme of Work of UNIDO for 1970 has been prepared in response to resolution 1(I) of the Industrial Development Board at its first session. In the preparation of the report, account has been taken of the guidelines established by the Board at its first and second sessions.
2. The programme of work of 1969 was originally submitted to the Board in document ID/B/26; the updating of the 1969 programme is being presented in document ID/B/50. As was pointed out in document ID/B/26, the year 1969 was expected to be one of consolidation and expansion of the activities of UNIDO. Taking into account the developments during 1968 and the now more clearly defined features of the 1969 programme, such anticipation can be reaffirmed at the time of preparation of this report. For 1969 and also for 1970, it can be said that the activities of UNIDO will continue to expand in all sectors in which UNIDO has been assisting the developing countries with regard to industrial development.
3. The 1970 work programme, as regards both operational and supporting activities, is presented in Parts One and Two of this report. The preparation of the operational part of the work programme involved certain difficulties due to the fact that, as a result of the continuous programming procedure, introduced at the beginning of 1969 whereby projects can be presented at any time for financing from the UNDP/TA component, the amount of funds to be made available to UNIDO during 1970 was not fully known at the time this report was being prepared. Under the circumstances, it is understandable that, excluding the projects which are known to continue into 1970, a certain amount of educated guessing and extrapolation on the basis of experience from previous years had to be applied in the preparation of the draft work programme for 1970. In particular as regards the SIS programme for 1970, the present document provides for an estimate of the prospective requests by Governments, reflecting their needs. In view of the fact that, unless further resources are forthcoming, the available funds under the SIS programme are likely to be fully committed in late 1969, the actual delivery of the SIS programme in 1970 will depend on the extent to which the financial resources made available under this programme will be replenished.

4. Considerable interest has been shown by developing countries in industrial programming and planning and in the management of industrial enterprises in the public and the private sector. Inquiries from countries indicate that the demand in this area is bound to increase substantially by 1970. Another sector in which further activity is expected within the 1970 work programme of UNIDO is assistance in the development of the manufacture of low-cost receivers and in the establishment of industrial facilities in the developing countries to assist in satisfying the growing needs of these countries in the field of telecommunications. Mention should also be made of the development of the food processing industries, other agro-industries and the production of industrial inputs for agriculture such as agricultural machinery, fertilizers and other chemicals. Continued expansion of light industries, particularly in the consumer sector, is reflected in the number of requests from this sector.

5. As regards supporting activities in the area of various industrial branches, meetings scheduled for 1970 will deal with tin plate production, basic chemicals and the building industries. Meetings will be convened in co-operation with the regional economic commissions on the development of alumina and aluminium projects in Asia and fertilizer projects in Latin America. Attention will continue to be given to the repair and maintenance of equipment, a field that will be the subject of a major symposium.

6. In other areas, a series of studies will be carried out as a follow-up of previous work or in preparation for future action. Work will continue in connexion with the participation of UNIDO in the preparatory work for the Second Development Decade. In export promotion, attention will be given to the factor of the under-utilization of existing capacities in the developing countries, in particular as regards the fertilizer and pesticides industries.

7. Other activities will be the further development and improvement of the administrative machinery and technical personnel of both public and private industrial service organizations in developing countries; promotion and development of new types of international industrial transfer institutions which are aimed at increasing the flow of capital, entrepreneurship and managerial

and technical know-how from the industrialized to the developing countries; and the promotion of contacts between the industries of the developed countries (both market economies and centrally-planned economies) and the developing countries by means of industrial promotion services that would also be organized in connexion with international trade fairs and exhibitions. The operations of the Industrial Information Service, including inter alia an industrial equipment advisory service that has already been established, would also serve to promote industrial contacts between the developing and the developed countries.

8. In addition to the above presentation of the general features of the 1970 programme, it is considered useful to highlight in the following paragraphs activities in some of the areas programmed for 1970.

Industrial inputs in agriculture

9. As regards agricultural machinery and implements, a meeting in 1969 is expected to submit recommendations regarding a comprehensive long-term programme of assistance to developing countries in furthering domestic production of farm machinery integrated with the domestic engineering industry. The activities of UNIDO will focus on the identification of the types of products and on promoting collaboration in this area between the developing and the industrialized countries. Attention will be given to defining standard equipment for agriculture that would be appropriate for this purpose and to questions of design, repair and maintenance. As regards fertilizers and pesticides, the work programme of UNIDO over the past years has been geared to transmitting to developing countries the new technology developed in the advanced countries. The work programme for 1970, particularly with regard to the supporting activities, is intended to continue this activity by providing for regional and national surveys and studies of production facilities, utilization of capacity and promotion and development. Under operational activities, technical assistance in this area will be accelerated under various programmes, in particular under the SIS and UNDP/SF projects.

UNIDO industrial branch programmes

10. Negotiations which were initiated in 1968 and which will extend into 1969 involved the formulation of a limited number of UNDP/SF projects in the electronics, automotive, textile and electrical engineering industries. Negotiations in 1969 for the establishment of additional industrial branch programmes should lead to an expansion of this programme to further industrial branches. It is hoped that by 1970, it will be possible to have programmes in operation in some six to eight branches of industry.

Second Development Decade

11. UNIDO will be taking into account the General Assembly resolution 2411(XXIII) which provides for the Preparatory Committee to finalize in 1970 the draft on the international development strategy. UNIDO will complete in 1970 the sectoral studies (cement, iron and steel, engineering and food processing) initiated in 1969 in connexion with the preparation of a report on the prospects for specific industries in the developing countries during the period 1970 to 1980. Other studies to be completed in 1970 relate to quantitative determination of targets in the field of industrial development as related to the over-all targets of the Second Development Decade and to recommendations on general strategy and national and international policies to be pursued in order to achieve the targets.

Repair and maintenance programme

12. The repair and maintenance programme is expected to develop into a prominent element of the 1970 work programme. The surveys undertaken in a number of countries will provide a solid basis for the development of this programme. Particular aspects of the programme include manufacturing of spare parts, preventive maintenance and research on environmental influences on the performance of industrial machinery. Co-operation is envisaged with other organizations of the United Nations family interested in the problems of repair and maintenance. It is expected that some 20 to 30 projects related to aspects of repair and maintenance may become operative by 1970. Such projects range from the establishment of servicing centres to the provision of repair and maintenance workshops with adequate equipment and staff.

Field advisers

13. Reference has been made in other documents^{1/} to the progress of the field adviser programme, initiated in 1967, aimed at strengthening the links of UNIDO with the field. For 1970 an expansion of the programme is planned, to be financed by UNDP, that would bring the number of field advisers to fifteen by the end of that year. It is envisaged that, when the programme is in full operation, twenty field advisers would serve about 80 developing countries in the various regions.

Staff and consultants

14. The planned expansion of the work programme will require some strengthening of the staff of the substantive divisions. Table 8 gives a comparative statement of staff requirements and availabilities for 1969 and 1970. Details of the proposed increases are given in the budget estimates for 1970 which are being submitted to the Board in a separate document (ID/B/46).

15. As in the past, the regular staff of UNIDO will continue to rely on expert advice to supplement its work in areas requiring specialized knowledge. As can be seen from table 6, an increase in funds for consultants is being requested in 1970, principally in connexion with the participation of UNIDO in the implementation of the General Assembly resolution relating to the Second Development Decade.

Organization of the report on the 1970 work programme

16. The organization of the present document is as follows: Part One contains a summary review of the programme, including nine synoptic tables arranged by the main sub-divisions of programmed activities and covering operational activities and supporting activities. Part Two gives details of the programmed activities, arranged by the fifteen main groups.

17. In addition, the report contains five annexes: Annex I, Detailed list of field activities by programmes and regions; Annex II, List of field activities by regions and countries; Annex III, Expert group meetings, seminars, group training programmes and workshops planned for 1970; Annex IV, Study and research projects planned for 1970; and Annex V, 1970 Publications programme.

^{1/} ID/B/43 and ID/B/55.

PART ONE: SUMMARY REVIEW OF UNIDO ACTIVITIES PROGRAMME
FOR 1970

FIELD ACTIVITIES

General considerations

18. The work programme for 1970 lists all projects related to field activities which are scheduled to continue into 1970. These projects comprise those requested by Governments and are identified as continuing projects. It also lists additional projects which are expected to become operational in 1970. The forecast is based on consultations with Governments which have taken place during 1968 on the occasion of various meetings. In addition, the forecast also contains projects which are expected to result from activities of various kinds scheduled in the 1969 work programme and, in particular, expert group meetings, seminars, conferences, symposia etc.

19. The preparation of the operational part of the work programme for 1970 involved certain difficulties due, as in the case of the 1969 programme, to the new procedures of programming of the UNDP/TA component. The funds which will be made available to UNIDO during 1970 are not as yet fully known since this report was prepared prior to the convening of the UNDP Governing Council in January 1969 and to the UNIDO Pledging Conference in December 1968. There was also the additional uncertainty regarding the replenishment of the trust fund for SIS which accounts for a high percentage of the entire UNIDO operational programme.

20. As was mentioned elsewhere, the continuous programming procedure whereby projects can be presented at any time for financing under the UNDP/TA component constitutes a departure from the procedure followed in the years prior to 1969, when the programme was being established in content and value at least one or two years in advance. As regards the UNDP/SF sector, new projects that could be in operation in 1970 are still under examination by UNDP and are awaiting submission to the UNDP Governing Council for approval in 1969 and 1970. The Regular Programme, known at this time only at a tentative planning level, is subject to approval by the United Nations General Assembly.

21. Under the above-mentioned circumstances, the draft work programme for 1970, presented in this document, provides the best approximation that could be made at this time; exact information could only be given for the continuing projects already requested for 1970.

Order of magnitude of the work programme

22. The dollar value of the programme, both for projects officially requested and for those forecast, is indicated in the accompanying tables. Final 1970 figures will depend on how the anticipated or additional projects will develop from now until 1970 and on the official government requests received during that period and on the approval of these requests by the competent bodies. Specific reference to each one of the programmes will be found in paragraphs 24 to 29 below and the estimated value of the programme is shown in table 1.

23. The size of the programme in terms of the number of expert missions and of fellowships represents one of the criteria which could be used for comparative purposes. It is also a guide in making arrangements at UNIDO headquarters for backstopping and administrative facilities as well as for the management of the whole programme. Table 4 indicates the number of experts anticipated to be in the field in 1970 with comparative figures for 1969 and the magnitude of the fellowship programme for 1969 and 1970.

Summary of the work programme by sources of funds

24. As regards the UNDP/SF component, 29 projects are expected to continue in 1970.^{2/} The total cost of these 29 projects, in average annual cost, will amount to approximately \$12.6 million,^{3/} of which \$5.6 million is the United Nations contribution and some \$7.0 million the contribution of the assisted countries.

25. Preparatory work is in progress with interested Governments on more than 50 UNDP/SF projects that may be submitted for approval to the UNDP Governing Council in its coming sessions. The approval by the Governing Council will determine the final number of projects that will be in operation by 1970. Projects under examination include technological and other

^{2/} In the updating of the 1969 work programme (ID/B/50, para.14), 30 UNDP/SF continuing projects are mentioned, one of which will be completed in 1969. The figure of 29 does not take into account the possible addition of new projects that may be approved in the June 1969 session.

^{3/} Because the present document was prepared before January 1969, the detailed information on UNDP/SF projects contained in this document refers only to the 22 projects at hand prior to the approval of the seven new projects in January 1969.

specialized research institutes, regional and national industrial promotion and development centres and pilot demonstration plants. This programme is presented in terms of the average annual value of the number of projects in table 1. The total project costs were divided by the number of years of operation from the date of approval until the completion of field operations.

26. As regards the UNDP/TA programme, the estimates take into account the new programming procedures applicable since the beginning of 1969. Since these procedures permit continuous submission, as pointed out in paragraph 3 above, projects had to be shown separately in two categories, i.e. continuing projects and projects forecast. Thus, as regards the second category, the programme of field activities for 1970 can be considered only as an order of magnitude of technical assistance needs under the various country programmes and is therefore subject to modification. The respective figures for the technical assistance component, including continuing projects and projects forecast for 1970, appear in table 1.

27. One component of the UNDP/TA programme refers to interregional projects which take mainly the form of specialized seminars, meetings and selected training programmes. Funds available under this category in 1969 are of the order of \$400,000. It is not possible to indicate in advance the exact extent of UNIDO's participation in this part of the programme for 1970 as it is subject to approval by UNDP in the course of that year.

28. The programme of SIS, begun in 1966, has developed rapidly throughout 1967 and 1968. While initially, there was a large implementation gap owing to the difficulties of recruiting experts through conventional procedures, the gap has been progressively reduced and this programme has become an increasingly important element in the technical assistance programmes of UNIDO. The fact that UNIDO, in a relatively short time, has become a going concern can be attributed, to a large extent, to the SIS. Its versatile and simplified procedures make SIS eminently suited for the field operations of UNIDO. Though a considerable demand for such services is expected in 1970, it is difficult to predict the volume of that programme since the resources made available to date, amounting to about \$7.4 million, are anticipated to be fully committed in 1969 and no substantial replenishment of this fund has, as yet, occurred. Therefore, only an order-of-magnitude estimate of the expected needs can be made, based on the experience and projections of the years 1966 to 1968.

Table 1

Value of technical co-operation activities of UNIDO
under the various programmes, 1968 to 1970
(in thousands of US dollars)

	1968	1969	1970
Regular Programme ^{a/}	<u>901.4</u>	<u>1,499.3</u>	<u>1,500.0</u>
UNDP/TA			
Continuing projects	3,073.1 ^{b/}	3,296.0 ^{c/}	1,341.0 ^{d/}
Forecast of new projects	-	7,841.5 ^{e/}	11,580.0 ^{e/}
Total UNDP/TA	<u>3,073.1</u>	<u>10,137.5</u>	<u>12,921.0</u>
UNDP/SF ^{f/}			
Continuing projects	13,442.9	12,622.6	11,620.0
Governing Council earmarkings	(5,851.7)	(5,672.1)	(5,552.5)
Government counterpart contribution	(7,591.2)	(6,950.5)	(6,067.5)
Projects under active consideration as of 30 September 1968	-	4,940.0	11,380.0
Expected Governing Council earmarkings	-	(2,360.0)	(4,975.0)
Expected government counterpart contribution	-	(2,580.0)	(5,455.0)
Total UNDP/SF	<u>13,442.9</u>	<u>17,562.6</u>	<u>23,000.0</u>
Special Industrial Services	<u>4,222.9^{g/}</u>	- ^{h/}	- ^{h/}

a/ Value of approved programmes for 1968 and 1969; planning level for 1970 as recommended by the second session of the Industrial Development Board (resolution 11(11)).

b/ As reported in ID/B/43, table 2, page 25.

c/ UNDP/TA continuing projects known at September 1968, including regional and interregional projects, submitted to UNDP for approval.

d/ Projects for which Governments have specifically requested continuation in 1970, subject to UNDP approval.

e/ The forecast of new projects is made by UNIDO on the basis of an assessment of the indicated needs of the developing countries in the field of industry, resulting from direct contact with government representatives, as well as from communications with UNDP resident representatives, experts' reports and field missions.

f/ The figures for UNDP/SF represent the average annual cost of projects arrived at by dividing the cost of each project by the number of years required to complete it.

g/ Total programme value available for implementation computed as follows:

projects approved by 31 October 1968 US\$4,416,900
(cumulative since the inception of the programme in May 1966)

plus estimated projects to be approved to 31 December 1968 400,000
less commitments recorded as of 31 December 1967 (ID/B/22) 594,000

h/ An estimated programme value of \$4 million was included in the programme of work of UNIDO for 1969 (ID/B/26, table 1, page 15). The resources available to this programme by the end of 1968 amount to only \$1,851.3. No estimates can be given therefore for 1969 and 1970 under this programme. A detailed statement on the status and prospects of the programme is provided in ID/B/43, Add.1.

29. The Regular Programme, financed from the regular budget of the United Nations, has a planning level of \$1.5 million, as recommended by the Board, subject to the endorsement of the General Assembly. The Regular Programme is concerned mainly with training as a complementary function to projects included in the other programmes. The anticipated projects listed under this Programme are still subject to review and approval of the Governments concerned. Based on the experience of previous years, however, the suggested programme can be considered to reflect, with a reasonable degree of accuracy, the magnitude of its operations within the context of the total UNIDO programme of work. A separate document (ID/B/47) containing requests for 1970 will be issued to the Industrial Development Board for its approval.

Summary of the work programme by geographical areas

30. A breakdown by geographical areas of the value of technical assistance programmes, as forecast for 1970, is given in table 2. Under the Regular Programme, 35 per cent of the assistance is directed to Africa, 20 per cent to Latin America, 27 per cent to Asia and the Far East, 8 per cent to Europe and the Middle East and 10 per cent to interregional activities. Under the UNDP/TA programme, Africa is allocated 28 per cent of the total programme, Asia and the Far East 31 per cent, Latin America 24 per cent, Europe and the Middle East 12 per cent and the remaining 5 per cent is allocated to interregional activities. As in previous years, the African region will have the greatest share of the UNDP/SF programme with 50 per cent followed by Asia and the Far East with 23 per cent, Latin America with 14 per cent and Europe and the Middle East with 13 per cent.

Summary of the work programme by groups of activities

31. The value of technical assistance is shown in table 3 by groups of activities and by sources of funds. As already indicated in the introduction regarding the expanding activities of UNIDO, it is envisaged that the increased activity expected in 1969 in the field of fertilizers will be continued in 1970. This trend results from the increasing emphasis which developing countries are placing on the expansion and improvement of their agricultural output.

Table 2
Value of technical cooperation activities of AIDOC by programs
and geographical areas, 1976-1979
(in thousands of US dollars)

Type of programs	1976				1977				1978				1979			
	Approved	Not approved	Projects completed	Projects pending	Approved	Not approved	Projects completed	Projects pending	Approved	Not approved	Projects completed	Projects pending	Approved	Not approved	Projects completed	Projects pending
AFRICA																
Country projects	286	267	406	406	397	397	579	579	512	512	702	702	512	512	702	702
Regional projects	40	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Total Africa	326	277	416	416	407	407	589	589	522	522	712	712	522	522	712	712
AMERICAS																
Country projects	60	21	15	15	21	21	21	21	21	21	21	21	21	21	21	21
Regional projects	32	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total Americas	92	22	16	16	22	22	22	22	22	22	22	22	22	22	22	22
ASIA-PACIFIC																
Country projects	12	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Regional projects	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total Asia Pacific	22	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
EUROPE AND MIDDLE EAST																
Country projects	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Regional projects	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total Europe and Middle East	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
UNASSIGNED																
Total AIDOC	443	317	850	850	439	439	1,199	1,199	574	574	1,144	1,144	574	574	1,144	1,144

1. The figures for AIDOC represent the total amount of technical cooperation activities approved and completed by AIDOC in the reporting period. They do not include the amount of technical cooperation activities approved but not completed by AIDOC in the reporting period. The amount of technical cooperation activities approved but not completed by AIDOC in the reporting period is shown in the "Projects pending" column. The amount of technical cooperation activities approved but not completed by AIDOC in the reporting period is shown in the "Projects pending" column.

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Table 3

Value of technical co-operation activities of UNIDO by sources of funds
and by groups of activity, 1970
(in thousands of US dollars)

Industrial Technology Division	UNDP/TA				UNDP/SF ²		
	Regular programme	Continuing projects	Forecasts of new projects	Total	Projects under active consideration		Total
					Continuing projects	Projects under active consideration	
Group 1 Engineering Industries	100.0	53.0	805.0	858.0	373.5	560.0	1,311.5
Group 2 Metallurgical Industries	100.0	34.6	710.0	844.6	50.0	-	894.6
Group 3 Construction and Building Materials Industries	25.0	45.8	170.0	240.8	263.7	-	504.5
Group 4 Chemicals, Pharmaceuticals and Other Related Industries	50.0	45.0	430.0	525.0	-	-	525.0
Group 5 Fertilizers, Pesticides and Petrochemical Industries	75.0	-	725.0	800.0	1,641.3	500.0	3,941.3
Group 6 Light Industries	350.0	62.8	3,850.0	4,262.8	-	600.0	5,000.0
Total IT Division	700.0	301.5	6,090.0	6,991.5	2,334.5	1,660.0	10,986.0
<u>Industrial Services and Institutions Division</u>							
Group 7 Industrial Legislation, Patents and Licensing	40.0	46.2	130.0	176.2	-	250.0	426.2
Group 8 Industrial Services and Their Administration	50.0	50.1	145.0	245.1	871.4	840.0	1,956.5
Group 9 Industrial Information and Promotion	60.0	-	170.0	230.0	-	150.0	380.0
Group 10a Industrial Training	50.0	-	260.0	310.0	286.7	-	596.7
Group 10b Industrial Management and Consulting Services	50.0	80.2	560.0	690.2	-	1,015.0	1,705.2
Group 11 Small-scale industries, including Industrial Estates and Industrial Extension Services	150.0	184.0	895.0	1,229.0	654.5	680.0	2,563.5
Total ISI Division	400.0	268.5	2,160.0	2,828.5	1,812.6	2,935.0	6,576.1

Table 3 (cont'd)

	UNDP/TA			UNDP/SF ^e	
	Regular Programme ^{a/}	Continuing projects	Forecasts of new projects	Total projects	Projects under active consideration ^{b/}
<u>Industrial Policies and Programming Division</u>					
Group 12 Industrial Programming and Project Planning	350.0	485.6	1,320.0	1,805.6	500.0
Group 13 Industrial Policies and Industrial Financing	25.0	83.2	260.0	343.2	-
Group 14 Promotion of Export-oriented Industries	25.0	2.2	330.0	332.2	-
Group 15 Industrial Reviews and Surveys	-	-	220.0	220.0	-
Total IPP Division	400.0	571.0	2,130.0	2,201.0	500.0
GRAND TOTAL	1,500.0^{c/}	1,241.0^{d/}	10,980.0^{e/}	12,221.0	4,120.0

^{a/} Tentative distribution by groups of activity; the final distribution is given in document ID B/47.

^{b/} The figures for UNDP/SF represent the average annual cost of projects arrived at by dividing the cost of each project by the number of years required to complete it (UNDP earmarkings only).

^{c/} Planning level for 1970 Regular Programme as recommended by the second session of the Industrial Development Board in 1968.

^{d/} Projects for which Governments have specifically requested continuation in 1970, subject to UNDP approval.

^{e/} The forecast of new projects is made by UNIDO on the basis of an assessment of the indicated needs of the developing countries in the field of industry resulting from direct contact with government representatives, from communications with UNDP field missions, and from experts' reports and field missions. This figure does not include the \$500,000 reported in table 2 as forecasts of continuing projects.

^{f/} UNDP/SF continuing projects for 1970 as of 30 September 1968.

32. Part with the pattern set for 1969, special attention will be given in 1970 to industrial planning and management, an area in which developing countries are showing more and more interest. Increased activity is also expected in 1970 in the area of industrial support institutions including industrial research, standardization and quality control.

33. The field of engineering will continue to be a major source of activity for UNIDO, particularly in view of the development of a major campaign for repair and maintenance in 1968 and 1969 which should, in 1970, lead to the launching of an exclusive programme.

Summary of the work programme in terms of experts and fellowships

34. The number of experts and fellowships and the corresponding man-months, as foreseen for 1970 under the technical co-operation activities of UNIDO, including the interregional projects, are given in table 4.

Table 4

Size of technical co-operation activities of UNIDO in terms of experts and fellowships, 1969 and 1970
(in man-months)

	Experts		Fellowships	
	1969	1970	1969	1970
Regular Programme	74/536 ^{a/}	40/320 ^{b/}	159/908 ^{a/}	250/1250 ^{b/}
UNDP/TA	576/4380 ^{c/}	642/5994	374/1379 ^{c/}	476/2379
Continuing projects ^{d/}	118/961	62/1089	276/751	6/39
Forecast of new projects	458/3419	580/4905	98/628	470/2340
UNDP/SF	200/1800	270/2400	70/400	145/900
Continuing projects	120/1300 ^{c/}	140/1250	55/340 ^{c/}	75/460
Projects under active consideration	80/500	130/1150	15/60	70/440

^{a/} See 1969 UNIDO Regular Programme (ID/B/26/Adj.2/Rev.1).

^{b/} Provisional figures; final figures reported in document ID/B/47.

^{c/} See Programme of Work of UNIDO for 1969 (ID/B/26).

^{d/} As at 30 September 1968, including regional and interregional projects submitted to UNDP for approval.

35. In line with the emphasis which UNIDO continues to give the training component of its regular programme, the number of fellowships has been considerably increased while the number of expert man-months under this programme has been decreased. Although these are provisional figures, it is not expected that the regular programme, when finalized, will differ substantially in content and structure from the figures given in table 4.

36. As a result of the new continuing programming procedures in the UNDP/TA component, it is expected that a considerable number of the requests which will be forthcoming in 1969 will be continued into 1970. Reflecting the tendency of programming technical assistance projects in the industrial field for a longer duration, the average duration for each post is nine months in 1970 versus seven months in 1969. The relatively limited increase foreseen in the number of expert man-months in the UNDP/SF component is explained by the increasing use of subcontractors and consulting firms for the execution of projects in this programme.

37. As, at the time of the preparation of this report, the full amount of resources available in the SIS programme for 1970 was not known, no estimate could be made of the expert component involved.

Presentation of the work programme

38. The presentation used in the previous years has been substantially maintained in the 1970 work programme as regards field operations except that, as in the case of the 1968 report, two annexes have been introduced to facilitate the reading of the programme. In Annex I, the field activities have been listed by programmes, i.e. UNDP/SF, UNDP/TA, and Regular Programme, with continuing projects and Special Fund projects under consideration identified by the country concerned. UNDP/TA projects which are forecast have been shown only in Part Two by fields of activity without reference to countries, pending an official request from the Governments concerned. These projects are grouped by geographical regions within each group. Annex I contains a detailed description of projects and is thus the main register for all field operation projects. A cross reference number given to each project helps to identify the project in any other part of the work programme. Annex II provides a listing of field activities by countries, within the four main geographical regions, Africa, the Americas, Asia, and Europe and the Middle East, thus identifying all operational projects requested within any one country.

29. This arrangement enables the reader interested in details of a particular project to refer to the corresponding reference number in Annex I where the detailed description of the respective project will be found. The inclusion of details in the main body of the work programme is thus avoided, which is particularly important as regards Part Two where the work programme is organized by industrial sectors, and where field operations and supporting projects are shown together.

SUPPORTING ACTIVITIES

40. Under this heading, the programme of UNIDO includes, in addition to direct field activities provided by experts and fellowships, the provision of background support to field operations. These supporting activities are extended through dissemination of information and technical know-how via expert group meetings, workshops, seminars and group training programmes. The financial requirements for each of the fifteen groups and the sources of financing are shown in table 5 under first and second priority (categories A and B), category B being subject to availability of funds. Total requirements for the planned activities in 1970 to which first priority (category A) is given amount to \$1,224,000 of which UNIDO is expected to provide \$122,000, the balance to be supplied under the various technical assistance programmes. The increase in 1970 over the amount of \$699,000 allocated for 1969 is due principally to the expanded programme of the Industrial Services and Institutions Division, in particular in such areas as information and promotion, training, research and small-scale industries.

41. Consultant services and studies provide background support for the other activities, particularly as regards documentation for the various expert groups and meetings referred to above. These include studies for publication in established periodicals and series published by UNIDO which are prepared by UNIDO staff, assisted in a number of cases by consultants. The total amount allocated for 1970 is \$362,500 compared to \$285,000 for 1969; the increase reflects the additional studies and consultant services required in such fields as industrial legislation and industrial information and in general research projects relating to industrial policies and programming activities. Details of the programme are shown in table 6.

Table 5
Expert group meetings, workshops, seminars, group training programmes and other supporting projects, by sources of funds and by groups of activity, 1969 and 1970
(In thousands of US dollars)

	1969				1970					
	UNIDO Regular Budget		Technical Assistance Programmes		UNIDO Regular Budget		Technical Assistance Programmes			
	A	B	A	B	A	B	A	B		
Industrial Technology Division										
Group 1 Engineering Industries	7.8	2.6	32.8	-	43.2	7.0	-	54.5	-	61.5
Group 2 Metallurgical Industries	5.4	1.9	-	-	7.3	8.0	-	35.0	-	43.0
Group 3 Construction and Building Materials Industries	3.9	1.3	-	18.0	23.2	9.0	8.0	-	-	17.0
Group 4 Chemicals, Pharmaceuticals and Other Related Industries	5.4	1.9	-	-	7.3	7.0	-	80.0 ^{a/}	-	87.0
Group 5 Fertilizers, Pesticides and Petrochemical Industries	7.8	2.6	70.0	-	80.4	-	-	-	-	-
Group 6 Light Industries	9.3	19.7	11.0 ^{a/}	-	40.0	10.0	16.0	28.0	17.0	71.0
Total IT Division	39.6	30.0	113.8	18.0	201.4	41.0	24.0	197.5	17.0	279.5
Industrial Services and Institutions Division										
Group 7 Industrial Legislation, Patents and Licensing	4.7	9.8	-	- ^{b/}	14.5	-	20.0	-	-	20.0
Group 8 Industrial Services and Their Administration	5.1	1.8	-	54.0 ^{b/}	60.9	22.0	-	80.0	15.0	117.0
Group 9 Industrial Information and Promotion	6.2	2.1	-	80.0 ^{c/}	88.3	-	-	122.9	34.6	217.5
Group 10a Industrial Training	-	-	294.0	80.0 ^{c/}	374.0	6.0	16.8	413.0 ^{d/}	260.0	695.8
Group 10b Industrial Management and Consulting Services	3.9	24.9	-	-	28.8	8.0	7.0	-	70.0	35.0
Group 11 Small-scale Industries, including Industrial Estates and Industrial Extension Services	11.6	4.1	34.0	25.5	75.2	-	-	96.1	-	96.1
Total ISI Division	31.5	42.7	328.0	239.5	641.7	36.0	43.8	712.0	382.6	1,181.4

Table 5 (cont'd)

	1969				1970				
	UNIDO Regular Budget		Technical Assistance Programmes		UNIDG Regular Budget		Technical Assistance Programmes		
	A	B	A	B	A	B	A	B	
Industrial Policies and Programming Division									
Group 12 Industrial Programming and Project Planning	9.3	14.9	-	-	20.0	-	15.0	-	35.0
Group 13 Industrial Policies and Industrial Financing	9.4	15.0	161.0	40.0	25.0	20.0	77.5 ^{e/}	134.0	256.5
Group 14 Promotion of Export-oriented Industries	6.2	4.5	-	-	-	-	50.0	-	50.0
Group 15 Industrial Reviews and Surveys	-	-	-	-	-	-	50.0 ^{e/}	-	50.0
Total IPP Division	24.9	34.4	161.0	40.0	45.0	20.0	192.5	134.0	391.5
GRAND TOTAL	<u>96.0^{f/}</u>	<u>107.1^{f/}</u>	<u>602.8</u>	<u>297.5</u>	<u>122.0</u>	<u>87.8</u>	<u>1,102.0</u>	<u>540.6</u>	<u>1,852.4</u>

a/ USSR contribution.

b/ Including \$25,000 from Danish special contribution (not yet approved).

c/ Including \$60,000 from Danish special contribution (not yet approved).

d/ Including \$188,000 USSR contribution and \$75,000 Danish special contribution.

e/ Excluding a number of projects listed under the respective groups to be financed under the technical assistance programmes. The total of these projects amounts to \$250,000 for Group 10b, \$160,000 for Group 13 and \$250,000 for Group 15.

f/ Amount of appropriation.

Table 6
Consultant services and studies, 1969 and 1970^{a/}
(in thousands of US dollars)

	1969		1970	
	<u>A</u>	<u>B</u>	<u>A</u>	<u>B</u>
<u>Industrial Technology Division</u>				
Group 1 Engineering Industries	11.3	0.8	9.5	-
Group 2 Metallurgical Industries	6.6	0.5	10.0	-
Group 3 Construction and Building Materials Industries	6.1	0.4	10.0	9.0
Group 4 Chemicals, Pharmaceuticals and Other Related Industries	11.3	0.8	12.0	4.0
Group 5 Fertilizers, Pesticides and Petrochemical Industries	16.9	23.8	16.0	31.0
Group 6 Light Industries	32.0	2.2	19.0	29.0
Total IT Division	<u>84.2</u>	<u>28.5</u>	<u>76.5</u>	<u>73.0</u>
<u>Industrial Services and Institutions Division</u>				
Group 7 Industrial Legislation, Patents and Licensing	14.1	1.0	27.5	-
Group 8 Industrial Services and Their Administration	12.7	0.9	-	5.0
Group 9 Industrial Information and Promotion	18.8	1.4	39.0	54.0
Group 10a Industrial Training	4.7	5.4	6.0	15.0
Group 10b Industrial Management and Consulting Services	5.6	6.1	5.0	12.0
Group 11 Small-scale Industries, including Industrial Estates and Industrial Extension Services	19.3	17.2	23.0	18.5
Total ISI Division	<u>75.2</u>	<u>32.0</u>	<u>100.5</u>	<u>110.5</u>
<u>Industrial Policies and Programming Division</u>				
Group 12 Industrial Programming and Project Planning	26.3	1.9	30.0	45.0
Group 13 Industrial Policies and Industrial Financing	19.8	1.3	25.5	22.0
Group 14 Promotion of Export-oriented Industries	9.0	0.7	18.0	12.0
Group 15 Industrial Reviews and Surveys	70.5 ^{b/}	5.1	112.0 ^{c/}	30.0
Total IPP Division	<u>125.6</u>	<u>9.0</u>	<u>185.5</u>	<u>109.0</u>
GRAND TOTAL	<u>285.0^{d/}</u>	<u>69.5^{d/}</u>	<u>362.5</u>	<u>292.5</u>

a/ Estimate of expenditures for individual experts and consultants (including all estimated requirements for Consultant Funds from the UNIDO Regular Budget).

b/ Including \$50,000 for Second Development Decade.

c/ Including \$34,000 Industrial Technology Division and \$68,000 for Second Development Decade

d/ Amount of appropriation.

42. In the table 7 the estimated costs of the printing programmes for 1969 and 1970 are given.

Table 7
Estimated cost of printing programme, 1969 and 1970
(in thousands of US dollars)

	<u>Periodicals</u>		<u>Other</u>		<u>Total</u>	
	<u>1969</u>	<u>1970</u>	<u>1969</u>	<u>1970</u>	<u>1969</u>	<u>1970</u>
<u>Industrial Technology Division</u>						
Group 1			7.4	13.7	7.4	13.7
Group 2			3.3	28.4	3.3	28.4
Group 3			3.6	2.7	3.6	2.7
Group 4				1.0		1.0
Group 5						
Group 6			35.4	21.3	35.4	21.3
			7.8	2.9	7.8	2.9
Total IT Division			<u>57.5</u>	<u>70.0</u>	<u>57.5</u>	<u>70.0</u>
<u>Industrial Services and Institutions Division</u>						
Group 7				5.2		5.2
Group 8			1.3	5.8	1.3	5.8
Group 9	9.6	15.0	3.0	10.3	12.6	25.3
Group 10			24.3	7.0	24.3	7.0
Group 11						
			21.2	16.7	21.2	16.7
Total ISI Division	<u>9.6</u>	<u>15.0</u>	<u>49.8</u>	<u>45.0</u>	<u>59.4</u>	<u>60.0</u>
<u>Industrial Policies and Programming Division</u>						
Group 12	18.0	23.5	33.8	33.3	51.8	56.8
Group 13			4.7	2.0	4.7	2.0
Group 14			2.1	0.9	2.1	0.9
Group 15			2.0	5.3	2.0	5.3
Total IPP Division	<u>18.0</u>	<u>23.5</u>	<u>42.5</u>	<u>41.5</u>	<u>60.6</u>	<u>65.0</u>
<u>Technical Co-operation Division</u>						
			<u>2.5</u>	<u>5.0</u>	<u>2.5</u>	<u>5.0</u>
GRAND TOTAL	<u>27.6</u>	<u>38.5</u>	<u>152.3</u>	<u>161.5</u>	<u>180.0</u>	<u>200.0</u>

43. Table 9 summarizes the estimated staff requirements by groups of activity in 1970, both as regards direct support and field activities. The estimated requirements for 1970 for the three substantive divisions represent an increase of 14 per cent over 1969. The somewhat larger allocation of staff time to supporting activities as compared to 1969 arises mainly from the participation of UNIDO in the programme of the Second Development Decade and from the increased requirements of the Industrial Policies and Programming Division. It will be noted that there is a discrepancy between the figures of staff given in table 8 and the equivalent man-months given in the breakdown by divisions and sections in table 9. The discrepancy is due to the fact that the figures in table 8 include supervisory staff whose time is not directly attributable to individual projects.

Table 8
Staff availability for 1969 and 1970 work programmes
(established posts under the budget estimates)

	Estimated number of professional staff	
	As of 31 December 1969	As of 31 December 1970
Industrial Technology Division	43	52
Industrial Services and Institutions Division	42 ^{a/}	51 ^{a/}
Industrial Policies and Programming Division	48 ^{b/}	62 ^{b/}
Total	133 ^{c/}	165 ^{d/}

a/ Excluding one extra budgetary post.

b/ Including four professional officers engaged in work connected with the preparation of the Second Development Decade.

c/ This figure corresponds to the authorized manning table under the 1969 budget.

d/ This figure corresponds to the requested posts in the 1970 budget estimates.

Table 9
Staff requirements by groups of activity, 1970
Priority A

	Direct support to field activities		Supporting activities		Total		
	man- months	per- cent	man- months	per- cent	man- months	per- cent	
<u>Industrial Technology Division</u>							
Group 1	Engineering Industries	80	67	40	33	120	100
Group 2	Metallurgical Industries	56	78	16	22	72	100
Group 3	Construction and Building Materials Industries	18	75	6	25	24	100
Group 4	Chemicals, Pharmaceuticals and Other Related Industries	37	77	11	23	48	100
Group 5	Fertilizers, Pesticides and Petrochemical Industries	67	70	29	30	96	100
Group 6	Light Industries	101	70	43	30	144	100
Group 15c	Industry Sector Development	18	30	42	70	60	100
	Total IT Division	<u>377</u>	<u>67</u>	<u>187</u>	<u>33</u>	<u>564</u>	<u>100</u>
<u>Industrial Services and Institutions Division</u>							
Group 7	Industrial Legislation, Patents and Licensing	6	20	24	80	30	100
Group 8	Industrial Services and Their Administration	69	55	57	45	126	100
Group 9	Industrial Information and Promotion	14	10	130	90	144	100
Group 10a	Industrial Training	18	25	54	75	72	100
Group 10b	Industrial Management and Consulting Services	43	51	41	49	84	100
Group 11	Small-scale Industries, including Industrial Estates and Industrial Extension Services	50	46	58	54	108	100
	Total ISI Division	<u>200</u>	<u>35</u>	<u>364</u>	<u>65</u>	<u>564</u>	<u>100</u>
<u>Industrial Policies and Programming Division</u>							
Group 12	Industrial Programming and Project Planning	63	35	117	65	180	100
Group 13	Industrial Policies and Industrial Financing	55	31	125	69	180	100
Group 14	Promotion of Export-oriented Industries	52	39	80	61	132	100
Group 15a	General Research Projects Established as Continuous Activities	-	-	156	100	156	100
Group 15b	Second Development Decade Studies and Investigation and Material Preparation	-	-	48	100	48	100
	Total IPP Division	<u>170</u>	<u>23</u>	<u>526</u>	<u>77</u>	<u>696</u>	<u>100</u>
	GRAND TOTAL	<u>747</u>	<u>41</u>	<u>1,077</u>	<u>59</u>	<u>1,824</u>	<u>100</u>

PART TWO: DESCRIPTION OF THE PROGRAMME BY GROUPS OF ACTIVITIES

44. The programmed activities of UNIDO are classified in fifteen main groups which are enumerated in the contents. Some of the activities described may overlap two or more of the groups; in such cases, the main component of the activity determines its place in the groups. The description of the activities of UNIDO is presented in the order of the groups. In each group, the material is subdivided into two main parts: field projects; and supporting activities, which consist of expert group meetings, studies, research and other supporting projects and publications.

45. Research activities of a continuing nature, relating to some across-the-board problems including the World Industrial Survey and preparatory work on the Second Development Decade, are dealt with in Group 15.

46. The field projects appear with their titles only, the detailed descriptions being given in Annex I where they are listed by sources of finance: UNDP/SF, UNDP/TA and Regular Programme. Annex II classifies the projects by regions and countries.

47. There is no explicit reference in the work programme to the activities of the professional staff of the three substantive divisions at UNIDO headquarters in backstopping the technical assistance projects. The man-months indicated in the programme refer to the supporting activities only (meetings, studies and research etc.). The supporting activities are organized by projects rather than by forms of implementation, i.e. instead of organizing the material by type of activities (e.g. meetings, studies and research and publications) all relevant activities are consolidated under the heading of the corresponding project. Some of the activities described under the respective groups involve, in addition to the contribution of the UNIDO budget, expenditures which are financed from the budget of the technical assistance programmes under the category of regional and interregional projects. When the preparation of documentation for the meetings requires contributions by consultants, the cost is financed from the Consultant Funds of the UNIDO regular budget^{4/}. The studies and research projects are generally implemented by regular UNIDO staff, with the assistance of consultants when required.

^{4/} Except for meetings financed under the UNDP in which case the financing includes also the cost of consultants participating in the projects.

48. The publications indicated in the text include, in addition to printed publications, documents processed internally. The cost of such items, which absorb only regular staff time, does not appear in the budget as a specific cost item. The figures given under the item "publications" in the individual groups may not correspond to those of table 7 (estimated cost of printing programme, 1969 and 1970) due to the timing factor.

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INDUSTRIAL TECHNOLOGY DIVISION

Group 1 Engineering Industries

49. UNIDO began its work in this sector in 1967 with particular emphasis on the machine tool industry. Also included in the work of this sector was assistance to electrical and electronics and to transportation equipment industries. In 1968, the sector was expanded to include agricultural machinery and implements. Common to all these branches are problems in repair and maintenance and the development of engineering design capabilities.

50. In 1970 attention will continue to be given to the following branches: agricultural machinery and implements; electrical and electronics equipment; metalworking; transportation equipment; and machinery for processing industries as well as to the across-the-board problems of preventive maintenance and repair and the development of product design capabilities.

51. In accordance with the recommendations of the Industrial Development Board (ID/B/41, para. 115-117), and within the framework of the programme of co-operation with FAO in promoting domestic production by developing countries of industrial inputs in agriculture, special attention will be paid to agricultural machinery and equipment. Repair and maintenance of industrial machinery and mobile equipment will also be a major item of activities as part of the UNIDO campaign for repair and maintenance launched in 1968.

52. As regards technical assistance, a comparison of the requests for technical assistance received by UNIDO in 1967 and 1968 with the known or anticipated requests for technical assistance in 1969 and 1970 indicates two major

Group 1 (cont'd)

trends: the improvement of product design capability and the development of repair and maintenance. A parallel minor trend appears to be reflected in plans for modernization and upgrading of mechanical and electrical manufacturing facilities.

53. The emphasis on the development of product design capabilities and on the recognition of the need for upgrading mechanical and electrical manufacturing facilities reflects increasing awareness on the part of Governments of the need for competitiveness in their own domestic as well as on the export market.

54. Greater attention is also being devoted to better utilization of facilities that are now working below capacity. Some developing countries are making an effort to strengthen local production of low-cost consumer goods and other final products, and their components. Other developing countries plan to manufacture indigenously semi-finished products and tools which in the past have been imported, and UNIDO assistance is being increasingly requested in this field.

Field activities

55. The following is a listing of the field activities of Group 1 for 1970:

Ref. No.	<u>UNDP/SF</u>		Estimated cost US\$
	<u>Experts</u> m/m	<u>Fellows</u> m/m	
<u>Continuing projects</u>			
13	India	Design Centre for Electrical Measuring Instruments (IND-67) Approved: January 1968 Duration: 5 years	UNDP 833,000 Gov't <u>739,000</u> Total <u>1,572,000</u>
7	United Arab Republic	Engineering and Industrial Design Development Centre, Nasser City (UAR-55) Approved: January 1967 Duration: 5 years	UNDP 1,035,100 Gov't <u>1,224,000</u> Total <u>2,259,100</u>

Group 1 (cont'd)

UNDP/SF (cont'd)

<u>Ref. No.</u>		<u>Experts m/m</u>	<u>Fellows m/m</u>	<u>Estimated cost US\$</u>
<u>UNIDO participation in SF project executed by ILO:</u>				
	Singapore	Metal Industries Development Centre (SIN-9)		
<u>Projects under active consideration</u>				
70	Bulgaria	Devices Research Institute		
36	Chile	Metalworking Industry Testing Centre (CHI-39)		
43	Philippines	Metal Industries Development Centre (PHIL-30)		
32	Tunisia	Centre for the Development of Prototype Tools (TUN-27)		

UNDP/TA

Continuing projects

115	Argentina	Assistance to the National Institute of Industrial Technology (UNIDO/ARG/68/6) - Experimental study of structures metals		2/12	6,800
139	Singapore	Assistance to the Economic and Development Board (UNIDO/SING/68/1) - Light engineering industries		1/12	23,100
124	Venezuela	Mechanical Industry (UNIDO/VEN/68/6)		1/12	23,100

Forecast of new projects

Africa	Shipbuilding and Repairing			
	Agricultural Machinery Manufacture			
	Metalworking Industries			
	Manufacture of Low-cost Transportation Means			
	Rolling Stock			
Total Africa		6/60	4/42	

Group 1 (cont'd)

UNDP/TA (cont'd)

Ref. No.	Experts m/m	Fellows m/m	Estimated cost US\$
<u>Forecast of new projects (cont'd)</u>			
The Americas			
Metalworking Industries			
Maintenance, General			
Electrical and Electronic Equipment Industry			
Automotive Industries			
Workshop on Transfer of Industrial Technology			
Total the Americas	5/60	13/34	
Asia/Far East			
Maintenance, General			
Electrical and Electronic Equipment Industry			
Metalworking Industries			
Rolling Stock			
Shipbuilding and Repair			
Seminar on Engineering Industries			
Total Asia/Far East	14/138	37/80	
Europe/Middle East			
Industrial Engineering			
Maintenance, General			
Electrical and Electronic Equipment Industry			
Metalworking Industries			
Engineering, General			
Total Europe/Middle East	5/60	16/74	
TOTAL ALL REGIONS	30/318	70/230	805,000

Group 1 (cont'd)

Regular Programme

<u>Ref. No.</u>	<u>Experts m/m</u>	<u>Fellows m/m</u>	<u>Estimated cost US\$</u>
<u>Europe/Middle East</u>			
		2/0	
		1/0	
		5/13	

Supporting activities

I Agricultural machinery and implements

Assessment of technology of design and production of agricultural machinery and equipment in developing countries

56. The second session of the Industrial Development Board emphasized the importance of the design and manufacture of agricultural equipment in the developing countries and recommended that work in this area be given high priority (ID/B/41, para. 116). With the addition of specialized staff, work in this field was given stronger emphasis by UNIDO in 1968 and 1969. To programme the activities of UNIDO in the coming years, an expert meeting is scheduled for 1969 in Vienna. Following this expert group meeting, a team consisting of a staff member and a consultant, in co-operation with FAO, will investigate in a limited number of developing countries common problems in the production of agricultural equipment and implements. This investigation will include the identification of traditional equipment that must be re-designed for appropriate local use and the assessment of the technological capability to carry out such redesign, based on local production facilities. The team will also assess necessary equipment changes due to transition from the use of draft animals to power equipment in agriculture as well as the utilization of existing manufacturing facilities which may be adapted for the production of agricultural equipment and parts. The investigation will also include the state of repair and maintenance facilities of existing agricultural equipment and the need for technical assistance by UNIDO in this field.

Group 1 (cont'd)

The results of this investigation will be published and distributed to developing and industrialized countries.

Continuing project: Priority A

Participants: 2

Duration: 1 month

Estimated cost: \$5,000

Consultants \$2,000 (UNDP/TA)

Man-months: 5

\$3,000 (UNIDO regular budget)

11. Electric and electronic industries

Participation in meetings of the International Telecommunications Union (ITU) and its study groups to establish manufacturing guidelines for telecommunication equipment

57. In keeping with the recommendation of the Athens Symposium that the industries in developed countries be encouraged to help the electronics industry in less developed countries (ID/B/21, Annex I, page 48, para. 11 (2 and 3)), a conference will be held in 1969 in co-operation with ITU on the subject of the establishment, expansion and upgrading of telecommunications equipment manufacture and maintenance in developing countries, including low-cost radio and television receivers. The 1969 conference is expected to establish manufacturing guidelines for two-way communications equipment and low-cost radio and television receivers in developing countries. These guidelines will take into account ITU specifications. In 1970, through co-operation with the ITU and its study groups, professional societies and the industry of the developed countries, the manufacturing guidelines will be further developed into manufacturing specifications which should aid the telecommunication industries of the developing countries. The development of such specifications should assist in increasing the domestically produced components of professional equipment and help to introduce the manufacturing of low-cost radio and television receivers in countries which now, according to a UNESCO survey, have only high-cost equipment available that is beyond the purchasing power of the majority of the population.

Continuing project: Priority A

Estimated cost: Staff travel \$1,300 (UNIDO regular budget)

Group 1 (cont'd)

58. UNIDO proposes to publish two papers on this subject:

Manufacturing and maintenance of two-way communication equipment in developing countries

Manufacturing and maintenance of low-cost radio and television receivers in developing countries

Estimated publication cost: \$3,000 (UNIDO regular budget)

Man-months: 3

III Metalworking industries

Study of requirements of metalworking industries and utilization of machine tools in developing countries

59. An analysis of technical assistance projects in the field of the engineering industries being implemented by UNIDO indicates that the development of domestic metalworking industries is one of the main concerns of developing countries, a finding which bears out the recommendations of the Industrial Development Board (ID/B/41, para. 115). However, in establishing metalworking industries, developing countries are faced with such problems as over-all efficiency, technology of production, product development, future expansion plans, plant layouts and training in modern production methods. The study of the common problems of the developing countries, the pattern of production and the demand for machine tools and associated equipment was recommended by the Athens Symposium (ID/B/21, Annex I, page 48, para.11(1)) and the Industrial Development Board (ID/B/41, para. 115).

60. Work in this field began in 1966 with a symposium in Moscow on the problems of the metalworking industries. Problems of production and utilization of cutting tools, dies and jigs were studied by the staff of UNIDO in 1968 and a conference on the subject of the utilization of dies and jigs was held in December 1968 in Vienna. In 1969, work will be continued in the form of technical assistance in the developing countries and analyses will be made by the staff of UNIDO of the utilization of machine tools and other production equipment in the context of specific local conditions.

61. Reports from the technical assistance experts of UNIDO will be analysed in 1970 and additional information will be collected in developing countries

Group 1 (cont'd)

on the basis of which a report will be prepared by the staff of UNIDO with the assistance of consultants. The report will be discussed by a panel of experts to be held in Vienna in 1970. It is planned to submit the report also to the conference of the International Institution for Production Engineering Research (CIRP), a large forum of scientists, in order to solicit their help in the solution of the problems of developing countries.

62. Recommendations worked out during this discussion will be summarized and transmitted to the developing countries as guidelines for improvement of the performance of their metalworking industries in the following years.

New project: Priority A

Estimated cost: \$13,300	Meeting	\$10,000 (UNDP/TA)
	Consultant	\$ 2,000 (UNDP/TA)
	Staff travel	\$ 300 (UNIDO regular budget)
	Publications	\$ 1,000 (UNIDO regular budget)

Man-months: 3

IV Transportation equipment industry

Utilization of idle shipbuilding and repair facilities

63. Some countries have shipyards that are lying idle or that, for a variety of reasons, are being used below their capacity. In 1970 UNIDO proposes to analyse the reasons for this condition and recommend measures in the form of technical assistance projects to assist the shipyards to increase their output or to convert some of the existing facilities to other uses, such as general mechanical workshops for the manufacture of spare parts and agricultural implements or as integrated fish processing plants including servicing, repair and maintenance of fishing boats.

64. A staff member and a consultant will pay two-week visits to shipyards not being used or working below capacity. They will collect data and information, analyse the problems and formulate measures to be recommended.

New project: Priority A

Duration: 2 weeks

Participants: 2

Estimated cost: \$2,500	Travel	\$1,000 (UNDP/TA)
	Consultants	\$1,500 (UNIDO regular budget)

Man-months: 3

Group 1 (cont'd)

Assessment of ancillary automotive and spare parts production industries

65. Some developing countries started to assemble automobiles and trucks and in the course of development encountered very serious problems in increasing the domestically produced content of the vehicles assembled, mainly because of the nonexistence or slow growth of supporting industries. In 1968 the staff of UNIDO began to pay attention to this problem and the seminar on the establishment and development of automotive industries in developing countries, to be held in 1969, will deal with the question of the necessary infrastructure and economic environment for the establishment and expansion of new automotive industries. Within context, recommendations will also be prepared on the feasibility of establishing and expanding ancillary industries.

66. In the past UNIDO has carried out certain technical assistance projects concerned with the promotion of ancillary industries to automotive manufacture, even in countries that have not as yet established production facilities for automotive manufacture. Such countries have difficulties in obtaining spare parts for the repair and maintenance of imported vehicles or non-standard equipment for vehicles already in the country.

67. A staff member and an expert will examine the present stage of development of the ancillary industries to automotive manufacture in developing countries in order to identify problems and to find practical solutions. Their findings and recommendations will be published and distributed. This examination will be carried out in connexion with several field projects of UNIDO in 1970.

Continuing project: Priority A

Estimated cost: \$2,500

Man-months: 4

Staff travel \$300 (UNIDO regular budget)

\$700 (UNDP/TA)

Consultants \$1,500 (UNIDO regular budget)

V Processing industry machinery

Panel on the construction of installations for the chemical industries, Düsseldorf

68. In support of the 1970 work programme for the Chemicals, Pharmaceuticals and Other Related Industries (Group 4, below), and in accordance with the general recommendations of the Industrial Development Board (ID/B/41, para. 123), a two-day promotion seminar on construction of installations for

Project 1 (cont'd)

The seminar on the chemical industries in the developing countries is planned for 1970. The seminar will be organized on the occasion of a meeting of the German Society for Design and Manufacture of Chemical Apparatuses (Deutsche Gesellschaft für Chemisches Apparatewesen - DECHEMA). The DECHEMA meeting will discuss the questions of planning and construction of large installations in the chemical industries in general. The panel of UNIDO will focus on the measures that should be undertaken by UNIDO to meet technical assistance requests from developing countries for the establishment of local production of machinery and equipment for the manufacture of chemicals, pharmaceuticals and related products. UNIDO anticipates requests for technical assistance in this field in 1970 and in the following years, especially as concerns installations for the manufacture of basic pharmaceutical ingredients, synthetic chemicals and natural product derivatives from local raw materials - products which were given special attention at the second session of the Industrial Development Board (ID/R/41, para. 127). The panel will also discuss the conditions under which certain types of equipment could be brought from the developed countries for use in the less developed areas.

69. The seminar is expected to provide practical answers and to make recommendations on the manner in which the problem of manufacturing of equipment should be approached in developing countries, particularly as concerns auxiliary equipment and components such as sheet metal, pumps, valves, pipes and tank fittings and components for instrumentation and control and civil engineering.

New project: Priority A

Participants: 20

Duration: 2 days

Estimated cost: \$2,700

Panel meeting \$1,200 (UNIDO regular budget)
Consultants \$1,500 (UNIDO regular budget)

Man-months: 3

Joint session on the manufacture of
refrigeration equipment

70. The attention of UNIDO was called by the Athens Symposium (ID/R/41, Annex 1, para. 11) and by the first session of the Industrial Development Board (A/715/Rev.1, para 11, item (a)) to the needs

Group 1 (cont'd)

for introducing modern food processing techniques in developing countries. The corresponding recommendation is dealt with in the programme for the food processing industry (Group 6). In support of this programme, the possibilities for manufacturing industrial refrigeration equipment in the developing countries will be considered in 1970 at a joint session in Vienna of the representatives of the manufacturers of refrigeration equipment, experts in food processing and representatives from developing countries. The discussion will include the needs for refrigeration equipment in the developing countries and the feasibility of establishing manufacturing operations for refrigeration equipment. Practical steps leading to manufacture of refrigeration equipment will be considered, including assistance from larger commercial firms. The engineering aspects will be discussed at the meeting on refrigeration to be organized in 1969 in Vienna by the Light Industries Section of UNIDO. It is also expected that suggestions will be made for the promotion of manufacturing operations for complex refrigeration machinery and equipment, for which technical assistance requests are anticipated in 1970.

New project: Priority A

Participants: 2 experts, 8 representatives from the developing countries and 3 observers from equipment manufacturers (at the cost of the parent organizations)

Duration: 1 week

Estimated cost: \$6,500 (UNDP/TA)

Man-months: 4

VI. Preventive maintenance and repair

Interregional symposium on repair and maintenance in developing countries

71. Following the recommendations made by the Industrial Development Board that top priority should be given to the promotion of repair and maintenance (ID/B/41, para.117), and on the basis of exploratory work in 1962 and 1964, a UNIDO symposium will be organized in Vienna in 1970 on the repair and maintenance of equipment in developing countries. All substantive divisions of UNIDO will participate in the symposium.

Group 1 (cont'd)

72. The agenda pertaining to the responsibilities of the Industrial Technology Division in the field of maintenance and repair will give attention to the following topics:

Promotion of preventive maintenance concepts in the industries of developing countries, and introduction into existing plants of maintenance schemes for equipment and buildings;

Technical and staffing requirements for establishing new maintenance and repair shops in the developing countries, particularly as they concern the standard general and special-type workshops financed from special national contributions;

Practicability of domestic production of spare parts and equipment components, and the extent to which such production is feasible;

Feasibility of upgrading existing maintenance and repair facilities to handle more complex equipment or of transforming existing shops into manufacturing plants;

Technological feasibility and merits of establishing centres for production and storage of spare parts for different industries and equipment;

Co-ordination of assistance in the field of maintenance and repair between UNIDO and other international organizations, with ILO concerning the training aspects of maintenance and repair, with FAO and ITU concerning the maintenance and repair of agricultural and telecommunications equipment, respectively, and with UNESCO as regards education to develop a desirable attitude toward these problems.

73. A document reflecting the findings, conclusions and recommendations of the symposium will be published in the same year and distributed to the Governments and industrial enterprises in the developing countries for comments and consideration.

Continuing project: Priority A

Participants: 15 experts and 35 representatives from developing countries

Duration: 2 weeks

Estimated cost: \$40,200	Meeting	\$38,000 (UNDP/TA)
	Staff travel	\$ 1,200 (UNIDO regular budget)
	Publications	\$ 1,000 (UNIDO regular budget)

Man-months: 12

Group 1 (cont'd)

VII Development of engineering design capabilities

Exchange of experience on the establishment of engineering
design development centres

74. The success of the development of the engineering industry in industrializing countries depends to a considerable extent on the indigenous capability to create and develop design and to adapt existing product designs for manufacture under licensing agreements to meet domestic needs. A number of projects on the establishment of engineering design development centres were initiated by UNIDO in 1968 under the Special Fund Programme. These centres have already developed considerable know-how in originating new designs for the benefit of local engineering product manufacturers.

75. In 1970, a working group consisting of project managers of engineering design and development centres and two additional consultants will meet at UNIDO headquarters in Vienna for five days to exchange views concerning their experiences, to discuss the problems involved and to transmit their experience and recommendations to other developing countries. The report of the working group will be published and distributed to developing countries.

New project: Priority A

Participants: 6

Duration: 5 days

Estimated cost: \$8,300 Meeting \$5,800 (UNIDO regular budget)
Consultants \$2,000 (UNIDO regular budget)
Staff travel \$ 500 (UNIDO regular budget)

Man-months: 3

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Group 1 Metallurgical Industries

76. Assistance to the metallurgical industries will be continued in the following branches: light non-ferrous metals, heavy non-ferrous metals, iron and steel and foundries.

77. The most important trend is a mounting interest in the processing of domestic raw materials. Feasibility studies have been placing increasing emphasis on preparation, beneficiation and treatment of ores before the smelting operation. Examples of this trend are projects on beneficiation and upgrading of iron ores in Morocco and Yugoslavia; treatment of heavy beach sand deposits for processing of ilmenite in Ceylon, India, the United Arab Republic and the United Republic of Tanzania; and treatment of bauxite deposits in Argentina and Turkey. This trend is expected to continue during 1970 with particular emphasis on copper ore and iron ore deposits.

78. Technical assistance has also been heavily solicited in choosing and applying production processes such as pre-reduction and direct reduction of iron ores, iron-making and basic oxygen steel-making processes and in evaluating the productivity of competing processes under consideration. Similar trends have occurred in the field of non-ferrous metals such as copper and aluminium. Technical assistance activities in this area have resulted in significant capital cost reduction in at least one particular case. Another area of assistance will be market studies for steel and non-ferrous fabricated products.

79. During 1970, the number of requests regarding choice of technology is expected to increase, particularly as regards direct reduction processes in countries rich in oil and gas resources. UNIDO is also expected to render assistance in connexion with the rolling and fabrication of steel and non-ferrous metals and with foundries.

Field activities

80. The following is a listing of the field activities of Group 2 for 1970:

UNDP/SF

<u>Ref. No.</u>		<u>Experts m/m</u>	<u>Fellows m/m</u>	<u>Estimated cost US\$</u>
	<u>Projects under preparation</u>			
12	United Arab Republic	Central Metallurgical Research and Development Institute (UAR-63)		

Group 2 (cont'd)

Ref. No.	UNDP/TA	UNDP/TA		Estimated cost US\$	
		Experts m/m	Fellow m/m		
<u>Continuing projects</u>					
114	Argentina	Development of Aluminium Industry (UNIDO/ARG/68/5)	1/5		7,000
115	Argentina	Assistance to the National Institute of Industrial Technology (UNIDO/ARG/68/6)			
		- Modern mineral treatment techniques in mining industries	1/4		7,700
		- Non-ferrous metallography	1/4	1/6	11,100
140	Turkey	Industrial Planning (UNIDO/TUR/68/1)			
		- Mineral industries	1/12		23,100
<u>Forecast of new projects</u>					
Africa		Assistance in the Exploitation and Development of Iron Ore Deposits			
		Assistance to Mineral Industries in Carrying Out Techno-economic Appraisals			
		Assistance in the Development of New Integrated Iron and Steel Industries			
		Assistance in the Development of the Aluminium Industry			
		Assistance in the Development of Non-ferrous Mineral Wealth of Metallurgical Industries, including Heavy Beach Sands			
		Total Africa	13/75	3/24	
The Americas		Assistance to the Bauxite and Primary Aluminium Metal Industry			
		Assistance to Non-ferrous Mineral and Metal Industry, including the Tin Industry			

Group 2 (cont'd)

Ref. No.	UNDP/TA (cont'd)		
	Experts <u>m/m</u>	Fellows <u>m/m</u>	Estimated cost US\$ <u> </u>
<u>Forecast of new projects (cont'd)</u>			
The Americas (cont'd)	Assistance in Exploitation of Iron Ore Deposits and in the Direct Reduction of Iron Ore		
	Assistance to Foundry Pig Iron Plants and Steel Foundries		
	Total the Americas	11/50	2/7
Asia/Far East	Assistance to Steel Plant Rolling Mills		
	Assistance in the Expansion of the Steel Industry and in Project Evaluation		
	Assistance in the Modernization and Establishment of Integrated Iron and Steel Industries		
	Assistance to Steel Wire Drawing Mills, Light Section and Merchant Mills etc.		
	Assistance to Heavy Beach Sand Projects and TiO ₂ Production		
	Assistance in the Area of Ferro-alloy and Tool Steels		
	Assistance to the Non-ferrous Metal Industry and in the Exploitation of Non-ferrous Mineral Deposits		
	Assistance to Metallurgical Processing and Fabrication Industries		
	Assistance to Ferrous and Non-ferrous Foundries		
	Total Asia/Far East	27/159	4/27

Group 2 (cont'd)

<u>Ref. No.</u>	<u>UNDP/TA (cont'd)</u>	<u>Experts</u>	<u>Fellows</u>	<u>Estimated cost US\$</u>
		<u>m/m</u>	<u>m/m</u>	
<u>Forecast of new projects (cont'd)</u>				
Europe/Middle East	Assistance in the Development of Non-ferrous Mineral and Metal Industries including the Bauxite and Aluminium Industries			
	Assistance in the Expansion of the Integrated Iron and Steel Industry			
	Assistance in the Exploitation of Iron Ore Deposits and in the Direct Reduction of Iron Ore			
	Assistance to Ferrous and Non-ferrous Metal Foundries			
	Assistance to Light Section and Steel Re-rolling Mills			
	Assistance to Metal Processing and Fabrication Industries			
	Total Europe/Middle East	9/57	14/63	
	TOTAL ALL REGIONS	60/341	23/121	710,000

Supporting activities

I Light non-ferrous metals

Group study of interregional alumina and aluminium production facilities

81. In response to the recommendations by the Athens Symposium that UNIDO co-operate with the Aluminium Council for Asia and the Far East (ID/B/21, Annex I, page 41, para.7), UNIDO is proposing a meeting for 1970 in conjunction with ECAFE to assess available data from studies carried out previously by the Aluminium Council and ECAFE and to determine the types and

Group 2 (cont'd)

capacities of plants and stages of construction which are required for alumina or aluminium production at selected locations.

New project: Priority A

Duration: 5 days

Experts: 10

Estimated cost: \$12,000

Meeting \$7,000 (UNDP/TA)

Papers \$5,000 (UNDP/TA)

Man-months: 3

Steering committee on installation of alumina testing laboratory

82. Late in 1967 UNIDO organized an expert group meeting to study the production of alumina from various ores. This meeting recommended that UNIDO should assist certain developing countries with the installation of small specialized laboratories dealing with bauxite analysis and laboratory scale tests on alumina. This need was also recognized by the International Symposium on Industrial Development (ID/B/21, Annex I, page 42, para.8). During 1969 a project steering committee will be formed consisting of one alumina production specialist, one aluminium production specialist and one general aluminium industry consultant. This committee will meet early in 1970 to provide guidance to UNIDO as to equipment and programme of evaluating desirable and future plans for the implementation of alumina testing laboratories in developing countries.

New project: Priority A

Duration: 4 days

Experts: 3

Estimated cost: \$4,000 (UNDP/TA)

II Heavy non-ferrous metals

Expert group meeting on copper, cobalt and nickel production

83. Towards the end of 1967 a group of experts met in Vienna to examine problems connected with the modernization and expansion of plants in the copper industry in developing countries. The report of this meeting was published and circulated in 1968. As a follow-up of this meeting, and in

Group 2 (cont'd)

accordance with the recommendation of the Athens Symposium (ID/B/11, Annex I, page 42, para.9), UNIDO will arrange in 1969 a study tour (to be financed from the rouble contribution of the Union of Soviet Socialist Republics) for a number of specialists in copper production from developing countries. The study tour will take these specialists to three large modern copper production plants in the Union of Soviet Socialist Republics where they will be given an opportunity to assess the feasibility of applying particular techniques to the requirements of their own countries. The report of this study tour will be published and circulated in 1969. It is anticipated that during 1970 technical assistance projects generated by the report of the study tour will be carried out by UNIDO.

84. Also during 1970, and in keeping with the recommendations of the Athens Symposium (ID/B/21, Annex I, page 43, para.2) and of the 1967 expert group meeting (which had urged that copper ore concentrations in arid zones be examined), an expert group meeting will be held in 1970 in Latin America in conjunction with ECLA to examine new hydro- and pyro-metallurgical processes for the production of copper, cobalt and nickel and their significance for developing countries in increasing the degree of domestic processing of non-ferrous raw materials.

Continuing project: Priority A

Duration: 5 days

Experts: 9

Estimated cost: \$15,000

Man-months: 4

Meeting \$10,000 (UNDP/TA)

Papers \$ 5,000 (UNIDO regular budget)

Meeting on lead and zinc production

85. During 1969, UNIDO plans to hold a meeting in London in conjunction with the Imperial Smelting Processes Ltd. This company has recently developed a very successful method for the combined processing of zinc and lead ores, and the objective of the meeting will be to speed up the dissemination of information on the latest technological developments in lead and zinc production

Programme

... report of the meeting will be printed and
distributed to UNIDO during the first half of 1970.

Classification: Priority A

Estimated total cost: \$2,000 (UNIDO regular budget)

III Iron and Steel

Meeting on pelletizing

26. The possible extension of ore concentration to include pelletizing in
more developing countries which are now exporting iron ore, was identified
in the African Development Strategy (16/1/70, Annex I, para. 3). There are many technological
factors which must be analysed, such as blast furnace productivity brought
about by higher blast temperatures; fuel injection; improvement in the sinter
quality; and the addition of pellets to the charge. These factors were
discussed at the Second Interregional Symposium on the Iron and Steel Industry,
held in Moscow in 1968 (which is reported in more detail below). In order to
examine thoroughly the technological factors listed above, connected with the
problem of pelletizing of iron ores, UNIDO will organize a meeting in Geneva
in 1970 in conjunction with ECE.

New project: Priority A

Duration: 10 days

Experts: 10

Estimated cost: \$11,000

Meeting: \$6,000 (UNDP/TA)

Papers: \$5,000 (UNDP/TA)

Man-months: 2

Seminar on tin plate production

27. During the discussion at the Second Interregional Iron and Steel
Symposium the present over-capacity in developed countries and the limited
size product range of markets in developing countries emerged as a major
problem compounded by the tendency in developed countries to export to
developing countries surplus products such as tin plate which is relatively

Group 2 (cont'd)

difficult to produce tin which require low energy consumption. As previously mentioned, the Athens Symposium on the Development of the Planning new steel-making facilities existing in the industrialized and developing countries with such ventures (ID/2/2), approved by the Board. Accordingly, UNIDO proposes to hold a seminar in 1970, in cooperation with ILAFA (Instituto Latinoamericano del Hierro y el Acero) and IICA to study the production of tin-plate in developing countries. Participating countries will be specialists in tin-plate production from developing countries who will outline their experiences in this field and tin-plate producers from developed countries. The meeting will be organized jointly with the Iron-Steelmaking Section of UNIDO.

New Project: Priority A

Duration: 5 days

Experts: 10

Estimated cost: \$13,000

Man-months: 3

Meeting: \$8,000 (UNIDO regular budget)

Papers: \$5,000 (UNIDO regular budget)

IV Foundries

Meeting on the utilization of scrap in foundries

88. This industry is characterized by its diversity. There is a multiplicity of techniques, and even in countries with highly developed technologies the "rule-of-thumb" approach still prevails to a large extent. Supporting activities in the foundry industry are usually concerned with broad topics, and conclusions are generally sought which have a wide application.

89. UNIDO plans to hold an expert group meeting in Vienna at the end of 1970 on the utilization of scrap in developing countries to assess problems deriving from the domestic collection and grading of scrap and to discuss the technology of improving the quality of the resulting melts. The report will be circulated in 1970.

Continuing project: Priority A

Estimated publication cost: \$2,000 (UNIDO regular budget)

Man-months: 1

Group 2 (cont'd)

Delegation to Thirty-seventh International Foundry Congress

90. A United Nations team participated in the Thirty-third International Foundry Congress in New Delhi in 1966. In 1970, UNIDO will finance the participation of a delegation of ten foundry specialists from developing countries, consisting of counterpart personnel identified by UNIDO's technical assistance experts in the field, to attend the Thirty-seventh International Foundry Congress in the United Kingdom. UNIDO will also present to the Congress certain selected reports on technical assistance in the foundry industry. In addition, UNIDO will commission, under special service agreements, a number of studies relating to fields of foundry technology to support technical assistance activities in particular developing countries.

New project: Priority A

Duration: 2 weeks

Fellows: 10

Estimated cost: \$10,500

Meeting \$8,000 (UNDP/TA)

Papers \$2,500 (UNDP/TA)

Man-months: 2

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Group 3 Construction and Building Materials Industries

91. Beginning in 1969, UNIDO will be adequately equipped to provide assistance to the construction and related building materials industries which represent a large proportion of the industrial activity in developing countries. The 1970 programme covers the following areas: cement manufacture, plastics as building materials, fibro-cement composites, prefabrication in the building industries, and clay building and allied materials. In carrying out this programme, close co-operation will be maintained with the United Nations Centre for Housing, Building and Planning (UNCHBP). The number of technical assistance projects envisaged for 1970 in the general area of construction and building materials is expected to increase over the 1969 level.

92. Cement manufacture. It is expected that particular attention will be paid to the problems of economics and design of cement plants suitable for developing countries where markets are often small and fuel expensive. At the same time, rehabilitation and improvement of existing plants will be emphasized.

Group 3 (cont'd)

93. Plastics as building materials. This is a new field of activity and the work done by UNIDO is expected to stimulate interest in developing countries for technical assistance requests. Attention will be paid to the possibilities of combining plastics with local materials.

94. Fibro-cement composites. The successful results that have been achieved in developed countries with asbestos-cement products have led to technical assistance requests on the part of some developing countries. Because of shortage of local asbestos resources in some countries, attention has been paid to the use of alternative materials.

95. Prefabrication in the building industries. The work done by UNIDO in this new field of activity has aroused interest in the use and manufacture of prefabricated buildings. It is anticipated that this interest will be reflected by technical assistance requests.

96. Clay building materials. Developing countries showed considerable interest in the local production of bricks and ceramics as evidenced by a number of technical assistance requests. This trend is expected to continue in 1970. Much of the work done in the past relates to improvement of existing installations although a number of requests are expected for feasibility studies on the establishment of new ceramics and glass industries.

Field Activities

97. The following is a listing of the field activities of Group 3 for 1970:

<u>Ref. No.</u>		<u>UNDP/SF</u>		<u>Estimated cost US\$</u>
		<u>Experts m/m</u>	<u>Fellows m/m</u>	
<u>Continuing projects</u>				
10	Bolivia	Experimental Production Plant for Asbestos Processing (BOL-20)		
		Approved: January 1968		UNDP 527,500
		Duration: 2 years		Gov't 237,000
				Total 764,500

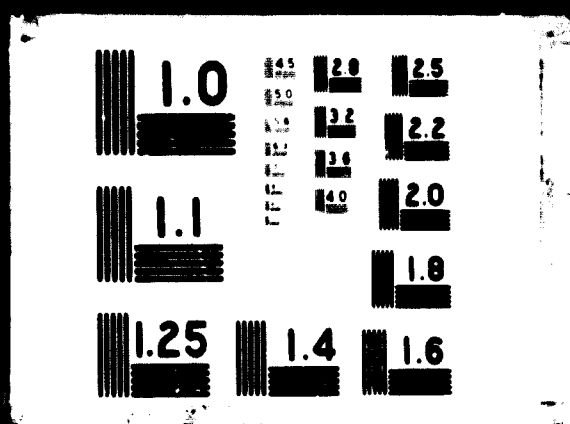


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UNEP/SP (cont'd)

No.	Country	Project Description	UNEP/SP (cont'd)		Estimated cost US\$
			Expenditure	Staffing	
			1/3	2/2	
<u>Projects under preparation</u>					
11	Spain	Pilot Plant for Production of Plastic/Wood Structures by Irradiation Techniques			
12	Spain	Centre for Development of Housing and Construction			

UNEP/TA

Continuing projects

115	Argentina	Assistance to the National Institute of Industrial Technology (UNIDO/ARG/68/8)			
		- Houses and buildings - resistance of colours to climatic conditions	1/4		7,700
		- Thermal conditioning of houses and buildings		1/6	3,400
116	Ceylon	Ceramics Industry (UNIDO/CEY/68/3)	1/6		11,250
117	Turkey	Building Materials Industry (UNIDO/TUR/68/3)	1/12		23,100

Summary of new projects

Africa	Cement Manufacture				
	Use of Plastics in Conjunction with Local Raw Materials in Building				
	Total Africa	2/24	1/12		
The Americas	Prefabrication in the Building Industry	2/10	1/3		
Asia/Far East	Rationalization of Clay Building Materials				
	Prefabrication in the Building Industry				
	Total Asia/Far East	4/24	1/6		

Group - (cont'd)

Ref. E .		<u>UNDP/IDA (cont'd)</u>		
		<u>Equipment</u>	<u>Materials</u>	<u>Personnel</u>
	<u>Forecast of new projects (cont'd)</u>			
	Europe/Middle East			
	Euro Cement Corporation			
	Manufacture of Cement			
	Irrigation Pipes			
	Survey of Raw Materials for the Manufacture of Building Materials			
	Assistance to the Construction and Building Materials Industry			
	Total Europe/Middle East	3/18	5/18	
	TOTAL ALL REGIONS	11/18	6/30	170,000

Supporting Activities

I Cement manufacture

Survey of the cement industry

98. In recognition of the important role of cement in the industrialization of developing countries, and noting the remarks of the Industrial Development Board (ID/B/41, para.121) regarding the value of small-scale cement plants to developing countries, as well as a similar recommendation by the Athens Symposium (ID/B/21, Annex I, page 21, para.12(6)), UNIDO is devoting special attention to the problem of the economics and design of cement plants suitable for developing countries where the size of the market is often too small to justify economic operations.

99. A paper being prepared by UNIDO on small-scale manufacture of Portland cement is helping to identify the problem. A second study was commissioned in 1958 on the manufacture of Portland cement from gypsum with sulphuric acid as a by-product, a process of particular interest to countries with deposits of gypsum, a lack of elemental sulphur and a large demand for sulphuric acid. This study will be published in 1962 and will constitute part of the response to the suggestion (ID/B/21, Annex I, paras 12-11, para.2) that UNIDO consider alternative raw materials to sulphur for manufacturing sulphuric acid.

Group 2 (cont'd)

100. As previously indicated, a programme of technical assistance related to the needs of the developing countries will continue in 1969 and 1970. In support of this programme, it is proposed to prepare in 1970 a survey of the cement industry which will provide information on the manufacture, production and demand for cements.

Continuing project: Priority B

Estimated cost: \$4,000 (UNIDO regular budget)

Man-months: 2

II. Plastics as building materials

Surveys on plastics as a building material in developing countries

101. Under the 1968 work programme of UNIDO (ID/B/20/Rev.1, para.71(c)) a paper on plastics in building construction was prepared and another paper is being commissioned for eventual publication. These papers will provide information to the developing countries on how plastics can be used in a practical manner to cheapen and simplify the manufacture of building materials; they will supplement the two articles on plastics in construction presented at the 1964 Symposium on Petrochemicals (ST/CID/4, Vol.2).

102. As indicated previously, the Athens Symposium (ID/B/21, Annex I, page 81, para.12(4)) and the Industrial Development Board (ID/B/41, para.120) recommended that UNIDO, on request and in collaboration with other organizations, assist in the development of production techniques based on the use of local raw materials. Accordingly, UNIDO proposes to commission in 1970 a number of studies designed to show how plastics, which in developed countries tend to be highly sophisticated, can be modified and adapted to the conditions of the construction industries in the developing countries and how they can be used, along with traditional local building materials, to provide cheap and efficient structures. These reports will be distributed generally and followed up in developing countries which show interest and which are in need of technical assistance.

Continuing project: Priority A

Estimated cost of 3 expert papers: \$3,000 (UNIDO regular budget)

Man-months: 2

Group 2 (cont'd)

III Fibro-cement composites

Expert group on fibro-cement composites

103. The work programme of UNIDO for 1969 made provision for an interregional workshop on fibro-cement composites such as roofing, insulating and cladding materials, which are of great importance in the construction industry (ID/R/26, para.64). A paper on the subject of asbestos cement and similar fibro-cement materials will be commissioned in 1969 and will form the background material for the interregional workshop on fibro-cement composites. The purpose of this workshop will be to demonstrate how economic may be affected by the use of cement and asbestos and how to substitute other fibrous and bonding materials that are more readily available in developing countries, many of which have no asbestos deposits. In 1970 the proceedings of the interregional workshop will be published. The dissemination of this publication is expected to lead to a number of requests for technical assistance in 1970 and 1971.

Continuing project: Priority A

Estimated publication cost: \$2,000 (UNIDO regular budget)

Man-months: 1

IV Prefabrication in the building industries

Regional seminar on prefabrication in the building industries in Africa

104. The UNCHBP and the regional economic commissions have held two seminars in Denmark on prefabrication in the building industries; one on the subject of prefabrication in the building industries in Latin American countries (August 1967), and the other on prefabrication in the building industries for Asia and the Far East (August and September 1968). Reports of these seminars are being circulated and are expected to stimulate requests for technical assistance.

Annex 1 (cont'd)

105. In 1970 UNIDO plans to hold a third seminar on the above subject, probably also in Denmark, in co-operation with UNCHBP and ECA, with a view towards co-ordinating the experience of the African countries and providing up-to-date guidelines for further technical assistance projects.

Continuing project: Priority A

Participants: 20

Duration: 10 days

Estimated cost: \$12,000

Expert papers (10)	\$7,000	(UNIDO regular budget)
Meeting	\$9,000	(UNIDO regular budget)
Publication	\$2,000	(UNIDO regular budget)

Man-months: 3

V Clay building and allied materials

Clay building materials industries workshop, in co-operation with UNCHBP and ECA

106. An interregional seminar, held in Copenhagen in August 1968 and sponsored jointly by UNIDO and the Danish Board of Technical Co-operation with Developing Countries, recommended, inter alia, that workshops be organized by UNIDO and ECA, ECLA and ECAFE on the development of clay building materials industries in these regions. UNIDO proposes to organize the first of these workshops in 1970 in co-operation with UNCHBP and ECA.

New project: Priority B

Participants: 15

Duration: 1 week

Estimated cost: \$15,000

Expert papers (5)	\$5,000	(UNIDO regular budget)
Meeting	\$8,000	(UNIDO regular budget)
Publication	\$2,000	(UNIDO regular budget)

Man-months: 2

Group 4 Chemicals, Pharmaceuticals and Other Related Industries

107. The emphasis on this sector will continue in 1970. The programme will cover the areas of light chemicals, marine salt industries, pharmaceuticals, chemical products from fermentation, and chemicals from coal. In keeping with the recommendations of the Industrial Development Board (IDB/41, para. 12), attention will also be paid to the development of the pulp and paper industry with emphasis on the use of bagasse, bamboo and hardwood fibres. Activities in this new area will be carried out in co-operation with FAO.

108. Basic chemicals. Requests for technical assistance in basic chemicals are expected to increase considerably in 1970. Most projects involve general surveys, but requests are also anticipated with regard to caustic soda, chlorine and potash in which many developing countries hope to become self-sufficient. The problem is having to establish a fairly complex industry on a scale sufficiently large to be viable against the drawback of relative small markets.

109. Marine salts. Following an expert working group that met in Rome, a great deal of interest was stimulated and a number of technical assistance requests are expected in 1970. It is now widely recognized that the modernization of existing solar salt fields is, in some countries, the first step towards the establishment of a basic chemical industry.

110. Pharmaceuticals. A number of developing countries are showing considerable interest in this field as well as in essential oils.

111. Industrial fermentation. This is an area where technical assistance may be expected to develop since suitable raw materials are frequently available locally.

112. Pulp and paper. Technical assistance in this area was highly active in 1968 and is expected to continue at a high rate in 1969 and 1970. Many of the requests relate to the rehabilitation or improvement of existing installations and advice on the use of local raw materials such as bagasse.

Group 4 (cont'd)

Field activities

115. The following is a listing of the field activities of Group 4 for 1970:

UNDP/SF

<u>Ref. No.</u>		<u>Experts m/m</u>	<u>Fellows m/m</u>	<u>Estimated cost US\$</u>
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Projects under preparation

47	Tunisia	Manufacture of Sulphuric Acid from Gypsum		
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UNDP/TA

Continuing projects

115	Argentina	Assistance to the National Institute of Industrial Technology (UNIDO/ARG/68/6)		
		- Applied analytical chemistry	1/4	7,700
		- Cellulose and paper industry	1/4	7,700
117	Brazil	Technical Assistance to SUDENE (UNIDO/BRA/68/1)		
			1/12	23,100
140	Turkey	Industrial Planning (UNIDO/TUR/68/1)		
		- Chemical engineer	1/12	23,100

Forecast of new projects

Africa

Basic Chemical Industry

Pharmaceutical Industry

Total Africa

2/24 1/12

The Americas

Pharmaceutical Industry

Chemicals Industry

Cellulose and Paper Technology

Manufacture of Essential Oils

Paper Industry Specialist

Group 4 (cont'd)

UNDP/TA (cont'd)

<u>Ref. No.</u>		<u>Experts m/m</u>	<u>Fellows m/m</u>	<u>Estimated cost US\$</u>
<u>Forecast of new projects (cont'd)</u>				
<u>The Americas (cont'd)</u>				
	Use of Bagasse for the Manufacture of Paper and Furfural			
	Mechanization of the Salt Industry			
	Total the Americas	11/108	3/12	
<u>Asia/Far East</u>				
	Use of Bagasse and Bamboo in Paper Pulp			
	Mechanization of the Salt Industry			
	Basic Chemicals			
	Survey of Materials of Pharmaceutical Value			
	Manufacture of Chemicals by Fermentation			
	Total Asia/Far East	10/45	1/6	
<u>Europe/Middle East</u>				
	Assistance to Chemical Industries			
	Marine Chemicals			
	Pharmaceuticals			
	Survey of Products of Pharmaceutical Value			
	Mechanization of the Salt Industry			
	Total Europe/Middle East	2/9	19/85	
	TOTAL ALL REGIONS	25/186	24/115	430,000

Regular Programme

Europe/Middle East

Improvement of the Pharmaceutical Industry	1/3	7,700
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Project Title

Supporting Information

Project Description

International seminar on basic chemicals

111. The UNIDO programme of work recognizes that the industrialization of a developing country depends to a considerable extent on the ready and inexpensive availability of sufficient quantities of various basic chemicals. Since balance of payment considerations frequently limit importation by developing countries, economic manufacture within the country is often the answer. The need for action in this field was recognized by the Athens Symposium which recommended (ID/B/21, Annex I, para. 23(1)) that UNIDO should render assistance to the developing countries in the establishment and development of their basic chemicals industries.

115. The four main chemicals to be considered are common salt, sulphuric acid, soda ash and the caustic soda/chlorine complex. Regional seminars have already been held in this field (ECAFE in 1962 and ECLA in 1964) and an inter-regional seminar originally planned for 1968 (ID/B/20/Rev.1, para. 81) will now be held in the Union of Soviet Socialist Republics in 1970. This inter-regional seminar, which will be financed in part from UNDP funds and in part from the rouble contribution of the Union of Soviet Socialist Republics, will bring up to date the latest status of basic chemicals production in the developing countries and will permit an interchange of experience. Particular attention will be paid to the problem of the adaptation of scale and technology in the developing countries, an important consideration since large plants for basic chemicals in the developed countries are frequently unsuited for the needs of most developing countries because of the complexity of their operation, the degree of supervisory skill required and limitations in the size of local markets.

New project: Priority A

Participants: 30

Duration: 10 days

Estimated cost: \$118,000

(\$ 38,000 UNDP/TA)

(\$ 80,000 rouble contribution)

Expert Papers (15) \$12,000

Meeting \$80,000

Travel \$26,000

Man-months: 3

Group 4 (cont'd)

II Marine salt industries

Expert studies on basic chemicals derived from salt; and
Techno-commercial assessment of marine salt industries in
ECAFE countries

116. At present, many developing countries use primitive collection methods to obtain salt from the sea. The salt obtained is used by and large for food seasoning and preservation only. Since salt is a raw material that allows a developing country to make a start in the basic chemicals industry, UNIDO plans to assist developing countries, upon request, in the promotion, modernization and mechanization of their marine salt industries and in the development of chemicals based on salt.

117. In 1968 a UNIDO sponsored working group was held in Rome, attended by representatives of both the developed and developing countries with marine salt industries. The proceedings of this group will be printed and distributed in 1969, and UNIDO staff will be surveying a number of developing countries to determine where the conclusions reached could be effectively applied. This action will be followed up in 1970 along three main lines:

- (a) Technical assistance will be rendered for the mechanization and modernization of existing plants.
- (b) Two studies will be prepared with particular regard to the economics of scale showing how a marine salt plant can form the basis of a basic chemicals industry by manufacturing derivatives such as sodium carbonate, sodium hydroxide, potassium salts and chlorine. This activity will be closely co-ordinated with the activities described in para. 114 and 115.

Continuing project: Priority A

Experts: 2

Duration: 2 months

Estimated cost: \$3,000 (UNIDO regular budget)

Man-months: 4

- (c) Techno-commercial assessment of the marine salt industries in ECAFE countries, possibly in collaboration with the Asian Industries Development Council.

Continuing project: Priority A

Experts: 2

Duration: 3 months

Estimated cost: \$6,000 including travel (UNIDO regular budget)

Man-months: 4

Group 1 (cont'd)

III Pharmaceuticals

117. The Industrial Development Board urged that pharmaceutical industries in the developing countries be given special attention and that they be encouraged to grow beyond the stage of processing and packaging to the level of manufacture of the basic ingredients, especially from local raw materials (ID/B/41, para.127). These basic ingredients may be either synthetic chemicals requiring special organic preparative methods or natural product derivatives from such sources as botanicals, animal and agricultural products. The former group of basic ingredients is more suited to a later stage of development, but the animal and agricultural products provide suitable starting points for developing countries wishing to establish a pharmaceutical industry.

119. In 1968, owing to exigencies of UNIDO staff, it was possible only to make a start in the pharmaceutical field, and information was gathered from pharmaceutical operational activities in progress in Iran, Israel and Mexico.

120. In May 1969 a working group on the development of the pharmaceutical industries in developing countries will be held in Budapest. Close co-ordination will be maintained with WHO in this and in subsequent activities. The proceedings of the working group will be edited in 1969 and published in 1970 if they are found likely to be of value in generating requests for technical assistance.

Continuing projects: Priority A

Estimated publication cost: \$2,500 (UNIDO regular budget)

IV Chemical products from fermentation

Consultative panel on industrial fermentation

121. Following the recommendation of the Athens Symposium that UNIDO give priority to developing specific branches, in developing countries, of the chemical industry linked to agricultural products (ID/B/21, Annex I, page 56, para.23(6)), preliminary work was started in 1968. Provision was made in the 1969 work programme for a consultative panel on the manufacture of chemicals by fermentation processes (ID/B/26, para.71). These recommendations were based on the fact that, although fermentation had originally developed as a means of producing food products, it had become a flourishing branch of the chemical industry, producing a great variety of industrial products such as

Group 4 (cont'd)

organic acids, antibiotics and glycerine. Moreover, the fermentation process is particularly suited to many developing countries as the equipment required for it can be simple in design and construction and of relatively low capital cost, while the raw materials are usually readily available agricultural or waste products. Industrial fermentation thus has an important economic significance in that it can cheaply convert low cost materials into valuable chemical products.

122. The consultative panel on industrial fermentation, which is scheduled to meet in Vienna in 1970, will study, in collaboration with FAO and WHO, the various aspects of industrial fermentation. The panel will concern itself with the results of relevant technical assistance projects being carried out in the field, and will discuss a number of expert papers relating to these projects.

New project: Priority A

Experts: 6

Duration: 1 week

Estimated cost: \$10,000 Expert papers (4) \$3,000 (UNIDO regular budget)

Meeting \$7,000 (UNIDO regular budget)

Man-months: 3

V Chemicals from coal

Expert studies on carbo-chemicals

123. The Athens Symposium (ID/B/21, Annex I, page 56, para. 23(2)) recommended that UNIDO examine and make available to developing countries studies of carbo-chemistry and, if appropriate, convene a group of experts to identify those related areas where carbo-chemical production based on coal was economically feasible. This was also discussed by the Industrial Development Board (ID/B/41, para. 126) and reservations were expressed about the economic aspects of these plans. Accordingly, the 1969 work programme of UNIDO makes provision (ID/B/26, para. 74) for studies on the coal hydrogenation process. The studies will be designed to determine whether the latest technology provides processes which would be economically feasible in developing countries possessing ample coal supplies.

Group 4 (cont'd)

124. If the initial survey is favourable, it is proposed in 1970 to commission a series of papers with strong emphasis on the economic aspects of chemicals from coal and to use these papers to generate technical assistance requests.

Continuing projects: Priority B

Estimated cost for 4

expert papers: \$4,000 (UNIDO regular budget)

Man-months: 1

VI. Pulp and paper

125. The Industrial Development Board urged the establishment of pulp, paper and newsprint industries in developing countries on the basis of local raw materials such as bagasse, bamboo and hardwood fibres (ID/B/41, para. 125). A great deal of information has already been obtained in the pulp and paper field by FAO. In 1969 it is hoped to collaborate with FAO on the most appropriate use of the existing information in giving assistance to developing countries. No publications or seminars are considered at present. A number of technical assistance projects are programmed for 1969 and 1970.

D04102

Group 5: Fertilizers, Pesticides and Petrochemicals Production

126. This programme comprises the following sectors: fertilizers (nitrogen, phosphate, potash), sulphur, pesticides (insecticides, fungicides, herbicides and rodenticides) and petrochemicals (plastics, synthetic fibres and synthetic rubber).

127. Bearing in mind the directive of the Industrial Development Board (ID/R/41, para.128) on developing and strengthening co-operation between UNIDO and FAO, the work of UNIDO in this area is based on the principle that production planning and the execution of plans leading to establishment of production facilities for fertilizers and pesticides are under the competence of UNIDO, whereas FAO will continue its role in the application and use of fertilizers and pesticides. UNIDO and FAO will co-operate as in the past in the development and operation of joint Special Fund projects.

128. Fertilizers (nitrogen, phosphate, potash). A significant increase in a number of technical assistance projects in the fertilizer field is anticipated for 1970 with emphasis on feasibility and market studies, production improvement and maintenance of existing facilities. Emphasis will be placed on assisting countries which are only now starting domestic production of fertilizer. Particular attention will be paid to dry mixing, bulk blending and production of single superphosphate. Countries which have production facilities will be assisted in the manufacture and use of liquid fertilizers, product diversification, marketing, indigenous design and fabrication and in problems of under-utilization of capacity. Assistance will also be provided on liquifactions of natural gas and on the use of gas for large synthetic production units. It is also expected that technical assistance will be provided in the production of potash, synthetic cattle feed and sulphuric acid on the basis of gypsum.

129. Sulphur. In view of the fact that sulphur is in short supply, UNIDO proposes to pay increasing attention to this area.

130. Pesticides. UNIDO proposes to make technical assistance available to study the problems of excess chlorine in different countries, and to carry out, upon request, projects with a view to its economic utilization.

Group 5 (cont'd)

131. Petrochemicals other than synthetic nitrogen fertilizers. UNIDO has provided considerable assistance in this field in previous years and proposes to continue such assistance in 1970. Increasing attention will be given to the linkages of the petrochemical industry with the other industries. Attention will be given in particular to assistance in plastics, including the use of plastics in construction and pipe lines. Another expected area of assistance is production of protein and fodder yeast from gas and oil.

Field activities

132. The following is a listing of the field activities of Group 5 for 1970:

UNDP/SF

<u>Ref. No.</u>		<u>Experts m/m</u>	<u>Fellows m/m</u>	<u>Estimated cost US\$</u>
<u>Continuing projects</u>				
1	Algeria	Centre for Industrial and Technological Studies (ALG-18) Approved: January 1968 Duration: 3 years		UNDP 820,700 Gov't 629,000 Total 1,449,700
16	Pakistan	Pre-investment Studies for the Promotion of the Fertilizer and Petrochemical Industries (PAK-26) Approved: June 1965 Duration: 3 years		UNDP 1,532,000 Gov't 1,100,000 Total 2,632,000
* 3	Rwanda	Pilot Plant for Industrialization and Pyrethrum Production, Nukingo (RWA-3) Approved: January 1966 Duration: 3 years		UNDP 1,459,500 Gov't 400,000 Total 1,859,500
8	United Arab Republic	Demonstration Pesticides Production Plant based on Chlorine and Bromine Resources (UAR-69) Approved: January 1968 Duration: 3 years		UNDP 1,053,600 Gov't 1,253,000 Total 2,306,600

Group 5 (cont'd)

UNDP/SF (cont'd)

<u>Ref. No.</u>		<u>Experts m/m</u>	<u>Fellows m/m</u>	<u>Estimated cost US\$</u>
<u>Projects under active consideration</u>				
28	Rwanda			Exploitation of Methane Gas from Lake Kivu
31	Togo			Demonstration Plant for the Production of Phosphate Fertilizers (TOG-12)
<u>Projects under preparation</u>				
57	Brazil			Pilot Project for the Production, Storage and Application of Liquid Fertilizers
63	Brunei			Industrial and Marketing Surveys for Fertilizers
59	Colombia			Pilot Project for the Production and Application of Pesticides using Excess Chlorine
65	India			Pilot Project for the Production and Application of Ammoniated Superphosphate
66	Iran			Pilot Project Production and Application of Pesticides Using Excess Chlorine
72	Iraq			Pilot Plant for the Recovery of Sulphur from Natural Gas and Crude Oil
73	Kuwait			Pilot Plant for the Recovery of Sulphur from Natural Gas and Crude Oil
68	Pakistan			Pilot Project for the Production and Application of Ammoniated Superphosphate and Pesticides using Excess Chlorine

UNDP/TA

Forecast of new projects

Africa

Study on the Production of Feed Phosphates and Urea-based Cattle Feed

Group 2 (cont'd)

Ref. No.	UNDP/TA (cont'd)		
	Experts <u>m/m</u>	Fellows <u>m/m</u>	Estimated cost US\$
<u>Forecast of new projects (cont'd)</u>			
Africa (cont'd)			
	Studies on Production of Pesticides		
	Proteinous Food based on Petroleum Feed Stocks		
	Development of the Fertilizer Industry		
	Fertilizers, Pesticides and Petrochemicals Industries		
	Total Africa	10/84	1/12
The Americas			
	Study on Feed Phosphates and Synthetic Cattle Feed		
	Assistance in the Production of Plastic Wood (bagasse) Construction Materials using Irradiation		
	Assistance in the Production of Polyethylene and Polyisoprene		
	Fertilizers, Pesticides and Petrochemicals Industries		
	Total the Americas	7/54	-
Asia/Far East			
	Techniques of Plastics and Rubber Goods Production		
	Assistance in the Preparation of Feasibility Studies for Establishing a Single Superphosphate Industry		
	Petrochemical and Fertilizer Industry		
	Assistance to a Urea Fertilizer Project		

Group 5 (cont'd)

<u>Ref.</u> <u>No.</u>	<u>UNDP/TA</u> (cont'd)	<u>UNDP/TA</u> (cont'd)		<u>Estimated</u> <u>cost \$</u>
		<u>Experts</u> <u>m/m</u>	<u>Fellows</u> <u>m/m</u>	
	<u>Forecast of new projects</u> (cont'd)			
	<u>Asia/Far East</u> (cont'd)			
	Assistance in Preventive and Current Maintenance of Existing Fertilizer Plants			
	Production of Modified Polyvinyl Chloride (PVC)			
	Assistance in Quality Control in Plastics and Synthetic Fibres			
	Improvement in the Production of Caprolactam and Nylon-6 Fibres			
	Assistance in the Establishment and Operation of Bulk Blending Fertilizer Plant using Solids and Liquids			
	Studies on Production of Pesticides, utilizing Available Chlorine			
	Total Asia/Far East	23/128	3/15	

Europe/Middle East

Assistance in the Production of Polyethylene and PVC

Petrochemical and Synthetics Industries

Assistance in the Production and Application of Reinforced Plastics

Assistance in the Production of Polymers

Assistance in the Production of Potash

Studies on the Recovery of Sulphur from High Sulphurous Crude Oils

Group 5 (cont'd)

Ref. No.	UNDP/TA (cont'd)			Estimated cost US\$
	Experts m/m	Fellows m/m		
<u>Forecast of new projects (cont'd)</u>				
<u>Europe/Middle East (cont'd)</u>				
	Production of Petrochemical Intermediates from Refinery			
	Assistance in the Polymerization Processes Using Metal Organic Catalysts			
	Total Europe/Middle East	9/78	10/48	
	TOTAL ALL REGIONS	49/344	14/75	725,000
<u>Regular Programme</u>				
Africa				
	In-plant Training Group in Fertiliser Industries	4/12		8,800
America				
	In-plant Training Group in Fertiliser Industries	3/9		6,600
Asia/Far East				
	In-plant Training Group in Fertiliser Industries	6/18		13,200
	In-plant Training Group in Petrochemical Industries	4/12		8,800
Europe/Middle East				
	In-plant Training Group in Fertilizer Industries	2/6		4,400

Supporting activities

I Fertilizers

Directory of fertiliser production facilities

133. It is well known that the correct application of fertilisers can increase the output of cash crops, including food grains, up to 50 per cent. Many

Group 5 (cont'd)

developing countries are now launching programmes to promote the increased use of fertilizer and for this reason, they intend to construct indigenous fertilizer production facilities. In 1965, an interregional seminar on fertilizer production was held in Kiev, followed by two ad hoc expert group meetings, one in New York in 1966 (Report of the Meeting of the Ad Hoc Expert Group on Fertilizer Production in Six Selected Countries with Good Natural Gas Resources, ID/5) and the other in Vienna in 1968 (Report of the Meeting of the Ad Hoc Expert Group from Fertilizer Deficit Countries, ID/13). These meetings identified areas in which UNIDO should take active interest and make recommendations for operational and supporting activities.

134. As a first step towards meeting these recommendations, UNIDO published a "Fertilizer manual" (ST/CID/1) which has been extensively used by UNIDO and FAO experts as well as by planners and specialists responsible for executing fertilizer projects in developing countries. The plans of UNIDO to publish a world directory of fertilizer production facilities were reassessed in 1968, in accordance with the recommendations of the Industrial Development Board (ID/B/41, para. 129). The plans were subsequently modified by basing them on a regional approach. The first regional assessment on fertilizer production facilities in Africa, undertaken in close co-operation with ECA, was completed in 1968. One staff member and one outside consultant in close co-operation with ECA personally interviewed the representatives of a majority of African countries, studied their programme regarding the expansion of the existing units and the future plans for the development of the fertilizer industries, and formulated a technical assistance oriented UNIDO follow-up action. Their findings were summed up in a comprehensive report which will serve as a background paper for the fertilizer and pesticides industry promotion and development meeting to be convened in 1969 in Nairobi. The meeting will be attended by the representatives of those African countries which have concrete plans for setting up fertilizer industries as well as by the industrialists and investors from the developed countries. A similar meeting for Asia will take place in co-operation with ECAFE in Singapore in 1969 and the publication of part II (Asia) of the directory of fertilizer production facilities is envisaged for 1970. The 1970 programme calls for discussions to be held with

Group 3 (cont'd)

other regional economic commissions for similar action. In 1971, the publication of part III (another area) of the directory will be undertaken subsequently in 1970.

Continuing project: Priority A

Consultant: 1

Estimated cost: \$10,000 Travel and per diem \$5,000 (UNIDO regular budget)
Consultant \$5,000 (UNIDO regular budget)

Man-months: 7

Estimated publication cost: \$8,000 (UNIDO regular budget)

Fertilizers and pesticides promotion and development meeting

135. Fertilizer balance sheets for each region will be drawn up as the investigations are completed, showing the countries and regions where there are opportunities for the development of the fertilizer industry. The results of the investigations will be circulated by UNIDO and by the regional economic commissions concerned to the countries of the respective regions. It is expected that the investigations will assist in attracting financial investment and collaboration from developed countries. These surveys will also be discussed in the development and promotional meetings being held for Asia and Africa and other regions in 1969 and 1970; there was general agreement in the second session of the Board (ID/B/41, para.130) about the usefulness of these meetings.

Continuing project: Priority A

Duration: 2 weeks

Participants: 8 experts and planners, 8 financial experts and 1 regional expert

Estimated cost: \$15,000 Travel and per diem \$12,000 (UNDP/TA)
Papers \$ 3,000 (UNIDO regular budget)

Man-months: 10

Estimated cost of publication: \$6,000 (UNIDO regular budget)

Group C (cont'd)

Study of under-utilization of industrial
facilities in Africa and Asia

136. In conjunction with the investigation of under-utilization of industrial facilities undertaken in Africa (ID/B/41) and Asia (ID/B/42), the under-utilization of existing capacities in the fertilizer and cement industries have been identified and, as a result, requests have been received from UNIDO for technical assistance to help to improve this situation. It is noted that there is still a need for an assessment in depth of under-utilized productive capacities, UNIDO - in keeping with the recommendation of the Athens Symposium (ID/B/21, Annex I, page 63, item 3(c)) - proposes to undertake such a survey in 1970 to identify the causes of under-utilization and to suggest remedial action. The case studies will be made by a team consisting of a staff member and an outside expert. It is expected that this activity will lead to technical assistance requests. In 1971, a similar project will be carried out in another area.

New Project: Priority A

Participants: 1 staff member
1 consultant (1½ months each)

Estimated costs: \$6,000 Travel and per diem \$3,000 (UNIDO regular budget)
Consultant \$3,000 (UNIDO regular budget)

Man-months: 5

II Sulphur

Study of world supply and demand and price
trends of sulphur

137. UNIDO has taken note of the views expressed by the Industrial Development Board (ID/B/41, para. 122) and the Athens Symposium (ID/B/21, Annex I, page 64, para. 5(b)), concerning the preparation of a study of world supply and demand and price trends of sulphur. The study which is expected to be completed in 1969, will help planners in developing countries to decide whether or not to go ahead with the contemplated sulphur recovery units. On the basis of the interest that has been expressed to date, increased technical assistance requests can be expected in this area in 1970.

Group 5 (cont'd)

III Pesticides

Investigation of the availability of excess chlorine and its potential use for pesticides production

138. In the field of pesticides UNIDO is the executing agency for two UNDP/SF projects, one in Rwanda (RWA-3) and the other in the United Arab Republic (UAR-69). At present, expressions of interest for assistance in this field from three additional countries are on record. In 1970, an investigation will be made of the availability of excess chlorine in one region. This investigation is expected to lead to technical assistance and SIS requests and eventually also to pilot demonstration plants for the utilization of chlorine for pesticides production, possibly under UNDP/SF assistance. In 1971, a similar investigation will be carried out in another area.

New project: Priority A

Consultant: 1 (2 months)

Estimated cost: \$6,000 Travel and per diem \$3,000 (UNDP/TA)
Consultant \$3,000 (UNDP/TA)

Man-months: 3

Pesticides manual

139. On the pattern of the "Fertilizer manual", which has been extensively used in developing countries, a pesticides manual is being planned for publication by UNIDO. The manual will deal with modern technological developments in the field of pesticides and will touch on economies of scale and the selection of raw materials. It will also provide guidance on capital investment and production costs. The subjects covered will include insecticides, miticides, fungicides, herbicides and rodenticides as well as patent and know-how information and a description of the hazards of handling new pesticides. This project will be carefully co-ordinated with FAO. The pesticides manual will be published and circulated to interested countries in 1971.

New project: Priority B

Participants: Outside consultancy firms or institutes dealing with studies on pesticides

Estimated cost: \$25,000 (UNIDO regular budget)

Man-months: 3

Group 5 (cont'd)

IV Petrochemicals

Establishment of plastics fabrication and application facilities (thermo-setting materials)

140. Arising from technical assistance requests from developing countries (China, Indonesia, Israel, Singapore and Trinidad and Tobago) for plastics fabrication in 1967 and 1968, and from the recommendations of the First Petrochemical Conference in Teheran (ST/TAC/SER.C/83, page 6), it is proposed to undertake a study on the establishment of plastics fabrication units for developing countries. The purpose of the study would be to assist other developing countries, on the basis of the experience gained from technical assistance work in establishing similar plastics fabrication units. The guidelines would provide information on plastics fabrication related to specific cases in developing countries and would give guidance to developing countries wishing to establish plastics fabrication facilities. In 1971, a similar project for the use of thermo-plastic materials will be undertaken.

New projects: Priority A

Consultants: 1

Estimated cost: \$5,000 (UNIDO regular budget)

Man-months: 4

Future production trends and competition between natural and synthetic rubber

141. During discussions on petrochemicals at the Athens Symposium (ID/B/21, Annex I, page 51 and 52, para. 6 and 7), cognizance was taken of the fact that the substitution of synthetics for natural rubber was affecting the economy of a number of developing countries. It was suggested that the problem of natural rubber as opposed to synthetic rubber, particularly the technological aspects, be carefully studied by UNIDO in consultation with the International Rubber Study Group. This subject was also stressed at the First Petrochemical Conference in Teheran. The study will be carried out in co-operation with UNCTAD. UNIDO therefore proposes to study the technological aspects of the future production trends and competition between natural and synthetic rubber, particularly with regard to the developing

Group 1 (cont'd)

countries. It is expected that this study will lead to technical assistance requests aimed at improving certain characteristics of natural rubber and at establishing synthetic rubber production facilities in countries with petroleum and natural gas resources.

New project: Priority B

Consultant: 1

Estimated cost: \$2,000 (UNIDO regular budget)

Man-months: 2

General study on new products from hydrocarbon fermentation

142. Widespread interest in protein production from gas and oil resources has been shown by developing countries, especially where there are food shortages. UNIDO will undertake a general study in this area in 1970 after the subject has been discussed in depth at the second interregional petrochemical seminar in 1969. The processes of hydrocarbon fermentation are relatively cheap and easy to adopt in developing countries. This study is expected to lead to requests in 1971 for technical assistance in the establishment of pilot and demonstration units.

New project: Priority B

Consultant: 1

Estimated cost: \$2,000 (UNIDO regular budget)

Man-months: 4

Estimated publication cost: \$1,000 (UNIDO regular budget)

Fodder yeast from natural gas

143. As indicated by the synthetic cattle feed projects which are under consideration for Special Fund assistance in two countries in Africa, yeast will, in the future, form an important constituent of cattle feed in developing countries; yet information is lacking on fodder yeast from natural gas. UNIDO, therefore, proposes to carry out a study in 1970 on the production of fodder yeast from natural gas. (In 1968, a study on fodder yeast production

Group 5 (cont'd)

from gas oil was undertaken by a UNIDO consultant.) In 1971, the same depth is expected to result in technical assistance requests especially from countries having natural gas resources but no oil refineries.

New project: Priority B

Participants: Consulting firm

Estimated cost: \$2,000 (UNIDO regular budget)

Man-months: 2

Technical editorial consultancy work

144. Following the second interregional petrochemical seminar in 1969 in the Union of Soviet Socialist Republics, UNIDO will edit and distribute all papers and proceedings in 1970. For this purpose, it will be necessary to engage short-term petrochemical consultants to assist in editing and reviewing the technical papers which are expected to form a useful reference work for developing countries. In 1971, the publication will be made available for general distribution as a UNIDO sales document.

Continuing project: Priority B

Consultants: 2

Estimated cost: \$7,500

Travel and <u>per diem</u>	\$3,000
Consultants	\$4,500

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Group 6 Light Industries

145. The programme in the field of light industries includes the following sectors: the textile industry, the food processing industry, the wood processing industry and the leather and footwear industry. In some of these areas, the work of UNIDO involves co-operation with FAO.

146. Textile industry. In this sector, technical assistance could relate to: planning and reorganization of the industry and of individual plants, marketing, quality control, better use of raw materials, establishment of garment industry, management and research.

147. Food processing industries. Technical assistance requested in the past in this field by developing countries related to the processing of local raw materials so as to produce substitutes for imported products. For instance, a number of technical assistance projects have focussed on the establishment of plants for the production of vegetable oil. It is anticipated that this trend will continue. In order to assist in creating conditions for the adaptation of food technology and developing methods of production, UNIDO will continue assisting various countries in food research. An area in which assistance was frequently requested was the reorganization of meat plants, particularly as regards low quality of the raw material and poor management. Considerable assistance has also been directed towards better elaboration of products representing the staple food of many countries, such as milling of rice and millet and industrial utilization of cassava. Work in these areas is also expected to continue. Finally, UNIDO assistance relates to the reorganization of existing plants for fruit and vegetable processing, reconstitution of milk, coffee processing, canning of citrus fruits and fish-meal production. Some of the assistance anticipated for 1970 in the food processing industry is expected to be in sectoral planning, such as the preparation of programmes, the development of integrated agro-industries, identification of the basic problems of the industry, outlining the main opportunities for new investment and giving guidelines for improving the actual production and distribution processes. Other assistance will focus on the reorganization of industries which require technological adaptations and improvements on the establishment of new plants and on management and research.

Group 6 (cont'd)

148. Wood industry. UNIDO provided assistance in the modernization of saw mills, furniture design and production, straw pulp production, match and glue. Assistance projects in 1970 will cover reorganization of existing plants, establishment of new industries and the better utilization and preservation of timber and general wood processing techniques.

149. Leather industry. In the leather and leather products sector, most requests were for grading and marketing of hides and skins, modernization of tanning production, research in leather technology and mechanization of the shoe industry. In 1970, assistance in this field is expected to cover feasibility studies, help in establishing new plants and sectoral planning.

Field activities

150. The following is a listing of the field activities of Group 6 for 1970:

UNDP/SF

<u>Ref. No.</u>		<u>Experts</u> <u>m/m</u>	<u>Fellows</u> <u>m/m</u>	<u>Estimated</u> <u>cost US\$</u>
<u>Projects under active consideration</u>				
38	India			Leather Research Institute, Madras
25	Libya			Establishment of a Pilot Plant for the Production of Fodder Yeast from Oil
33	United Arab Republic			Central Textile Technology Development Centre (UAR-62)
<u>Projects under preparation</u>				
58	Brazil			Development of the Agro-industry in Amazonas
60	Ecuador			Establishment and Development of the Banana Processing Industry
61	Mexico			Development of the Integrated Fish Industry
51	Regional, Africa			Development of the Meat Processing Industry
75	Yugoslavia			Centre for the Development of the Furniture Industry

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Projects (cont'd)

UNEP/FAO

<u>Ref. No.</u>		<u>Experts</u> <u>m/m</u>	<u>Fellows</u> <u>m/m</u>	<u>Estimated</u> <u>cost US\$</u>
<u>Continuing projects</u>				
115	Argentina Assistance to the National Institute of Industrial Technology (UNIDO/ARG/68/6) - Food technology - Cellulose and paper industry	2/8 1/4		15,400 7,700
129	Haiti Essential Oils and Fats Production (UNIDO/HAI/68/8)	1/12		23,100
134	Iran Food Industries Development (UNIDO/IRA/68/28)	1/6		11,550
106	Nigeria National Institute of Industrial Research (UNIDO/NIR/68/6/Rev.1) - Food technology	1/12		16,500

Forecast of new projects

Africa

Formulation and Implementation of Agro-industrial Development Programmes

Establishment and Operation of Food Processing Plants

Vegetable Oils Industries

Sugar Technology

Milling Industries and Processing of Flour Products

Industrial Processing of Cocoa Beans, Tobacco and Tea

Industrial Processing of Cassava

Assistance to Textile Industries

Wood Industries

Furniture Design and Production

Match Factories

Particle Board Factories

Tanning and Leather Technology

Shoe Industries

Total Africa

45/489 15/180

Projects (cont'd)

UNEP/FAO (cont'd)

<u>Ref. No.</u>		<u>EXPERT TIME</u>	<u>COLLECTOR TIME</u>	<u>ESTIMATED COST</u> \$
	<u>Forecast of new projects (cont'd)</u>			
The Americas	Establishment and Operation of Food Processing Plants			
	Vegetable Oil Processing			
	Food Preservation			
	Canning Industries			
	Sugar Technology			
	Feedstuff Production from Molasses			
	Textile Industries			
	Furniture Design and Production			
	Food Packaging Industries			
	Leather Industries			
	Shoe Industries			
	Total the Americas	81/709	12/75	
Asia/Far East	Formulation and Evaluation of Agro-industrial Development Programmes			
	Establishment and Operation of Food Processing Plants			
	Formulation and Evaluation of Agro-industrial Development Programmes			
	Vegetable Oil Processing			
	Sugar Technology			
	Cocoa Industries			
	Industrial Rice Processing			
	Industrial Tea Processing			
	Industrial Processing of Cassava			
	Food Packaging Industries			
	Wool and Cotton Industries			
	Kenaff Industries			
	Garment Industries			
	Furniture Design and Production			
	Hardboard Production Using Bamboo			
	Gluing Technology			
	Leather Industries			
	Total Asia/Far East	69/484	55/167	

Group 6 (cont'd)

UNDP/TA (cont'd)

Ref. No.		Experts m/m	Fellows m/m	Estimated cost US\$
	<u>Forecast of new projects</u> (cont'd)			
	Europe/Middle East			
	Food Processing Industries			
	Textile Industries			
	Furniture Design and Production			
	Shoe Industries			
	Total Europe/Middle East	19/117	17/75	
	TOTAL ALL REGIONS	214/1799	99/497	3,850,000

Regular Programme

Africa

Formulation of Agro-industrial Development Programmes		20/114	65,600
Food Processing		21/123	70,200
Fruit and Vegetable Processing		7/39	22,600
Tobacco Processing		2/12	6,800
Milling Processing		1/6	3,400
Refrigeration Techniques		4/36	18,400
Industrial Training in Food Processing		4/24	13,600
Oil Seed Industry		1/6	3,400
Milling Techniques		3/18	10,200
Total Africa		63/378	214,200

The Americas

Food Processing		11/81	43,400
Fruit and Vegetable Processing		6/48	25,200
Textile Industry	1/7	1/6	16,900
Formulation of Agro-industrial Development Programmes		5/30	17,000
Food Preservation		2/12	6,800
Industrial Training		7/30	21,400
Total the Americas	1/7	32/207	130,700

Group 6 (cont'd)

Regular Programme (cont'd)

<u>Ref. No.</u>		<u>Experts m/m</u>	<u>Fellows m/m</u>	<u>Estimated cost US\$</u>
	Asia/Far East			
	Formulation of Agro-industrial Development Programmes		5/27	15,800
	Light Industries	1/3		5,800
	Vegetable Oil Processing		2/12	6,800
	Public Relations	1/6		11,500
	Total Asia/Far East	2/9	7/39	39,900

Supporting activities

I - Textile industry

Expert group meetings on the selection of machinery in the dyeing and finishing industry and in the knitting industry

151. CID (now UNIDO) activities in textiles started with the convening of the first United Nations Interregional Workshop on Textile Industries in Developing Countries, held in Lodz, Poland, in 1965 (United Nations Publication, Sales No. 66.II.B.29). The subsequent UNIDO programme of supporting activities reflects the recommendations of the Lodz Conference, of the International Symposium on Industrial Development (ID/CONF.1/59/Annex A/7) and of the second session of the Industrial Development Board (ID/B/41, para. 136). From the requests received for technical assistance, the main problem areas common to developing countries have been identified and, in designing a supporting activities programme, emphasis has been put on problems where advice would be of immediate and practical value.

152. One of the problem areas in modernizing existing textile plants and establishing new ones is the selection of a technological level that allows for competitive production without unnecessary savings in labour force at the expense of higher capital expenditure. UNIDO has concentrated on this question by organizing a series of expert group meetings during the period of 1967 to 1970 covering the following sectors of textile production: cotton,

Group 6 (cont'd)

wool, dyeing and finishing, and knitting. The first of these meetings was held in Vienna in 1967 and developing countries as well as machinery manufacturers in industrialized countries have shown keen interest in the resulting "Report of expert group meeting on the selection of textile machinery in the cotton industry" (ID/WG./8/1) which was widely distributed. The second expert group meeting, on processing problems and selection of equipment in the woollen and worsted industry was held in Bursa, Turkey, late in 1968. The report will be published early in 1969.

153. Based on the recommendations of the Expert Group Meeting on Cotton Machinery Selection, and noting the obvious need for proper quality control systems in many textile mills in developing countries, it has been considered appropriate to prepare practical guidelines on this subject. An efficient system of manufacturing controls enables the management to upgrade the quality of the products and to decrease the cost of production without large investments. Accordingly, an expert group meeting on testing and manufacturing controls in the textile industry will be convened in 1969.

154. In 1970, two expert group meetings on the selection of machinery will be held, one for the dyeing and finishing industry, and the other one for the knitting industry.

Dyeing and finishing industry -

New project: Priority A

Duration: 1 week

Participants: 12

Estimated cost: \$10,000

Papers \$5,000 (UNIDO regular budget)

Meeting (including travel of participants) \$5,000 (UNIDO regular budget)

Man-months: 6

Knitting industry -

New Project: Priority B

Duration: 1 week

Participants: 12

Estimated cost: \$11,000

Papers \$5,000 (UNIDO regular budget)

Meeting (including travel of participants) \$6,000 (UNIDO regular budget)

Man-months: 6

Group 6 (cont'd)

155. The reports of the above series of expert group meetings contain practical guidelines and recommendations in the respective fields and they will be given the widest possible distribution among interested parties. In particular, international organizations concerned with the textile industry have been approached with a view towards securing their co-operation in making the most effective use of the reports. The reports have further been made available to the participants of the textile in-plant training course in Lodz in 1968/1969. National development banks in a number of countries have applied the selection criteria contained in the reports when assessing the feasibility of proposed projects in textiles. Large textile machinery manufacturers with commercial interests in developing countries have requested copies of the reports in considerable quantity to be made available to their potential customers in developing countries. Finally, through the offices of UNDP resident representatives and national textile organizations in developing countries, copies have been addressed directly to industrialists and technicians who are responsible for the selection of equipment.

Second interregional workshop on textile industries

156. Extending the scope of work to include wider issues of national importance, UNIDO plans to hold a second interregional workshop in 1971 to examine questions related to general policies of textile industry development, raw materials, marketing, new technological trends and regional co-operation. In preparation for the workshop, a series of exploratory missions by UNIDO staff members is planned for 1970. The objective of these missions is to examine the situation in the textile industry in selected countries where this industry plays a particularly important role in the economy of the country and where there are serious problems retarding the development of this industrial sector.

157. In co-operation with the Industrial Policies and Programming Division of UNIDO, the Industrial Technology Division will examine the textile industry in each of these countries with the objective of formulating a general policy for the development of the textile industry in industrializing countries and of rendering direct technical assistance. The project will thus have the

Group 6 (cont'd)

following results:

The terms of reference for a technical assistance project will be formulated in each case with a view towards creating an instrument in the form of a Special Fund supported organ to study the problems of the textile industry, plan corrective action and subsequently implement the plan.

From the problems identified by the exploratory missions to selected countries, UNIDO will extract common denominators relevant and applicable to developing countries in general.

The material thus gathered and analysed will be discussed in the 1971 second interregional workshop on textile industries.

New project: Priority A

Estimated cost for preparatory work: \$5,000 (UNDP/TA)

Man-months: 7

II Food processing industry

158. The programme of UNIDO in the field of the food processing industry has been planned on the basis of direct contacts with the developing countries through technical assistance activities. The main objective of this programme is to promote the development of modern food processing as recommended both by the Athens Symposium (ID/B/21, Annex I, page 69, para. 11) and the Industrial Development Board (Supplement 15-A/6715/Rev.1, page 11, item (a)). Close co-ordination with FAO has been established by UNIDO as recommended by the Industrial Development Board in its second session (ID/B/41, para. 135).

159. Following the recommendations of the Protein Advisory Group that UNIDO be concerned with the various industrial aspects of protein production (United Nations Publication, Sales No. E.68.XIII.2, page 63, para. 65) as well as with the industrial production of the more important staple foods, a programme has been set up aimed at improving the efficiency of industrial processing of local raw materials. The programme for 1970 and 1971 has been directed towards the following topics: Protein (soya bean and fish processing and single cell protein), carbohydrates (rice and cassava), oil and fats (palm kernel and coconut oil and castor oil), food equipment normalization and processing research, surveys and information papers and establishment of an institute for food processing research.

Group 6 (cont'd)

Meetings on proteins

160. The recommendations of two meetings held in 1969, one on fish protein concentrates and one on soya bean protein processing, will be distributed in 1969 and 1970 to all countries that have the possibility of developing such protein products. Special attention will be given to the impact of the follow-up actions, and information on this subject will be analysed in a seminar on proteins, programmed for 1971.

Seminar on rice processing

161. The programme of UNIDO in this sector is based in part on the recognition that rice, as the main staple food of millions of people in developing countries, should be processed locally with modern methods which contribute towards improved process productivity and better quality, and which offer opportunities for making use of by-products (rice protein, fat and wax) that have been wasted in the past. UNIDO has already received various requests from (Brasil, Burma, Indonesia, Malaysia and Thailand) for technical assistance and surveys for the review, modernisation and expansion of existing rice processing facilities.

162. As a result of information obtained, UNIDO will convene a working group in Bangkok in 1970, in close co-operation with other United Nations bodies, which will be attended by rice experts from developing and developed countries. This meeting will be a preparatory step towards a seminar to be held in 1971, also in Bangkok, with the aim of providing guidelines for a general systematic approach to the solution of national and regional rice processing problems. The basic topics to be considered by the seminar are: the selection of technology and processing equipment, the economy of scale in rice processing, extraction and use of rice bran oil, extraction and use of rice bran protein, use of rice bran wax and a feasibility programme in rice processing industries. Papers on these subjects will be prepared and distributed before the seminar.

Group 6 (cont'd)

New project: Priority A

Duration: 7 days

Participants: 10

Estimated cost: \$20,000

Meeting \$10,000 (UNDP/TA)

Documents \$10,000 (UNDP/TA)

Expert group meeting on cassava processing

163. Another staple food of major importance for developing countries is cassava (tapioca, manioc and yam) and similar root crops which can be grown in tropical regions. The consumption of cassava roots and the possibility of increasing agricultural production are limited by the quick deterioration of the root after cropping. This problem can be solved only by modern processing methods, for instance, the use of cassava for direct human consumption, or for the production of wheat flour substitutes, cassava starch, cassava sugar and syrups, as well as enriched cassava flour and for animal feedstuff can be immensely increased through modern methods.

164. Most of the processing equipment and methods used in developing countries are primitive. In fact, no up-to-date processing equipment for cassava flakes or technology for cassava flour exists. In 1968 UNIDO received six requests for assistance in the field of cassava processing (from the Central African Republic, Dahomey, Nigeria, Rwanda, Togo and Upper Volta), but was not able to meet these requests because of the lack of experts and experience in the field (the only exception in which expertise is available in cassava starch).

165. So as to compile background information, UNIDO will prepare in 1969 an expert meeting to be held in Vienna in 1970 in close co-operation with FAO. The basic topics to be considered by this meeting are: the industrial production of cassava flakes for animal feedstuff, the industrial production of cassava flour and enriched cassava flour, the industrial processing of cassava starch, cassava sugar and cassava syrup, the agro-industrial integrated production of cassava products, the artificial and natural drying of cassava products and animal feedstuff production on the basis of cassava flakes.

Group 6 (cont'd)

Continuing project: Priority A

Duration: 5 days

Participants: 10

Estimated cost: \$15,000

Meeting \$10,000 (UNDP/FA)

Man-months: 5

Documents \$ 5,000 (UNDP/FA)

Oils and fats working group

166. The growing and processing of vegetable-oil-bearing materials have special interest for developing countries since the gap in protein supply may be filled through the provision of oil cakes. The developing countries are already suppliers of oil-bearing materials for the world market (palm kernels, coconut-copra, sesame seeds, cocoa beans, ground nuts, linseeds etc.). In recent years, interest has been increasing in the local processing of raw materials into refined edible oil, textile auxiliary products and raw materials for plastics. For instance, the Government of the Philippines has submitted a Special Fund request involving the establishment of a coconut institute. In this connexion, it should also be mentioned that the activity relating to the production of protein from coconut was recommended by the Industrial Development Board (ID/B/41, para. 137).

167. In 1969, UNIDO will continue to collect information on present and potential developments in this field, on up-to-date processing techniques and on vegetable oil markets, both for human consumption and for further processing in the chemical industry. In 1970 a working group meeting will be convened in London in close co-operation with FAO, at which the main aspects of industrial vegetable oil production in developing countries will be discussed and a policy of development proposed. The following are the topics to be considered: coconut and palm-kernel oil processing; castor oil production and castor cakes detoxication; soya, sunflower, sesame, ground nut and other vegetable oil production; and animal feedstuff production.

168. UNIDO will collaborate with the Tropical Institute in London in holding this meeting; co-operation will also be established with similar institutes in France and the Netherlands. Participating in the meeting will

Group 6 (cont'd)

be representatives of the International Oil Technologists Association and representatives of the oil processing industry from developed countries.

New project: Priority B

Duration: 6 days

Participants: 10

Estimated cost: \$15,000

Meetings \$10,000 (UNDP/TA)

Man-months: 4

Documents \$ 5,000 (UNDP/TA)

Working group on food equipment normalization

169. In the food industry, a great variety of machines at different levels of technology is available on the world market. With many of these machines becoming rapidly obsolete, the selection of the most appropriate equipment is a difficult problem for developing countries as they do not have comparative information and past experience to go by. For this reason, and following the recommendations of the Athens Symposium (ID/B/21, Annex I, page 69, para. 11), a series of working group meetings will be started in 1969 in Moscow, under the auspices of the Moscow Central Food Research Institute, with the purpose of disseminating knowledge about modern processes and equipment selected and recommended by the working group for specific food processing operations and supplying data on prices, on optimum capacities and all other techno-economic characteristics for decision making in the establishment or reorganization of food processing plants. It is expected that this working group will reconvene in 1970 and 1971.

Continuing project: Priority A

Duration: 3 weeks

Participants: 20

Estimated cost: \$22,000

Meeting \$ 8,000 (UNDP/TA)

\$11,000 (USSR rouble contribution,
dollar equivalent)

Man-months: 4

Consultants \$3,000 (UNDP/TA)

Survey of the Latin American food processing industry

170. The development of the food processing industry in Latin America does not pace with the increase of the food demand in this region. Due to traditional and obsolete methods of industrial food processing, this area -

Group 6 (cont'd)

which should be exporting processed food - has, in fact, been importing it. A critical review of the present state of the most important sectors of the industry is called for in order to identify the basic factors responsible for low productivity, and thus enable the industry to achieve international standards and produce at competitive prices.

171. UNIDO proposes to carry out a survey in the field in 1970, in close co-operation with other United Nations bodies. Staff members of these organisations will establish a programme of work to be followed in selected countries and branches of the food processing industry to be surveyed. This survey will be continued in 1971 and is expected to lead to a working group meeting, to be held in 1972 in Sao Paulo, Brazil, on the improvement of the food processing industry in Latin America.

New project: Priority B

Duration: 3 months

Participants: 5

Estimated cost: \$10,000 (UNIDO regular budget)

Man-months: 3

Food Industry Series (information papers)

172. UNIDO began publishing information papers in 1967 on different items of food processing engineering and food processing technology which are of particular interest for developing countries, a programme which was noted by the Athens Symposium (ID/B/21, Annex I, page 69, para. 11).

173. The following papers are being printed for distribution early in 1969:

"Industrial processing of citrus fruits"

"The use of centri-therm, expanding-flow and forced-circulation plate evaporators in the food and biochemical industry"

174. The following papers are under preparation for printing in 1969:

"Water saving techniques in food processing plants"

"Packaging, packaging materials and techniques in developing countries"

"Production of foodstuffs and protein enriched mixtures and concentrates"

"Milk processing in developing countries".

A study of starch production in developing countries is in preparation for early publication.

Group 1 (cont'd)

175. These are practical documents designed to be used as direct guides for solving specific technical problems, with special emphasis on conditions in developing countries. In 1970, four information papers will be added to support the activity of UNIDO experts in the field. These information papers will be distributed through the normal distribution network of UNIDO.

Continuing project: Priority A

Authors: 2

Estimated cost (documents): \$3,000 (UNIDO regular budget)

Man-months: 5

Joint programme of food processing research

176. A great number of food processing problems frequently encountered in developing countries have neither been investigated by research institutions of developed countries nor have they been solved by the young experienced research organizations in developing countries. UNIDO has already received many requests for provision of know-how in: single cell protein production from petrol or methane; textured soya protein (meat-like product from soya beans); production of bread from cassava flour; protein enrichment of noodles, bread, cous-cous etc.; production of baby and infant foods from bananas; production of sodium glutamate by fermentation; production of edible oil by direct processing of fresh coconuts; exploitation of coconut oil; processing of special tropical fruits; and production of white flour from millet.

177. In this instance, the direct transfer of know-how from industrial countries to developing countries is not easy to achieve. UNIDO therefore will try to establish, in co-operation with FAO, UNICEF and other United Nations and international organizations, a mechanism of permanent co-operation in research with a well-known food processing research centre in Europe (the Sprenger Institut in Wageningen, Netherlands) which will devote part of its research activities to the particular problems and prospects of developing countries, providing at the same time host research facilities for the special experts of UNIDO and organizing a centre for food processing in-plant training in the Netherlands. It is hoped that the Government

Group c (cont'd)

of the Netherlands will substantially contribute to this project, which will be continued in the years to come.

New project: Priority B

Duration: 1 year

Participants: 9 (3 experts and 6 trainees)

Estimated cost: \$50,000

Experts \$10,000 (UNDP/TA)

National contribution \$40,000

Man-months: 3

III Wood processing industry

Working group on production of panels
from agricultural wastes

178. The Athens Symposium stressed the need for developing countries to make fuller use of their wood resources for construction (ID/CONF.1/59/Annex A/9, page 5). On the basis of this recommendation, UNIDO plans to hold a working group in the fall of 1969 to discuss production of wooden houses in developing countries. The report and recommendations of this meeting will be published and circulated in 1970, and it is expected that requests for technical assistance, particularly for feasibility studies for such plants, will result.

179. Also in accordance with the recommendations of the Athens Symposium (ID/R/21, Annex I, page 81, para. 12(4)), and in order to assist developing countries in finding substitutes for wood, UNIDO proposes to hold, in collaboration with FAO, a working group to discuss the economic and technical problems of production of particle boards from agricultural wastes such as bagasse, flax and hemp. The working group will take into consideration the findings of UNIDO experts who carried out technical assistance missions and other studies in the field. In their report, the experts will highlight the criteria to be followed and recommend appropriate technology to ensure

Group 6 (cont'd)

the successful introduction of this industry in developing countries. The report will be published and circulated in 1971.

New project: Priority A

Duration: 10 days

Participants: 10

Estimated cost: \$10,000 Documents \$5,000 (UNIDO regular budget)
Meeting \$5,000 (UNIDO regular budget)

Man-months: 4

Working group on research on panels from coconuts
and other tropical products

180. It is also planned to convene another working group to investigate the possible manufacture of particle board from coconut fibres (coir), palm fronds and other waste products of agricultural crops grown in tropical climates. This meeting is advisable as little research has been undertaken on the potentially utilizable raw materials. It is felt that in order for developing countries to make a fuller use of these raw materials and yet develop the necessary technology without undue duplication, a meeting of research scientists and other experts familiar with the problem is necessary to assess the processes already developed, to recommend the most suitable technology and to suggest the aspects on which research work should be continued. The report will be published and circulated in 1971 to all research institutes and development organizations.

New project: Priority B

Duration: 10 days

Participants: 8

Estimated cost: \$16,000 Documents \$6,000 (UNIDO regular budget)
Meeting \$10,000 (UNIDO regular budget)

Man-months: 3

Study group on secondary wood processing
industries

181. Secondary wood processing industries are not yet established in most of the developing countries that are endowed with large forests. In most cases, this is due to the limitation of the local markets and the inability of

Group 6 (cont'd)

nativ manufacturers to enter the world markets, not only because of tariff barriers but also because of unresolved technological problems.

182. UNIDO believes that it could help developing countries overcome these problems through an exchange of ideas, and it is therefore proposed to invite six to eight participants to a meeting in Vienna. These participants would be either counterparts of UNIDO experts in the field or production and sales managers of secondary wood processing plants in developing countries in the tropics. At the Vienna meeting, the participants would discuss solutions appropriate to conditions in their countries and work out measures to improve the quality and competitiveness of their products for export. The report of the meeting will be published and circulated in 1971. After the meeting, visits will be arranged to some European wood processing industries that use tropical timber.

New project: Priority B

Estimated cost: \$7,000 (UNDP/TA Funds)

Man-months: 3

UNIDO catalogue of woodworking machinery

183. UNIDO has noted the growing need in developing countries for an international catalogue of woodworking machinery, since Governments and prospective users do not have access to specialized publications. The availability of a catalogue would assist in development planning and in the preparation of tenders. A publication of this type was already published in 1965 by eight European countries. The proposed UNIDO catalogue would cover developing countries producing such equipment as well as some of the other developed countries not included in the above catalogue.

New project: Priority B

Estimated cost: \$3,500 Staff travel (meeting with
European Committee of
Woodwork Machinery
Manufacturers) \$ 500 (UNIDO regular
budget)
Compilation of data
by consultants \$3,000 (UNIDO regular
budget)

Man-months: 3

Group 6 (cont'd)

Seminar on furniture industry in developing countries

184. In most developing countries the manufacture of furniture is still carried out at the artisan level. In order to develop this activity into a viable industry with an export potential, UNIDO proposes to convene in 1971 a seminar on the furniture industry in developing countries at which managers of wood processing industries and economists involved in the planning of the wood industry sector would participate. Part of the papers and studies for this meeting will be prepared in 1970.

New project: Priority B

Estimated cost: \$5,000 (UNIDO regular budget)

Man-months: 2

IV. Leather and leather products industry

Preparatory working group for the seminar on
leather and leather products development

185. The activities of UNIDO in the field of the leather and leather products industry have been limited in the past to technical assistance in such fields as leather research technology, footwear manufacture, feasibility studies, development of leather production and selection of machinery. Such technical assistance projects are now carried out in Argentina, Burundi, India, Jamaica, Malaysia, Niger, Paraguay, Rwanda and Trinidad and Tobago. The Industrial Development Board recommended that, in addition to meeting such technical assistance requests, UNIDO prepare studies and undertake research work in the leather industry (ID/B/41, para. 137). Accordingly UNIDO is planning to convene in 1970 a preparatory working group in Vienna which is to discuss basic problems and prepare the ground for a seminar to be held in 1971. The topics to be considered by the preparatory working group are:

Flaying and preparing of skins and hides, and other conservation processes;

Utilization of local raw hides and skins, including those with defects;

Improvement of production and quality control methods in the tanning process;

Group 6 (cont'd)

New methods for the improvement of leather preservation to increase resistance, flexibility and dyeing;

Utilization of leather off-cuts by leather product manufacturers;

Utilization of traditional and new materials in shoe manufacture;

New techniques and new design in shoe manufacture;

Analysis of results achieved in a Malaysian pilot plant project in shoe manufacture;

Analysis of results attained in the Argentine leather research institute project.

186. The papers of the preparatory working group will be delivered to UNIDO before the end of 1970 and will form the background documentation for the seminar to be held in 1971.

New project: Priority A

Duration: 1 week

Participants: 8

Estimated cost: \$15,000	Consultants \$3,000 (UNDP/TA)
	Meeting \$6,000 (UNDP/TA)
	Consultants \$6,000 (UNIDO regular budget)

Man-months: 4

DOY104

INDUSTRIAL SERVICES AND INSTITUTIONS DIVISION

Group 7 Industrial Legislation, Patents and Licensing

187. Throughout 1968, UNIDO has sought to develop the activities in the fields of industrial legislation, patents and licensing which it might most usefully undertake, bearing in mind the programmes of such long-established international public and private organizations as the United International Bureaux for the Protection of Intellectual Property (BIRPI), the International Association for the Protection of Industrial Property (IAPIP) and the Office Africain et Malagache de la Propriété Industrielle (OAMPI). Selected programmes launched in 1969 are expected to be further developed in 1970. The work in 1969 includes the preparation of subregional reports describing and analysing legislative provisions affecting industrialization in a number of developing countries; preparation of a feasibility study, jointly with IAPIP, on a proposed technological bank to accelerate the flow of proprietary technology to developing countries; and expert group meetings, training programmes and publications in the subject of licensing.

188. In 1970, UNIDO plans to develop, in co-operation with other appropriate organizations, a limited but systematic build-up of direct assistance to the developing countries in these fields. It will concentrate on the following supporting activities: publication of the legislative series; organization and administration of patent offices; launching of the proposed proprietary technology bank; and further work on the costs of licensing and the training of potential licensees.

Field activities

189. The following is a listing of field activities of Group 7 for 1970:

<u>Ref. No.</u>		<u>UNDP/TA</u>		
		<u>Experts m/m</u>	<u>Fellows m/m</u>	<u>Estimated Cost US\$</u>
	<u>Forecast of new projects</u>			
	Africa			
	Review of Industrial Legislation Assistance to Patents Licensing Offices			
	Total Africa	1/12	2/12	

Group 7 (cont'd)

Ref. No.	UNDP/TA (cont'd)	Experts	Fellows	Estimated cost US\$
		m/m	m/m	
<u>Forecast of new projects (cont'd)</u>				
Asia/Far East	Industrial Licensing and Legislation			
	Review of Industrial Legislation			
	Total Asia/Far East	4/42	3/18	
Europe/Middle East	Industrial Legislation	1/3	-	
	TOTAL ALL REGIONS	6/57	5/30	130,000

Supporting activities

I Industrial legislation

Comparative analytical studies of industrial
laws and regulations

190. At its second session, the Industrial Development Board expressed strong support for the publication by UNIDO of information on legislation affecting industrialization (ID/B/41, para. 139). In this connexion, a series of subregional reports is being prepared describing and analysing such legislative provisions in the various areas. During 1968 and 1969, reports on a group of countries in Africa and Asia are being prepared. These studies will be published in 1970 and further studies will be undertaken to expand the coverage of the series.

Continuing project: Priority A

Estimated cost: \$19,000	Consultants	\$8,000 (UNIDO regular budget)
	Travel	\$4,000 (UNIDO regular budget)
	Publications	\$7,000 (UNIDO regular budget)

Staff man-months: 12

Network of correspondents

191. It is planned to establish a network of correspondents in industrialized and developing countries to facilitate the implementation of the above-mentioned project.

New project: Priority A

Estimated cost: \$12,000 (honorarium) (UNIDO regular budget)

Staff man-months: 3

Group I (cont'd)

II Patents

Expert group meeting on a manual on patent
office organization

192. An expert group meeting is planned in 1970 to finalize a manual on patent office organization and administration in developing countries. The manual will be based on a study to be prepared in 1969 which will be circulated widely for comments prior to the meeting.

New project: Priority B

Estimated cost: \$10,000 (UNIDO regular budget)

Staff man-months: 4

Preparatory work for training workshop

193. Preparatory work will be undertaken in 1970 for a training workshop, to be held in 1971 in co-operation with ECA and UNESOB, on organization and administration of patent offices for government officials from Africa and the Middle East.

New project: Priority A

Staff man-months: 3

III Licensing

Proprietary technology bank

194. Detailed examinations of possibilities for an international proprietary technology bank are to be made in 1969, under the joint auspices of UNIDO and the International Association for the Protection of Industrial Property (IAPIP). The proprietary technology bank would contain a collection of patents of possible relevance to developing countries. These patents would be made available to the developing countries upon request. If the 1969 study indicates that such an arrangement would be feasible and useful, UNIDO will work with IAPIP to set up such a bank on a pilot basis in 1970. Initial funding for the operation would be sought from external sources. The bank would be designed to be ultimately self-supporting.

Group 7 (cont'd)

New project: Priority A

Estimated cost: \$12,000 Travel \$2,000 (UNIDO regular budget)
Consultants \$7,500 (UNIDO regular budget)

Staff man-months: 6

Expert group meeting on a manual
on licensing practices

195. An expert group meeting is planned for 1970 to finalize a manual on licensing practices. The manual will be based on a study to be prepared in 1969 which will be circulated widely for comments prior to the meeting.

New project: Priority B

Estimated cost: \$10,000 (UNIDO regular budget)

Staff man-months: 3

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Group 8 Industrial Services and their Administration

196. UNIDO activities in this area in 1970 will concentrate on four main programmes: industrial research institutes and development centres; standardization and quality control; administrative machinery for industrial development; and development of new international industrial transfer institutions.

197. In 1969, UNIDO activities in these areas will deal with the identification of the problems and requirements of developing countries, the provision of assistance for the establishment and/or improvement of institutes and centres for industrial research and technical services, the strengthening of organizational and administrative machinery for industrial development and the identification of national needs and regional requirements in the field of standardization.

198. Based on the recommendations of the Workshop for Managers of Research Institutes held in 1967, preparatory work was undertaken in co-ordination with the various regional economic commissions for the preparation of a directory of such institutes in developing countries. The ground work was continued for the establishment of an international association of research

Group 8 (cont'd)

institutes. A meeting to be held in 1969 in Copenhagen will emphasize the methodology used in translating laboratory work through pilot plants into industrial manufacturing facilities.

199. In the field of administrative machinery for industrial development, missions to be undertaken in 1969 are expected to generate a number of requests for technical assistance from various non-governmental industrial organizations such as chambers of commerce and industrial co-operatives.

200. In the field of standardization, UNIDO has taken steps to co-ordinate its efforts with the International Standards Organization (ISO) for developing a systematic programme of technical assistance. UNIDO has also co-operated with UNESCO in the field of metrology which is closely related to standardization. The policy of UNIDO in this respect has been to encourage the establishment of regional standardisation bodies with co-ordination bureaux in the countries concerned as well as to promote active co-operation between various national organizations within a given region.

201. Preparatory work and studies were undertaken in 1968 on the feasibility of establishing new types of international institutions aimed at increasing the flow of capital, entrepreneurship and managerial and technical know-how from the industrialized to the developing countries. Some institutions of this type are expected to be set up on a pilot basis in 1969 and the following years. Several of the requests in the field of industrial research and standardization received from the developing countries in 1968 were concerned with establishing, strengthening or expanding research and standardization institutions financed through the Special Fund. Requests have also been received for providing advice to government departments on their research policies and activities. It is expected that requests for these types of assistance will continue to increase. Following the promotional activities undertaken in 1968 and those planned for 1969 and 1970, more projects are expected in the field of administrative machinery for industrial development.

Group 8 (cont'd)

Field activities

202. The following is a listing of field activities of Group 8 for 1970:

Ref. No.	UNDP/SF	Experts m/m	Fellows m/m	Estimated cost	US\$
<u>Continuing projects</u>					
11	Colombia	Institute for Technological Research, Bogota, Phase II (COL-30)			
		Approved: January 1968		UNDP	760,700
		Duration: 4 years		Gov't	<u>1,003,000</u>
				Total	1,763,700
18	Israel	Industrial Research Centre (ISR-11)			
		Approved: January 1964		UNDP	1,266,500
		Duration: 5 years		Gov't	<u>3,970,000</u>
				Total	5,236,500
12	Paraguay	Technical Standards National Institute (PAR-8)			
		Approved: May 1962		UNDP	543,900
		Duration: 5 years		Gov't	<u>165,000</u>
				Total	908,900
4	Sudan	Industrial Research Institute, Khartoum (SUD-12)			
		Approved: June 1963		UNDP	748,900
		Duration: 5 years		Gov't	<u>674,000</u>
				Total	1,422,900
17	Thailand	Technological Research Institute (THA-16)			
		Approved: January 1964		UNDP	846,300
		Duration: 5 years		Gov't	<u>2,167,000</u>
				Total	3,013,300
<u>Projects under active consideration</u>					
39	Iran	Institute of Standards and Industrial Research			
24	Libya	Centre for Industrial Development and Research			
41	Malaysia	National Institute of Scientific and Industrial Research			

UNDP/SF (cont'd)

Ref. No.	UNDP/SF (cont'd)		Estimated cost US\$
	Experts m/m	Fellows m/m	
<u>Projects under active consideration (cont'd)</u>			
37	Mauritius	Industrial Promotion Centre	
37	Trinidad and Tobago	Industrial Research Institute	

Projects under preparation

77	Regional, Europe/Middle East	Regional Industrial Standardization Institute	
69	Singapore	Institute of Standards and Research	

UNDP/TA

Continuing projects:

126	Afghanistan	Metric System (UNIDO/AFG/68/4)	1/12	23,100
101	Ethiopia	Industrial Standardization (UNIDO/ETH/68/27)	1/12	23,100
130	Indonesia	Industrial Research (UNIDO/INO/68/12)	1/12	23,100
137	Malaysia	Assistance to the Federal Industrial Development Authority (UNIDO/MAL/68/4)		
		- Industrial economic research	1/12	18,500
100	Nigeria	National Institute of Industrial Research (UNIDO/NIR/68/6/Rev.1)		
		- Director of the Institute	1/12	16,500

Forecast of new projects

Africa

Industrial Standards	1/12	2/24
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The Americas

Industrial Standards
Regional Workshop on the Organization and Administration of Industrial Services

Total the Americas	2/18	15/15
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Group 3 (cont'd)

INDP/TA (cont'd)

<u>Ref. No.</u>	<u>Experts m/m</u>	<u>Fellows m/m</u>	<u>Estimated cost US\$</u>
<u>Forecast of new projects (cont'd)</u>			
Asia/Far East			
			Industrial Advisory Services
			Industrial Research
			Total Asia/Far East
	2/14		
Europe/Middle East			
			Industrial Standards
			TOTAL ALL REGIONS
	6/60	17/39	144,700

Supporting activities

I Industrial research

Meeting on the evaluation of effectiveness of industrial research institutes

203. An evaluation of the effectiveness of industrial research institutes will be published in 1969 or 1970. As a follow-up of this activity, it is planned to convene, in 1970, a meeting of directors and managers of twenty institutes of research and technical services. The participants will exchange experiences, apply the developed criteria and assess the role of these institutes in industrial development. It is hoped that this will improve the efficiency and operation of these institutes.

New project: Priority A

Estimated cost: \$40,000 (Technical Assistance Funds)

Staff man-months: 6

Meeting of the international association of industrial research institutes

204. One of the recommendations of the workshop for managers of industrial research institutes held in 1967, as well as of the Athens Symposium (ID/B/21, Annex I, page 19, para. 17) was that an international association of

Group 8 (cont'd)

Industrial research institutes should be established, and in 1969, UNIDO will initiate promotional action towards the establishment of this association. The preparatory work will cover proposals detailing objectives, membership, financial requirements etc. It is envisaged that UNIDO will assist in the final establishment of the association in 1970, and a meeting attended by the founding members will be held under the auspices of UNIDO.

Continuing project: Priority A

Estimated cost: \$10,000 (UNIDO regular budget)

Staff man-months: 6

Directory of industrial and technological research institutes

205. A directory of industrial and technological research institutes will be prepared for publication, based on material to be collected in 1969.

Continuing project: Priority A

Estimated cost: \$4,000 (UNIDO regular budget)

II. Standardization and quality control

Regional training workshop for personnel engaged
in standardization

206. Several developing countries have voiced their desire to initiate regional training programmes for their personnel engaged in standardization. For example, India, Iran and Japan are organizing a training programme for standards engineers in 1969 with the collaboration of UNIDO and ECAFE. It is envisaged that UNIDO, in co-operation with ECA, UNESCO and ISO, will organize a regional training programme in Africa in 1970.

Continuing project: Priority A

Estimated cost: \$10,000 (Technical Assistance Funds)

Staff man-months: 4

Diagnostic missions for standardization and quality control

207. UNIDO, at the request of developing countries and in co-operation with UNESCO and ISO, as appropriate, will undertake diagnostic missions to

Group 8 (cont'd)

specific countries to evaluate their activities in the field of industrial standards and programmes for quality control and to work out details of development programmes for the improvement of existing practices. It is anticipated that five such missions will be requested in 1970.

New project: Priority A

Estimated cost: \$25,000 (Technical Assistance Funds)

Staff man-months: 6

Standards documentation centre

208. Among the various recommendations that were made at the ISO Council Meetings in 1967 and 1968 with regard to special assistance to the developing countries, one concerning the establishment of a standard documentation centre was discussed further with UNIDO. It was agreed that both organizations would complete the preparatory work by the end of 1969 and collaborate, beginning in 1970, in the establishment of such a centre to serve the developing countries. It is expected that this centre will provide information on existing and proposed industrial standards and specifications in all countries.

Continuing project: Priority B

Staff man-months: 4

III Administrative machinery for industrial development

Training workshop for industrial administrators

209. As a follow-up of the recommendations of the Interregional Working Party on Training of Economic Administrators of the Developing Countries in Industrial Development, organized jointly in 1965 by CID (now UNIDO) and OECD, UNIDO plans to conduct special training programmes for industrial administrators in 1969 and 1970. The trainees are to be drawn from such agencies as ministries of industry and industrial development corporations, and from public and private industrial service organizations. The organization and administration of industrial services will be one of the main topics.

Continuing project: Priority A

Estimated cost: \$30,000 (Technical Assistance Funds)

Staff man-months: 6

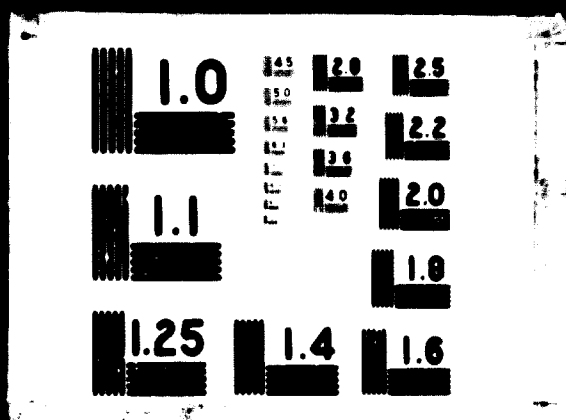


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Industry (cont'd)

Interregional training workshop for managerial staff of
chambers of industry

210. An interregional training workshop for the managerial staff of chambers of industry is to be held in 1970 in co-operation with concerned organizations. The workshop will deal with the possible services which can be provided by these chambers and their organizational functioning.

New project: Priority B

Estimated cost: \$15,000 (Technical Assistance Funds)

Staff man-months: 0

Diagnostic missions

211. On the basis of the experience gained by UNIDO in the past three years, including 25 case studies of administrative machinery for industrial development, diagnostic missions will be undertaken at the request of developing countries. These missions are designed to assess the effectiveness of various institutions and to help in exploring ways and means of improving industrial services. It is forecast that five such missions will be requested by developing countries in 1970.

Continuing project: Priority A

Estimated cost: \$25,000 (Technical Assistance Funds)

Staff man-months: 6

Workshop on the organization and administration of
industrial services

212. In 1967, UNIDO organized, in co-operation with the African Training and Research Centre in Administration for Development (CAFRAD), a workshop on the organization and administration of industrial services in Africa. In 1969 a similar meeting for Asia and the Far East will take place in the Union of Soviet Socialist Republics. A meeting is planned for 1970 to cover similar problems in Latin America. It is envisaged that one of the regional organizations in Latin America will jointly sponsor this meeting.

Continuing project: Priority A

Estimated cost: \$12,000 (UNIDO regular budget)

Staff man-months: 4

Group 8 (cont'd)

Handbook on professional associations

213. It is envisaged that a handbook on professional associations related to industrial development will be prepared in co-operation with UNESCO. The handbook will cover the various types of professional associations, their functions and potential role in industrial development.

New project: Priority B

Estimated cost: \$2,000 (UNIDO regular budget)

Staff man-months: 3

Manual on the organization and administration of industrial services

214. A manual on the organization and administration of industrial services will be prepared in 1970. It will be based on the numerous case studies undertaken by UNIDO since 1966.

New project: Priority B

Estimated cost: \$7,000

Consultants \$3,000 (UNIDO regular budget)

Publications \$4,000 (UNIDO regular budget)

Staff man-months: 3

Manual on industrial co-operatives

215. A manual on industrial co-operatives, the preparation of which was started in 1968, is to be published in 1970.

Continuing project: Priority A

Estimated publication cost: \$4,000 (UNIDO regular budget)

Staff man-months: 5

IV. Development of new international industrial transfer institutions

216. In order to achieve the rate of industrial growth required by their general economic development, developing countries, with a very few exceptions, will need much larger inputs of capital, entrepreneurship and managerial and technical know-how from industrialized countries than they have received in the past, or are currently receiving. UNIDO has therefore begun to explore possibilities of creating new channels and arrangements through which such increased inputs might flow to meet these needs.

Group 8 (cont'd)

217. This aspect of UNIDO activities can be described as international institutional research and development work. Such institutional innovative efforts are involved, to some degree, in a wide variety of UNIDO programmes and activities. However, there are six such projects of particular significance on which UNIDO has already begun the initial stages of research and development and which appear to justify special consideration by the Industrial Development Board and special allocations of UNIDO resources in 1970 and future programmes. These are:

- (a) The UNIDO matrix of industry development potentials;
- (b) The UNIDO roster of sources of external assistance;
- (c) Proposed UNIDO-sponsored international industrial equity funds;
- (d) Proposed UNIDO-sponsored medium industry multiple plant chains;
- (e) The proposed UNIDO consultants consortium;
- (f) The proposed UNIDO - university co-operation programme.

218. Among these programmes, items (a) through (d) are aimed especially at assisting developing countries to secure substantially higher inputs into the development of new industrial plants. Items (e) and (f) are aimed especially at the broad objective of providing significant increased inputs to the improvement of existing industrial operations. Programme provision for items (a) and (b) is made in Group 9. Items (e) and (f) are covered in Group 10b. This activity group, therefore, is primarily concerned with items (c) and (d).

Industrial equity funds

219. The initial capitalization of most industrial enterprises, other than those which are completely publicly financed, usually includes three elements: (i) a relatively small equity "nut" of money and services provided by the individuals, firms or organizations who are the entrepreneurs and actual potential operators of the new factory; (ii) a second equity of risk capital provided by investors who are not themselves directly concerned with the operation of the enterprise, but who rely on the reputations and skills of the initial investors in the project to assure the security and, hopefully, good

Group B (cont'd)

returns on their investment; and (iii) loan capital which is provided by banks or other financial institutions on set terms of repayment. Generally, lending institutions will not go beyond a 40 per cent to 50 per cent debt-equity ratio.

220. The first and third elements of this financial package can generally be found for most sound potential industrial plants in most developing countries. However, facilities for the second equity element are scarce and, in the case of relatively small projects (\$250,000 to \$1 million total capitalization), is often almost non-existent. Yet a high proportion of the potential new industries in most developing countries fall within this range of capitalization. There are numerous indications of otherwise sound projects that have failed to get started because of this second equity gap.

221. At the same time, there are indications that international capital for this purpose could be raised through a properly structured fund, especially if UNIDO could help to cover some of the investigatory and other make-ready costs which are normally an important factor inhibiting such investments in smaller projects. The total additional capital inputs into new industrial projects in developing countries which could be facilitated by such arrangements could easily amount to, say, \$100 million or more a year.

222. UNIDO is currently preparing a study with the assistance of a qualified consultant of the possible needs for, form of, and interest in the creation of such special equity funds. Assuming that the findings of this study are favourable, and that the Board approves further development of the idea, UNIDO in 1969 would proceed to try to have one such fund set up on a pilot basis. This work would be done in close co-operation with the promotional activities described in Groups 9 and 13.

Group 8 (cont'd)

223. In 1970, the activities of UNIDO in this connexion would involve continuing liaison with the managers of the pilot fund and preliminary field investigations of projects in developing countries proposed for financing by the fund.

Continuing project: Priority A

Estimated cost: \$19,000	Travel	\$ 4,000 (UNIDO regular budget)
	Consultants	\$15,000 (Technical Assistance Programmes, subject to availability of funds)
Staff man-months: 6		

Medium industry multiple plant chains

224. External technical and managerial participation in the creation and operation of new plants in developing countries is currently limited to three main types of arrangements: wholly owned subsidiaries of foreign firms; joint ventures involving foreign firms and local partners with various patterns of majority and minority financing and control; and purchased inputs, where foreign engineering, planning, management and technical skills are employed by local owners on a contract basis.

225. None of these arrangements have proved satisfactory for bringing adequate inputs of foreign resources into medium-sized new industries (again the \$250,000 to \$1 million total capitalization range) which constitute a high proportion of likely new plants in developing countries. Any form of foreign ownership participation on a wide-spread basis creates political difficulties in many developing countries. At the same time, from the standpoint of the foreign participation, the overhead costs and risks of getting involved in such small activities on an individual basis are prohibitive.

226. As a way out of this dilemma, a suggestion has been made to organize chains of similar small plants in a number of developing countries utilizing an adaptation of the franchise approach which has been widely used in distribution and service industries in industrialized countries and for hotels and certain other facilities in developing countries. Under these arrangements, the franchising organization finds likely locations for a number of similar installations. In each location, it enters into an agreement with a local individual or organization to establish and operate a business of the type involved. The local operators put up a small proportion of the initial

Group B (cont'd)

capital required. The rest of the capital, training for the local operators, designs, equipment, raw materials and all elements of know-how are provided by the central organization on an agreed basis. Equity ownership is always 100 per cent with the local operator. After a fixed period of time, when the initial debt to the central organization has been paid from the profits of the operation, the local operator is free to sever his relationship and operate independently or to continue on a service contract basis.

227. UNIDO has been investigating the possibilities of adapting this approach to the creation of large numbers of medium-sized new plants in developing countries. Currently a qualified consultant firm has been contracted to study the form and acceptability of such arrangements with a view to making a full report to the third session of the Industrial Development Board.

228. If this study indicates favourable possibilities, and if the Board approves further action by UNIDO, an effort will be made in 1969 to get one such chain started on a pilot basis. If this, in turn, is successful, UNIDO will endeavour to generalize this idea in 1970 and later years.

Continuing project: Priority A

Estimated cost: \$20,000	Travel	\$ 5,000	(UNIDO regular budget)
	Consultants	\$15,000	(Technical Assistance Programmes, subject to availability of funds)
Staff man-months: 8			

DOY106

Group 9 Industrial Information and Promotion

229. The activities of UNIDO in the fields of industrial information and promotion are designed to further the world-wide flow of information and other resources to meet the needs of developing countries along the three main lines of action: first, by launching and operating an information transfer network designed to enable users in developing countries to have ready access to sources of industrial information throughout the world; second, by promoting the flow of technical and financial resources to industries in developing areas; and third, by working with the United Nations Advisory Committee for the Application of Science and Technology to Development to help bring scientific resources to bear on the problems of industrial development. The development of these services has been greatly facilitated by the use of the special contribution to UNIDO made by the Government of Austria.

230. Most of the industrial and technical information needed by developing countries for the expansion of their industries already exists. The problem is to establish an effective system for providing to the developing countries that need it ready access to this bank of relevant information. UNIDO acts in this field in accordance with General Assembly resolution 2152 (XXI)II, 2a(iv) and in response to recommendations and guidelines established by the Athens Symposium (ID/B/21, page 47, recommendations 24 and 26) and by the Industrial Development Board (ID/B/41, para.56, 152-155). During the last three years, UNIDO has been laying the foundations for an international industrial information service. By 1970 this service is expected to be fully operational in most of its aspects.

231. The field activities consist of providing assistance in setting up or improving national industrial information services, in providing industrial information and documentation experts and in making fellowships available for national personnel in this field.

232. In 1968 and 1969, technical assistance is being extended to eleven countries for the establishment of information services for industry. Requests for two Special Fund projects and a total of approximately 30 expert man-months of short-term assistance by UNIDO are anticipated for 1970.

Group 9 (cont'd)

In addition, through its advisory service for the supply of industrial equipment, UNIDO will assist national authorities in the assessment of industrial equipment requirements and formulation and in the evaluation of tenders for industrial equipment and will advise on the establishment of purchasing national centres for industrial equipment.

Field activities

233. The following is a listing of the field activities of Group 9 for 1970:

<u>Ref. No.</u>		<u>UNDP/SF</u>		<u>Estimated cost US\$</u>
		<u>Experts m/m</u>	<u>Fellows m/m</u>	
<u>Projects under active consideration</u>				
29	Senegal	Industrial Survey and Promotion Centre		
<u>UNDP/TA</u>				
<u>Forecast of new projects</u>				
Africa				
		Industrial Information		
		4/30	4/24	
The Americas				
		Industrial Promotion Expert to Advise on National Machinery for the Promotion of Industrial Projects		
		Industrial Information		
		Total the Americas	1/12	1/6
Asia/Pac East				
		Industrial Information and Extension Services		
		Promotion of Industrial Projects		
		Total Asia/Pac East	1/6	22/112
		TOTAL ALL REGIONS	6/48	27/142
				170,000
<u>Regular Programme</u>				
Africa				
		Industrial Information		
			2/12	6,800

Group (cont'd)

Supporting activities

Industrial information service

Network for the transfer of industrial information

234. The main function of UNIDO in the transfer of industrial information, as conceived in 1967 and established in 1968/1969, is that of a clearing-house making maximum use of the extensive information collections already available in national, international and specialized industrial information and documentation centres all over the world. By 1970 formal agreements will be in force with a wide range of these centres, such as: the Information Service of GATT; the All Union Institute of Scientific and Technical Information, Moscow; the Clearinghouse for Federal Scientific and Technical Information, Washington; the Information Centre of Science and Technology, Tokyo; the National Research Council, Ottawa and the Tropical Products Institute, London. Under these agreements, the centres will co-operate in supplying information in response to requests received by UNIDO from developing countries. UNIDO itself is limiting its data collection activities to a few specialized areas which are not already covered by other organizations, such as technical assistance reports and feasibility studies on industrial projects in developing areas and directories on the supply of industrial equipment.

235. Another key element in the planned industrial information network of UNIDO will be to designate a particular organization or individual in each developing country to be a channel for information requests to UNIDO. The first such correspondents were appointed during 1968 and steps will be taken, during 1969, to increase their number. It is anticipated that, by 1970, such correspondents will have been appointed in most developing countries.

Continuing project: Priority A

Estimated cost for consultants: \$2,500 (UNIDO regular budget)

Staff man-months: 4

Group 9 (cont'd)

Industrial inquiry service

236. The primary outlet of the information network described above is through the industrial inquiry service of UNIDO. Further increases in the number of inquiries to be answered are anticipated in 1970. The 1969 level is expected to be about 70 inquiries a month and this number is expected to rise to about 100 a month during 1970. This increase in inquiries will call for a further strengthening of the network of question-answering correspondents besides the consolidation, integration and select expansion of the data banks of UNIDO.

Continuing project: Priority A

Estimated cost for consultants: \$5,500 (UNIDO regular budget)

Staff man-months: 12

Additional \$6,000 for consultants in priority B (UNIDO regular budget)

Roster of industrial service organizations

237. One of the most important data banks which UNIDO has been building up, starting in 1968, is a roster of industrial service organizations. By 1970 the roster will have been operational for several months. It will include engineering, management and specialized consulting service organizations of all types as well as sources of financial and other types of inputs needed in developing countries. Countries requiring such assistance will, on request, be able to secure classified lists (e.g. by services, geographical location) of potential know-how suppliers. An evaluative dimension will be added to this service in 1969 and 1970.

Continuing project: Priority A

Estimated cost for consultants: \$2,000 (UNIDO regular budget)

Staff man-months: 6

Advisory service on the supply of industrial equipment

238. Another major information service which UNIDO is setting up is an advisory service on industrial equipment. This has been established in response to resolution 1183 (XLI) adopted by ECOSOC at its forty-first session. Foundations were laid for the service during 1968 to make it operational in

Group 2 (cont'd)

238. The work has been concentrated on the preparation of lists to be provided to prospective buyers in developing countries, of suppliers of any specific type of industrial equipment from a world-wide collection of industrial directories. In early 1969, UNIDO plans to publish a guide and analysis of the most important directories of industrial countries. In 1970, it is planned to broaden the service to include information on price trends of selected types of industrial equipment in world trade. Also, efforts will be made to encourage industrial directory publishers to enlarge the amount of information of firms in their directories. On request from developing countries, assistance in evaluating offers and tenders and in specifying requirements will continue to be given either from UNIDO headquarters or in the field.

Continuing project: Priority A

Estimated cost for consultants: \$4,000 (UNIDO regular budget)

Staff man-months: 4

Used equipment service

239. The industrial equipment advisory service has visualized supplying information only about sources of new plant equipment and machinery. There is, however, a large quantity of used equipment in industrialized countries, some of which could be recommended to developing countries. UNIDO plans to collect from developed countries lists of such machinery, while investigating the feasibility of introducing a UNIDO-sponsored inspection system, which would help developing countries to determine whether such equipment is suitable for particular needs.

New project: Priority A

Estimated cost for consultants: \$2,000 (UNIDO regular budget)

Staff man-months: 3

Industrial documentation and data centre

240. To support the information network and to assist UNIDO headquarters staff and experts in the field, UNIDO is building up an extensive collection of reference works and data concerned with industrialization in developing

Group 2 (cont'd)

countries. By 1970, the centre will contain more than 4,000 selected volumes on industrial economics and technology as well as a comprehensive collection of relevant bibliographies. In addition, about 1,000 periodicals will be received and scanned by UNIDO staff members. There will also be a comprehensive collection of relevant technical assistance reports, feasibility studies and pamphlets. In so far as available manpower permits, the collection will be thoroughly indexed with a view to its active utilization.

Continuing projects: Priority A

Staff man-months: 30

Audio-visual media

241. In recent years, industry in developed countries has made increasing use of audio-visual aids. The fact that information can often be more efficiently disseminated and assimilated through these media makes their increased use in developing countries essential. Thus in 1970, UNIDO will extend its information activities into this field.

242. To this end, a comprehensive register of available industrial films will be established, making use of existing national and international directories. Each film on the register will be indexed by source, subject, language, technical data and conditions of availability.

243. In co-operation with industrial information correspondents in developing countries, a survey will be undertaken of locally available audio-visual material for use in industry and ways and means will be examined for extending the circulation of industrial films, for example, by upgrading national film distribution centres or attaching these centres to local industrial information and extension services. In addition, exchange arrangements and other co-operative ventures will be promoted on a regional basis.

244. Contacts will be made with non-profit making organizations and with industrial companies interested in making industrial films available, with

Group 9 (cont'd)

a view to increasing the dissemination of audio-visual material in developing countries.

New project: Priority A

Estimated cost for consultants: \$3,000 (UNIDO regular budget)

Additional \$9,000 (consultants) in Priority B (UNIDO regular budget)

Staff man-months: 6

Publications

245. The following regular UNIDO publications will continue to serve as vehicles for the systematic dissemination of information on industrial development.

UNIDO Newsletter - will continue to be published monthly in 1970 in English, French and Spanish. Subject to technical feasibility and related budgetary considerations, the Newsletter will be published also in Arabic, German and Russian. Each issue will contain brief reports on field projects, meetings, missions, publications and other UNIDO activities.

Estimated circulation: 24,000

Continuing projects: Priority A

Staff man-months: 6

Industrial Research - will continue to serve as a liaison journal for those and Development engaged in industrial research and related activities, particularly in developing countries, and as a source News of information on the major activities of UNIDO. This publication, at present issued quarterly only in English, is to be published in French and Spanish editions in 1970. Each issue will contain a special feature on a current problem, such as the repair and maintenance of industrial equipment or establishing a balance between adaptive and basic research in developing countries.

Estimated circulation: 5,000

Continuing projects: Priority A

Estimated publication costs: \$24,000 (UNIDO regular budget)

Staff man-months: 15

Industrial Development - a compilation of abstracts, prepared in accordance with Abstracts ECOSOC directives, will be taken from relevant technical reports and documents issued by the United Nations system; a multilingual edition is foreseen.

Estimated circulation: 2,500

Continuing projects: Priority A

Estimated costs: (Internal Printing)

Staff man-months: 4

Group 1 (cont'd)

Information pamphlets and directories

In response to indicated needs in developing countries, UNIDO will publish a limited number of information pamphlets and directories, e.g. summaries of answers to technical questions, instalments of the "Directory of industrial agencies", guides to investment opportunities in developing countries, leaflets on the services offered by UNIDO and bibliographies on topics of particular interest such as repair and maintenance of industrial facilities.

Continuing project: Priority A
Estimated publication cost: \$12,000 (UNIDO regular budget)
Staff man-months: 4

Training programmes for local information officers

246. The training of local industrial information officers in developing countries is important for the development of adequate information services, including local input centres for the international industrial information network of UNIDO. To start on this problem, UNIDO intends to develop in 1970 a fellowship programme consisting of two fellowships for industrial information officers from developing countries to get on-the-job training in documentation and library work at the documentation and data centre of UNIDO or at other documentation centres. Four additional fellowships will be offered for purchasing officers in well-established national or municipal purchasing offices in developed countries.

New project: Priority A
Estimated cost: \$20,400 (UNDP/TA)

247. A second method of training of industrial information officers, which UNIDO intends to undertake in 1970, is the holding of regional seminars and workshops. A seminar for African industrial information officers, to be organized in conjunction with the ECA, will take place in Addis Ababa. One workshop on sources of industrial information is also planned with ECLA for the Latin American area. It will last ten days and will cover international, regional and national public and private sources of industrial information.

New projects: Priority A
Estimated cost: \$102,450 Seminar with ECA \$59,750 (Regular Programme)
Workshop with ECLA \$42,700 (Regular Programme)

Group 9 (cont'd)

248. In recognition of the key role played by supply management in industrial expansion, and to assist developing countries in the organization and staffing of their purchasing offices, a regional seminar for supply managers will be held in Bangkok in co-operation with ECAFE.

New project: Priority B

Estimated cost: \$71,550 (Regular Programme)

249. A third way of developing local information services will be through a pool of two or three travelling information specialists who will, on request, visit various countries for brief periods.

Continuing project: Priority B

Estimated cost: \$23,100 (Regular Programme)

II Industrial promotion

The world-wide system of UNIDO for matching
industrial opportunities

250. UNIDO will extend its system for identifying industrial opportunities in developing countries. Under this system, begun in 1968, a local panel in each country is asked to make a periodic preliminary assessment of industrial opportunities in a wide range of industries in their country. This information is consolidated by UNIDO as a master guide to potential investors or suppliers of other needed external inputs for industrial development.

251. To supplement these panel assessments, UNIDO will maintain a full collection of feasibility studies in its industrial documentation and data centre. These studies will be available to interested investors and will, in many cases, permit them to make a more detailed assessment of a given project.

252. The final major component of the system is a full listing of potential suppliers of needed external resources. In 1970 this will be expanded to include a comprehensive listing of firms and organizations in industrialized countries which have already invested in manufacturing in developing countries. UNIDO plans to acquire this information from developed countries and to publish it in directory form for distribution to developing countries. Simultaneously, information will be collected on firms in advanced countries

Group 9 (cont'd)

which have licensed manufacturing processes to industrial undertakings in developing areas. Suppliers and users of resources can thus be identified and brought together, either by means of selected information media or by direct mail service.

Continuing project: Priority A

Estimated cost for consultants: \$ 9,000 (UNIDO regular budget) Priority A
\$17,000 (UNIDO regular budget) Priority B

Staff man-months: 20

Organizing industrial promotion services at trade fairs

253. During 1970, UNIDO will organize an industrial promotion service at the Osaka World Fair in Japan and possibly at one or two other international trade fairs. At the same time, initial preparations will be made to provide a similar service in 1971 at the Brno Industrial Equipment Exhibition.

254. In addition to this general promotion work, UNIDO will take advantage of trade fairs to organize, for a few industries of key importance to developing countries (cement, food processing and fertilizers), single-industry promotion meetings between industrialists from developing areas, potential investors and leading suppliers of equipment and know-how. Depending on the industry in question, such tripartite meetings will be organized regionally and interregionally. UNIDO technical assistance experts and field advisers will be associated with the preparation of these meetings by assisting in the selection of both the industries and the participants.

Continuing project: Priority A

Estimated cost for consultants: \$8,000 (UNIDO regular budget)

Optional \$16,000 (Consultants) in Priority B

Staff man-months: 6

III Application of science and technology to development

World plan of action for the application of science and technology

255. In its role as one of the United Nations bodies responsible for the elaboration of a consolidated world plan of action for the application of science and technology to development, UNIDO will co-ordinate and finalize

Group 1 (cont'd)

the presentation of one aspect of the plan. It will bear the responsibility for initiating the implementation of that chapter provisionally called "Accelerating industrial development". To this end, consultations will be continued with the regional economic commissions, UNESCO and United Nations agencies concerned, with a view to identifying and assessing the needs of developing countries in the industrial sector, and to implementing the plan.

Continuing projects: Priority A

Estimated cost for consultants: \$3,000 (UNIDO regular budget)

Staff man-months: 6

Data collection on cases of technology transfer

256. The transfer of technology is a means of accelerating industrialization in developing countries. However, one of the main problem areas in this connexion is the paucity of reliable data on the utilization of new plants, factories and manufacturing techniques under conditions prevailing in developing countries. Only a limited number of such experiences have been reported such as the construction and operation of a plant in an industrialized country simulating the technical, socio-economic and managerial conditions in developing countries (e.g. the pilot plant at Utrecht for the manufacture of small transistor radios). Such experience serves to test the efficiency of the method adopted in the technology transfer and to train personnel at all levels.

257. UNIDO, in co-operation with the Advisory Committee on the Application of Science and Technology to Development, and with the regional economic commissions, will locate and describe examples of successful adaptations of industrial technology to, and plants designed for, the needs of developing countries. Results will be published regularly.

New projects: Priority A

Estimated cost: -

Optional \$6,000 (Consultants) in priority B (UNIDO regular budget)

Staff man-months: 4

Annex 10. Industrial Training

25. The second objective of UNIDO is to help the developing countries to improve the level of productivity and to assist them in improving the quality of managerial, technical and administrative personnel in order to attract and accelerate industrial development. In this connection, the role of UNIDO is three-fold: to co-ordinate the work of international and regional organizations of the United Nations family in the field of industrial training; to assist the developing countries, in co-operation with the ILO, UNESCO and other international organizations, in analysing the training requirements of industry with a view to organizing suitable training programmes and organizations based on such estimates; and to implement a limited but integrated programme of national and international training for certain types and levels of industrial personnel.

259. The main aspect of the work of UNIDO in the field of industrial training in 1970, in addition to the continuation of its activities in the previous years, will include: further steps to organize in-plant training programmes in industrialized countries on a continuous basis; convening of a second meeting of in-plant training directors from both the industrialized and developing countries for the purpose of providing for the exchange of experience and ideas; introduction of certain new types of regional and interregional training programmes, including in-plant study visits in selected industries of developed countries; and increased attention to the evaluation and follow-up of UNIDO individual fellowship programmes. All of these activities will continue to be conducted in close co-operation with ILO and the regional economic commissions.

260. It is foreseen that the trend for assistance in this field through 1970 will be in the form of requests for experts under the UNDP/TA programme. The experts would be either attached to industrial enterprises to assist in the establishment of in-plant training programmes, or to government organizations to assist in formulating and organizing national in-plant training schemes for groups of industries. At a later date, these types of assistance may generate requests for Special Fund assistance.

Group 10a (cont'd)

Field activities

261. The following is a listing of field activities of Group 10a for 1970:

UNDP/SF

<u>Ref. No.</u>		<u>Experts m/m</u>	<u>Fellows m/m</u>	<u>Estimated cost US\$</u>
<u>Continuing projects</u>				
22	Turkey			
	In-plant Training Centre for Engineers, Kirikkale (TUR 29)			
	Approved: January 1968			UNDP 1,420,300
	Duration: 5 years			Gov't <u>3,000,000</u>
				Total 4,420,300

UNDP/TA

Forecast of new projects

Africa

Management Training 2/12 6/60

The Americas

In-plant Training 3/24 10/40

Asia/Pac East

Management and Entrepreneurial Training

In-plant Training

Training of Industrial Administrators

Total Asia/Pac East 4/36 22/64

Europe/Middle East

Management Training

In-plant Training

Total Europe/Middle East: 1/6 3/16

TOTAL ALL REGIONS 10/78 41/180 260,000

Group 10a (cont'd)

Supporting activities

I In-plant group training

262. The ad hoc meeting of in-plant group training directors, convened by UNIDO in Vienna in November 1967, suggested the organization of a UNIDO long-term integrated in-plant training programme on three levels:

Basic level in-plant training programmes aimed at providing pre-employment training to newly graduated engineers. These programmes are to be arranged in a particular developing country or in a neighbouring country with a somewhat higher stage of development in a specific industry in which the training will be conducted.

Middle level programmes, having a duration of three to six months, meant for engineers who have from five to eight years of experience in specific industries. Such training programmes are designed to upgrade professional capabilities in specific functions. To date, these have been organized by UNIDO in industrialized countries.

Top level in-plant training programmes aimed at providing training to engineers with substantial and comprehensive practical experience.

Basic in-plant training programme

263. Projects currently foreseen for this type of programme are listed under direct field activities (para. 261).

Middle level in-plant training programmes

264. The following ten programmes organized in previous years are expected to be repeated in 1970:

<u>Area of training</u>	<u>Country</u>	<u>Started</u>	<u>Cost (US\$)</u>	<u>Source of funds</u>
Diesel engineering	CBSR	1968	25,000	UNDP/TA Interreg.
Shoe industry	CBSR	1969	20,000	UNDP/TA Interreg.
Feasibility and factory design	CBSR	1969	20,000	UNDP/TA Interreg.
Cement industry	Denmark	1968	75,000	Danish restricted contribution
Textile production	Poland	1967	20,000	UNDP/TA Interreg.

Group 10a (cont'd)

<u>Area of Training</u>	<u>Country</u>	<u>Started</u>	<u>Cost (US\$)</u>	<u>Source of Funds</u>
Electrical engineering	Sweden	1966	27,000	UNDP/TA Interreg.
Pulp and paper	Sweden	1969	16,000	UNDP/TA Interreg.
Iron and steel	USSR	1965	150,000	USSR rouble contribution
Machine tools and instruments	USSR	1969	15,000	UNDP/TA Interreg.
Food processing	UK	1969	40,000	UNDP/TA Interreg.*

Note: Sources of funds marked by an asterisk are subject to availability of funds.

265. It is expected that negotiations started in 1968 with Governments of potential host countries will allow UNIDO to organize in 1970 the following new programmes:

<u>Area of training</u>	<u>Country</u>	<u>Cost (US\$)</u>	<u>Source of funds</u>
Foundry Techniques	Austria	20,000	UNDP/TA Interreg. subject to availability of funds
Fertiliser plants	USSR	18,000	USSR rouble contribution
Standardisation	USSR	20,000	USSR rouble contribution

266. Depending on further facilities which industrialized countries may make available, three additional programmes are planned to be organized in 1970. A few of these middle-level training programmes are expected to be converted by 1970 into continuing international industrial institutes in the industrialized countries.

Continuing projects: Priority A

Staff man-months: 22

Top level in-plant training programmes in the industrialized countries

267. It is planned in 1970 to repeat the top level group training programme in the field of mechanical industry which was held in Japan for the first

Group 10a (cont'd)

time in 1968 for engineers from the ECAFE area. Based on facilities expected to be made available by industrialized countries, three additional programmes in other fields are planned for 1970.

Continuing project: Priority A
Estimated cost: \$72,000 (UNDP/TA)
Staff man-months: 6

In-plant training material

268. UNIDO is publishing training material developed on the basis of experience gained in connexion with the in-plant training programmes organized in the industrialized countries. The first publication "Training manual for engineers in the textile industry" was issued in 1968. Training manuals in the field of diesel engineering industries and the iron and steel industry are to be prepared in 1969. In 1970 more general studies on methods of in-plant training are planned. These studies will initially be mimeographed for limited distribution, mainly to UNIDO experts in the field of in-plant training and to organizations requesting the assistance of UNIDO in setting up their own in-plant training programmes. After the studies are revised according to the comments and suggestions received from these experts and organizations, they will be published.

Continuing project: Priority A
Estimated cost of consultants: \$ 5,000 (UNIDO regular budget)
 - Priority A
 \$ 8,000 (UNIDO regular budget)
 - Priority B
Staff man-months: 2

In-plant study visits in industrialized countries

269. In 1970, UNIDO plans to organize, on an experimental basis, in-plant visits in selected sectors of industry. Such in-plant study visits will involve groups of fifteen to twenty engineers and executives from a developing country or group of countries employed in a specific industry. The

Group 10a (cont'd)

group will visit similar industries in a number of industrialized countries for a period of up to three months. The objective of such a programme will be to make the participants familiar with modern technology and management practices in the industrialized countries. It is expected that the participants, upon return to their home countries, will act as innovators by putting such modern practices into operation.

New project: Priority B

Estimated cost (travel): \$ 7,500 (UNIDO regular budget)
\$85,000 (UNDP/TA or special contribution from visited countries)

Staff man-months: 9 Preparation 3
 Execution 6

Meeting of directors of in-plant training programmes

270. Following the successful meeting of directors of in-plant training programmes in Vienna in 1967, a similar meeting is planned for 1970, with participation of a number of in-plant training directors from industrialized countries and future directors from developing countries. The meeting will evaluate existing programmes, make recommendations for future programmes and serve as a training ground for the participants from developing countries.

Continuing project: Priority B

Duration: 10 days

Estimated cost: \$16,800 (UNIDO regular budget)

Staff man-months: 2

II. Special training activities

Industrial training organisations

271. The Athens Symposium noted that training systems in most developing countries suffer from fragmentation and lack of co-ordination. The Symposium therefore, considered the suggestion for establishment in each developing country of an industrial training organisation (ID/B/21, Annex I, page 9, para. 13 (h)). The functions of such an organisation would be to formulate

Group 10a (cont'd)

targets for industrial training, to stimulate training by industrial enterprises themselves, to co-ordinate training between industry and the education system, to prepare training materials and to set training standards. UNIDO has indicated the need for such an integrated approach in commenting on requests for Special Fund assistance for establishing more limited institutional schemes. Based on the recommendations of the Athens Symposium, UNIDO plans in 1970 to convene, jointly with ILO, a meeting of experts to examine the best organisation and working methods for national agencies to perform the functions of an industrial training organisation, taking into account the different needs and conditions of the developing countries.

Continuing projects: Priority A

Estimated cost \$ 6,000 (UNIDO regular budget)

Staff man-months: 4

Training of industrial administrators

272. As a continuation of the training programme for industrial administrators started in 1969, a similar programme is planned for 1970. This project is further described under Group 8.

Continuing projects: Priority A

Staff man-months: 8

Training programme for managers of state-owned enterprises

273. Management responsibilities in state-owned industrial enterprises are often assigned to senior civil servants without previous background and practical experience in problems related to industrial management. UNIDO plans to organise, in 1970, upon request of Governments of developing countries, a special training programme for managers of state-owned enterprises in a specific industrial sector. The objective of the programme will be to assist the managers to improve their ability to utilize modern management methods.

New projects: Priority B

Estimated cost: \$57,000 Consultants \$ 7,000 (UNIDO regular budget)
\$50,000 (UNDP/TA)

Staff man-months: 4

Group 102 (cont'd)

III. Individual fellowship programme

2/4. UNIDO will continue to service the individual fellowship programme in the field of industrial development. In this connexion, it will co-ordinate the individual fellowship programme with the in-plant group training programmes with the view to achieving a greater effectiveness in the placement procedure. A follow-up of the work of the trainees in the in-plant group training programmes initiated in 1968 will be continued in 1969 and 1970 and a systematic evaluation of the individual fellowship programmes will be undertaken.

Continuing projects: Priority A

Estimated costs: \$4,000	Consultant	\$1,000 (UNIDO regular budget)
	Travel	\$3,000 (UNIDO regular budget)

Staff man-months: 12

Group 1/c Industrial Management and Consulting Services

275. The aim of UNIDO in the field of industrial management is to assist the developing countries in the improvement of managerial techniques in existing and new industrial enterprises. UNIDO also aims at co-ordinating the work of international and regional organizations of the United Nations family in this field, in particular as regards the technical and economic aspects of industrial management of programmes of field and supporting activities, in accordance with the agreement reached with ILO in this area.

276. The main aspect of the work of UNIDO in 1970 will be the expansion of the activities undertaken in previous years with particular emphasis on:

Improvement of the organization of the management clinics by prior assessment of the needs for a particular type of clinic, taking into account the different levels and structures of industrialization, and by the recruitment and briefing of a selected panel of industrial experts who would be available on short notice to participate in these clinics;

Organization of assessment missions and training programmes so as to improve and promote local consulting resources;

Further development of the consultants consortium programme and the university co-operative programme so as to mobilize external consulting resources;

Continued emphasis on assistance in industrial management to particular industrial sectors.

277. It is expected that a number of technical assistance projects in the field of management in 1969 and 1970 will be concerned with the establishment of a more substantial and longer-term type of assistance financed under the UNDA/SF programme. Furthermore, it is envisaged that the co-operation with ILO in implementing technical assistance projects in the field of industrial management will increase in these years. These trends are expected to continue beyond 1970, as the promotional activities to be undertaken in 1970 regarding provision of assistance to industrial sectors and development of local consulting resources would generate a number of Special Fund requests.

Group 10b (cont'd)

Field activities

278. The following is a listing of field activities of Group 10b for 1970:

UNDP/SF

<u>Ref. No.</u>		<u>Experts m/m</u>	<u>Fellows m/m</u>	<u>Experts Cost US\$</u>
<u>Projects under active consideration</u>				
23	Ghana			
		Ghana Industrial Holding Corporation (GHA-28)		
26	Mali			
		Reorganization of State Enterprises		
42	Pakistan			
		Centre for the Organization and Development of the Jute Industry (PAK-48)		
<u>Projects under preparation</u>				
76	Yugoslavia			
		Centre for Industrial Organization and Development		

UNDP/TA

Continuing projects

119	Dominican Republic	Industrial Management (UNIDO/DOM/68/7)	1/12	23,100
131	Indonesia	Industrial Management (UNIDO/INO/68/11)	1/12	23,100
139	Singapore	Assistance to the Economic and Development Board - Industrial economic	1/12	18,000
113	Zambia	Industrial Management (UNIDO/ZAM/68/2)	1/12	16,000

Forecast of new projects

Africa	Industrial Management Industrial Cost Accounting			
	Total Africa	9/90	7/42	
The Americas	Industrial Management Production Planning and Control			
	Total the Americas	6/30	12/68	

Group 10b (cont'd)

UNDP/TA (cont'd)

Ref.
No.

Expenditure Fellowships Estimated
(\$ million) (No.) Cost (\$ million)

Forecast of new projects (cont'd)

Asia/Far East

Industrial Cost Accounting
Industrial Management
System Analysis/Computer
Applications
Meeting Consultants Programme
(Regional)

Total Asia/Far East 9/69 20/134

Europe/Middle East

General Industrial Management
(OPEX)
Industrial Management

Total Europe/Middle East 5/36 12/70

TOTAL ALL REGIONS 28/215 51/264 560,000

Regular Programme

Industrial Management Fellowships 15/82

Supporting activities

I. Advisory and problem-solving missions to the developing countries
(management clinics)

Management clinics

279. In 1969 and 1970, UNIDO expects an increasing number of management clinics upon request of developing countries, with a 1970 target of fifteen clinics. Such clinics involve a combination of group discussions and plant visits over a two to four-week period by a team of outside specialists and UNIDO staff members working closely with top executives from industry and government officials. The clinics deal either with industrial management

Item 10b (cont'd)

problems in a particular industrial sector or with one or two special management problems common to several sectors, such as production planning and control or repair and maintenance.

Continuing project: Priority A

Estimated cost: \$150,000 (Technical Assistance Programmes,
subject to availability of funds)

Staff man-months: 20

Management clinic panel

280. To facilitate the organization of management improvements clinics on a regular basis, UNIDO plans to recruit and train, starting in 1969, a panel of clinic members and leaders to be available on a standby basis for clinic participation as required.

Continuing project: Priority A

Estimated cost: \$8,000 (UNIDO regular budget)

Staff man-months: 6

II. Mobilization of expert resources

Improvement of local consulting resources

281. UNIDO, upon the request of Governments of developing countries, will provide assistance in improving the effectiveness of local consulting services. Such assistance will take the form of sending a survey mission or organizing an assessment meeting on a national or regional level. The mission or meeting is aimed at assessing the need for, and availability of, various types of consultant services in the country and at laying out a programme for meeting any deficiencies identified. Furthermore, UNIDO plans to organize, upon requests of Governments, special training programmes for junior consultants employed by local consultant firms. Such programmes will consist of a short theoretical briefing, followed by intensive in-service training under the supervision of experienced tutors. The duration of such a training programme will be about five months.

Continuing project: Priority A

Estimated cost: Will depend upon number of requests and nature
of assistance required (Technical Assistance Funds)

Staff man-months: 2

Group 10b (cont'd)

Consultants' consortium

282. UNIDO is developing a scheme whereby temporarily available experts from consultancy firms in the industrialized countries could be put to use on short-term assignments to assist industrial enterprises in developing countries. It is envisaged that this programme could be financed in part by: the enterprises in the developing countries which would benefit from the services provided; the firms and organisations normally employing the experts, who would make their services available at substantially less than normal charges, because of the off-peak nature of demand; and UNIDO through SIS or similar funds. A preliminary study has been prepared by a consultant in 1968 and it is anticipated that by late 1969 and in 1970 the scheme will start operations on a pilot basis. UNIDO staff will service the scheme and will work out, with the assistance of a consultant, final procedures under which the consortium could be operated. Since this plan is still in the formative stage, it is difficult to project resource needs for it in 1970. The figures given below are therefore a preliminary estimate.

Continuing project: Priority A

Estimated cost: \$109,000	Consultants	\$ 5,000 (UNIDO regular budget)
	Travel	\$ 4,000 (UNIDO regular budget)
	Pilot project operating costs	\$100,000 (Technical Assistance Programmes, subject to availability of funds)

Staff man-months: 12

UNIDO - university co-operative programme

283. UNIDO is developing a system of matching the availability of expertise available at universities with specific problems and needs of industry in developing countries. A preliminary study carried out in 1968 has confirmed the availability of both "on-campus" time for studies and research and "off-campus" time whereby graduate students and professors could be available for direct assistance in the developing countries. It is planned to start the

Item 10a (cont'd)

co-operative programme in 1969 on a pilot basis. Based on the outcome of this pilot project, a more complete programme will be launched in 1970, in co-operation with appropriate university associations.

Continuing project: Priority B

Estimated cost: \$12,500	Travel	\$4,000 (UNIDO regular budget)
	Consultants	\$8,500 (UNIDO regular budget)

Staff man-months: 3

Meeting on the use of consultancy firms

284. A workshop with the participation of managers of industrial development co-operations, industrialists and other employers of consultants and of managing staff of consulting firms, similar to the meeting to be convened in 1969 in Latin America, will be organized in 1970 for participants from Asia and the Far East. The meeting will be carried out in co-operation with ECAFE and the Asian Productivity Organization. The purpose of the meeting will be to discuss the functions and responsibilities of management consultants, contractual and financial arrangements, client-consultant relationships and training of consultants. It is expected that the meeting will provide a framework for the exchange of experience and will make specific suggestions for organizing UNIDO sponsored training programmes in this field.

Continuing project: Priority B

Estimated cost: \$30,000	Meeting	\$20,000 (UNDP/TA)
	Consultants	\$ 3,000 (UNIDO regular budget)
	UNIDO overheads	\$ 7,000 (UNIDO regular budget)

Staff man-months: 4

III Adaptation of management techniques

285. Industrial management techniques developed and used in the industrialized countries are often not directly applicable in the developing countries. Appropriate management systems to fit the needs of developing countries will therefore have to be developed. UNIDO plans to investigate subjects in this field in which additional research and studies may be required. On the basis

Group 10b (cont'd)

of these findings, it will seek to promote the preparation of such studies by other organizations.

New project: Priority B

Estimated cost: \$9,5000 Travel \$3,000 (UNIDO regular budget)
 Consultants \$6,500 (UNIDO regular budget)

Staff man-months: 6

IV. Publications

286. As a follow-up of the expert group meeting on maintenance and repair convened by CID (now UNIDO) in New York in 1966, a number of studies have been prepared by consultants. In 1970, it is planned to publish these studies in the form of a manual for training purposes. This project will be a part of the over-all programme of UNIDO for the improvement of maintenance and repair services in the developing countries.

Continuing project: Priority A

Estimated publication cost: \$5,000 (UNIDO regular budget)

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Chapter 1 Small-scale Industries, including Industrial Estates and Industrial Extension Services

287. Because of the handicaps stemming from the smallness of their size and scale of operation, small-scale industries, especially in the developing countries, need integrated programmes of assistance covering a broad range of measures: extension services in technology and management; standard factories in industrial estates; common service facilities; supervised credit schemes; appropriate technology; training programmes; and various other incentives and measures of protection. The approach adopted by UNIDO in regard to the choice of projects in the field of small-scale industry for each annual programme is, as far as supporting activities are concerned, to cover all main areas, but to have a small number of high priority projects within each area and to endeavour, as far as field activities are concerned, to ascertain the needs of individual countries and to promote those types of operations which appear to be the most suitable and the most effective.

288. Co-operation in existing Special Fund projects bearing on small industry development for which ILO and UNIDO serve, respectively, as executing agencies is ensured through the working party set up under the agreement between the two organizations and through consultations between officials at the working level. Co-ordination and co-operation are maintained with other units of UNIDO for projects relating to technology for small-scale industry and research studies on the contribution of small-scale industries to the production of certain goods. Most of the problems confronting small-scale industry lend themselves to a regional approach, and close co-operation has been maintained and is further developed with the regional economic commissions and offices. Many projects in the 1969 and 1970 programmes are planned on a regional basis. The co-operation of the regional economic commissions and of other organizations is sought for the implementation of many promotional activities included in these programmes.

289. Another approach is to select projects in which the work of UNIDO would have a pump-priming or a multiplier effect. In such projects, UNIDO would provide planning and organization, while other bodies - Governments, public and private agencies, manufacturers etc. - would provide financing,

Group 11 (cont'd)

administration and implementation, or would carry out further projects along the same lines. Another principle is to orient the largest possible part of the supporting activities of UNIDO in the field of small-scale industry towards projects which may prompt or facilitate direct action by Governments or public and private development agencies, and lead to technical co-operation projects. These approaches are reflected in the 1970 programme on small-scale industry.

290. Field activities, which are expected to increase substantially from 1969 to 1970, will be characterized by the increasing share of major projects such as industrial estates, industrial extension agencies, regional and subregional centres for small industry development, and common service facilities established or strengthened with the assistance of the UNDP/SF. Most of these projects are, or will be, planned and organized in close co-operation with ILO and the regional economic commissions and offices. New types of operations, such as assistance for the establishment of subcontractors' exchanges, the organization of supervised credit schemes and credit guarantees, the conduct of intensive promotion campaigns for modernization or for entrepreneurship development, are expected to be undertaken as a result of the 1969 meetings on subcontracting and financing and of the promotional activities carried out by the UNIDO secretariat.

291. The supporting activities - promotional work, meetings and research - will include a limited number of projects under eight major programmes, emphasis being given to activities under four of these programmes: **specialized industrial estates, industrial extension, financing and subcontracting.**

292. Of considerable importance will be the promotional activities such as joint UNIDO/ILO missions for the establishment or strengthening of industrial extension organizations, the conduct of an intensive promotion campaign, the promotion of supervised credit schemes and of subcontractors exchanges.

293. Two subregional meetings will be convened in 1970 in co-operation with ECA in West Africa and East Africa, respectively, and a regional meeting with ECLA. A group training programme on industrial estates will be organized by UNIDO for French-speaking trainees, along the lines of the English-language programme carried out in 1969.

Group 11 (cont'd)

294. Research studies will be prepared for the three above-mentioned regional meetings. Other studies will be prepared as part of a series on specialized industries estates, common service facilities and small-scale manufacturing. It is not intended that studies in the last-mentioned series, which is concerned with the contribution of small-scale industries to the production of major consumers' and producers' goods, should cover all possible items. There is much scope, it is felt, for research to be undertaken by other organizations along the lines of the UNIDO studies, and it is hoped that the studies in this series will give rise to further efforts, in co-ordination and, if need be, co-operation with UNIDO.

Field activities

295. The following is a listing of the field activities of Group 11 for 1970:

<u>Ref. No.</u>		<u>UNDP/SF</u>		<u>Estimated cost US\$</u>
		<u>Experts m/m</u>	<u>Fellows m/m</u>	
<u>Continuing projects</u>				
14	Iran	Establishment of an Industrial Estate, Ahwaz (IRA-11) Approved: June 1963 Duration: 5 years		UNDP 637,500 Gov't <u>1,123,000</u> Total <u>1,760,500</u>
21	Turkey	Small Industries Development Programme (TUR-25) Approved: January 1968 Duration: 5 years		UNDP 962,800 Gov't <u>1,240,000</u> Total <u>2,202,800</u>
6	Uganda	Small Industrial Development Programme and Establishment of an Industrial Estate, Kampala (UGA-7) Approved: January 1966 Duration: 5 years		UNDP 746,400 Gov't <u>1,129,000</u> Total <u>1,875,400</u>

Group II (cont'd)

<u>Ref. No.</u>	<u>UNDP/UNR (cont'd)</u>	<u>Duration</u>	<u>Amount</u>	<u>Comments</u>
<u>UNIDO participation in SF projects executed by ILO</u>				
	Chile	Department of Small Industries (CHI-22) - Industrial estate expert	1/12	1,100
	Israel	Small Industry Advisory Service, Tel Aviv (ISH-13) - Tool and die expert and technical information specialist	2/24	16,200
	United Arab Republic	Institute of Small Industries, Siza, Phase II (UAR-66) - Industrial estate expert	1/12	21,100

Projects under active consideration

- | | | |
|----|--------|---|
| 35 | Brasil | Centre for the Development and Service of Small and Medium-sized Industries, Bahia |
| 40 | Iran | Supplementary Assistance to Industrial Estate, Ahwaz, for the Development of Small-scale Industries |

Projects under preparation

- | | | |
|----|--------------------|--|
| 56 | Bolivia | Industrial Area and Industrial Estate at La Paz |
| 71 | Greece | Industrial Area, Estate and Free Zone near Salonika |
| 44 | Liberia | Industrial Area, Estate and Free Zone near Monrovia |
| 45 | Madagascar | Industrial Estate within the Industrial Zone of Tananarive |
| 46 | Niger | Industrial Estate at Niamey |
| 52 | Regional, Africa | West African Centre for Small Industries |
| 62 | Regional, Americas | Centre for the Development of Small-scale industries |
| 49 | Upper Volta | Establishment of an Industrial Estate |
| 50 | Zambia | Development of Small-scale Industry and Entrepreneurship |

Group 11 (cont'd)

Ref. No.	UNDP/TA	Experts m/m	Fellows m/m	Estimated cost US\$
<u>Continuing projects</u>				
100	Burundi Small-scale Industry Development (UNIDO/BDI/68/3)		1/12	5,800
120	Dominican Republic Development of Small and Medium-scale Industries (UNIDO/DOM/68/8)	1/12		23,100
136	Laos Small and Medium-scale Industries (UNIDO/LAO/68)	1/12		23,100
102	Liberia Small-scale Industries Development (UNIDO/LIB/68/11)	1/12		23,100
105	Malawi Small-scale Industries Development (UNIDO/MLM/68/11)	1/12		23,100
135	Republic of Korea Industrial Estates and Location of Industry (UNIDO/KOR/68/8)	1/12		23,100
108	Rwanda Promotion of Small-scale Industries (UNIDO/RWA/68/14)	1/12		23,100
110	Senegal Small-scale Industries Development (UNIDO/SEN/68/1)	1/12		23,100
112	Uganda Industrial Planning and Programming (UNIDO/UGA/68/19)	1/12		16,500
<u>Forecast of new projects</u>				
Africa				
	Small Industries Development			
	Industrial Estates			
	Industrial Extension Services			
	Total Africa	14/158	10/90	
The Americas				
	Small Industries Development			
	Industrial Estates			
	Industrial Extension Services			
	Sub-contracting			
	Total the Americas	14/144	3/12	
Asia/Far East				
	Small Industries Development			
	Industrial Estates			
	Industrial Extension Services			
	Total Asia/Far East	7/84		

Dr. 11 (cont'd)

NDP/IA

<u>Ref. No.</u>		<u>Experts</u> <u>m.m.</u>	<u>Fellowships</u> <u>m.m.</u>	<u>Staff months</u> <u>est. '69</u>
	<u>Forecast of new projects (cont'd)</u>			
	Europe			
	Middle East			
	Small Industries Development			
	Industrial Estates			
	Industrial Extension Services			
	Total Europe/Middle East	4/30	1/3	
	TOTAL ALL REGIONS	39/422	14/109	

Regular Programme

Africa	Industrial Estates	9/54
Europe/ Middle East	Industrial Estates	1/6

Supporting activities

I Industrial estates

Group training programme on the planning, establishment and management of industrial estates

296. A group training programme on the planning, establishment and management of industrial estates for twenty French-speaking trainees will take place in 1970, perhaps in Italy. The project will be carried out along the lines of the programme organized in 1969, in Hyderabad, India, for English-speaking participants. Preparations will be made for the organization of a similar programme for Spanish-speaking participants in 1971.

Second project in a series: Priority A

Estimated costs: \$50,500	Fellowships	\$47,000 (Regular Programme)
	Consultants	\$ 2,500 (UNIDO regular budget)
	(Priority B)	
	Travel	\$ 1,000 (UNIDO regular budget)

Staff man-months: 3

Group 11 (cont'd)

Study on single-trade industrial estates

297. A study will be prepared on single-trade industrial estates such as estates for leather goods, woodworking, and agricultural equipment; it will be the fourth in a series of studies on specialized industrial estates, and is to be published in 1971.

Fourth project in a series: Priority A

Staff man-months: 2

Study on the ancillary industrial estate

298. A study on the ancillary industrial estate for small subcontractors, prepared in 1969, will be published in 1970. It will be the second publication in the series of studies on specialized industrial estates.

Second publication in a series: Priority A

Estimated publication costs: \$6,000 (UNIDO regular budget)

Staff man-months: 2

Study of the free-zone industrial estate

299. A study of the free-zone industrial estate, prepared in 1969, will be published in 1970. It will be the third publication in the series of studies on specialized industrial estates.

Third publication in a series: Priority A

Estimated publication costs: \$6,000 (UNIDO regular budget)

Staff man-months: 2

II. Industrial extension services

Training programme for small industry experts

300. It is hoped that training programmes for small industry experts from industrial countries will be organized by a number of Governments. UNIDO officials would participate in the organization and conduct of these programmes.

Continuing projects: Priority B

Estimated travel costs: \$2,000 (UNIDO regular budget)

Staff man-months: 4

Group 11 (cont'd)

Meetings on the development of small-scale industry in the West and East African subregions

301. A meeting on the development of small-scale industry in the West African subregion will be organized early in 1970 in a country of the subregion as a joint UNIDO/ECA project. A meeting with the same agenda and same basic documentation (apart from country papers and analysis of conditions in the subregion) will be organized shortly thereafter for the East African subregion, in one of the countries of that area. Both meetings will be in the nature of training programmes, and will focus attention on industrial extension services and on financing of small-scale industries. Preparations will be made for the organization in 1971, of a meeting for Central African countries.

New projects: Priority A

Estimated costs \$30,000	West African meeting (fellowships) \$17,000 (Regular Programme)
	East African meeting (fellowships) \$13,000 (Regular Programme)

Floating exhibition combined with promotional services

302. This organization of the floating exhibition combined with promotional services may be completed towards the end of 1970 or the beginning of 1971. The ship, freighted for a year or longer, would go to a number of African ports. The UNIDO consultant recruited in 1969 to organize the project would continue to provide his services during the whole year.

Continuing projects: Priority A

Estimated costs:	Consultant (incl. travel) \$15,000 (UNIDO regular budget)
	\$10,000 (UNIDO regular budget - Priority B)

Staff man-months: 12

Joint UNIDO/ILO missions for establishment and strengthening of industrial extension service organizations

303. Joint UNIDO/ILO missions for the establishment or strengthening of industrial extension service organizations will be undertaken in four or five countries.

Continuing projects: Priority A

Estimated cost: \$8,000	Consultants \$3,000 (UNIDO regular budget)
	Travel \$5,000 (UNIDO regular budget)

Staff man-months: 4

Group 41 (cont'd)

Intensive promotion campaigns

304. Intensive promotion campaigns either for the modernization of equipment and production or for the stimulation of new entrepreneurship will be organized in a few selected countries other than those visited by the ship (see para. 303).

Continuing project: Priority A

Estimated cost: \$6,000 (UNDP/TA)

\$2,000 Travel (UNIDO regular budget)

Study on mobile demonstration workshops

305. A study of mobile demonstration workshops for different types of small-scale industries will be prepared for guidance in conducting intensive promotion campaigns and for use by industrial extension agencies in developing countries. The mobile workshops are effective in stimulating entrepreneurship and in facilitating modernization and training in maintenance and repair.

New project: Priority B

Estimated cost: \$3,000 (UNIDO regular budget)

Staff man-months: 3

Publications

306. The second number in the series Common Service Facilities for Small-scale Industries entitled "Machine and tool lease shop", prepared in 1969, will be published.

Second project in a series: Priority A

Estimated publication cost: \$6,000 (UNIDO regular budget)

Staff man-months: 2

307. The third number in this series entitled "Testing and quality control laboratory", prepared in 1969, will be published.

Third project in a series: Priority A

Estimated publication cost: \$6,000 (UNIDO regular budget)

Staff man-months: 2

III Financing of small-scale industry

Meeting on financing of small-scale industry in Latin America

308. A meeting on the financing of small-scale industry in Latin America will be held in Santiago, Chile, under the joint sponsorship of UNIDO and ECLA.

New project: Priority A

Estimated fellowship cost: \$13,100 (Regular Programme)

Staff man-months: 6

Group 11 (cont'd)

Promotion of supervised credit schemes

309. It is expected that, following the 1969 Interregional Symposium on Financing of Small-scale Industry and the consultation held with officials of international and regional financial institutions, a strong impetus will be given to the promotion, under technical co-operation programmes, of supervised credit schemes, especially hire-purchase programmes in developing countries. Such promotion will be undertaken by UNIDO staff through direct advisory services, on the occasion of the joint UNIDO/ILO missions (para. 302), and, if possible, through joint missions with officials of the regional economic commissions and offices.

Continuing project: Priority A

Estimated travel cost: \$2,000 (UNIDO regular budget)

Staff man-months: 3

Interregional Symposium on Financing of Small-scale Industry

310. The report of the 1969 Interregional Symposium on Financing of Small-scale Industry and selected papers submitted to the Symposium will be published under the title "Financing of small-scale industry in the developing countries".

New project: Priority A

Estimated publication cost: \$6,000 (UNIDO regular budget)

Staff man-months: 2

IV. Small-scale manufacturing

Publications

311. A study of the contribution of small-scale industries to the production of lathes will be undertaken in 1970 for publication in 1971 under the title "Small-scale manufacturing No. 4: Lathes".

Fourth project in a series: Priority A

Estimated cost for consultants: \$5,000 (UNIDO regular budget)

Staff man-months: 3

Group 11 (cont'd)

11. The study on radios, prepared in 1969, will be published under the title "Small-scale manufacturing No.3: Radios".

Third publication in a series: **Priority A**

Estimated publication cost: \$6,000 (UNIDO regular budget)

Staff man-months: 2

V Subcontracting

Establishment of subcontractors' exchanges

313. It is expected that, following the two meetings on subcontracting organized in 1969 by UNIDO and ECAFE, respectively, technical co-operation projects will be formulated in a number of countries for the promotion of subcontracting, possibly through the establishment of subcontractors' exchanges. UNIDO will assist in the formulation of such projects through direct advisory services on the occasion of the joint UNIDO/ILO missions (para.303), and, if possible, through joint missions with officials of the regional economic commissions and offices.

Continuing projects: **Priority A**

Estimated cost: None (included in projects mentioned above)

Staff man-months: 2

Report on the meeting on subcontracting

314. The report of the meeting on subcontracting, organized by UNIDO in 1969, and selected papers submitted to the meeting will be published under the title "Subcontracting -- an analysis of international experience".

New projects: **Priority A**

Estimated publication cost: \$6,000 (UNIDO regular budget)

Staff man-months: 3

VI Marketing and export promotion

Meeting on marketing and export promotion of small industry products

315. Preparations will be made in 1970 and 1971 for a meeting on marketing and export promotion of small industry products, to be held late in 1971. One study will be commissioned in 1970. This work will be done in close co-operation with the Industrial Policies and Programming Division of UNIDO and with UNCTAD.

New projects: **Priority B**

Estimated cost for consultants: \$3,000 (UNIDO regular budget)

Staff man-months: 2

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INDUSTRIAL POLICIES AND PROGRAMMING DIVISION

Group 12 Industrial Programming and Project Planning

316. The work on industrial programming is approached on two levels: industrial development strategies, plans and projections, comprising formulation and implementation of development programmes, determination of priorities in industrial development strategy, plan harmonization and regional co-operation; and industrial project preparation and implementation, comprising formulation, evaluation, implementation and follow-up of industrial projects.

317. The volume of technical assistance activities in this area is expected to be considerably expanded in 1970 as compared to 1968. It is considered that in order to increase the efficacy of the assistance to developing countries, operational and supporting activities should be systematically interlinked. This is achieved by the following activities:

Advisory missions - The advisory missions, which will be organized at the request of interested Governments, will be directed towards assisting requesting countries in formulating the strategy of industrial programming, in evaluating key industries and in identifying priority projects. Besides rendering direct assistance, these missions will be instrumental in obtaining firsthand information on industrial programming in the respective countries. The supporting activities will be based to a great extent on this information.

Meetings - Operationally-oriented meetings and working forums, which are designed to permit an exchange of views on actual problems in developing countries, thus themselves serve as instruments for solving problems encountered in individual countries or regions.

Development of programming data - It is intended to develop systematically the collection of programming data according to the requirements of individual projects. These data will be used to support the field operations; at the same time, they constitute a basis for various supporting studies. The basic information will be drawn to a large extent from the UNIDO industrial information centre (see Group 9).

318. Following the trends that became apparent from country requests, emphasis will be laid on rendering assistance in the formulation of industrial development plans, the preparation of programming data, implementation of industrial programmes, identification of sound investment opportunities and the preparation, evaluation, implementation and follow-up of industrial projects.

Group 12 (cont'd)

319. It is envisaged also that intensive training will be provided on techniques, procedure for evaluation and/or implementing industrial projects in countries where such assistance is being provided; the projects can then be made the subject of case studies.

320. Assistance under the Special Fund programme is expected to concentrate on strengthening existing, or establishing new, organisational set-ups which will assist the countries in identifying industrial investment opportunities, in preparing projects, in programming the implementation of various projects and the follow-up of their execution.

Field activities

321. The following is a listing of the field activities of Group 12 for 1970:

UNDP/SF

<u>Ref. No.</u>		<u>Experts m/n</u>	<u>Fellows m/n</u>	<u>Estimated cost US\$</u>
<u>Continuing projects</u>				
15	Iran	Research Centre for Industrial and Trade Development (IRA-16) Approved: January 1967 Duration: 5 years		UNDP 1,058,900 Gov't <u>1,560,000</u> Total 2,618,900
2	Ivory Coast	Centre for Industrial Studies and Promotion (IVCO-13) Approved: June 1968 Duration: 3 years		UNDP 479,100 Gov't <u>318,000</u> Total 797,100
19	Jordan	Centre for Industrial Development, Amman (JOR-13) Approved: January 1967 Duration: 4 years		UNDP 1,153,100 Gov't <u>532,000</u> Total 1,685,100
9	Maghreb Countries	Centre of Industrial Studies for the Maghreb (Algeria, Libya, Morocco and Tunisia) (REC-72) Approved: January 1966 Duration: 5 years		UNDP 1,454,900 Gov't <u>645,000</u> Total 2,099,900

Group 12 (cont'd)

Ref. No.	UNDP/SF (cont'd)		Estimated cost US\$
	Experts m/m	Fellows m/m	
<u>Continuing projects (cont'd)</u>			
20	Saudi Arabia	Industrial Studies and Development Centre, Riyadh (SAU-14) Approved: June 1965 Duration: 3 years	UNDP 582,900 Gov't 2,000,000 Total 2,582,900
5	Tunisia	National Centre for Industrial Studies, Tunis (TUN-15) Approved: June 1966 Duration: 5 years	UNDP 771,700 Gov't 1,025,000 Total 1,796,700

Projects under active consideration

30	United Rep. of Tanzania	Industrial Studies and Development Centre, Phase II (TAN-22)	
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Projects under preparation

67	Malaysia	Industrial Project Preparation and Implementation Centre	
53	Regional, Africa	Industrial Studies for the Development of the Senegal River Basin	
78	Regional, Europe/ Middle East	Industrial Development Centre	
55	Regional OCAM	General Survey for Industrial Harmonisation in OCAM Membership States	

UNDP/TA

Continuing projects

127	Cambodia	Industrial Programming Data System (UNIDO/CAM/68/15)	1/12	23,100
118	Colombia	Industrial Programming (UNIDO/COL/68/18)	1/12	23,100
129	Fiji Islands	Industrial Programming (UNIDO/FIJ/68/3)	1/12	23,100
132	Indonesia	Industrial Classification and Data Processing (UNIDO/INO/68/10)	1/12	23,100

Group 12 (cont'd)UNDP/TA (cont'd)

<u>Ref. No.</u>		<u>Experts m/m</u>	<u>Fellows m/m</u>	<u>Estimated cost US\$</u>
<u>Continuing projects (cont'd)</u>				
133	Indonesia Industrial Programming (UNIDO/INO/68/9)	1/12		23,100
103	Madagascar Industrial Planning (UNIDO/MAG/68/9)	1/12		23,100
137	Malaysia Assistance to the Federal Industrial Development Authority (UNIDO/MAL/68/4) - Industrial planner and industrial economist	2/24		41,600
122	Nicaragua Industrial Policies (UNIDO/NIC/68/2)	1/12		23,100
107	Nigeria Industrial Programming (UNIDO/NIR/68/7-8 Rev.1)	2/18		28,050
138	Pakistan Industrial Programming (UNIDO/PAK/68/9)	3/36		69,300
123	Paraguay Industrial Programming and Policies (UNIDO/PAR/68/5)	1/12		23,100
125	Regional, Central American Programming the Americas Mission (UNIDO/LA/68/1)	3/36		81,000
109	Rwanda Industrial Promotion (UNIDO/RWA/68/15)	1/12		23,100
139	Singapore Assistance to the Economic and Development Board (UNIDO/SING/68/1) - Economic development adviser	1/12		23,100
111	Somalia Industrial Planning (UNIDO/SOM/68/19)	2/18		34,650
140	Turkey Industrial Planning (UNIDO/TURKEY/68/1) - Industrial economist	1/12		23,100

Forecast of new projects

Africa

Industrial Programming

Project Preparation and Evaluation

Project Implementation

Group 12 (cont'd)

UNDP/TA (cont'd)

<u>Ref. No.</u>		<u>Experts m/m</u>	<u>Fellows m/m</u>	<u>Estimated cost US\$</u>
	<u>Forecast of new projects (cont'd)</u>			
	<u>Africa (cont'd)</u>			
	Industrial Regional Planning			
	Regional Industrial Adviser			
	Total Africa	32/316	37/356	
	The Americas			
	Industrial Programming			
	Project Formulation and Evaluation			
	Total the Americas	5/52	1/6	
	Asia/Pac East			
	Industrial Programming			
	Project Preparation and Evaluation			
	Industrial Regional Planning			
	Programming Data Analysis			
	Total Asia/Pac East	7/76	-	
	Europe/Middle East			
	Industrial Programming			
	Project Preparation and Evaluation			
	Total Europe/Middle East	6/60	2/18	
	TOTAL ALL REGIONS	50/564	40/380	1,320,000

Supporting activities

I - Industrial development strategies, plans and projections

Industrial programming - country experience
(a special study series)

322. The survey study of industrial plans and programmes, initiated in 1968, covers five countries in the first phase (see ID/B/20/Rev.1, para. 183). The pilot scheme offered by these studies will serve to establish the basic

Group 12 (cont'd)

guidelines for the field missions in industrial planning. At the same time, the scheme will outline an appropriate technical framework in which the experience of the task forces engaged in these missions will be assessed and disseminated in the form of the special study series on industrial programming. Each country study in this series will cover the following major aspects of industrial planning and programming:

Economic analysis underlying the adopted strategy of industrial development and the identification of priority industries;

Mechanism through which the private sector participates in central planning;

Territorial aspects of planning and the multi-national harmonisation of industrial development programmes;

Time phases of industrial programmes;

Organizational structure for industrial planning and implementation;

Priority industries and bankable projects;

Evaluation of policy measures from the standpoint of the implementation of individual priority projects.

323. The countries to be covered in this study series are those for which the advisory missions have been effected. It is hoped that three countries will be covered during 1970. This study series is intended, therefore, primarily to disseminate the experience and lessons gained through the advisory missions, with a view to assisting the developing countries in formulating their industrial development programmes.

Continuing projects:	<u>Priority A</u>	<u>Priority B</u>
Estimated cost for consultants: \$10,000	\$5,000 (one country)	\$5,000 (additional country)
	(UNIDO regular budget)	

Staff man-months: 30

Industrial projections

324. As a United Nations organization specializing in the industrial sector, UNIDO has the responsibility for developing sustained, authoritative reference material to be used in projecting the future trends and patterns of industrialization in the developing countries. This requires a well co-ordinated multi-divisional approach within UNIDO, including co-operation

Group 12 (cont'd)

with other United Nations organizations and departments. The contribution of Group 12 includes the compilation of up-to-date statistics on the characteristics of industrial development programmes and projects in the developing countries and assistance to developing countries in evaluating their industrial development potential in connexion with the Second Development Decade and in carrying out their own long-term industrial projections.

Continuing projects: Priority B

Estimated cost for consultants: \$5,000 (UNIDO regular budget)

Multi-national co-operation and plan harmonization

325. Apart from the stock-taking of various projection data on the industrialisation trend in general, special attention will be paid to the task of promoting and furthering the technical working basis for the harmonization of industrial plans and programmes among countries which have relatively good potentials for co-operative development. The subregional component of the International Working Party on Industrial Programming Data is expected to be effective in generating a practical framework for industrial projections and programming on a multi-national basis. The operational guide for regional industrial planning and the related studies on industrial location, which were initiated in 1967 (see ID/B/20/Rev.1, para. 184), will be supplemented by additional studies dealing with the multi-national aspects of industrial development programmes.

New projects: Priority B

Estimated cost for consultants: \$5,000 (UNIDO regular budget)

II. Industrial project preparation and implementation

Industrial project programming

326. With the support of the field missions and the new programming data series, a collection of empirical studies on special topics will be prepared on industrial project preparation and implementation. These studies will

Group 12 (cont'd)

focus on actual cases, observed in the field missions. Some of the proposed topics are:

The effects of industrial projects on balance of payments;

Procedures for programming and controlling industrial project implementation;

Framework for multi-national project evaluation;

External economies and diseconomies in the national economic profitability analysis;

Tools for market identification; in particular, development of an industry file system for the identification of potential markets in the context of industrial project preparation and evaluation. (This approach will be developed in close connexion with the matrix for the assessment of industrial opportunities [industrial opportunities matrix] of Group 9).

The empirical studies on these topics and the stock-taking of the data on actual cases are to continue from 1969 to 1971. It is expected that two or three of these studies will be ready for general dissemination in 1970.

Continuing project with new elements

Estimated cost: \$16,000	Consultants (priority A)	\$ 5,000 (UNIDO regular budget)
	Consultants (priority B)	\$10,000 (UNIDO regular budget)
	Staff travel	\$ 1,000 (UNIDO regular budget)

Project implementation delays

327. A sustained effort will be made in stock-taking and evaluating the facts and trends relating to the implementation of industrial programmes and projects in a number of developing countries. Two dimensional approaches will be adopted.

328. One approach is to extend the series of case studies on time profiles of industrial project implementation, which is to be initiated in 1969 (see ID/B/26, para. 216), i.e. to continue the investigation of the phases and factors of particular importance in effecting implementation delays and in determining the gestation periods of various specific projects. This case study series will assist industrial programmers in checking the efficiency

Group 12 (cont'd)

of implementation of specific projects under execution and in evaluating the time schedule, resources and costs proposed by foreign contractors for the execution of industrial projects in developing countries.

329. The second approach is to establish implementation indexes for the purpose of identifying delayed projects and industries in difficulties in as many developing countries as possible. A first substantial report on the results of this undertaking, covering one or two subregional groups of developing countries, will be prepared during 1970.

Continuing project with new elements

Estimated cost: \$16,000	Consultants (priority A)	\$10,000
	Consultants (priority B)	\$ 5,000
	Staff travel	\$ 1,000 (UNIDO regular budget)

Advisory missions on industrial planning and programming

330. Advisory missions on industrial planning and programming will be directed towards assisting each requesting country to solve problems encountered in the field of industrial planning and project programming. In the field of industrial planning, these missions will focus on the evaluation of key industrial sectors, identifying priority investment projects, and establishing strategies, targets and policies ensuring optimal utilization of resources for accelerating industrial development.

331. Two missions are envisaged in 1970. These missions will be instrumental in obtaining first-hand information on the current status of methods and systems being utilized for industrial programming applied to developing countries. The reports of these missions and the experience gained by the UNIDO staff and consultants participating in the missions will be digested in the form of a special study series, "Industrial programming - country experience" (para. 322 and 323). This series will serve developing countries and technical assistance experts in arriving at recommendations for action.

332. The missions will assist the requesting country in national profitability analysis of one or two major industrial projects in 1970 which the Government is considering for inclusion in its industrialization programme,

Group 12 (cont'd)

and will advise the Government on appropriate techniques and procedures for evaluating industrial projects within the context of the national industrialization policies, goals and priorities and train local personnel in the use of these techniques (see ID/B/26, para. 211). Moreover, the missions are to assist the Government in programming and controlling the implementation of one or two industrial projects of major importance to the development of the country; to examine and review the methods and procedures for programming and controlling the implementation of industrial projects with a view to improving existing procedures; to introduce more effective methods of co-ordination and follow-up; and to train local personnel in the application of these procedures (see ID/B/26, para. 215). Two such operations are expected for 1970. It will be the responsibility of these missions to review the organizational and administrative machinery with a view to identifying pertinent problems and their impact on industrial planning and implementation, and to advise on the necessary establishment and/or reorganization of appropriate industrial planning and implementation systems including the organizational hierarchy, its component levels, degree of decentralization, objectives and responsibilities, proper communication channels, follow-up and control.

333. These missions will also place considerable emphasis on the establishment of a project preparation and implementation type of institution in developing countries wherever it would appear appropriate. The major functions of these institutions will be to assist in the identification of industrial investment potentials, the comprehensive stock-taking of both potential and actual projects, the preparation of feasibility studies, the programming for the implementation of various candidate projects and the trouble-shooting in the actual implementation phases. It is envisaged that the assistance for the creation of this type of institution will be financed under the Special Fund programme.

334. The missions are executed as an integral part of the UNIDO operational programming, drawing upon the funds available under UNDP/TA and/or SIS programmes. They will be carried out by a special UNIDO task force composed

Group 12 (cont'd)

of UNIDO staff and consultants who will assist in the preparation of supporting studies mentioned above.

Continuing project with new emphasis: Priority A

Estimated cost: \$73,000 Missions \$10,000 (Technical Assistance Programmes)
Staff travel (for pre-mission arrangements) \$ 3,000 (UNIDO regular budget)

Man-months: 32

Annual meetings of UNIDO field experts on industrial programming

335. A meeting of project managers of industrial development programming and studies centres (Special Fund projects) is now under consideration for 1969 with the support of UNDP. It is expected that an exchange of experience and ideas among the project managers will lead to an even more effective operation of these projects in the future.

336. Similarly, it is felt that the quality of the work performed by United Nations technical assistance experts engaging in industrial programming can be significantly improved by organising special working forums. These forums would allow technical assistance experts placed in various countries to meet and learn from a mutual exchange of the problems and experiences.

337. These forums will not only increase the effectiveness of the UNIDO substantive offices in their regular backstopping services for the field operation programme, but also will provide practical, up-to-date guidelines for the UNIDO supporting activities in the field of industrial programming. The practical locations and procedures of the forums and the necessary documentation for the discussions at the forums will be studied during 1969.

New project: Priority A

Estimated cost: \$15,500 Meeting \$15,000 (Technical Assistance Funds)
Staff travel \$ 500 (UNIDO regular budget)

Industrial Programming Data

International Working Party on Industrial Programming Data

337. It is a well recognized fact that the developing countries lack essential programming data, i.e. a synthesis of statistical, economic and technical data required for industrial programming purposes.

339. In accordance with the recommendation of the Athens Symposium (ID/B/21, page 97 and 99, para. 5 and 11(1)), a field study has been undertaken to evaluate the scope for possible co-operation and co-ordination of the various attempts being made by both international and national institutions in this field.

340. An aide-mémoire, suggesting the necessary steps towards an effective, authoritative and sustained machinery for co-ordinating these attempts, has been distributed to the relevant offices of regional economic commissions, UNESOB, various industrial centres in the developing countries and sub-regional institutions. The International Working Party, composed of technical staff from these organizations, met first at Vienna, from 18 to 27 November 1968. In accordance with the recommendation of the Industrial Development Board concerning the desired operational mechanism of this Working Party (ID/B/41, para.217), emphasis was placed, throughout the first session, on the specific problems, needs and work proposals envisaged by the participating organizations. It has been agreed that the Working Party will serve as a task force for the implementation of the specific work proposals. The November 1968 session of the Working Party was thus conducive to the organization of further working sessions on subregional levels, through which the Working Party will assimilate an increasing number of country participants and seek, in a co-ordinated manner, the solution of local problems.

341. It is anticipated that two subregional sessions will take place during 1969 and two during 1970.

Continuing project: Priority A

Estimated cost: \$20,500

Meeting \$20,000 (UNIDO regular budget)
Staff travel \$ 500 (UNIDO regular budget)

Man-months: 7

Group 12 (cont'd)

Industrial programming data publications

342. The compilation and analysis of the two "Profiles" series will be continued in 1970 and 1971. One is the "Profiles of manufacturing establishments", which was initiated in 1966; Volumes I and II were published in 1968 and Volumes III and IV are to be published in 1969. This series is designed to provide the summary data in capsule form describing the techno-economic characteristics of existing establishments or firms, in a wide range of manufacturing industries and in various developed and developing countries. Its purpose is to provide a "zoo of live specimens" of industrial establishments which can be studied for various purposes connected with industrial programming.

343. The other series is the "Profiles of pre-investment industrial projects", which is to be initiated in 1969 for the purpose of enhancing the practical usefulness of the first series (ID/B/26, para. 222). This second series consists of an analytical digest of the techno-economic feasibility studies on various industrial projects, in a form essentially comparable to the first series. The expected growth of the library of feasibility study reports envisaged by Group 9 plays the key role in securing a sustained in-flow of the necessary raw material. These two data series complement each other in providing a basic reference material, hitherto unavailable, for checking, controlling and improving the daily tasks of industrial programmers - for evaluating the project recommendations of industrial contractors, studying the efficiency and viability of existing industrial firms, assessing the variability of basic parameters for industrial planning and gaining insight into the discrepancies between pre-investment expectations and post-investment requirements.

344. The gradual extension of these data series will be assisted by the inter-organisational working arrangements to be established through the International Working Party on Industrial Programming Data. As regards the choice of sample establishment and projects to be studied, priority will be accorded to the requests registered by specific users for their field operations in the developing countries, and efforts will be made to establish

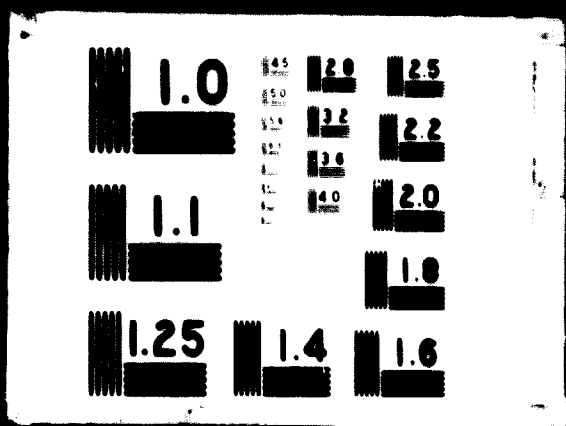


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Group 12 (cont'd)

routine procedures for receiving and answering the specified requests from the field. The Working Party will also be instrumental in transferring a gradually increasing part of the responsibility for replenishing these two data series to various national and international institutions other than UNIDO which have been using these data.

345. As these data series, in order to lend themselves to flexible use, are designed to provide semi-processed raw material for further studies, it is desirable to carry out occasionally further analytical processing to clarify their implications for certain important aspects of industrial programming. In accordance with the recommendations of the Industrial Development Board (ID/B/4 para. 216), the first analytical review of the "Profiles of manufacturing establishments" has been prepared. It will be published as a special supplement to this series in 1969. A similar review has been periodically carried out in the course of preparation of both of the Profile series. This will result in the "Second analytical supplement" to be published late in 1970 or early in 1971.

Continuing project	Priority		Priority
	A		B
Estimated cost	US\$	US\$	US\$
for consultants: (i) Profiles of manufacturing establishments	10,000	5,000	5,000
(ii) Profiles of pre-investment industrial projects	10,000	5,000	5,000
(iii) Second analytical supplement	5,000		5,000
Total	<u>25,000</u>	<u>10,000</u>	<u>15,000</u>
	(UNIDO regular budget)		

Staff travel: \$1,000 (UNIDO regular budget)

Staff man-months: 9

Group 12 (cont'd)

Industrial Planning and Programming Series

346. The following documents are expected to be published late in 1970 or in 1971 in the Industrial Planning and Programming Series:

	<u>Estimated cost (US\$)</u> (UNIDO regular budget)
"Industrial programming - country experiences"	
"Issues and techniques of industrial project programming" case study series	2,500
"Implementation and follow-up of industrial projects"	2,500
"Profiles of manufacturing establishments", Vol. V	5,000
"Profiles of pre-investment industrial projects"	5,000
"Analytical digest of the profiles data"	3,000
"Time profiles of industrial project implementation"	2,000
"Profiles of systems for industrial planning and implementation"	

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Group 13 Industrial Policies and Industrial Financing

347. The activities of Group 13 relate to three areas: industrial policies, industrial financing and promotion of industrial investment. The following paragraphs outline the work completed so far, the gaps which need to be filled, the priorities and the ways in which the programmed projects are to be implemented. The supporting activities of UNIDO headquarters are envisaged on a limited scale in order to develop and support the field activities under the work programme.

I Industrial policies

348. UNIDO has been requested by the Board to assist developing countries in the formulation of appropriate policies, incentives and other measures for implementing industrial development programmes both in individual countries and in groups of countries (Industrial Development Board resolution 1(I)).

349. One of the first activities of UNIDO was to study tax incentives for industrial development. This study was broadened in 1968 to include additional types of incentive policies and measures to stimulate industrial development. A wide range of documentation was collected and a number of case studies were made of the experience of individual countries. A study was begun on the criteria and techniques involved in selecting and formulating appropriate industrial strategy, and on a set of industrial policies to implement it, including industrial policy aspects of regional economic co-operation schemes.

350. The above activities represent part of the systematic study of industrial policies which will be a synthesis of the experience accumulated in the course of the field activities of UNIDO, and on which its future assistance to developing countries will be based. The work will be directed towards the following areas: the strategy of industrialization; further case studies of industrial policies used by selected developing countries; examination of selected types of industrial policy and the measures and machinery needed to implement them; case studies of the policy aspects of regional industrial co-operation; and an examination of the special policy problems arising in the operation and control of the industrial public sector.

Group 13 (cont'd)

351. As regards field activities, the assistance provided is of four types: for countries which have already formulated policies and measures, a short-term visit from an individual or a team of experienced experts; for countries at an early stage of industrialization which require assistance in the formulation and implementation of policies, assistance in the form of a Special Plant project comprising a team of experts; for countries which require advice in a specific area of policies, generally by a recruited expert or a UNIDO staff member; in addition, there are to be a training programme consisting of seminars.

II. Industrial financing

352. The activities in the field of industrial financing aim at assisting developing countries in mobilizing and channelling financial resources (both domestic and external) into industrial development, and at assisting in financial planning for the utilization of financial resources available to the industrial enterprise.

353. As regards the first objective, previous work has concentrated on a general examination of domestic financing techniques and of the role of commercial banks. The role of bilateral external assistance was examined in the field of external financing. With regard to the second objective, the first of a series of workshops on financial planning for industrial projects was held in 1968 and a study of the special financing problems of manufacturing enterprises in the public sector was initiated in 1967 and continued in 1968.

354. In the coming years, there will be a need in the field of domestic financing for strengthening industrial financing institutions and establishing new ones; there will also be a need for training qualified personnel and developing new techniques for mobilizing and channelling domestic savings into industrial development.

355. In the field of external financing, the Industrial Development Board at its second session (ID/B/41, para.228) stressed the need for comprehensive information on the terms and conditions of potential world-wide sources of external financing; a study of possible ways open to developing countries for

356. (cont.)

covering the terms and conditions, including repayment of such financing, and assistance in obtaining external financing for specific industrial projects. Consequently, a programme of work has been conceived to include institutional action (Special Fund projects), the provision of field experts, and the training of national personnel.

357. As regards field activities, the programme of action in establishing financial institutions, these would be in two phases: in the first phase, a team of experts would assist the requesting country in studying the feasibility of organizing or reorganizing the institution; in the second phase, covering the establishment and initial operation, expert advisers on industrial credit policy and organization, and an industrial economist would be sent on missions and fellowships would be granted for training national staff.

357. In the financial organization of future sector enterprises, the programme would provide expert advisers to assist the requesting country in devising an appropriate and adequate financial structure and in formulating appropriate price policies compatible with the need for internally generated capital formation and other economic objectives.

III Industrial investment promotion

358. An active programme of industrial investment promotion is needed to transform industrial projects into enterprises. Some developing countries have established machinery to carry out these promotion activities. Others, while recognizing the need for this machinery, still have to establish it.

359. UNIDO initiated work recently on the preparation of prototypes of basic texts and related materials needed for the establishment of national machinery for investment promotion. It organized a series of training programmes on investment promotion techniques, and convened meetings attended by representatives of interested parties in the developing and industrialized countries. In 1970 UNIDO will intensify this assistance with a comprehensive programme that comprises strengthening the national machinery and the efforts of developing countries and supplementing these efforts by assisting developing countries to promote specific industrial projects.

Group 1 (cont'd)

Strengthening national promotion services

360. This includes assistance in establishing national industrial promotion institutions (Special Fund projects), training of national personnel and advisors' services in this field.

Promotion of specific industrial projects

361. To supplement assistance to the national efforts of developing countries, UNIDO has formulated a programme to promote the transfer of capital and know-how from industrialized to developing countries at the project level. This programme consists of organizing the transfer for specific industrial projects whose financial, economic and technical viability has been established by a preliminary feasibility study.

362. The assistance of UNIDO in promotion at the project level consists of: collecting and compiling the information which the investor or financier needs to take a decision in principle about his potential interest in the project; locating appropriate sources of investment or financing and submitting the projects to them; and assisting in initiating a dialogue between the two interested parties and orienting it towards a positive result based on a balanced reciprocity of interests.

363. The meeting on Industrial Investment Promotion Services, organized in Vienna in September 1968, with the participation from developing and industrialized countries (both market and centrally-planned economies), generally endorsed the programme of action proposed by UNIDO which also has the concurrence of UNDP and the World Bank Group.

364. The programme of action is being implemented in the form of assistance to individual countries, meetings to promote specific industrial projects and the establishment of a portfolio of project reports.

365. Supporting activities include the development of material for advice on joint-venture agreements and for the identification of potential sources of investment and financing.

367. (cont'd)

367. As regards field activities, it is envisaged that assistance be provided in the establishment of investment promotion institutes in the form of Special Fund projects. It is expected that, by the end of 1970, requests for four such projects will be forthcoming from each of the regions.

367. In the field of investment promotion machinery it is expected that, on the basis of interest expressed by a number of developing countries late in 1968, two Special Fund projects will be requested by the end of 1970.

Establishing or strengthening a capital market

368. Finally, as regards assistance in establishing or strengthening a capital market, it is expected that two such projects will be requested by the end of 1970.

Field activities

369. The following is a listing of the field activities of Group 13 for 1970:

<u>Ref. No.</u>		<u>UNDP/SF</u>		
		<u>Experts m/m</u>	<u>Fellows m/m</u>	<u>Estimated cost US\$</u>
	<u>Participation in continuing project executed by the United Nations</u>			
	Regional, Africa			
	African Development Bank: Preinvestment Unit (REG-43) - Industrial development adviser	1/42		
	<u>Projects under preparation</u>			
54	Regional, Africa			
	Regional and Subregional Industrial Policies			
		<u>UNDP/TA</u>		
	<u>Continuing projects</u>			
101	Madagascar Industrial Investment Promotion (UNIDO/MAG/68/8)	1/12		23,100

Group 13 (cont'd)

UNDP/TA (cont'd)

<u>Ref. No.</u>		<u>Experts m/m</u>	<u>Fellows m/m</u>	<u>Estimated cost US\$</u>	
<u>Continuing projects (cont'd)</u>					
137	Malaysia	Assistance to the Federal Industrial Development Authority (UNIDO/MAL/68/4) - Industrial financing expert and industrial investment expert		2/24	57,000
<u>Forecast of new projects</u>					
<u>Africa</u>					
		Industrial Policies Industrial Investment Promotion Industrial Financing Total Africa		6/72	2/12
<u>The Americas</u>					
		Industrial Investment Promotion		2/12	13/26
<u>Asia/Far East</u>					
		Industrial Policies		1/12	-
<u>Europe/Middle East</u>					
		Industrial Policies		2/24	-
		TOTAL ALL REGIONS		11/120	15/38
					260,000

Supporting activities

I Industrial policies

370. To support the expanded field activities, a programme has been developed to provide the necessary technical material which will be submitted to an advisory consultant panel prior to further exploitation in the form of manuals of booklets. To fill the gaps in the existing programme of supporting activities, material in the following areas will be developed.

Group 12 (cont'd)

Industrial policies and national economic development policy

371. Particular attention was paid by the Industrial Development Board at its second session (ID/B/41, para.221) to the inter-action between the industrial sector as a whole and other sectors, particularly agriculture, as well as between the various industrial branches. Those relationships are being studied in co-operation with other United Nations agencies, particularly with FAO as regards agriculture, in the light of existing material prepared by the United Nations and other bodies on the experience of individual countries (both developing and industrialized). The study will aim at identifying possible areas of conflict and at determining the impact of industrial policies on other sectors. In 1970, the work initiated in this field in 1968 and developed in 1969 will be finalized and submitted to an advisory consultant panel (see para.374). The study will be used for the training programme (see para.377 and 378) and published as reference material for United Nations field experts and officials of developing countries.

Continuing project:	<u>Priority A</u>	<u>Priority B</u>
Man-months:	3	3
Consultants:	\$1,000	\$1,500
	(UNIDO regular budget)	

Industrial policies of selected countries

372. In 1968, twelve country studies were initiated. It is planned to continue these studies and increase their number in 1969 for the use of the training programme on industrial policies (para.377 and 378) and as reference material to help officials of developing countries as well as United Nations experts. These studies, together with the documentation collected in 1968 and 1969, will be used to examine specific policies and measures used in developing and industrialized countries to stimulate industrial development. Particular attention will be given to: the policy on the financing of industry, the policy on pre-investment incentives and the measures to direct

Group 13 (cont'd)

new investment to priority industries. In 1967, a number of these studies will be submitted to the advisory consultant panel and will subsequently be published.

Continuing projects:	<u>Priority A</u>	<u>Priority B</u>
Man-months:	2	3
Consultants (for additional studies)	\$3,000 (UNIDO regular budget)	\$3,000

Policies related to regional co-operation in the industrial field

373. Developing countries are becoming increasingly interested in closer regional industrial co-operation. Studies of three existing schemes were launched in 1968. The continuing research will examine how, in specific cases, the further adapting of policies can assist industrial development on a basis of mutual benefit to all parties. This work will be done in close co-operation with the regional economic commissions, and particular care will be taken to avoid duplication of the work carried out by other organizations. The study will be used in the training programme and published as reference material for government officials in developing countries and for United Nations experts.

Continuing projects:	<u>Priority A</u>	<u>Priority B</u>
Man-months:	3	3
Consultants:	\$1,500 (UNIDO regular budget)	\$1,500

Advisory consultant panel on industrial policies

374. It is intended to submit in advance the completed research projects mentioned above to an advisory consultant panel comprising a number of top-level policy advisers who would be invited to working sessions with UNIDO headquarters staff at which they could express their views, comments and observations on the work prior to circulating the results of the research.

New projects:	<u>Priority A</u>	<u>Priority B</u>
Consultants	\$5,000	\$3,000
Meeting:	\$3,000 (UNIDO regular budget)	

Group 1 (cont'd)

Advisory panels

375. Attempts are being made by a number of developing countries to establish a new and consistent set of industrial policies, reconsider existing policies, or re-formulate policies in a regional context. UNIDO has been encouraging this initiative and has therefore evolved a new form of assistance: an advisory panel. The panel consists of a number of experts and UNIDO staff members who examine and advise on policies formulated by the country.

376. On the basis of requests received in 1968 and 1969, an increased number of requests for this type of technical assistance is expected from countries in Africa, Asia and Latin America in 1970.

Continuing project: Priority A

Estimated cost: \$96,000	Experts	\$72,000 (Technical Assistance Funds)
	Staff travel	\$24,000 (Technical Assistance Funds)

Staff man-months: 12

Training programme

377. To strengthen the skills of officials and counterparts concerned with the formulation and implementation of industrial policies and measures, the training programme on industrial policies initiated in 1969 will be continued in 1970. This programme gives the participants from developing countries the opportunity to compare, as case studies, the experience of their country with that of other countries (both developing and industrialized).

378. Based on preparatory work stated in 1968, an interregional seminar on incentive policies for industrial development is to be held in Vienna in 1969. A second seminar, organized in 1969 in co-operation with ECA, will consider selected aspects of industrial policy of interest to African countries. In 1970 two further seminars will be organized:

Seminar for Latin

American countries - The programme of the seminar (worked out in co-operation with ECLA) will place special emphasis on the strategy of industrialization in Latin America and the need to consider the relationship of the total package of industrial policies to national economic policies and objectives. Selected specific types of industrial policy may be examined in more detail.

Group 12 (cont'd)

New project: Priority A	Participants	\$ 2,000
Estimated cost: \$24,000 (UNDP Inter-regional Project Funds)	Consultants	\$ 7,000
	Staff	\$ 3,000
Man-months: 3	Preparatory work	\$ 2,000
	Miscellaneous expenses	\$ 1,000

Seminar for Middle East countries - The programme of this seminar (worked out in co-operation with UNESOB) is expected to place special emphasis on the way in which industrial policies can be adapted to facilitate closer regional co-operation. Selected specific types of industrial policy from these countries may also be considered.

New project: Priority A	Participants	\$ 8,000
Estimated cost: \$16,000 (UNDP Inter-regional Project Funds)	Consultants	\$ 5,000
	Staff	\$ 1,500
Man-months: 2	Preparatory work	\$ 1,000
	Miscellaneous expenses	\$ 500

Annual conference of technical assistance experts

379. To establish a closer link between field experts advising on industrial policies and UNIDO headquarters staff, a conference will be organized in 1970 in Vienna. It is believed this will guide and strengthen the supporting activities for the field experts.

New project: Priority A
 Estimated cost: \$10,000 (UNDP/TA)

Publications

380. To further exploit the material collected, publication of a series of manuals or similar booklets will be initiated in 1970. Although it is difficult to develop any standard form of instruction, these booklets could outline the criteria and other factors to be considered when reviewing industrial policy measures as well as the machinery needed to implement them. The publications will cover studies of the experience of individual countries and selected policy measures of general applicability.

New project: Priority A
 Estimated publication cost: \$1,000 (UNIDO regular budget)
 Man-months: 2

Group 11 (cont'd)

II Industrial financing

381. The following projects (paras. 382 to 387) are included within the training programme of national personnel in industrial financing.

Workshops on industrial banking techniques

382. In 1970, two workshops will be organized on industrial banking to train personnel of industrial finance institutions from a number of developing countries in the skills required to appraise applications to finance specific industrial projects. The workshops will broaden their experience by providing case studies on the appraisal of specific projects, and on procedures for following up the use of loans granted to industrial enterprises. Total cost of the programme would be \$36,000 (each workshop would cost \$18,000).

New project:		<u>Priority A</u>	<u>Priority B</u>
Estimated cost: \$36,000 (UNDP/Regional Funds)	Man-months	3	3
	Consultants	\$2,000	\$2,000
	Fellows	\$15,000	\$15,000
	Staff travel	\$1,000	\$1,000
Man-months: 6			

Seminar on industrial financing - public manufacturing enterprises

383. The study, initiated in 1967 and continued in 1968, on the financial aspects of public manufacturing enterprises will be used to develop background material for an interregional training seminar in 1969. This seminar will bring together senior government officials, responsible for devising financial policies for public manufacturing enterprises, and top level managerial personnel, responsible for implementing these financial policies at the project level, to discuss and exchange experiences in this field and to formulate general guidelines for the mobilization, allocation and effective utilization of financial resources used by public manufacturing enterprises.

Group 12 (cont'd)

384. In 1970, a second seminar will be organized to examine in more specific aspects and problems of public and steel-rolling enterprises mentioned by the 1969 seminar as warranting further detailed study.

Continuing project:

Estimated cost: \$36,000
(UNDP Regional Funds)

Man-months
Meeting
Consultants
Staff travel

	<u>Priority A</u>	<u>Priority B</u>
		2
	\$15,000	\$11,000
	\$ 2,000	\$ 2,000
	\$ 1,000	\$ 1,000

Man-months: 6

Workshops on financial planning of industrial projects

385. While the mobilization and channelling of financial resources into industrial enterprises are important aspects of industrial financing, the impact of these resources on the industrial progress cannot be fully realized unless the available resources are properly and effectively utilized. Effective utilization involves proper allocation and use of resources on a carefully planned basis of priorities.

386. At the request of a number of countries, UNIDO has developed a programme of training workshops for officials in developing countries with a view to reviewing some of the modern tools and techniques for financial planning and analysis for industrial projects, and to demonstrate their application to specific cases and conditions in these countries. The first regional workshop was organized in August 1968 for the Regional Co-operation Development (RCD) countries, i.e. Iran, Pakistan and Turkey. In January 1969, the second regional workshop is to be organized in the United Republic of Tanzania for the East African countries of Kenya, Malawi, Uganda, the United Republic of Tanzania and Zambia. In response to further requests, UNIDO plans to organize one workshop in 1970 at an estimated cost of \$20,000.

Continuing project:

Estimated cost: \$40,000 (UNDP
Regional Funds)

Man-months
Consultants
Meeting
Staff travel

	<u>Priority A</u>	<u>Priority B</u>
	1	1
	\$4,000	\$4,000
	\$14,000	\$14,000
	\$2,000	\$2,000

Man-months: 6

Group 13 (cont'd)

Fellowships in industrial banking techniques

387. Correspondence initiated with various countries in 1968 suggests that UNIDO should arrange for a continuing programme for the training of national personnel in similar financial institutions in both the developing and developed countries. To initiate this programme, a number of banks have been identified that are willing to act as host to these trainees, including partial payment of expenses. The role of UNIDO would be to provide training fellowships to supplement the financial contribution of the host banks.

New project: Priority B

Fellows: 30

Estimated cost: \$10,000 (UNDP/
Interregional Funds, additional
eventual contribution)

Prototypes statutes for new industrial finance institutions

388. Prototypes of the statutes and related basic material for the incorporation and operation of industrial finance institutions are being developed to assist in the implementation of the Special Fund projects mentioned above. To allow some flexibility in adapting these prototypes to the particular needs of each country, alternative drafts for each section of the prototype statute will be prepared, supported by explanatory notes that will help the user to select the drafting most appropriate to the particular conditions in his country.

389. In 1968 and 1969, texts of statutes of industrial finance institutions were collected in a wide range of developing and industrialized countries. In 1970, the suggested outline of these prototypes and a suggested organization chart and outline of operating procedures will be submitted to an advisory consultant panel, after which they will be finalized for publication in the form of a manual. Close co-operation will be sought with the World Bank Group and the regional development banks in the implementation of this activity, as well as in the one mentioned in the following paragraph.

Continuing project:

		<u>Priority A</u>	<u>Priority B</u>
	Staff man-months	3	3
Estimated cost: \$10,000	Consultants	\$4,000	\$2,000
(UNIDO regular budget)	Meeting	\$3,000	\$1,000

Staff man-months: 6

Group 13 (cont'd)

Instruments for establishment of a capital market

390. To assist UNIDO experts to fulfil their duties in establishing and operating a new capital market (Special Fund projects), the experiences of selected countries will be examined and prototypes will be made of basic texts for the establishing and improvement of capital markets in developing countries.

New project:		<u>Priority A</u>	<u>Priority B</u>
Estimated cost: \$5,000	Man-months	2	2
(UNIDO regular budget)	Consultants	\$2,000	\$3,000
Man-months: 4			

Development of materials for financial planning workshops

391. To enlarge the collection of material used for the training programme in financial planning of industrial projects (see para.385 and 386), case studies and pro-forma financial statements must be designed. Consultants will be used to develop this material.

New project:		<u>Priority A</u>	<u>Priority B</u>
Estimated cost: \$4,000	Man-months	3	3
(UNIDO regular budget)	Consultants	\$1,000	\$3,000
Man-months: 6			

Directory on external sources of financing

392. Work on the compilation of a directory of external sources of financing available for industrial projects in developing countries was initiated in 1968. A provisional issue will be published in 1969. The directory will review and describe briefly sources of financing located in the industrialized countries (both public and private sources) and international and regional financing institutions. The forms of financing to be considered are medium and long-term direct loans, equity participation, export credits or any combination of these forms. Information provided on each source will be presented on individual sheets in loose-leaf form to allow for updating.

Continuing project: Priority A
 Estimated publication cost: \$3,000 (UNIDO regular budget)
 Man-months: 3

Group 13 (cont'd)

Improvement of terms and conditions of external financing

393. Ways and possibilities open to developing countries to improve the terms and conditions of external financing and ease the repayment conditions will be investigated.

394. Some developing countries have evolved the technique of arranging to reimburse external loans by exporting goods produced by the industrial plants established with the loans. This type of agreement will be studied in co-operation with Group 14, and suggested prototypes and explanatory notes will be prepared.

New projects:		<u>Priority A</u>	<u>Priority B</u>
Estimated cost: \$6,000 (UNIDO regular budget)	Man-months Consultants	4 \$3,000	4 \$3,000
Man-months: 8			

III Industrial investment promotion

395. The following projects (para. 396 and 397) are included within the programme of strengthening national machinery and efforts.

Training programme

396. A series of training courses on techniques of investment promotion has been organized. The first programme was arranged in co-operation with UNITAR in 1968 for officials from English-speaking developing countries. A second programme, for Latin American countries, and a third one for French-speaking countries will be organized in 1969. In 1970, it is intended to organize two further programmes. The cost is expected to be \$40,000 for each programme.

Continuing projects: Priority B

Estimated cost: \$80,000

Staff man-months: 4 (2 priority A,
2 priority B)

Prototype texts for the establishment of investment
promotion centres

397. To facilitate the establishment of new institutions (Special Fund projects), a study of prototypes of the statutes and other basic material needed for the establishment and operation of national investment promotion

Group 13 (cont'd)

centres was started in 1968 and completed in 1969. In 1970 it is intended to publish these prototypes and other basic reference materials as a manual for the use of officials in developing countries and for United Nations field experts.

Continuing project: Priority A

Estimated cost for consultant: \$2,000 (UNIDO regular budget)

Man-month: 1

398. The following projects (para. 399 to 405) are included within the programme for promotion of specific industrial projects.

Assistance to individual countries

399. In 1968 and 1969 a number of developing countries were assisted in the promotion of one or more specific industrial projects. On the receipt of an official request, advance information on selected specific projects was requested. To respond to the request, the following steps were taken: (a) in the preparatory phase, a UNIDO staff member visited the requesting country to set up with the authorities a programme for promotion of the selected projects; (b) subsequently, individual brief reports on these projects were prepared for prospective interested parties in capital-exporting countries to elicit their reaction and potential interest; and finally, (c) using the facilities of appropriate institutions in the industrialized countries, UNIDO located potentially interested sources of investment and financing, sounded out their interest in the projects, and initiated contacts between these sources and the party in the developing country concerned leading to positive negotiations between the interested parties.

400. On the basis of requests received in 1968 and anticipated in 1969, an increasing number of requests for the promotion of specific industrial projects in individual countries is expected in 1970.

Continuing project: Priority A

Estimated cost: \$160,000 (Technical Assistance Programmes, subject to availability of funds)

Man-months: 39

Group 13 (cont'd)

Meetings to promote specific industrial projects

401. In 1968, a four-day meeting was organized at which representatives from developing countries met representatives of potential sources of financing to discuss the promotion of specific industrial projects. In addition to the discussion of the concept and procedures for promotion at the level of the project, preliminary negotiations between interested parties about specific industrial projects were organized on an experimental and ad hoc basis. The interest which the parties expressed in these ad hoc preliminary negotiations showed that the technique adopted could be refined and further developed. For a second meeting, to be held in 1969, it is planned that detailed brief project reports will be prepared in advance by developing countries so that appointments can be arranged in advance of the meeting for interested parties from the industrialized countries, on the basis of a preliminary expression of interest on their part in the promotion of specific industrial projects.

402. It is planned to hold two further meetings in 1970 to assist developing countries that have prepared brief reports on a group of industrial projects which they wish to promote in this way. The cost of each meeting is expected to be \$19,000.

Continuing project:		<u>Priority A</u>	<u>Priority B</u>
	Man-months	10	10
Estimated cost: \$38,000 (UNIDO regular budget)	Meeting	\$19,000	\$19,000
Man-months: 20			

Establishment of a portfolio of brief project reports

403. As a result of the two meetings to promote specific industrial projects held in 1968 and 1969 (para.401), the nucleus was created of a portfolio of brief reports on specific industrial projects from a wide range of developing countries. In anticipation of requests from developing countries to add brief reports on additional projects to this portfolio, facilities will be developed in 1970 gradually and on a limited scale to collect the brief reports and promote the projects.

Group 13 (cont'd)

404. In 1969, a standard outline for the brief project report was devised by UNIDO to give prospective sources of finance and investment sufficient information to take a decision in principle on their interest in each project. Assistance from staff members will be required in 1970 to assist developing countries in preparing brief project reports in this form, in locating potential sources of investment or financing, in sounding out their interest and in initiating contacts between the two parties concerned.

Continuing project: Priority A

Estimated cost: \$8,000 (UNIDO regular budget)
\$15,000 (Technical Assistance Programme, subject to availability of funds)

Man-months: 20

Prototypes of joint-venture agreements

405. Advice was made available in 1969 on the basis of prototypes of agreements between parties in industrialized countries and promoters of industrial projects in developing countries. Prototypes of new agreements in other industrial sectors will be prepared in 1970.

Continuing project:

Estimated cost: \$5,000
(UNIDO regular budget)

Man-months: 2

	<u>Priority A</u>	<u>Priority B</u>
Man-months	1	1
Consultants	\$3,000	\$2,000

DOY112

Annex 14 Promotion of Export-Oriented Industries

406. The field of action related to the development of export industries presents industrial protection aspects which are within the responsibilities of UNIDO and trade aspects including access to markets which are the responsibility of UNCTAD and the GATT/UNCTAD International Trade Centre (ITC).

407. The objective of the work in this area is to assist the developing countries in assessing their industrial policies and programmes related to the establishment and/or development of export-oriented industries, so as to enable these countries to take advantage of opportunities to broaden their export production and thereby also improve their balance of payments. The main emphasis, as in other areas, is placed on operational activities.

408. The operational activities may be undertaken in several ways. Some of the projects would take place at the level of specific industrial branches, assisting them in utilizing the export potentialities which market research has already detected. Emphasis will be laid on standards of quality, design and performance and on competitive prices for products sold in those markets. In certain cases advantage may be taken of existing excess capacities.

409. Several of the problems in this area are common to most of the developing countries, although the need for assistance is, as a rule, greater in countries where the process of industrialization is already advancing. The programme is designed to cover a number of selected problems, the solution of which would be of general benefit to the developing countries with an industrial base.

410. Another possible action is on the government level. An export component should be included in the strategy of industrialization where this appears feasible, taking into account the other goals of industrial development (supply of the internal market, employment problems, distribution of incomes etc.) and evaluating this strategy as alternative or complementary to other ones such as import substitution. Governments would also be assisted in building up a set of policy measures and incentives for creating and developing export industries (e.g. tax and tariff measures,

411. Supportive activities

Supportive activities consist of studies (and other policy measures) which will be carried out in the framework of the programme of work in the process of implementation.

412. Supporting activities will consist of case studies to elucidate the reasons of successes obtained in certain countries, and failures in others. Such case studies would relate either to individual countries or to certain types of policy measures.

413. In the proposed programme, no special project has been devoted to the question of policies proper which is diffused in several of the listed projects. The meeting on policies scheduled at the end of 1968 is expected to provide guidance for the formulation of a programme in this area.

413. The work programme takes into account what other United Nations organizations and regional economic commissions are doing in this field. It reflects the guidelines set by the Combined United Nations Programme for Promotion of Exports, which were established following the meetings of the Executive Secretaries of the regional economic commissions in 1966 and 1967, and its implementation calls for close co-operation with all parties concerned. Such co-operation has been already established with UNCTAD and the UNCTAD/CATT International Trade Centre.

Field activities

414. The following is a listing of the field activities of Group 14 for 1970:

Ref. No.	<u>UNDP/SF</u>		
	Experts <u>m/a</u>	Fellows <u>m/a</u>	Estimated Cost US\$
<u>Projects under active consideration</u>			
34	Argentina	Industrial Policy Advisory Group	
<u>UNDP/TA</u>			
<u>Continuing projects</u>			
116	Argentina	Export Promotion of Manufactured Goods (UNIDO/ARG/68/4)	1/3 2,200

Group 14 (cont'd)

UNDP/TA (cont'd)

<u>Ref. No.</u>		<u>Experts m/m</u>	<u>Fellows m/m</u>	<u>Estimated Cost US\$</u>
<u>Forecast of new projects</u>				
Africa				
	Assistance to Export Industries	5/20		
The Americas				
	Assistance to Export Industries	5/60		
Asia				
	Market surveys	10/72	20/80	
	TOTAL ALL REGIONS	20/152	20/80	340,000

Supporting activities

I Policies for promotion of industries with export potential

Export production opportunities in the developing countries for markets opened up by GATT or other similar agreements

415. This is a continuing project which is to be initiated in 1969 on the basis of a follow-up on the results of the Kennedy Round of Trade Negotiations from the point of view of the opportunities they may offer for the development of export-oriented industries in the developing countries. The impact of tariff concessions on prospects for possible establishment of new industries will be assessed in co-operation with UNCTAD and GATT and on the basis of documentation which is expected to be prepared on the trade aspects of such negotiations by these organizations.

Continuing project: Priority A

Estimated cost: \$4,000 (UNIDO regular budget) Consultants \$3,000
Travel \$1,000

Man-months: 10

Group 14 (cont'd)

Identification of excess manufacturing capacity,
and its utilization for export
production

416. The Brazil meeting of experts in 1969, which will review the excess manufacturing capacities of the developing countries, will also identify problem areas in which UNIDO technical assistance will be requested. As a second stage of the project, the existence of excess capacities in manufacturing will be investigated both by industry and by country.

Continuing project: Priority A

Estimated cost: \$5,000 (UNIDO regular budget) Consultants \$4,000
Travel \$1,000

Man-months: 16

Regional and subregional economic co-operation among
developing countries

417. This project has as its purpose the identification and study of possible latent opportunities which could be developed through the combining of several developing countries' national markets for certain products, thereby permitting the establishment and/or expansion of export industries (including joint ventures) operating at appropriate economies of scale. The experience of industries in existing customs unions and free trade areas, as well as those involved in economic co-operation arrangements among developing countries (for instance, Iran, Pakistan, Turkey), will be assessed, and guiding criteria will be developed for formulating feasible projects based on economic co-operation among several developing countries. This project will be carried out in co-operation with the regional economic commissions.

New project: Priority B

Estimated cost for consultants: \$2,000 (UNIDO regular budget)

Man-months: 3

Promotion of production for export by domestic market-
oriented industries

418. The purpose of this project is to identify industries in various developing countries which are primarily oriented to supplying the domestic market, but which could, with technical assistance guidance, successfully

Group 14 (cont'd)

develop production for export. In this respect, the problem of import substitution of capital goods will also be studied. The possible exportation of these goods by some developing countries to others with a lesser but ascending degree of industrialization warrants closer examination. After these studies are completed, a regional workshop will be held to bring together producers (or potential producers) and consumers of capital goods.

419. In this same area of work, an investigation will also be made of the prerequisites for the fuller utilization of export oriented agriculture-based processing industries. This investigation will examine the empirical experience of a developing country which has already established an export-oriented industry based on processing agricultural products.

New project: Priority B

Estimated cost: \$5,500 (UNIDO regular budget) Consultants \$4,000
Travel \$1,500

Man-months: 9

*
The promotion of exports of manufactures from the
developing countries under specific arrangements
between developed and developing countries

420. On the basis of experience accumulated during 1968 and 1969, and of further supporting data expected to be developed at an expert group meeting in 1969, a few case studies will be commissioned to examine specific instances where developing countries are producing for export under such arrangements, and to identify additional possibilities as well as the ways in which UNIDO can further assist in promoting such industrial co-operation.

421. A possible approach to such an arrangement with regard to small-scale industries will also be investigated. The pooling of small-scale producers in developing countries to produce specific standard products for export under agreement would be of great advantage to the developing countries and its possibilities merit investigation.

Continuing project: Priority A

Estimated cost: \$4,000 (UNIDO regular budget) Consultants: \$3,000
Travel: \$1,000

Man-months: 12

Group 14 (cont'd)

II. Techniques for increasing industrial production for exports

Supply-demand position of export-promising manufactures
and semi-manufactures

422. Consistent with the role of UNIDO in the evaluation of export industry data (ID/B/20/Rev.1, para. 210(h)), pertinent data will be collected and evaluated on the supply-demand position of selected manufactures and semi-manufactures that appear to have export possibilities. These will be identified on the basis of the findings of various missions and of the work of field experts. UNIDO will then study in depth the prospects of producing a selected range of these products for export. The studies will be directed both to the eventual establishment of new industries as well as to the expansion of existing industries. It is planned in 1970, on the basis of 1969 experience, to increase the range of products being examined in this project.

423. As definite industrial opportunities for additional export production are identified, either as country or regional projects, UNIDO will carry out on-the-spot investigations and examine the feasibility of extending the productive capacity of an industry to serve the export market. As necessary, assistance will also be given to Governments in locating appropriate sources of finance for the expansion and in the implementation of this form of industrial development.

Continuing project: Priority A

Estimated cost: \$6,000 (UNIDO regular budget) Consultants \$5,000
Travel \$1,000

Man-months: 18

Joint UNIDO/UNCTAD/UNDP exploratory mission regarding
exports of manufactured products

424. Following the pattern of the exploratory missions to several countries of Asia (ID/B/20/Rev.1, para. 208) and Africa (ID/B/26, para. 240), a similar mission will be organized in 1970 by the three United Nations organizations involved to examine developments in other Asian, Middle East

Group 14 (cont'd)

Market acceptance practices as a guide to production
for export

427. A lack of export know-how in the developing countries regarding the many factors of product acceptance in the export markets contributes in large measure to the insufficient development of export industries in these countries. Data regarding product preparation, consumer preferences, distribution practices and other requisites for successful exportation, as well as possible licensing arrangements, know-how agreements etc. will be selectively prepared for the use of entrepreneurs, planners and officers responsible for industrialization policies. The survey will aim to bring together the existing body of knowledge on this subject so as to serve the needs and requirements of the promotion of export-oriented industries in the developing countries.

New project: Priority B

Estimated cost for consultants: \$4,000 (UNIDO regular budget)

Man-months: 5

Raising the efficiency of export-oriented industries in the
developing countries through the establishment of
demonstration projects

428. The inter-firm comparison is an inexpensive management technique which has been successfully applied in certain developed countries to raise the efficiency of selected industrial sectors. Its introduction in the developing countries could bring about a lowering of both production and marketing costs and thereby enable these industries to compete favourably in the world markets. UNIDO will examine industry areas in which this technique can be applied in the developing countries.

New project: Priority B

Estimated cost for consultants: \$2,000 (UNIDO regular budget)

Man-months: 3

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Group 15 Industrial Reviews and Surveys^{5/}

429. The preparation of an annual world industrial survey is a continuing responsibility of the UNIDO secretariat. Parallel to this task, it is intended to expand the work so as to meet the needs of the policy-makers in the field of industry in the developing countries. These needs are immense. In many countries, very little is known about the real situation of the industry and its relative position compared to other developing or developed countries. There is a lack of analysis of the past process of industrialization, and of evaluation of strategies, explicit or implicit, utilized at the various stages. In many cases reliable information does not exist and the decisions of the policy-makers are often taken in the dark with little possibility of evaluating the exact consequences. It is considered to be the responsibility of UNIDO to assist the developing countries to overcome this situation. Work in this area started in 1968 and will be continued in 1969 and 1970.

430. The programme of work is designed to meet these requirements. It is guided by the considerations of interdependence between the operational and supporting activities, analysis and the collection of data. The operational activities are represented by country survey missions, which aim at assisting the developing countries in their industrial development efforts, as well as by training workshops in methods of industrial surveys, which are a complementary activity to the above-mentioned survey missions. The industrial development surveys and special surveys form the backbone of the supporting activities. The work in these two areas is closely related to the work performed in connexion with the Second Development Decade.

431. Techno-economic data related to industrial sectors. In addition to making techno-economic data related to industry branches available for use by those concerned with industrial development and planning in the developing countries (ID/B/26, para. 249(c)), the Industrial Technology Division, through its Industrial Sectors Development Section, supports and supplements activities of UNIDO as listed under Groups 1 through 6 above, with analyses

^{5/} Work under this Group is being carried out jointly by the Industrial Policies and Programming Division and the Industrial Technology Division.

Group 15 (cont'd)

in depth of the situation and development trends of main industry branches. At the same time, in view of the constant flow of new technologies and new applications which are relevant simultaneously to several industrial branches, and in recognition of the "spin-off" effects of most advanced technologies to industrial progress in general, UNIDO proposes as a new activity to study techniques of horizontal nature with potential benefits for the developing countries. The industrial application of radio-isotopes and radiation processing, automation, modern packaging techniques and materials handling processes, exemplify this new approach, which might be summarized as a servicing function in support of the activities carried out by the individual industry branch sections.

Field activities

432. The following is a listing of the field activities of Group 15 for 1970:

<u>Ref. No.</u>		<u>UNDP/TA</u>		<u>Estimated Cost US\$</u>
		<u>Experts m/m</u>	<u>Fellows m/m</u>	
	<u>Forecast of new projects</u>			
	<u>Africa</u>			
	Industrial Surveys	4/48		
	<u>The Americas</u>			
	Industrial Surveys	2/19		
	<u>Asia/Far East</u>			
	Industrial Surveys	3/36		
	<u>Europe/Middle East</u>			
	Industrial Surveys	1/6		
	TOTAL ALL REGIONS	10/109		220,000

Supporting activities

I Industrial development surveys

433. The Economic and Social Council requested the Secretary General in its resolution 1030 (XXXVII) to make arrangements for the preparation of a

Paragraph (cont'd)

periodic world industrial development survey. In response to this resolution, UNIDO has already completed a number of surveys. The intention is to prepare a full, complete analytical survey only every four or five years.

434. The annual surveys will be made more concise, stressing new trends and specific features of the latest development in the manufacturing sector. Although the two types of surveys are basically identical in character, they may differ in their depth and coverage to the extent that this is necessitated by the availability of data.

435. In addition, special surveys will be prepared, differing from the above surveys in their character, objectives and coverage. They may include surveys of particular aspects of industrial development or surveys of specific industries or groups of industries. They are to be prepared in answer to basic needs or because of the current importance of the topic to be dealt with. They are meant to express the continuous reflection and findings accumulated by UNIDO on the basis of its experience in field activities.

Industrial development survey, 1970

436. As in previous surveys, the 1970 survey is to review in an analytical way the trends in the development of the manufacturing sector within the year under review.

Continuing project: Priority A

Estimated cost: \$33,000 (UNIDO regular budget) Consultants \$25,000
Travel \$ 8,000

Man-months: 82

A survey of import substitution strategies: an appraisal
in the light of the experience of countries pursuing
alternative strategies

437. Import substitution as strategy for industrial development has been and is still being adopted by a large number of industrializing countries, notably in Latin America which played a leading role in this development.

Group 15 (cont'd)

Such policies were substantiated by a number of rather appealing economic reasons such as the readily available domestic demand, and the earnest desire to reduce imports and thus alleviate some of the pressure on the balance of payments. In some cases import substitution policies have achieved noticeable success, but in others they have led to top-stalled development, adverse effects on the balance of payments and industries that are not competitive in the world market. Moreover, experience shows that, when the limits of substitution were reached in some of those countries, the rate of industrial development tapered down and a variety of problem arose.

438. The proposed survey will therefore examine the direct and indirect effects of the strategy of import substitution on the development of manufacturing industries in selected industrializing countries in the period of the 1960s. The experience of these countries will be surveyed against the background of possible alternative strategies (e.g. export promotion, regional co-operation and integration and dependence upon the home market).

439. By grouping countries according to their adopted strategy and, within this category, according to their level of over-all economic development, it will be possible to evaluate the relative merits of the import-substitution strategy. The survey will aim at drawing conclusions regarding the efficiency of the strategy in developing the manufacturing sector and in fulfilling national objectives. It will make an evaluation of alternative strategies in the light of the state of development. It is hoped that the findings of the survey will be of help in guiding the developing countries towards the adoption of industrial development strategies. Finally, the survey will present an analytical and statistical foundation from which further technical assistance efforts by UNIDO can be developed.

440. It is expected that this survey will be undertaken in close co-operation with the regional economic commissions, UNESOB and other United Nations and international organizations. Although the project may be initiated in 1969, the bulk of the work will be done in 1970 and may be carried over to 1971.

New project: Priority B

Estimated cost for consultants: \$10,000 (UNIDO regular budget)

Man-months: 6

Group 15 (cont'd)

Survey of special problems of industrial development of the
smaller developing countries

441. The smaller developing countries face specific problems in pursuing their industrial development due, in addition to common features of underdevelopment, to particular characteristics related to their narrow base of industrial raw materials, limited investment resources, exiguous domestic markets, dysfunctional technology and highly specialized pattern of production and trade. These structural weaknesses are often reflected, as regards the manufacturing sector, in a high level of costs entailed by low efficiency and excess capacity, an output-mix with a negligible proportion of fast-growing and technologically dynamic industries, and the absence of strong interlinks within that sector.

442. To date only scant attention has been devoted to the systematic examination of these obstacles. The survey will therefore examine, by means of cross-country comparisons, the structural characteristics of small nations and the way and extent to which they affect industrial development. It will investigate, by means of selected industrial case studies, the various strategies and policies experienced by small countries in their industrial development and try to assess these policies. Its final purpose will be to formulate and evaluate, in support of the operational activities of UNIDO, a series of concrete proposals for international action within the framework of a policy of assistance geared specifically to the requirements of the smaller developing countries.

443. It is envisaged that this survey will be made in close collaboration with UNCTAD, the regional economic commissions and UNESOB. UNCTAD has already initiated work in the field of trade to devise policies and special measures in favour of the least developed among the developing countries, many of which are small. The survey will draw on the practical experiences of the IBRD and other multinational development agencies. Although this project may be initiated in 1969, the bulk of the work will be done in 1970 and may be carried over to 1971.

New project: Priority B

Estimated cost for consultants: \$10,000 (UNIDO regular budget)

Man-months: 6

Group 15 (cont'd)

The effects of industrialization on manufacturing employment and productivity; a survey of recent experiences of selected developing countries

444. The basic objective of industrialization in developing countries is the achievement of a more rapid and sustained increase in aggregate national income and expenditure and the diversification of the economy. There is, however, a growing concern about employment and productivity effects of industrialization.

445. During the second session of the Industrial Development Board, it was proposed, inter alia, that UNIDO undertake an analysis of the different aspects of the processes of industrialization and study the respective roles of increases in labour productivity and of employment in industrial development (ID/R/41, para.207 and 238).

446. It is worth noting that there has been only a modest labour absorption by the manufacturing industries in many of the developing countries. On the other hand, manufacturing productivity has frequently lagged behind the levels of advanced countries in spite of high capital outlays spent on productive equipment, a fact that accounts to a large extent for the relatively low competitiveness of locally produced manufactures in foreign markets. Many developing countries are thus faced with increasingly difficult choices between further expansion of employment and productivity.

447. The survey will examine these employment and productivity problems in some selected countries which, in their industrialization effort, hoped to increase significantly industrial employment. It will attempt to develop systematically the factual evidence bearing on manufacturing employment and productivity plans, programmes and policy measures and to study them in the light of experiences of selected countries with the view of identifying actual gains, likely causes of failures in implementation of programmes and possible areas of conflicts of objectives, as well as the most successful measures applied in some developing countries which may deserve the attention of others.

Group 1 (cont'd)

448. It is hoped that this survey will lead to the development of technical assistance policies with respect to promotion of manufacturing employment and productivity. As ILO will be launching its World Employment Programme in 1969, the present survey will be co-ordinated with this Programme. The survey will be implemented in close co-operation with the countries concerned, ILO, the respective regional economic commissions and UNESOR.

449. Although this survey may be initiated in 1969, the bulk of the work will be done in 1970 and may be carried over to 1971.

New project: Priority B

Estimated cost for consultants: \$10,000 (UNIDO regular budget)

Man-months: 6

Organization of industrial statistics

450. UNIDO relies entirely for basic industrial statistics on the Statistical Office of the United Nations in New York. Nevertheless, to support the preparation of such statistics and the non-operational work in general, some activity is necessary in this area. Thus UNIDO keeps liaison with the Statistical Office in New York, processes the basic figures in order to fulfil some additional data requirements, initiates requests and works out designs of formats in consultation with the Statistical Office for additional industrial data, which may be required by UNIDO and which are not collected at present by that office, and attends and participates in the preparation of the work required for the Statistical Commission.

Continuing project: Priority A

Man-months: 24

II. Country survey missions

451. Many of the developing countries lack the expertise to study and programme their industrial development in depth. This led to many errors and waste of efforts in the steps made in the past towards industrialization. In the light of this, and at the request of many of the developing countries, UNIDO in 1968 initiated activities aimed at filling this gap through industrial survey missions composed of a number of experts whose specializations depend

Group 15 (cont'd)

on the specific requirements of the countries concerned. Although the type of reference of these missions differ from case to case, they are intended to have certain broad characteristics.

452. They are operational in character and are by no means census-like survey missions. They aim at studying the existing structure of the industrial sector by stock-taking of what is available in the country in terms of industries, their number, employment, technology, existing projects, as well as by investigating the inter-sectoral relations. Such a mission would naturally review also previous surveys and/or feasibility studies.

453. Once a mission completes this stage, it is expected to study further possible alternatives in future industrial development. This stage entails the study of market possibilities, domestic or foreign, natural endowment as well as the comparative advantage of the country based on these resources. It goes without saying that the mission would give its advice within the context of a national development plan, if such a plan exists, and may also advise (in connexion with Group 12) the Government on the preparation or revision of its industrial component.

454. One of the purposes of the mission will be to assist in establishing adequate flows of information designed explicitly for the policy-makers in the field of industry and in insuring ways and means of keeping the policy-makers abreast of the latest developments in the field. Preference will be given to an empirical and practical approach: less heavy census and quicker indicators, sample enquiries in existing enterprises etc. The mission will avoid entering in the field of statistics but will concentrate on the use of statistics.

455. Most important, however, is that such missions aim at assisting the Governments to establish their own machinery for continuous work in this field or reinforce existing machinery by training adequate national officials. Training workshops in methods of industrial surveys discussed under training activities (para.459) will be organized to help in this direction.

Group B (cont'd)

456. Although the initial duration of such missions is not sufficiently long to allow them to go in depth into all the aspects described above, yet it is expected that, in the light of their recommendations, further technical assistance will be given to the most urgent and promising areas conducive for industrial development. In other words, it is hoped that these missions will indicate the direction in which UNIDO should assist these countries.

457. Although these missions are intended primarily to benefit the individual countries concerned, their findings will no doubt enrich the experience accumulated within UNIDO. This experience will be used to improve the capacity of UNIDO to backstop technical assistance activities and will be expressed, when possible, in the annual or special surveys.

458. Some of these missions will be carried over from 1969 and others will be initiated during 1970.

Continuing project: Priority A

Estimated cost: \$250,000 (Technical Assistance Programmes, subject to availability of funds)

Man-months: 38

III Training activities

Training workshops in methods of industrial surveys

459. It is envisaged that training workshops will be organized in methods of industrial surveys for nationals of developing countries engaged or expected to be engaged in such work. The aim of such workshops is to acquaint the participants with methods and techniques of building up a continuous information on, and analysis of, the industrial situation in developing countries. The workshops will be based mainly on case studies. It is expected that the participants will greatly benefit from an exchange of views about the success and difficulties they have experienced in their respective countries.

New project: Priority A

Funds: \$50,000 (UNDP/TA)

Consultants: \$3,000 (UNIDO regular budget)

Man-months: 12

Group 15 (cont'd)

IV. Industry branch reports (quinquennial and decennial review in depth)

460. At the Athens Symposium, nine sectoral surveys were presented by UNIDO, prepared in co-operation with various international agencies and the regional economic commissions. Bearing in mind the further elaboration of the data and information collected, and the deepening of insight into developmental problems of selected industry branches, and considering the usefulness of the enlargement and updating of the Athens papers on the basis of new techno-economic developments, such reviews in depth were commissioned in steel and non-ferrous metals in 1968 (Union of Soviet Socialist Republics voluntary contribution 18,750 roubles), to be published by UNIDO. UNIDO plans to continue the industry branch report series in 1970. The reviews will again cover a five to ten-year period, according to the available sources of information and the specific needs of the branches studied. They will provide, for the usage of the experts involved in technical assistance, industrialists and civil servants of the developing countries, an overall image of sectoral developments in developing countries as compared to the general development of specific branches of industry. The reports will examine and analyse recent developments in industrializing countries, particularly with respect to output, changes in production capacities, shifts on the demand side with impact on industrial production, identification of growth rates for branches at national, regional and interregional level, specific features of factor combinations in production and the application of modern technology.

Reports for engineering, textiles and building materials

461. Studies on engineering, textiles and building materials will be prepared for the industry branch report series.

Continuing project: Priority A

Estimated cost: \$12,500 (UNIDO regular budget) plus national
voluntary contributions

Man-months: 10

Group II (cont'd)

1. Introduction of technologies with multi-sectoral impact

Isotopes and radiation processing

462. To initiate inquiries into the industrial applications and the economic benefits of advanced technologies with multi-sectoral impact, UNIDO will participate during 1967 in studies carried out in co-operation with the International Atomic Energy Agency, Vienna, on the industrial application of radio-isotopes and radiation. The practical value and economic benefits of these innovations are already well proved and documented by the progress made in the industrially advanced countries. The participation of UNIDO is oriented toward the economic appraisal of the benefits which are expected from industrial application of radio-isotopes and radiation under the conditions prevailing in developing countries. The study will cover several industry sectors and technological processes. Institutional aspects, as well as specific problems of co-operation between scientists and technologists, scientific organizations and the industry, will be particularly highlighted.

New project: Priority A

Estimated cost for consultant: \$1,500 (UNIDO regular budget)

Man-months: 5

Packaging

463. In recognition of the increasing role of packaging exercises in the acceleration of the industrialization process, UNIDO will inquire into the new possibilities packaging techniques offer to protect goods, to make them attractive to the consumer and readily transportable at low cost. In recent years, new materials and new techniques have evolved in which developing countries have shown increasing interest. UNIDO proposes to analyse the packaging techniques in about three representative developing countries with special regard to packaging materials and packaging design used in selective industrial branches. Also to be studied are the impact of packaging on the competitive strength of products and questions connected with packaging materials supply. It is expected that new types of multi-sectoral projects will be

Group 15 (cont'd)

generated by these studies. It is proposed to focus on containerization in 1971. Studies on packaging materials, package design and related industries will be prepared.

New project: Priority A

Estimated cost for consultant: \$2,000 (UNIDO regular budget)

Man-months: 5

VI Second Development Decade

464. As far as it is possible at the present stage to evaluate the actual load of work to be forecast for 1970, the following programme is envisaged:

- (a) Econometric projections using the model now available with some possible refinements and changes in the parameters to utilize the results of the industry census for 1963;
- (b) Empirical approach, parallel to the econometric approach both at the global and at the sectoral branch levels. This approach will include collecting information about the future development industry: existing plans (national, regional), sectoral branch reports and other information available on industrial projects under way and analytical work to determine empirical relationships between relevant variables (investment, manpower, foreign trade, financial flows etc.);
- (c) A study of industrialization strategy and policies as regards, among other factors: relations of industrialization policies with other goals in developing countries, such as re-distribution of incomes, international division of labour, reduction of external dependency, price stability, full employment etc.; consistency of objectives and mutual support of agriculture and industry in economic development; consistency of national objectives with the international strategy of industrialization; and the impact of major technological developments.

465. The work outlined above implies a two-way flow of information between UNIDO headquarters, the field operatives and other bodies or members of the United Nations family active in this area, such as the CDP, CDPPP, regional economic commissions and UNESOB and other United Nations agencies, as well as national and international organizations of the industry etc.

Continuing project:

Estimated cost: \$80,000

Consultants \$50,000 (UNIDO regular budget)

Travel \$30,000 (UNIDO regular budget)

Additional man-months: 45

(to be covered partly by CDPPP if the funds permit)

Group 15 (cont'd)

Sectoral and empirical studies for the
Second Development Decade

466. For a major part of selected industrial products and product groups, trends and prospects for 1970 and the subsequent years covering the Second Development Decade were elaborated in 1968 in terms of aggregate consumption, per capita consumption as well as production of selected industrial products. In addition, data were collected and analysed in 1969 regarding the economic implications of alternative rates of sectoral growth, and preliminary estimates were produced for key elements of industrial development.

467. In 1970 sectoral studies will be carried out in depth to reach gradually conclusive assessments regarding the means required for reaching the targets elaborated, and to analyse the impact of major technological changes on sectoral developments during the Decade, as well as to indicate measures required within the industries to promote structural changes and accelerated expansion. In the sectoral studies an empirical approach will be given priority, relying extensively upon existing plans and forecasts, branch reports, information regarding industrial projects under construction and preparation, and particularly on contributions made by industrial organizations on national and international levels.

468. The findings will be communicated to the member countries at each stage of their preparation. It is expected that the studies, as well as the series UNIDO intends to introduce in this field, will help the developing countries in making major policy decisions and will assist the advisers and experts of UNIDO in carrying out their tasks. The studies are also expected to contribute to the establishment of a reliable basis for the designing of international co-operation in industrial development during the Second Development Decade.

Continuing project: Priority A

Estimated cost: \$26,000 Consultants \$18,000 (UNIDO regular budget)

Travel \$ 8,000 (UNIDO regular budget)

Additional man-months: 22

ANNEX 1

DETAILED LIST OF FIELD ACTIVITIES
BY PROGRAMMES AND REGIONS

Introduction

This Annex contains a detailed list of field projects and serves as a main register of the operational programme of work for 1970 as foreseen at the cut-off date of its preparation (i.e. 30 September 1968). Projects are listed by programmes (UNDP/SF, UNDP/TA, Regular Programme and extra budgetary operations); also listed for each country are the description of the project, the group number, the estimated cost and the man-months of experts and fellowships. (Global man-month figures for experts, consultants and fellowships are provided in respect of UNDP/SF projects for which the plans of operation have not been finalized.)

The Annex lists first the approved UNDP/SF projects whose implementation is expected to continue in 1970; then follows the list of UNDP/SF projects under active consideration, i.e. projects for which there are good prospects of approval by 1970; and thirdly, a list of selected potential UNDP/SF projects which are in the preliminary stages of preparation but which are likely to be included in the 1970 operations.

UNDP/TA projects which are to be continued during 1970 are identified by country. Forecasts of new projects for which no official government requests have as yet been received, or for which approval has not yet been obtained by UNDP, are grouped by regions in Part Two of the Work Programme.

A tentative list of projects proposed to be financed under the Regular Programme of the United Nations is also included.

No projects to be financed under the Special Industrial Services (SIS) have been included in this Annex as, at the time of writing, information was not available as to the possible requests from Governments and the availability of funds under this programme.

A current reference number has been given to each one of the UNDP/SF and UNDP/TA projects and appears in the left hand margin. This number also appears in the other parts of the report where the project is mentioned either under the respective industrial sectors in Part Two of the Work Programme or under the country listing (Annex II).

UNDP/SPECIAL FUND, CONTINUING PROJECTS

<u>Ref. No.</u>		<u>Experts</u>	<u>Fellows</u>	<u>Unfilled</u>
		<u>Positions</u>	<u>Positions</u>	<u>Positions</u>
<u>AFRICA</u>				
<u>Algeria</u>				
1	<u>Centre for Industrial and Technological Studies (ALG-12)</u>			
	<u>Purpose:</u> To establish an autonomous body to evaluate feasibility studies of a wide range of industrial projects, including studies of petrochemicals, fertilizers, food processing, water desalination plants, metalworking industries and of liquefaction, utilization and transport of natural gas, and to advise on projects to be carried out under the national industrial development programme. In addition the Centre is to serve as counterpart agency of the Algerian Government for the Centre of Industrial Studies for the Maghreb in Tripoli, Libya, a project supported by the UNDP/SF.	/228	/66	
	Approved: January 1968	UNDP		820,700
	Duration: 3 years	Gov't		<u>629,000</u>
	Activity group: 5	Total		1,449,700
<u>Ivory Coast</u>				
2	<u>Centre for Industrial Studies and Promotion (IVCO-13)</u>			
	<u>Purpose:</u> To assist the Government of Ivory Coast in establishing a Centre for Industrial Studies and Promotion in Abidjan. The Centre is to conduct sectorial studies, carry out surveys of foreign and domestic markets, do feasibility studies and to stimulate investment.	/156	/60	
	Approved: June 1968	UNDP		479,100
	Duration: 3 years	Gov't		<u>318,000</u>
	Activity group: 12	Total		797,100
<u>Rwanda</u>				
3	<u>Pilot Plant for Industrialization and Pyrethrum Production, Mukinga (RWA-3)</u>			
	<u>Purpose:</u> 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 <u>per annum</u> . The equipment provided for the pilot plant will include modern machinery required for the drying, grinding and complete solvent extraction of the flowers and for the retining and processing of the product. In conjunction with the proposed processing operations, the Government is undertaking a programme for intensified production of pyrethrum flowers. Funds are included for a specific agricultural development study on ways and means of promoting the productivity of small-scale growers. Since October 1966 the European Economic Community has taken steps to assist in the expansion of the production of pyrethrum. (The project is not yet operational.)	/216	/6	
	Approved: January 1966	UNDP		1,459,400
	Duration: 3 years	Gov't		<u>450,000</u>
	Activity group: 5	Total		1,909,400

UNDP/SPECIAL FUND, CONTINUING PROJECTS

<u>Ref. No.</u>		<u>Experts</u> <u>m/m</u>	<u>Fellows</u> <u>m/m</u>	<u>Estimated</u> <u>Cost US\$</u>
<u>AFRICA (cont'd)</u>				
<u>Sudan</u>				
4	<u>Industrial Research Institute, Khartoum (SUD-12)</u>			
	<u>Purpose:</u> 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 information, professional advice and counsel on processes, standards and efficient techniques of industrial production and management technology.	10/252	11/129	
	Approved: June 1963			UNDP 746,900
	Duration: 5 years; expected to continue into 1970 since the project became operational 6 April 1965			Gov't 674,000
	Activity group: 8			Total 1,422,900
<u>Tunisia</u>				
5	<u>National Centre for Industrial Studies, Tunis (TUN-15)</u>			
	<u>Purpose:</u> To assist in the establishment and initial operation of a National Centre for Industrial Studies for Tunisia. The functions of the Centre 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 on their financing and implementation.	8/300	10/120	
	Approved: June 1966			UNDP 771,700
	Duration: 5 years			Gov't 1,025,000
	Activity group: 12			Total 1,796,700
<u>Uganda</u>				
6	<u>Small Industries Development Programme and Establishment of an Industrial Estate, Kampala (UGA-7)</u>			
	<u>Purpose:</u> To assist the Industrial Division of the Ministry of Industry and Commerce in establishing facilities for the services and development of small industries and in planning a demonstration industrial estate.	8/300	8/42	
	Approved: January 1966			UNDP 746,400
	Duration: 5 years			Gov't 1,129,000
	Activity group: 11			Total 1,875,400

UNDP/SPECIAL FUND, CONTINUING PROJECTS

Ref. No.		Experts m/m	Fellows m/m	Estimated Cost US\$
	<u>AFRICA (cont'd)</u>			
	<u>United Arab Republic</u>			
7	<u>Engineering and Industrial Design Development Centre, Nasser City (UAR-55)</u>			
	Purpose: To assist the Government in the establishment and initial operation of an industrial design and product development centre. The centre is to provide the Government with a central facility to handle all aspects of planning, development and prototype construction for machinery and equipment and for a large variety of mass-produced products for industry and commerce; to serve as an experienced and practical organization for the most efficient screening of new or modified industrial developmental projects for both private and nationalized industries; and to develop an applied training programme in industrial design for graduate engineers through real work exercises.	10/318	20/144	
	Approved: January 1967	UNDP		1,035,100
	Duration: 5 years	Gov't		1,224,000
	Activity group: 1	Total		2,259,100
8	<u>Demonstration Pesticide Production Plant Based on Chlorine and Bromine Resources (UAR-69)</u>			
	Purpose: To assist the Government in the establishment of a demonstration plant for the production of pesticides from chlorine and bromine which presently constitute valuable wasted by-products of the chemical industry. The work plan foresees the erection of the plant under a sub-contract for which \$900,000 has been allocated by the UNDP. The plant is to have an annual production of 1,000 tons of DDT, 1,000 tons of B.H.C., 500 tons of bromine and the bromination of 150 tons dichloropropane; it is also to recover monochlorobenzene from spent cleum.	/18	/12	
	Approved: January 1968	UNDP		1,053,600
	Duration: 3 years	Gov't		1,253,000
	Activity group: 5	Total		2,306,600
	<u>Maghreb Countries (Algeria, Libya, Morocco and Tunisia)</u>			
9	<u>Centre of Industrial Studies for the Maghreb (REG-72)</u>			
	Purpose: To assist in the establishment and operation of a Centre of Industrial Studies for the Maghreb countries. The main function of the Centre is to prepare, at the request of the four countries concerned, general industrialization surveys and specific feasibility studies, including market and location studies. The Centre is also to render industrial advisory services to the Maghreb countries and to engage in training activities in the region.	5/492 (includes 216 m/m consultants)	10/120	
	Approved: January 1966	UNDP		1,454,900
	Duration: 5 years	Gov't		645,000
	Activity group: 12	Total		2,099,900

NEW/SPECIAL AND CONTINUING PROJECTS

<u>Proj. No.</u>	<u>Experts</u>	<u>Fellows</u>	<u>Estimated cost</u>
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THE AMERICAS

Bolivia

10. Experimental Production Plant for Asbestos Processing, Cochabamba (BOL-76)

Purpose: To establish a pilot plant for the experimental production of asbestos. This project is to develop economic processing and sizing techniques for crocidolite ore and to stimulate investment by developing the national and export market for asbestos and asbestos by-products.

264 / 115

Approved: January 1963

Duration: 2 years

Activity group: 3

UNDP

Gov't

Total

521,500

222,000

793,500

Colombia

11. Institute for Technological Research, Bogotá - Phase II (COL-20)

Purpose: To expand the facilities of Colombia's Institute for Technological Research at Bogotá for more effective assistance in the development of operating techniques for improved utilization of raw materials and equipment and for the provision of technical advice through consultation, seminars and publications. Assistance is thus to be provided to industries processing agricultural, metallurgical, mechanical and chemical products.

7228 / 120

Approved: January 1963

Duration: 4 years

Activity group: 8

UNDP

Gov't

Total

710,700

1,903,000

2,613,700

Paraguay

12. Technical Standards National Institute (PAR-)

Purpose: 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. The work of the Institute has been expanded, with a view to functioning as a national bureau of standards. The project became operational 2 October 1964 and its activities have been re-phased so that its anticipated completion date is now August 1970.

10/240 / 8/90

Approved: May 1962

Duration: 5 years

Activity group: 8

UNDP

Gov't

Total

543,900

365,000

908,900

UNDP/SPECIAL FUND, CONTINUING PROJECTS

<u>Ref. No.</u>		<u>Experts</u>	<u>Fellow</u>	<u>Estimated Cost, US\$</u>
<u>ASIA/FAR EAST</u>				
<u>India</u>				
13	<u>Design Centre for Electrical Measuring Instruments (IND-11)</u>			
	<u>Purpose:</u> To assist the Government of India in the establishment and initial operation of a Design Centre for Electrical Measuring Instruments that is to service the manufacturers of electrical instruments. It is to make available to Indian manufacturers the technical know-how and information which will enable them to increase the productivity of their plants. Necessary research will be carried out and testing and laboratory facilities will be provided for the development and manufacture of prototypes of highly specialized items required in the manufacture of electrical measuring instruments.	264	777	
	Approved: January 1968	UNDP		833,000
	Duration: 5 years	Gov't		<u>739,000</u>
	Activity group: 1	Total		<u>1,572,000</u>
<u>Iran</u>				
14	<u>Establishment of an Industrial Estate, Ahwaz (IRA-11)</u>			
	<u>Purpose:</u> To encourage and facilitate the development of small and medium-scale industry in Iran by establishing an Industrial Estate Authority and by providing for the planning, construction and operation of a demonstration estate at Ahwaz, Iran. The project became operational on 3 September 1965 and will thus continue through 1970.	9/240	4/24	
	Approved: June 1963	UNDP		637,500
	Duration: 5 years	Gov't		<u>1,123,000</u>
	Activity group: 11	Total		<u>1,760,500</u>
15	<u>Research Centre for Industrial and Trade Development (IRA-16)</u>			
	<u>Purpose:</u> To strengthen the Research Centre for Industrial Trade Development, which was established in 1964 by the Ministry of Economy and to enhance its ability to formulate, in co-ordination with the Plan Organization, industrial and mining programmes that are to form an integral part of the over-all development plan for the country; to prepare and evaluate industrial and mining projects; and to initiate studies with the aim of formulating policy measures in the field of industry, mining and trade.	8/156	6/180	
	Approved: January 1967	UNDP		1,058,900
	Duration: 5 years	Gov't		<u>1,560,000</u>
	Activity group: 12	Total		<u>2,618,900</u>

UNDP/SPECIAL FUND, CONTINUING PROJECTS

<u>Ref.</u> <u>No.</u>	<u>Experts</u> <u>u/m</u>	<u>Fellows</u> <u>m/m</u>	<u>Estimated</u> <u>Cost US\$</u>
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ASIA/FAR EAST (cont'd)

Pakistan

- 16 Pre-investment Studies for the Promotion of the Fertilizer and Petrochemical Industries (PAK-26)

9/198 8/96

Purpose: To assist the Government in developing its fertilizer and petrochemical industries and in promoting the use of fertilizer and petrochemical end-products. FAO, through a sub-contract, is co-operating with UNIDO which is the executing agency for this project. The project became operational on 3 June 1967 and will thus continue into 1970.

Approved: June 1965

Duration: 3 years

Activity group: 5

UNDP	1,532,000
Gov't	<u>1,100,000</u>
Total	2,632,000

Thailand

- 17 Technological Research Institute (THA-16)

8/240 8/96

Purpose: To assist the Government in the development of its principal research agency, the Applied Scientific Research Corporation. The work of the Institute is divided into four categories: 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; and the training of inexperienced staff and in the demonstration of new techniques to local foundrymen. The project became operational on 19 November 1964 and will be completed in December 1969. Its operations will be reviewed for the purpose of providing supplementary assistance for its extension into a Phase II.

Approved: January 1964

Duration: 5 years

Activity group: 8

UNDP	846,300
Gov't	<u>2,167,000</u>
Total	3,013,300

UNDP/SPECIAL FUND, CONTINUING PROJECTS

<u>Ref. No.</u>	<u>Project Title</u>	<u>UNDP</u>	<u>Gov't</u>	<u>Total</u>
<u>EUROPE/MIDDLE EAST</u>				
<u>Israel</u>				
18	<u>Industrial Research Centre (ISR-11)</u>	23/108	43/178	
	<u>Purpose:</u> To promote the application of the findings of pure research to industrial production as a means of accelerating industrial development. The initial work of the Centre is devoted to food technology, plastics, textiles, fibres and some aspects of inorganic and organic chemistry, primarily significant for potential export industries. The project became operational on 19 April 1966 and will thus continue into 1970.			
	Approved: January 1964	UNDP		1, 667, 500
	Duration: 5 years	Gov't		<u>3, 970, 000</u>
	Activity group: 8	Total		<u>5, 637, 500</u>
<u>Jordan</u>				
19	<u>Centre for Industrial Development, Amman (JOR-13)</u>	14/378	1/172	
	<u>Purpose:</u> To assist the Government in establishing a Centre for Industrial Development whose functions will be: 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.			
	Approved: January 1967	UNDP		1, 153, 100
	Duration: 4 years	Gov't		<u>532, 000</u>
	Activity group: 12	Total		<u>1, 685, 100</u>
<u>Saudi Arabia</u>				
20	<u>Industrial Studies and Development Centre, Riyadh (SAU-14)</u>	8/208	1/24	
	<u>Purpose:</u> To assist the Government in the establishment and initial operation of a Centre whose functions will be: to advise on industrial policies and programming; to assist in the carrying out or commissioning of industrial feasibility studies; to advise on the establishment of new industries as well as on the financing and the implementation of such industries; to assist in the planning and establishment of industrial estates and in their management and operation; to provide for the establishment and initial operation of a model industrial estate. The project is due to be completed in December 1969, but an extension may be required.			
	Approved: June 1965	UNDP		582, 900
	Duration: 3 years	Gov't		<u>2, 000, 000</u>
	Activity group: 12	Total		<u>2, 582, 900</u>

UNDP/SPECIAL FUND. CONTINUING PROJECTS

<u>Ref.</u> <u>No.</u>		<u>Experts</u> <u>m/m</u>	<u>Fellows</u> <u>m/m</u>	<u>Estimated</u> <u>Cost US\$</u>
	<u>EUROPE/MIDDLE EAST (cont'd)</u>			
	<u>Turkey</u>			
21	<u>Small Industries Development Programme (TUR-25)</u>			
	<u>Purpose:</u> To assist in the establishment of a small industries development centre in Ankara and a demonstration industrial estate in Gaziantep with a view to promoting the development of small-scale industries. The centre will perform the following functions: economic surveys and feasibility studies; industrial estate planning and development; technical and management counselling; and marketing and sales promotion. The ILO is associated with UNIDO in the execution of the project.	/288	/77	
	Approved: January 1968			UNDP 962,800
	Duration: 5 years			Gov't <u>1,240,000</u>
	Activity group: 11			Total 2,202,800
22	<u>In-plant Training Centre for Engineers, Kirikkale (TUR-29)</u>			
	<u>Purpose:</u> To assist the Government of Turkey in establishing an in-plant training centre for engineers with the aim of giving intensive practical pre-employment and upgrading training to engineers in the metalworking industries. ILO and UNESCO are associated with UNIDO in the execution of this project.	/360	/222	
	Approved: January 1968			UNDP 1,420,300
	Duration: 5 years			Gov't <u>3,000,000</u>
	Activity group: 10 a			Total 4,420,300

UNDP/SPECIAL FUND, PROJECTS UNDER ACTIVE CONSIDERATION

Ref.

No.

AFRICA

Ghana

23 Ghana Industrial Holding Corporation (GHA-78)

Purpose: To render assistance, at the request of the Government, to the Ghana Industrial Holding Corporation. The functions of this Corporation will be: to provide an organizational infrastructure capable of coping with the many policy decisions of the CIMC; to assist in the reorganization and up-grading of existing enterprises to make them as economically viable as possible; and to prepare and train Ghanaian staff to manage and operate the CIMC.

Duration: 4 years

Activity group: 10b

UNDP 250,000
Gov't 850,000
Total 1,100,000

Libya

24 Centre for Industrial Development and Research

Purpose: To assist the Government, at its request, in establishing a centre for industrial development and research. The tasks of the centre will be to advise on industrial development within over-all planning and to provide a rational basis for its own activities. The centre will also train Libyan nationals, thus expanding its work and influence. The activities are to be co-ordinated with bilateral and multi-lateral programmes and with the Centre of Industrial Studies for the Maghreb in Tripoli.

Duration: 4 years

Activity group: 8

UNDP 1,400,000
Gov't 4,600,000
Total 6,000,000

25 Establishment of a Pilot Plant for the Production of Lodder Yeast from Oil

Purpose: To assist the Government, at its request, in developing and demonstrating the economic and technical feasibility of producing lodder yeast from petroleum refinery by-products. The request for UNDP/CF assistance was drafted by two UNIDO staff members upon their completion of a SIB mission.

Duration: 4 years

Activity group: 6

UNDP 2,144,500
Gov't 2,221,000
Total 4,365,500

Mali

26 Reorganization of State Enterprises

Purpose: To assist the Government, at its request, in reorganizing the state enterprises sector. Consultations are in progress toward the goal of establishing such a project in which the assistance of UNDP would be required.

Activity group: 10b

UNDP 1,000,000

UNDP/SPECIAL FUND, PROJECTS UNDER ACTIVE CONSIDERATION

<u>Ref. No.</u>		<u>Estimated Cost US\$</u>
<u>AFRICA (cont'd)</u>		
<u>Mauritius</u>		
27	<u>Industrial Promotion Centre</u>	
	<u>Purpose:</u> To establish an industrial promotion centre which is to provide the Government and industry with a number of urgently needed industrial services, including a standards unit, thus promoting industrial development and attracting domestic and foreign investment.	
	Duration: 3 years	UNDP 440,000
	Activity group: 8	Gov't 180,000
		Total 620,000
<u>Rwanda</u>		
28	<u>Exploitation of Methane Gas from Lake Kivu</u>	
	<u>Purpose:</u> To give technical advice to the Government, at its request, on the exploitation of methane gas from Lake Kivu.	
	Activity group: 5	being determined
<u>Senegal</u>		
29	<u>Industrial Survey and Promotion Centre</u>	
	<u>Purpose:</u> To develop, at the request of the Government, a small UNDP/SF project for providing assistance to the Société Nationale d'Etudes et de Promotion Industrielles (SONEPI) with a view to its undertaking industrial projects likely to be implemented under the third Economic and Social Development Plan 1969-73.	
	Duration: 3 years	UNDP 450,000
	Activity group: 9	Gov't 260,000
		Total 710,000
<u>Togo</u>		
31	<u>Demonstration Plant for the Production of Phosphatic Fertilizers (TOG-12)</u>	
	<u>Purpose:</u> To assist, at the request of the Government, in the establishment of a demonstration plant that is to produce triple super-phosphate in powder form, using imported phosphoric acid and Togolese phosphate rock. The UNDP/SF has been requested to provide experts, fellowships, sub-contracts for design, engineering and supply of equipment and machinery. The preliminary project proposals have already been discussed with UNDP and FAO, and the final project details are to be established by a joint FAO/UNIDO mission to Togo.	
	Duration: 3 years	UNDP 710,000
	Activity group: 9	Gov't 490,000
		Total 1,200,000

UNDP/SPECIAL FUND, PROJECTS UNDER ACTIVE CONSIDERATION

Ref.
No.

Estimated
Cost (\$)

AFRICA (cont'd)

Tunisia

32 Centre for the Development of Prototype tools (TUN-77)

Purpose: To assist, at the request of the Government, in establishing a centre for the development of prototype tools. This workshop will be set up as a separate body within the framework of the Ateliers Mécaniques du Sabel, sharing its premises, industrial facilities and some equipment, and will serve as a nucleus for demonstrating the methods of modern design and production of different tools to all Tunisian metalworking industries. The project manager-director of the centre will be responsible to the State Secretariat for Planning and National Economy, which will act as the co-operating agency of the Government.

Duration: 4 years

Activity group: 1

UNDP	685,000
Gov't	<u>750,000</u>
Total	1,435,000

United Arab Republic

33 Central Textile Technology Development Centre (UAR-67)

Purpose: To assist the Government, at its request, in the setting up of a central textile technology development centre which will deal with technical and technological problems in the textile industry. The centre is to consist of three main units: the Textile Technology Promotion Institute; the Knitting Training Unit; and the Central Textile Research and Development Institute. The main tasks of the centre will be to provide technical consulting services to industry; to train foremen, technicians and instructors for the knitting industry; and to deal with quality control of textile goods on a national scale. ILO will co-operate with UNIDO by assuming responsibility for the Knitting Training Unit.

Duration: 5 years

Activity group: 6

UNDP	2,600,000
Gov't	<u>3,360,000</u>
Total	5,960,000

United Republic of Tanzania

30 Industrial Studies and Development Centre (Phase II) (TAN-72)

Purpose: To render assistance, at the request of the Government, in continuing a second phase of the Industrial Studies and Development Centre. The diversified nature of the jobs brought to the Centre demands continued training of the present and new counterpart staff. Actions initiated under the present project will be finalized and new activities will be carried out.

Duration: 2 years

Activity group: 12

UNDP	110,000
Gov't	<u>170,000</u>
Total	280,000

UNDP/PICTA FUND, PROJECTS UNDER ACTIVE CONSIDERATION

<u>Ref. No.</u>		<u>Estimated Costs US\$</u>
<u>THE AMERICAS</u>		
	<u>Argentina</u>	
34	<u>Industrial Policy Advisory Group</u>	
	<u>Purpose:</u> To assist the Government, at its request, in the establishment of an industrial policy advisory group to assist the country in industrial commerce for a period of three years. It is envisaged that the export promotion team previously requested from UNIDO will be part of this advisory group and that the scope of this team's activities will be expanded to cover such industrial sectors as leather and leather goods, machine tool, agricultural machinery, home appliances, petrochemicals and processed foods.	
	Duration: 3 years	UNDP 350,000
	Activity group: 14	Gov't being determined
<u>Brazil</u>		
35	<u>Centre for the Development and Service of Small and Medium-sized Industries, Bahia</u>	
	<u>Purpose:</u> To assist the Government, at its request, in the establishment of a development centre for small and medium-size industries in the state of Bahia. The centre is to provide a number of services for prospective entrepreneurs including: management consultancy, technical advice, financial assistance and common service facilities primarily in the mechanical and electrical engineering fields.	
	Duration: 4 years	UNDP 1,300,000
	Activity group: 11	Gov't 1,420,000
		Total 2,720,000
<u>Chile</u>		
36	<u>Metalworking Industry Testing Centre (CHI-39)</u>	
	<u>Purpose:</u> To assist the Government, at its request, in the establishment of a testing centre for the metalworking industry. The centre is intended to: improve the technical and scientific standards of the industry; deal with problems of quality control, conformity to norms, metrology and testing of materials; and provide an extension service to the industry in areas requiring special equipment and instrumentation not easily available to small industrial enterprises.	
	Duration: 3 years	UNDP 490,000
	Activity group: 1	Gov't 770,000
		Total 1,260,000

UNDP/SPECIAL FUND, PROJECTS UNDER ACTIVE CONSIDERATION

Ref.
No.

Estimated
Cost in \$

THE AMERICAS (cont'd)

Trinidad and Tobago

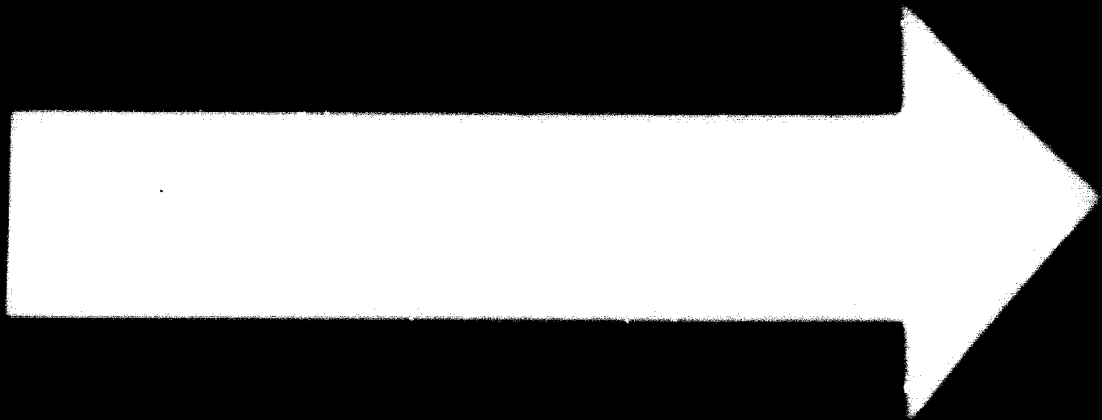
37 Industrial Research Institute (TRI-5)

Purpose: To assist in the establishment of an industrial research institute which is intended to: collect and disseminate technical information; carry out chemical analytical work; do physical testing; provide engineering services; and carry out economic and technical feasibility studies. At a later stage the institute will engage in industrial research programmes relating to the industrial operations. The facilities of the institute will be available to whichever countries of the Eastern Caribbean Region that may wish to participate in the project.

Duration: 5 years

Activity group: 8

UNDP	640,000
Gov't	<u>976,000</u>
Total	1,610,000

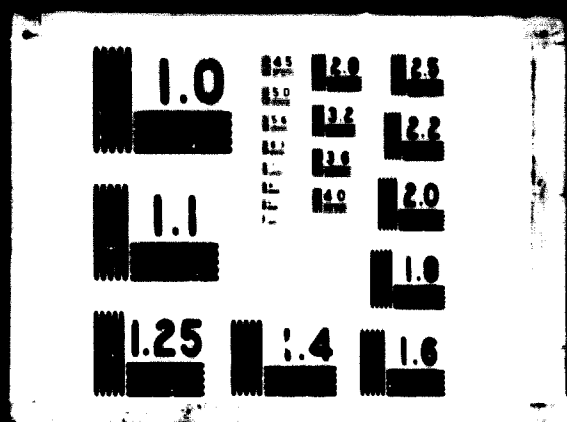


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UNDP SPECIAL FUND PROJECTS UNDER ACTIVE CONSIDERATION

Ref.
No.

Estimated
Cost in \$

ASIA/EAR E&I

India

38 Leather Research Institute, Madras

Purpose: To assist the Government, at its request, to promote the development of the leather goods industry. The design and production of leather goods are to be improved so that the industry can compete on the foreign market.

Duration: 2 years

being determined

Activity group: 6

Iran

39 Institute of Standards and Industrial Research

Purpose: To provide metrology services, the testing of industrial products, materials and instruments, and will also include a section on metallurgy. Preparatory work was undertaken by UNIDO and UNESCO in 1968 following a request by the Government of Iran.

Duration: 5 years

UNDP 975,000

Activity group: 8

Gov't 3,250,000
Total 4,225,000

40 Supplementary Assistance to the Industrial Estate, Ahwaz for the Development of Small-scale Industries

Purpose: To provide supplementary assistance to complete the establishment of the industrial estate at Ahwaz and to assist the Government in the development of small-scale industries by strengthening the Small-scale Industries and Industrial Estates Organization. Common service facilities will be provided in or outside the industrial estates and an industrial extension and counselling service will give advice and guidance on new lines of manufacture, selection of machinery, marketing problems and factory layout.

Duration: 2 years

UNDP 803,000

Activity group: 11

Gov't 430,000
Total 1,233,000

Malaysia

41 National Institute of Scientific and Industrial Research

Purpose: To assist the Government, if requested, in the establishment of an Institute of scientific and industrial research. The institute would have a broad co-ordinating function in the development of industries and would carry out industrial research. The Government is at present reviewing a report based on a previous UNIDO mission, and there are indications that the Government will present a request for UNDP/SF assistance in this project.

Activity group: 8

being determined

UNEP REGIONAL FUND PROJECTS UNDER ACTIVE CONSIDERATION

ref.
no.

Estimated
cost in US\$

ASIA/EUR (cont'd)

Pakistan

42 Centre for the Organization and Development of the Jute Industry in Pakistan (PAK-48)

Purpose: To assist, at the request of the Government, in establishing a Centre for the organization and development of the jute industry in Pakistan. The centre is intended to increase the working efficiency of the jute industry and enable it to vary and improve its product pattern for world markets. The centre would render service to the jute mills in both the private and public sectors. ILO will provide the expert services for the training and upgrading of foremen and supervisors.

Duration: 3 years

Activity group: 10b

UNEP	600,000
Gov't	<u>480,000</u>
Total	1,280,000

Philippines

43 Metal Industries Development Centre (PHIL-30)

Purpose: To assist the Government in the initial operation of the Metal Industries Development Centre and thus facilitate the rapid development of the metals industry of the Philippines. The Centre will survey the problems and requirements of the metals industry, provide advisory services and train technicians for the industry.

Duration: 4 years

Activity group: 1

UNEP	1,070,000
Gov't	<u>1,330,000</u>
Total	2,400,000

INDUSTRIAL FUND, PROJECTS UNDER PREPARATION

<u>Ref.</u> <u>No.</u>		<u>UNIDO</u> <u>activity</u> <u>group</u>
<u>AFRICA</u>		
<u>Liberia</u>		
44	Industrial Area, Estate and Free Zone near Monrovia	11
<u>Madagascar</u>		
45	Industrial Estate within the Industrial Zone of Tananarive	11
<u>Niger</u>		
46	Industrial Estate at Niamey	11
<u>Tunisia</u>		
47	Manufacture of Sulphuric Acid from Gypsum	4
<u>United Arab Republic</u>		
48	Central Metallurgical Research and Development Institute	2
<u>Upper Volta</u>		
49	Establishment of an Industrial Estate	11
<u>Zambia</u>		
50	Development of Small-scale Industry and Entrepreneurship	11
<u>Regional</u>		
51	Development of the Meat Processing Industry	6
52	West African Centre for Small Industries	11
53	Industrial Studies for the Development of the Senegal River Basin	12
54	Regional and Subregional Industrial Policies	13
<u>Regional OCAM</u>		
55	General Survey for Industrial Harmonization in OCAM Membership States	12

UNDP/SPECIAL FUND. PROJECTS UNDER PREPARATION

<u>Ref. No.</u>		<u>EAEC activity group</u>
<u>THE AMERICAS</u>		
<u>Bolivia</u>		
56	Industrial Area and Industrial Estate at La Paz	11
<u>Brazil</u>		
57	Pilot Project for the Production, Storage and Application of Liquid Fertilizers	5
58	Development of the Agro Industry in Amazonas	6
<u>Colombia</u>		
59	Pilot Project for the Production and Application of Pesticides using Excess Chlorine	5
<u>Ecuador</u>		
60	Establishment and Development of the Banana Processing Industry	6
<u>Mexico</u>		
61	Development of the Integrated Fish Industry	6
<u>Regional</u>		
62	Centre for Development of Small-scale Industries	11
<u>ASIA/EAR EAST</u>		
<u>Brunei</u>		
63	Industrial and Marketing Surveys for Fertilizers	5
<u>China</u>		
64	Pilot Plant for Production of Plastic/Wood Structures by Irradiation Techniques	3
<u>India</u>		
65	Pilot Project for the Production and Application of Ammoniated Superphosphate	5
<u>Iran</u>		
66	Pilot Project for the Production and Application of Pesticides using Excess Chlorine	5

COMP. PENTALYND. PROJECTS UNDER PREPARATION

<u>Ref.</u> <u>No.</u>		<u>UNIDO</u> <u>activity</u> <u>OCMP</u>
<u>ASIA/FAR EAST (cont'd)</u>		
	<u>Malaysia</u>	
67	Industrial Project Preparation and Implementation Centre	12
	<u>Pakistan</u>	
68	Pilot Project for the Production and Application of Ammoniated Superphosphate and Pesticides using Excess Chlorine	5
	<u>Singapore</u>	
69	Institute of Standards and Research	8
<u>EUROPE/MIDDLE EAST</u>		
	<u>Indonesia</u>	
70	Devices Research Institute	1
	<u>Greece</u>	
71	Industrial Area, Estate and Free Zone near Salonica	11
	<u>Iraq</u>	
72	Pilot Plant for the Recovery of Sulphur from Natural Gas and Crude Oil	5
	<u>Kuwait</u>	
73	Pilot Plant for the Recovery of Sulphur from Natural Gas and Crude Oil	5
	<u>Syria</u>	
74	Centre for the Development of Housing and Construction	3
	<u>Yugoslavia</u>	
75	Centre for the Development of the Furniture Industry	6
76	Centre for Industrial Organization and Development	106
	<u>Regional</u>	
77	Regional Industrial Standardization Institute	8
78	Industrial Development Centre	12

NDP/TECHNICAL ASSISTANCE, CONTINUING PROJECTS

<u>Ref. No.</u>	<u>Expenditure</u>	<u>Estimated Cost</u>
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AFRICA

Rurundi

100 Small-scale Industry Development (UNIDO/RDI/68/3)

Purpose: To continue to render expert advice in 1969 to the Ministry of Economy on the development of small and medium-scale industry. Two nationals are to be trained abroad in order to be able to take over the duties of the foreign expert, particularly industrial programming. One of them is to benefit from a UNIDO fellowship in 1970.

1/12 5,800

Activity group: 11

Ethiopia

101 Industrial Standardization (UNIDO/ETH/68/27)

Purpose: To assist in the establishment of a National Standards Institution for the preparation, publication and implementation of national standards and for the centralization methods throughout the country. After completing a study on the existing standardization pattern in the country, an industrial standardization expert, recruited late in 1968, is to continue to advise the Government in the preparation of the necessary legislation and organizational structure for the National Standards Institute.

1/12 23,100

Activity group: 8

Liberia

102 Small-scale Industries Development (UNIDO/LIB/68/11)

Purpose: To continue to advise, through an industrial economist, the Department of Planning and Economic Affairs, the Department of Commerce and Industry and the Liberian Bank for Industrial Development and Investment on the implementation of the policy and programme of development of small-scale industries.

1/12 23,100

Activity group: 11

UNDP/TECHNICAL ASSISTANCE, CONTINUING PROJECTS

<u>Ref. No.</u>		<u>Experts</u> <u>m/m</u>	<u>Fellows</u> <u>m/m</u>	<u>Estimated</u> <u>Cost US\$</u>
<u>AFRICA (cont'd)</u>				
<u>Madagascar</u>				
103	<u>Industrial Investment Promotion (UNIDO/MAG/68/8)</u> Purpose: To establish a system and a policy for industrial investment promotion, and to assist the national bodies concerned, Bureau pour le Développement et la Promotion Industrielle (BDPI) and Société Nationale d'Investissement (SNI) in this field. To reach these aims, an international expert (industrial economist) will continue to advise the Government in the promotion of industrial investments. Activity group: 13	1/12		23,100
104	<u>Industrial Planning (UNIDO/MAG/68/9)</u> Purpose: To evaluate new industrial projects and to prepare marketing studies for the identification of new industries to be developed in the country. To these ends the Government is interested in having continued the services of a UNIDO expert. Activity group: 12	1/12		23,100
<u>Malawi</u>				
105	<u>Small-scale Industries Development (UNIDO/MLW/68/11)</u> Purpose: To continue to give advice on the future organization and various technical aspects of Government work in the promotion of small-scale industries. The Government is in the process of establishing a special section in the Industrial Development Department for the expansion of small-scale industries. A UNIDO industrial engineer or economist is to assist this section in its tasks. Activity group: 11	1/12		23,100
<u>Nigeria</u>				
106	<u>National Institute of Industrial Research (UNIDO/NIR/68/6/Rev.1)</u> Purpose: To assist the National Institute of Industrial Research which is responsible for applied research in the utilization of local natural raw material. The continuation of the activity of two international experts is requested: a food technology research expert (chemical engineer, under OPAS arrangements); and a director of the Institute (under OPAS arrangements). Activity groups: 6 and 8	2/24		33,000

UNDP/TECHNICAL ASSISTANCE, CONTINUING PROJECTS

Ref. No.		Experts <u>m/m</u>	Fellows <u>m/m</u>	Estimated Cost US\$
<u>AFRICA</u> (cont'd)				
<u>Nigeria</u> (cont'd)				
107	<u>Industrial Programming</u> (UNIDO/NIR/68/7-8/Rev.1)			
	<u>Purpose:</u> To assist in the analysis and evaluation of feasibility studies pertaining to a wide range of manufacturing industries to be established in the country. To this end, two UNIDO experts, an industrial economist (Western Region) and a chief industrial officer (OPAS), would continue their activity, in close co-operation with the national authorities concerned, within the general effort for the economic development of the country.	2/18		28,050
	Activity group: 12			
<u>Senegal</u>				
108	<u>Promotion of Small-scale Industries</u> (UNIDO/RNA/68/14)			
	<u>Purpose:</u> To continue to advise the Government on the necessary measures for promoting the establishment and development of small-scale industries. An expert with experience in carrying out industrial projects (small and medium-scale industries) is to be attached to the Ministry of Industry.	1/12		23,100
	Activity group: 11			
109	<u>Industrial Promotion</u> (UNIDO/RNA/68/15)			
	<u>Purpose:</u> To continue to advise the Government, through an industrial economist on financial and marketing aspects of the industrial sector of the economy and on the selection of new industries to be promoted in the country.	1/12		23,100
	Activity group: 12			
<u>Senegal</u>				
110	<u>Small-scale Industries Development</u> (UNIDO/SEN/68/1)			
	<u>Purpose:</u> To continue to give advice on the development of the small-scale industries, with the participation of nationals from Senegal. For this purpose the services of an expert (industrial economist), attached to the Division for Industry of the Ministry for Planning and Industry, are to be continued.	1/12		23,100
	Activity group: 11			

INDP/TECHNICAL ASSISTANCE, CONTINUING PROJECTS

<u>Ref. No.</u>		<u>Experts n/m</u>	<u>Fellows w/m</u>	<u>Estimated Cost US\$</u>
	<u>AFRICA (cont'd)</u>			
	<u>Somalia</u>			
111	<u>Industrial Planning (UNIDO/SOM/68/19)</u> <u>Purpose:</u> To assist the Government in setting industrial development objectives and in formulating a national programme for industrial development, and to advise on the introduction of cost accounting systems. The services of two UNIDO experts are to be continued: an industrial programmer and an industrial economist. Activity group: 12	2/18		34,650
	<u>Uganda</u>			
112	<u>Industrial Planning and Programming (UNIDO/UGA/68/19)</u> <u>Purpose:</u> To advise and assist in the planning and co-ordination of industrial development, in particular in the field of small-scale industries. A senior industrial officer, under OPAS arrangements, is to continue to discharge his advisory and operational duties. Activity group: 11	1/12		16,500
	<u>Zambia</u>			
113	<u>Industrial Management (UNIDO/ZAN/68/2)</u> <u>Purpose:</u> To continue to provide the services of one UNIDO expert, under OPAS arrangements, who is to continue to work within the Industrial Development Corporation of Zambia Ltd., which is the governmental instrument for participation by the State in industrial, trade and transport activities. Activity group: 10b	1/12		16,000

UNDP/TECHNICAL ASSISTANCE, CONTINUING PROJECTS

Ref. No.	Experts no.	Fellowship no.	Total cost US\$
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THE AMERICAS

Argentina

- | | | | |
|-----|--|------|------------------|
| 114 | <u>Development of Aluminium Industry (UNIDO/ARG/68/5)</u> | | |
| | <u>Purpose:</u> To make a technical and economic evaluation of the production of slabs to be further rolled in Argentina. An expert on the primary production of aluminium is to undertake this task, following the activity of an aluminium chemistry expert in 1969. | | 1/5

2,200 |
| | Activity group: 2 | | |
| 115 | <u>Assistance to the National Institute of Industrial Technology (UNIDO/ARG/68/6)</u> | | |
| | <u>Purpose:</u> To provide assistance to the National Institute of Industrial Technology (INTI) in the following fields: | | |
| | - Food technology (analytical techniques for the control of food products and industrial processing of agricultural and animal products); | 2/8 | 15,400 |
| | - Cellulose and paper industry; | 1/4 | 7,700 |
| | - Houses and buildings - resistance of colours to various climatic conditions (chemical engineer); | 1/4 | 7,700 |
| | - Modern mineral treatment techniques in mining industries; | 1/4 | 7,700 |
| | - Applied analytical chemistry; | 1/4 | 7,700 |
| | - Non-ferrous metallurgy; | 1/4 | 11,100 |
| | - Experimental study of structures metals; | 2/12 | 6,800 |
| | - Thermal conditioning of houses and buildings. | 1/6 | 3,400 |
| | Activity groups: 1, 2, 3, 4, 6 | | |
| 116 | <u>Export Promotion of Manufactured Goods (UNIDO/ARG/68/4)</u> | | |
| | <u>Purpose:</u> To provide a fellowship in 1970 for an Argentine national to be trained abroad in the field of trade techniques for manufactured products. This is to be a follow-up action after a team of international experts have assisted the country in 1968-1969 by carrying out marketing studies for promoting the export of manufactured goods. | | 1/3

2,200 |
| | Activity group: 14 | | |

UNDA/TECHNICAL ASSISTANCE, CONTINUING PROJECTS

<u>Ref. No.</u>		<u>Experts</u> <u>m/m</u>	<u>Fellows</u> <u>m/m</u>	<u>Estimated</u> <u>Cost US\$</u>
<u>THE AMERICAS (cont'd)</u>				
<u>Brazil</u>				
117	<u>Technical Assistance to the Superintendency for the Development of the Northeast (UNIDO/BRA/68/1)</u>			
	<u>Purpose:</u> A UNIDO expert is to continue to assist the Department of Industrialization of the Superintendency for Development of the Northeast (SUDENE), the State agency promoting development of projects in the region, in chemical industry (i.e. research work and feasibility studies for establishing chemical industry complexes in the region, specifically sugar and alcohol, fertilizers, petrochemicals etc.).	1/12		23,100
	Activity group: 4			
<u>Colombia</u>				
118	<u>Industrial Programming (UNIDO/COL/68/18)</u>			
	<u>Purpose:</u> To continue to advise the Institute for Industrial Development in evaluating, selecting and carrying out projects in the industrial field.	1/12		23,100
	Activity group: 12			
<u>Dominican Republic</u>				
119	<u>Industrial Management (UNIDO/DOM/68/7)</u>			
	<u>Purpose:</u> To continue the services of an industrial programming expert in assisting the Dominican Corporation of State Enterprises (CORDE) in programmes related to management and productivity of the industrial enterprises within the jurisdiction of CORDE.	1/12		23,100
	Activity group: 10b			
120	<u>Development of Small and Medium-scale Industries (UNIDO/DOM/68/8)</u>			
	<u>Purpose:</u> To continue the services of a UNIDO expert to the Industrial Development Corporation in the field of programming and development of small and medium-sized industries.	1/12		23,100
	Activity group: 11			

UNDP/TECHNICAL ASSISTANCE, CONTINUING PROJECTS

<u>Ref. No.</u>		<u>Experts</u> <u>n/m</u>	<u>Fellows</u> <u>n/m</u>	<u>Estimated</u> <u>Cost US\$</u>
<u>THE AMERICAS (cont'd)</u>				
<u>Haiti</u>				
121	<u>Essential Oils and Fats Production (UNIDO/HAI/68/8)</u> <u>Purpose:</u> A chemical engineer is to continue to advise the Institute of Agricultural and Industrial Development (IDAI) and to assist it in the elaboration of an oil and fats development programme and in the preparation and execution of specific projects in this field, to be financed by the Institute. Activity group: 6	1/12		23,100
<u>Nicaragua</u>				
122	<u>Industrial Policies (UNIDO/NIC/68/2)</u> <u>Purpose:</u> An industrial economist is to continue to advise the Industrial Bureau of the Ministry of Economy in the examination of industrial policies and in the proposal of guidelines for future activities in the industrial development field. Activity group: 12	1/12		23,100
<u>Paraguay</u>				
123	<u>Industrial Programming and Policies (UNIDO/PAR/68/5)</u> <u>Purpose:</u> A general industrial adviser is to continue to advise the Ministry of Industry on problems related to industrial development policy and on questions arising in connexion with negotiations with private undertakings, both national and foreign, with regard to investment in industrial fields. Activity group: 12	1/12		23,100
<u>Venezuela</u>				
124	<u>Mechanical Industry (UNIDO/VEN/68/6)</u> <u>Purpose:</u> An industrial engineer is to continue to assist the Development Corporation of Venezuela on programmes and technologies for metal and mechanical small and medium-scale industries. Activity group: 1	1/12		23,100

UNDP/TECHNICAL ASSISTANCE, CONTINUING PROJECTS

<u>Ref.</u> <u>No.</u>		<u>Experts</u> <u>m/m</u>	<u>Fellows</u> <u>m/m</u>	<u>Estimated</u> <u>Cost US\$</u>
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THE AMERICAS (cont'd)

Regional

125 Central American Programming Mission (UNIDO/LA/68/1)

Purpose: Three experts are to continue to advise the Economic Co-operation Committee of the five Latin American countries (Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua) on the preparation and implementation of an integrated industrial development programme for the area in order to carry out the Committee's policy of co-ordinating the efforts of its member countries towards a general increase in the industrial production of the region.

3/36

81,000

Activity group: 12

UNDP/TECHNICAL ASSISTANCE, CONTINUING PROJECTS

<u>Ref. No.</u>		<u>Experts m/m</u>	<u>Fellows m/m</u>	<u>Estimated Cost US\$</u>
<u>ASIA/FAR EAST</u>				
<u>Afghanistan</u>				
125	<u>Metric System (UNIDO/AFG/68/4)</u>			
	<u>Purpose:</u> To render advice on introducing a uniform weight system in Afghanistan which has already adopted the metric system in currency and measurement with the assistance of a UNIDO expert. As the weight systems differ from place to place in the country, the expert would be requested to assist in the introduction of a metric weight system.	1/12		23,100
	Activity group: 8			
<u>Cambodia</u>				
127	<u>Industrial Programming Data System (UNIDO/CAM/68/15)</u>			
	<u>Purpose:</u> To continue to advise the Ministry of Industry in establishing a classification data system and in preparing periodic statistical questionnaires for various industrial enterprises. An industrial economist would be required for this task.	1/12		23,100
	Activity group: 12			
<u>Ceylon</u>				
128	<u>Ceramics Industry (UNIDO/CEY/68/3)</u>			
	<u>Purpose:</u> To continue the expert assistance now being provided by UNIDO to the Ceylon Ceramics Corporation, particularly for studying local raw materials and suggesting methods and means by which they can be substituted for raw materials now imported.	1/6		11,550
	Activity groups: 3			
<u>Fiji Islands</u>				
129	<u>Industrial Programming (UNIDO/FIJ/68/3)</u>			
	<u>Purpose:</u> To continue to advise the Government on stimulating industrial development by identification of new industries, the preparation of feasibility studies, the promotion of private industrial investments and by other means. A senior industrial economist would continue his work in this field.	1/12		23,100
	Activity group: 12			

UNDP/TECHNICAL ASSISTANCE, CONTINUING PROJECTS

Ref. No.		Experts <u>m/m</u>	Fellows <u>m/m</u>	Estimated Cost US\$
<u>ASIA/FAR EAST (cont'd)</u>				
<u>Indonesia</u>				
130	<u>Industrial Research</u> (UNIDO/INO/68/12) <u>Purpose:</u> To continue to advise the two departments of industry on the reorganization and co-ordination of the activities of research centres in order to achieve an integrated research programme. Activity group: 8	1/12		23,100
131	<u>Industrial Management</u> (UNIDO/INO/68/11) <u>Purpose:</u> To continue to assist in industrial feasibility studies on investment and production alternatives. A production engineer is to visit plants to advise on production programmes on the optional technical and economic views of physical distortion and is to organize consulting surveys for industry. Activity group: 10b	1/12		23,100
132	<u>Industrial Classification and Data Processing</u> (UNIDO/INO/68/10) <u>Purpose:</u> To prepare, in co-operation with the Central Bureau of Statistics, an industrial classification survey to be used as a basis for industrial programming policies. This work is to be done by an industrial classifier and data processing expert. Activity group: 12	1/12		23,100
133	<u>Industrial Programming</u> (UNIDO/INO/68/9) <u>Purpose:</u> To continue to undertake pre-investment studies and appraisals of capital expenditure in industry and to suggest measures of maximizing the utilization of existing production capacities. An industrial economist is called for in this project. Activity group: 12	1/12		23,100

UNDP/TECHNICAL ASSISTANCE, CONTINUING PROJECTS

<u>Ref. No.</u>		<u>Experts m/m</u>	<u>Follow-up m/m</u>	<u>Estimated Cost in \$</u>
<u>ASIA/FAR EAST (cont'd)</u>				
<u>Iran</u>				
134	<u>Food Industries Development (UNIDO/IRA/68/28)</u>			
	<u>Purpose:</u> To continue the study of food industries in the country with a view to identifying production problems, formulating and evaluating new projects in this field and preparing a programme for the development of the food industry of the Fourth Five-year Plan. This task will be undertaken by a UNIDO expert attached to the Research Centre of the Ministry of Economy.	1/6		11,500
	Activity group: 6			
<u>Laos</u>				
136	<u>Small and Medium-scale Industries (UNIDO/LAO/68)</u>			
	<u>Purpose:</u> To continue to work with the Ministry of Planning and to advise the Government on matters related to the creation and development of small and medium-scale industries in the light of the economic and social realities of the country.	1/12		23,100
	Activity group: 11			
<u>Malaysia</u>				
137	<u>Assistance to the Federal Industrial Development Authority (UNIDO/MAL/68/4)</u>			
	<u>Purpose:</u> The Government has set up a Federal Industrial Development Authority (FIDA) charged with the promotion of industrial development, and the following UNIDO assistance to FIDA is to be continued in 1970:			
	- An industrial economist is to continue to set up and run an Applied Research Division which will deal with industrial research surveys, marketing studies and feasibility studies;	1/12		18,500
	- An industrial planner is to set up and run a division for industrial planning and identification of industries within FIDA;	1/12		18,500
	- An industrial economist is to continue to give advice on general matters of industrial policies and programming, including the type of supplementary assistance required for the establishment of industrial projects;	1/12		23,100

NON-TECHNICAL ASSISTANCE, CONTINUING PROJECTS

<u>Ref.</u>		<u>Experts</u> <u>m/m</u>	<u>Fellows</u> <u>n/m</u>	<u>Estimated</u> <u>Cost US\$</u>
	<u>ASIA, FAR EAST (cont'd)</u>			
	<u>Malaysia (cont'd)</u>			
	- An industrial financing expert is to continue to evaluate financial statements and other economic background information and is to act as FIDA's liaison with other institutes in Malaysia, such as MIDFL and local banks as well as with international financial institutes such as the Asian Development Bank;	1/12		18,500
	- An industrial investment expert is to continue to set up and run a Division of Industrial Investment Promotion, responsible for the selection of the most suitable industrial projects to be implemented in the country.	1/12		18,500
	Activity groups: 8, 12, 13			
	<u>Pakistan</u>			
138	<u>Industrial Programming (UNIDO/PAK/68/9)</u>			
	<u>Purpose:</u> To assist the Planning Department of the Governments of East and West Pakistan and the Planning Commission of the Government of Pakistan in implementing the Third Five-year Plan and in preparing studies for the Fourth Plan. An industrial economist is to continue to assist the Planning Commission of the Central Government and the Provincial Planning Departments in the over-all planning of industrial development.	3/36		69,300
	Activity group: 12			
	<u>Republic of Korea</u>			
135	<u>Industrial Estates and Location of Industry (UNIDO/KOR/68/8)</u>			
	<u>Purpose:</u> To continue to advise the Government on the location and physical planning aspects of industrial establishments, including the collection and analysis of the necessary background data, site selection, design and layout of the projects and appropriate distribution of industrial enterprises throughout the country. This work is to be undertaken by an industrial economist.	1/12		23,100
	Activity group: 11			

UNDP/TECHNICAL ASSISTANCE, CONTINUING PROJECTS

<u>Ref. No.</u>	<u>Experts m/m</u>	<u>Fellows m/m</u>	<u>Estimated Cost US\$</u>
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ASIA/FAR EAST (cont'd)

Singapore

139 Assistance to the Economic and Development Board (EDB)
(UNIDO/SING/68/1)

Purpose: To continue to render assistance to the EDB as follows:

- | | | | |
|---|------|--|--------|
| - An industrial engineer is to assist the EDB in the development of the metal and light engineering industries of Singapore; | 1/12 | | 23,100 |
| - An industrial economist is to continue to act as deputy director of the EDB under OPAS arrangements; | 1/12 | | 18,000 |
| - An economic development adviser is to assist in formulating industrial development policies for the EDB and to assist the Planning Unit of the EDB with general economic studies and projections of manpower and material requirements. | 1/12 | | 23,100 |

Activity groups: 1, 10, 12

UNDP/TECHNICAL ASSISTANCE, CONTINUING PROJECTS

<u>Ref.</u> <u>No.</u>	<u>Experts</u> <u>m/m</u>	<u>Fellows</u> <u>m/m</u>	<u>Estimated</u> <u>Cost US\$</u>
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EUROPE/MIDDLE EAST

Turkey

140 Industrial Planning (UNIDO/TUR/68/1)

Purpose: To continue to give advice to the State Planning Organization in the industrial development field as follows:

- | | | |
|---|------|--------|
| - An expert in the development of mineral industries is to carry out technical and economic investigations with a view to developing the utilization of the mineral resources of the country; | 1/12 | 23,100 |
| - A chemical engineer is to advise and assist the national authorities concerned in programming and implementing industrial and chemical projects and in carrying out engineering investigations of processes most suitable for existing conditions in the country; | 1/12 | 23,100 |
| - An industrial economist is to assist in the implementation of the industrial development programme and to co-operate in the preparation of feasibility studies and pre-investment studies for new industrial projects. | 1/12 | 23,100 |

Activity groups: 2, 4, 12

141 Building Materials Industries (Cement Manufacture) (UNIDO/TUR/68/3)

Purpose: To continue the study and evaluation of working conditions in cement factories, and to make recommendations for measures to be taken to improve and increase the production and quality of cement.

1/12	23,100
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Activity group: 3

UNIDO/DRAFT REGULAR PROGRAMME

<u>AFRICA</u>	<u>UNIDO</u> <u>activity</u> <u>group</u>	<u>Experts</u> <u>n/n</u>	<u>Fellows</u> <u>n/n</u>	<u>Estimated</u> <u>cost</u> <u>US\$</u>
<u>Algeria</u>				
In-plant Training Group in Fertilizer Industries	5		1/3	2,200
Agro-industry Training	6		2/12	6,800
Fruit and Vegetable Industry	6		1/3	2,200
<u>Botswana</u>				
Industrial Estates	11	1/3		5,800
<u>Burundi</u>				
Feedstuff Production	6		2/12	6,800
Tobacco Processing	6		1/6	3,400
<u>Cameroon</u>				
Industrial Estates Management	11		1/6	3,400
Industrial Project Evaluation	12		1/6	3,400
Industrial Standardization	7		1/6	3,400
Industrial Investment Promotion	13		1/6	3,400
<u>Central African Republic</u>				
Cassava Processing	6		1/6	3,400
Production of Feedstuffs	6		1/3	2,200
Industrial Projects Evaluation	12		1/6	3,400
Wood Industries	12		1/6	3,400
<u>Chad</u>				
Modern Methods of Milling	6		1/6	3,400
Industrial Project Elaboration and Evaluation	12		1/6	3,400
Food Industries	6		1/6	3,400
Cement Industries	3		1/6	3,400
<u>Congo (Brazzaville)</u>				
Small-scale Industry Adviser	11	1/6		11,500
<u>Congo (Dem. Rep. of)</u>				
Industrial Projects Evaluation	12		2/24	11,600

UNITED/DRAFT REGULAR PROGRAMME

	<u>UNITO</u> <u>activity</u> <u>group</u>	<u>Experts</u> <u>m/m</u>	<u>Fellows</u> <u>m/m</u>	<u>Estimated</u> <u>cost</u> <u>US\$</u>
<u>AFRICA (cont'd)</u>				
<u>Dahomey</u>				
Industrial Programming	12		1/6	3,400
Project Evaluation	12		1/6	3,400
<u>Ethiopia</u>				
Meat Processing	6		2/12	6,800
<u>Gabon</u>				
Citrus Fruit Processing	6		1/6	3,400
Industrial Project Evaluation	12		1/6	3,400
Pulp and Paper Industry	4		1/6	3,400
<u>Gambia</u>				
Evaluation of Industrial Projects	12		1/6	3,400
Industrial Estates Management	11		1/6	3,400
<u>Ghana</u>				
Industrial Management (counterparts of OPAS experts in the field)			2/12	6,800
<u>Guinea</u>				
Refrigeration Techniques	6		2/24	11,800
<u>Ivory Coast</u>				
Agro-industry Training	6		2/12	6,800
Industrial Estates	11		2/12	3,400
<u>Kenya</u>				
Modern Methods of Corn Processing	6		1/6	3,400
Industrial Estates Management	11		2/12	6,800
<u>Lesotho</u>				
Small-scale Industry	11		1/6	3,400
<u>Liberia</u>				
Industrial Training	10b		2/12	6,800

UNIDO/DRAFT REGULATORY PROGRAMME

<u>AFRICA (cont'd)</u>	<u>Activity Group</u>	<u>External m.m.</u>	<u>Follow m.m.</u>	<u>Estimated cost US\$</u>
<u>Libya</u>				
In-plant Training Group on Fertilizer Industries	5		1/3	2,200
Industrial Management	100		2/1	6,800
<u>Madagascar</u>				
Agro-industry Training	6		1/3	2,200
Industrial Estates Management	11		1/6	3,400
Industrial Investment Promotion - Industrial Project Evaluation	12, 13		1/6	3,400
Industrial Information	9		1/6	3,400
Industrial Planning	12		1/6	3,400
<u>Malawi</u>				
Banana Processing	5		2/12	6,800
<u>Mali</u>				
Agro-industry Training	6		2/12	6,800
<u>Mauritania</u>				
Agro-industry Training	6		2/12	6,800
<u>Mauritius</u>				
Fish Processing Industry	6		1/6	3,400
Industrial Projects Evaluation	12		1/6	3,400
<u>Mozambique</u>				
Fish Protein Concentrate Production	6		2/12	6,800
Agro-industry Development Training	6		2/12	6,800
<u>Niger</u>				
Milling Industry	6		1/6	3,400
Industrial Estates Management	11		1/6	3,400
Industrial Projects Formulation and Evaluation	12		1/6	3,400
Agricultural and Animal Products Processing	6		1/6	3,400
<u>Nigeria</u>				
Cassava Production	6		1/6	3,400
Refrigeration Techniques	6		1/6	3,400

UNIDO/DRAFT REGULAR PROGRAMME

<u>AFRICA (cont'd)</u>	<u>UNIDO activity group</u>	<u>Experts m/m</u>	<u>Fellows m/m</u>	<u>Estimated cost US\$</u>
<u>Rwanda</u>				
Fruit and Vegetable Processing	6		1/6	3,400
Rice Processing	6		1/6	3,400
Industrial Projects Evaluation - Industrial Programming	12		1/6	3,400
Tea Processing	6		1/6	3,400
<u>Senegal</u>				
In-plant Training Group in Fertilizer Industries	5		1/3	2,200
Animal and Agricultural Products Processing	6		1/6	3,400
Industrial information	9		1/6	3,400
Industrial Estates Management	11		1/6	3,400
<u>Sierra Leone</u>				
Industrial Training			2/12	6,800
<u>Somalia</u>				
Agro-Industry Development	6		2/12	6,800
<u>Sudan</u>				
Oil Seed Industry	6		1/6	3,400
Industrial Programming Adviser	12	1/6		11,500
<u>Togo</u>				
Cassava Production	6		1/6	3,400
Agro-Industry Development	6		1/6	3,400
Small-scale Industries	11	1/3		5,800
<u>Tunisia</u>				
Milling Processing	6		2/12	6,800
<u>Uganda</u>				
Protein from Soya Bean	6		2/12	6,800
<u>United Arab Republic</u>				
In-plant Training Group in Fertilizer Industries	5		1/3	2,200
Industrial Management	10b		4/20	12,000
Metallurgical Industries	2	2/6		11,500

UNIDO/DRAFT REGULAR PROGRAMME

<u>AFRICA (cont'd)</u>	<u>UNIDO activity group</u>	<u>Experts m/m</u>	<u>Fellows m/m</u>	<u>Estimated cost US\$</u>
<u>United Republic of Tanzania</u>				
Specific Industrial Management Subjects for Managers and/or higher technical personnel of nationalized industry	10b		4/20	12,000
<u>Upper Volta</u>				
Agro-industry Training	6		1/3	2,200
Industrial Development Adviser	12	1/3		5,800
Food Industries (Meat Processing)	6		1/6	3,400
<u>Zambia</u>				
Training in Specific Industrial Management Subjects for Managers and/or higher technical personnel of industry	10b		3/18	10,200
<u>Regional</u>				
Regional Industrial Advisers attached to ECA		5/60		150,000

UNIDO/DRAFT REGULAR PROGRAMME

<u>THE AMERICAS</u>	<u>UNIDO activity group</u>	<u>Experts m/m</u>	<u>* Fellows m/m</u>	<u>Estimated cost US\$</u>
<u>Argentina</u>				
In-plant Training Group for Fertilizer Industries	5		1/3	2,200
Advanced Techniques of Food Preservation	6		2/12	6,800
<u>Barbados</u>				
Industrial Training	10b		1/3	2,200
<u>Bolivia</u>				
In-plant Training Group for Fertilizer Industries	5		1/3	2,200
Agro-Industry Training	6		2/12	6,800
<u>Brazil</u>				
In-plant Training Group for Fertilizer Industries	5		1/3	2,200
Development of Tropical Fruits Industry	6		2/12	6,800
Agro-Industry Training	6		1/6	3,400
<u>Chile</u>				
Agro-Industrial Training	6		2/12	6,800
<u>Colombia</u>				
Industrial Planning and Programming	12		1/6	3,400
Coffee Processing	6		1/12	5,800
Steel Industry	2		1/3	2,200
<u>Costa Rica</u>				
Industrial Training	10b		1/6	3,400
<u>Cuba</u>				
Food Industries	6		3/18	10,200
<u>Dominican Republic</u>				
Small-scale Industry	11		2/12	6,800
<u>Ecuador</u>				
Industrial Planning and Programming	12		1/6	3,400
Textile Industry	6		1/6	3,400
Fish Industry (Technology)	6		2/12	6,800

AMERICAN ILO ICA PROGRAM

<u>Activity</u>	<u>Person</u>	<u>Months</u>	<u>Cost</u>
<u>THE AMERICAS (cont'd)</u>			
<u>El Salvador</u>			
Industrial Training	10b	1/6	3,400
<u>Guatemala</u>			
Industrial Training	10b	1/6	3,400
<u>Guyana</u>			
Industrial Training	10b	1/6	3,400
<u>Honduras</u>			
Industrial Training	10b	1/6	3,400
<u>Jamaica</u>			
Industrial Training	10b	1/6	3,400
<u>Mexico</u>			
Training Workshop on Project Implementation and Follow-up	12	1/6	7,200
Tropical Fruit Processing	6	1/6	3,400
<u>Nicaragua</u>			
Industrial Training	10b	1/6	3,400
<u>Panama</u>			
Industrial Training	10b	1/6	3,400
<u>Paraguay</u>			
Tropical Fruit Processing Technology	6	2/24	11,600
<u>Trinidad and Tobago</u>			
Fish Industry Development	6	1/6	3,400
<u>Uruguay</u>			
Meat Preservation	6	2/24	11,600
<u>Venezuela</u>			
Fruit Processing Industry	6	1/6	3,400
<u>Regional</u>			
Regional Industrial Advisers attached to ICA		5/6	150,000

INTERNATIONAL REGULAR PROGRAMME

<u>ASIA/EAST</u>	<u>UNIDO</u> <u>activity</u> <u>group</u>	<u>Experts</u> <u>m/m</u>	<u>Fellows</u> <u>m/m</u>	<u>Estimated</u> <u>cost</u> <u>US\$</u>
<u>Burma</u>				
Modern Methods of Rice Production	6		2/12	6,800
Protein Production from Soya Bean	6		1/3	2,200
<u>Cambodia</u>				
Rice Processing	6		2/12	6,800
<u>Ceylon</u>				
Coconut Fibre Products	6	1/7		13,500
<u>China</u>				
Industrial Training	10b		3/12	10,200
<u>Ethi</u>				
Industrial Training	10b		1/6	3,400
<u>India</u>				
In-plant Training Group in Fertilizer Industries	5		1/3	2,200
Rice Processing	5		4/48	17,200
Agro-Industry Training	5		4/48	17,200
<u>Indonesia</u>				
Industrial Planning and Programming	12		1/6	3,400
In-plant Training Group in Fertilizer Industries	5		1/3	2,200
Production of Irradiated Plastic Impregnated Soft Wood	5		1/3	2,200
Industrial Training	10b		5/30	17,000
<u>Iran</u>				
In-plant Training Group in Fertilizer Industries	5		1/3	2,200
Agro-Industry Training	5		4/24	13,600
<u>Laos</u>				
Cassava Production	6		1/3	2,200
Light Industries		1/3		5,800

INTERNATIONAL ILO IAP PROGRAMME

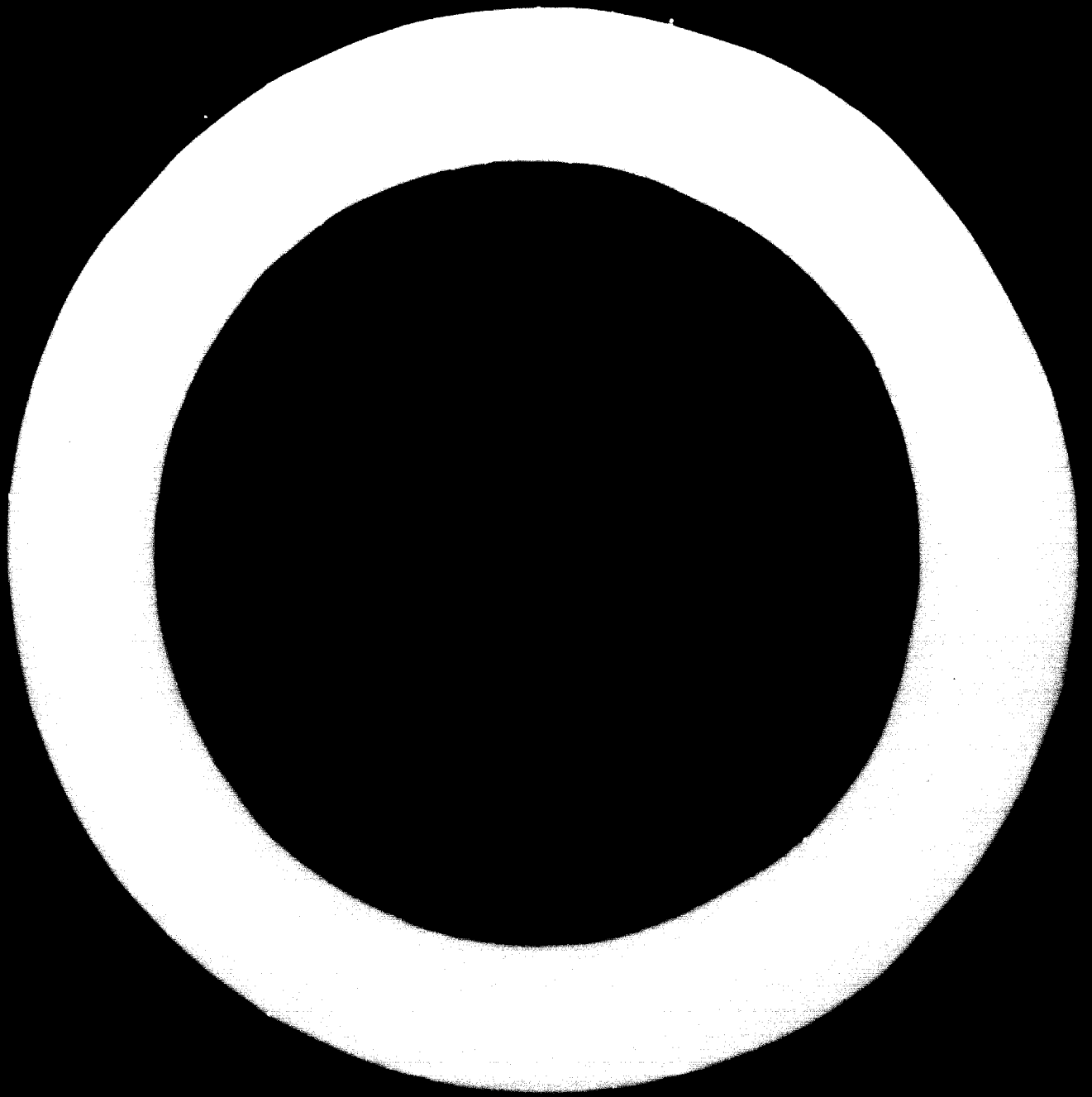
<u>ACTIVITY GROUP</u>	<u>Experts m.m.</u>	<u>Fellows m.m.</u>	<u>Estimated cost US</u>
<u>ASIA/EAST (cont'd)</u>			
<u>Malaysia</u>			
Industrial Planning and Programming	11	1/6	3,400
Production of Irradiated Plastic Impregnated Soft Wood	5	1/3	2,200
Rice Processing	6	2/12	6,800
Industrial Information	9	1/6	11,500
<u>Mongolia</u>			
Industrial Training	10b	4/24	13,600
<u>Nepal</u>			
Industrial Training	10b	3/18	10,200
<u>Pakistan</u>			
Industrial Planning and Programming	12	1/6	3,400
In-plant Training Group in Fertilizer Industries	5	1/3	2,200
Industrial Training	10b	4/24	13,500
<u>Philippines</u>			
Production of Irradiated Plastic Impregnated Soft Wood	5	1/3	2,200
Vegetable Oil Processing	6	2/12	6,800
Research Practice on Rice Processing	6	2/12	6,800
<u>Republic of Korea</u>			
Production of Irradiated Plastic Impregnated Soft Wood	5	1/3	2,200
Rice Processing	5	1/3	2,200
<u>Singapore</u>			
Production of Irradiated Plastic Impregnated Soft Wood	5	1/3	2,200
Textile Training		2/12	6,800
<u>Thailand</u>			
Production of Irradiated Plastic Impregnated Soft Wood	5	1/3	2,200
Industrial Training	10b	4/24	13,600
<u>Western Samoa</u>			
Industrial Training	10b	1/6	3,400
<u>Regional</u>			
Regional Industrial Advisers attached to ILO		5/60	150,000

UNEP/UNEP/UNEP PROGRAMME

<u>EUROPE/MIDDLE EAST</u>	<u>UNEP activity group</u>	<u>Experts m/m</u>	<u>Fellows m/m</u>	<u>Estimated cost US\$</u>
<u>Albania</u>				
Engineering Industry	1		2/6	2,400
<u>Bulgaria</u>				
Engineering Industries	1		2/6	2,400
<u>Cyprus</u>				
Small-scale Industry	11		1/6	11,500
<u>Greece</u>				
Industrial Planning	12		1/6	2,100
<u>Hungary</u>				
Electronic Industry	1		1/3	1,200
Industrial Programming	12		1/3	1,200
<u>Iraq</u>				
In-plant Training Group in Fertilizer Industries	5		1/3	2,200
Industrial Market Survey	14	1/6	1/6	11,500
<u>Israel</u>				
Industrial Training	10b		2/6	4,400
<u>Jordan</u>				
Feasibility Studies on Producing Ceramic Pipes for Regional Large-scale Irrigation Project	3	1/3		5,800
<u>Kuwait</u>				
In-plant Training Group for fertilizer Industry			1/3	2,200
<u>Malta</u>				
Industrial Standardization in Chemical Industry	7	1/3		5,800
<u>Poland</u>				
Metallurgical Industry	2		3/9	3,600
<u>Romania</u>				
Electrical Industries	1		2/6	2,400

BASIC/DRAFT REGULAR PROGRAMME

<u>EUROPE/MIDDLE EAST (cont'd)</u>	<u>WFP activity group</u>	<u>Experts m.m.</u>	<u>Fellow m.m.</u>	<u>Estimated cost \$</u>
<u>Saudi Arabia</u>				
Development of Traditional Industries			1/3	5,800
<u>Spain</u>				
Refrigeration Equipment	1		1/6	2,100
Pharmaceutical Industry	4		1/3	1,200
<u>Syria</u>				
In-plant Training Group for Fertilizer Industries	5		1/3	2,200
Industrial Development Centre	8	1/3		5,800
<u>Turkey</u>				
Industrial Planning and Programming	12		1/6	3,400
Aluminium Industry	2		2/12	4,200
Mechanical Industry	1		1/6	2,100
<u>Regional</u>				
Regional Industrial Adviser Attached to UNESOB			1/12	25,000*



ANNEX II

LIST OF FIELD ACTIVITIES
BY REGIONS AND COUNTRIES

Introduction

Projects listed in this Annex are shown against each country with summary titles, programme, value and a reference number relating to Annex I where detailed description of each project can be found against the respective current reference number.

The projects listed in this Annex include: those which have been requested officially by Governments within various programmes and approved for inclusion in the 1970 programme; UNDP/SF projects for which active preparatory work was in progress at the end of 1968; projects within the United Nations Regular Programme listed according to the information available in September 1968. No SIS projects have been listed in view of the impossibility of estimating such projects as far in advance as 1970. Thus the projects listed in this Annex are those which may be anticipated and which will actually be under implementation in 1970. Other projects which may be considered only as forecasts, and which are mentioned as such in Part Two of the body of the report, have been deleted from this list pending official indication from the Governments that requests will be forthcoming.

The present Annex, therefore, provides a picture of the development of the UNIDO programme for which the desired UNIDO assistance has been indicated by Governments as of the end of 1968.

Ref. No.	Region and country	UNIDO activity	Project title	Programme and nature of project	Experts E/A	Fellows F/A	Estimated Cost US\$
AFRICA							
1	Algeria	5	Centre for industrial and Technological Studies (ALG-10)	SF - continuing	/226	/60	1,449,700
		5	In-plant Training Group in Fertilizer Industries	REG - suggested		1/3	3,200
		6	Agro-industrial Training	REG - suggested		2/12	6,800
		6	Fruit and Vegetable Industry	REG - suggested		1/3	2,200
	Botswana	11	Industrial Estate	REG - suggested	1/3		5,800
100	Burundi	11	Small-scale Industry Development (UNIDO/BDI/68/3)	TA - continuing		1/12	5,800
		6	Feedstuff Production	REG - suggested		2/12	6,600
		6	Tobacco Processing	REG - suggested		1/6	3,400
	Cameroon	11	Industrial Estates Management	REG - suggested		1/6	3,400
		12	Industrial Project Evaluation	REG - suggested		1/6	3,400
		7	Industrial Standardization	REG - suggested		1/6	3,400
		13	Industrial Investment Promotion	REG - suggested		1/6	3,400
	Central African Republic	6	Cassava Processing	REG - suggested		1/6	3,400
		6	Production of Feedstuffs	REG - suggested		1/6	3,400
		12	Industrial Projects Evaluation	REG - suggested		1/6	3,400
		6	Wood Industries	REG - suggested		1/6	3,400
	Chad	6	Modern Methods of Milling	REG - suggested		1/6	3,400
		12	Industrial Project Elaboration and Evaluation	REG - suggested		1/6	3,400
		6	Food Industries	REG - suggested		1/6	3,400
		3	Cement Industries	REG - suggested		1/6	3,400

Ref. No.	Region and Country	UNIDO activity	Project title	Programme and nature of project	Experts m/f	Fellows m/m	Estimated Cost US\$
	AFRICA (cont'd)						
	Congo (Brazzaville)	11	Small-scale Industry Adviser	REG - suggested	1/6		11,500
	Congo (Dem. Rep. of)	12	Industrial Projects Evaluation	REG - suggested	2/24		11,600
	Dahomey	12	Industrial Programming	REG - suggested	1/6		3,400
		12	Project Evaluation	REG - suggested	1/6		3,400
	Ethiopia	8	Industrial Standardization (UNIDO/ETH/68/27)	TA - continuing	1/12		23,100
101		6	Meat Processing	REG - suggested	2/1		6,800
	Gabon	6	Citrus Fruit Processing	REG - suggested	1/6		3,400
		12	Industrial Project Evaluation	REG - suggested	1/6		3,400
		4	Pulp and Paper Factory	REG - suggested	1/6		3,400
	Gambia	12	Evaluation of Industrial Projects	REG - suggested	1/6		3,400
		11	Industrial Estates Management	REG - suggested	1/6		3,400
	Ghana	10b	Ghana Industrial Holding Corporation	SF - under consideration			1,605,000
2?		10b	Industrial Management	REG - suggested	2/12		6,800
	Guinea	6	Refrigeration Techniques	REG - suggested	2/24		11,600
	Ivory Coast	12	Centre for Industrial Studies and Promotion (IVCO-33)	SF - continuing	/156	/66	797,100
2		6	Agro Industry Training	REG - suggested		2/12	6,800
		11	Industrial Estates	REG - suggested		1/6	3,400

Ref. no.	Region and country	UNIDO activity group	Project title	Programme and nature of project	Experts	Fellows	Estimated Cost US\$
	AFRICA (cont'd)						
	Kenya	6	Modern Methods of Corn Processing	REG - suggested	n/a	1/6	3,400
		11	Industrial Estate Management	REG - suggested	n/a	2/12	6,800
	Lesotho	11	Small-scale Industry	REG - suggested	n/a	1/6	3,400
44	Liberia	11	Industrial Area, Estate and Free Zone near Monrovia	SF - under preparation	n/a		
102		11	Small-scale Industries Development (UNIDO/LIB/68/11)	TA - continuing	1/12		23,100
		10b	Industrial Training	REG - suggested	n/a	2/12	6,800
24	Libya	8	Centre for Industrial Development and Research	SF - under consideration	n/a		6,100,000
25		6	Establishment of a Pilot Plant for the Production of Fodder Yeast from Oil	SF - under consideration	n/a		4,366,100
		5	In-plant Training Group on Fertilizer Industries	REG - suggested	n/a	1/3	3,300
		10b	Industrial Management	REG - suggested	n/a	2/12	6,100
45	Madagascar	11	Industrial Estate within the Industrial Zone of Tamatave	SF - under preparation	n/a		
103		13	Industrial Investment Promotion (UNIDO/MAG/68/8)	TA - continuing	1/12		1,100
104		12	Industrial Planning (UNIDO/MAG/68/9)	TA - continuing	1/12		1,100
		6	Agro-industry Training	REG - suggested	n/a	1/3	3,300
		11, 13	Industrial Estates Management	REG - suggested	n/a	1/3	3,300
		12	Industrial Investment Promotion; Industrial Project Evaluation	REG - suggested	n/a	1/3	3,300
		9	Industrial Information	REG - suggested	n/a	1/3	3,300
		12	Industrial Planning	REG - suggested	n/a	1/3	3,300

Ref. No.	Country	UNIDO activity group	Project title	Programme and nature of project	Fellows m/m	Experts m/m	Estimated Cost US\$
105	Malawi	11	Small-scale industries Development (UNIDO/MLW/68/11)	TA - continuing	1/12		23,100
		6	Banana Processing	REG - suggested		2/12	6,800
26	Mali	10b	Reorganization of State Enterprises	SF - under consideration			
		6	Agro-industry Training	REG - suggested		2/12	6,800
	Mauritania	6	Agro-industry Training	REG - suggested		2/12	6,800
27	Mauritius	8	Industrial Promotion Centre	SF - under consideration			620,000
		6	Fish Processing Industry	REG - suggested		1/6	3,400
		12	Industrial Projects Evaluation	REG - suggested		1/6	3,400
	Morocco	6	Fish Protein Concentrate Production	REG - suggested		2/12	6,800
		6	Agro-industry Development and Training	REG - suggested		2/12	6,800
46	Niger	11	Industrial Estate of Niamey	SF - under preparation			
		6	Milling Industry	REG - suggested		1/6	3,400
		11	Industrial Estates Management	REG - suggested		1/6	3,400
		12	Industrial Projects Formulation and Evaluation	REG - suggested		1/6	3,400
		6	Agricultural and Animal Products Processing	REG - suggested		1/6	3,400
106	Nigeria	6,8	National Institute of Industrial Research (UNIDO/NIR/68/6/Rev.1)	TA - continuing	2/24		33,000
107		12	Industrial Programming (UNIDO/NIR/68/7-8/Rev.1)	TA - continuing	2/18		28,050
		6	Cassava Production	REG - suggested		1/6	3,400
		6	Refrigeration Techniques	REG - suggested		1/6	3,400
3	Rwanda	5	Pilot Plant for Industrialization and Pyrethrum Production, Mukingo (RWA-3)	SF - continuing	/216	/6	1,859,500
28		5	Exploitation of Methane Gas from Lake Kivu	SF - under consideration			
108		11	Promotion of Small-scale Industries (UNIDO/RWA/66/14)	TA - continuing	1/12		23,100

Ref. no.	Region and country	UNIDO activity	Project title	Programme and nature of project	Experts	Fellows	Estimated Cost US\$
					n/a	n/a	US\$
	AFRICA (cont'd)						
109	Rwanda (cont'd)	12	Industrial Promotion (UNIDO/RWA/68/15)	TA - continuing	1/12		23,100
		6	Fruit and Vegetable Processing	REG - suggested		1/6	3,400
		6	Rice Processing	REG - suggested		1/6	3,400
		12	Industrial Projects Evaluation - Industrial Programming	REG - suggested		1/6	3,400
		6	Tea Processing	REG - suggested		1/6	3,400
29	Senegal	9	Industrial Survey and Promotion Centre	SF - under consideration			710,000
110		11	Small-scale Industries Development (UNIDO/SEN/68/1)	TA - continuing	1/12		23,100
		5	In-plant Training Group in Fertilizer Industries	REG - suggested		1/3	2,200
		6	Animal and Agricultural Products Processing	REG - suggested		1/6	3,400
		9	Industrial Information	REG - suggested		1/6	3,400
		11	Industrial Estates Management	REG - suggested		1/6	3,400
	Sierra Leone	11	Industrial Training	REG - suggested		2/12	6,800
111	Somalia	12	Industrial Planning (UNIDO/SOM/68/19)	TA - continuing	2/12		34,850
		6	Agro-industrial Development	REG - suggested		2/1	6,800
4	Sudan	8	Industrial Research Institute, Khartoum (SUD-12)	SF - continuing	10/252	11/109	1,428,900
		5	Oil Seed Industry	REG - suggested		1/6	3,400
		12	Industrial Programming Adviser	REG - suggested		1/6	11,500
31	Togo	5	Demonstration Plant for the Production of Phosphate Fertilizers (TOG-12)	SF - under consideration			1,000,000
		6	Cassava Production	REG - suggested		1/6	3,400
		6	Agro-industrial Development	REG - suggested		1/6	3,400
		11	Small-scale Industries	REG - suggested		1/3	3,400

Ref. no.	Region and country	UNIDO activity group	Project title	Programme and nature of project	Exports	Follow-up	Estimated cost
AFRICA (cont'd)							
5	Tunisia	12	National Centre for Industrial Studies (TUN-15)	SF - continuing	8,300	10/10	1,200,000
32		1	Centre for the Manufacture of Prototype Tools	SF - under consideration			1,450,000
47		4	Manufacture of Sulphuric Acid from Gypsum	SF - under preparation			
		6	Milling Processing	REG - suggested		2/12	5,000
6	Uganda	11	Small Industries Development Programme and Establishment of an Industrial Estate Kampala (UGA-7)	SF - continuing	8,300	5/42	1,870,400
		11	Industrial Planning and Programming (UNIDO/UGA/66/719)	IA - continuing	1/12		16,500
		6	Protein from Soya Bean	REG - suggested		2/12	6,800
7	United Arab Republic	1	Engineering and Industrial Design Development Centre, Nasser City (UAR-55)	SF - continuing	19/318	20/144	1,500,100
8		5	Demonstration Pesticide Production Plant Based on Chlorine and Bromine Resources (UAR-69)	SF - continuing	7/18	7/12	2,300,600
33		6	Central Textile Technology Development Centre (UAR-62)	SF - under consideration			5,960,000
48		2	Central Metallurgical Research and Development Institute (UAR-63)	SF - under preparation			
		5	In-plant Training Group in Fertilizer Industries	REG - suggested		1/3	2,200
		10b	Industrial Management	REG - suggested		4/20	12,000
		2	Metallurgical Industries	REG - suggested		2/6	11,500
30	United Republic of Tanzania	12	Industrial Studies and Development Centre - Phase II (TAN-22)	SF - under consideration			630,000
		10b	Specific Industrial Management Subjects for Managers and/or Higher Technical Personnel of Nationalized Industry	REG - suggested		4/20	12,000

Ref. No.	Region and country	UNIDO activity group	Project title	Programme and nature of project	Experts n/a	Fellows n/a	Estimated Cost US\$
AFRICA (cont'd)							
49	Upper Volta	11	Establishment of an Industrial Estate	SF - under preparation		1/3	2,200
		6	Agro-industry Training	REG - suggested			5,800
		12	Industrial Development Adviser	REG - suggested	1/3		3,400
		6	Food Industries (Meat Processing)	REG - suggested		1/6	
50	Zambia	11	Development of Small-scale Industry and Entrepreneurship	SF - under preparation			16,000
113		10	Industrial Management	IA - continuing	1/12		10,200
		10b	Training in Specific Industrial Management Subjects for Managers and/or Higher Technical Personnel of Industry	REG - suggested		3/18	
55	OCAM Membership States	12	Team of Experts for a General Survey for Industrial Harmonization in OCAM Membership States	SF - under preparation			2,099,900
9	Regional	12	Centre of Industrial Studies for the Maghreb (REG-72)	SF - continuing	5/492	10/120	
51		6	Development of Meat Processing Industry	SF - under preparation			
52		11	West African Centre for Small Industries	SF - under preparation			
53		12	Industrial Studies for the Development of the Senegal River Basin	SF - under preparation			
54		13	Regional and Subregional Industrial Policies	SF - under preparation			150,000
			Regional Industrial Advisers attached to ECA	REG - suggested	5/60		

Ref. no.	Region and country	UNIDO activity group	Project title	Programme and nature of project	Experts m/n	Fellows m/n	Estimated Cost US\$
THE AMERICAS							
34	Argentina	14	Industrial Policy Advisory Group	SF - under consideration			350,000
114		2	Development of Aluminium Industry (UNIDO/ARG/68/5)	TA - continuing	1/5		9,625
115		1,2,3,4,6	Assistance to the National Institute of Industrial Technology (UNIDO/ARG/68/6)	TA - continuing	7/36	5/29	67,500
116		14	Export Promotion of Manufactured Goods (UNIDO/ARG/68/4)	TA - continuing		1/3	2,200
		5	In-plant Training Group for Fertilizer Industries	REG - suggested		1/3	2,200
		6	Advanced Techniques of Food Preservation	REG - suggested		2/12	6,800
	Barbados	10L	Industrial Training	REG - suggested		1/3	2,200
10	Bolivia	3	Experimental Production Plant for Asbestos Processing (90L-20)	SF - continuing	/64	/15	764,500
56		11	Industrial Area and Industrial Estate at La Paz	SF - under preparation			
		5	In-plant Training for Fertilizers Industries	REG - suggested		1/3	2,200
		6	Agro-industry Training	REG - suggested		2/12	6,800
35	Brazil	11	Centre for the Development and Service of Small and Medium-sized Industries, Bahia	SF - under consideration			2,720,000
57		5	Pilot project for the Production, Storage and Application of Liquid Fertilizers	SF - under preparation			
58		6	Development of the Agro Industry in the Amazon	SF - under preparation			
117		4	Technical Assistance to the Superintendency for Development of the Northeast (UNIDO/BRA/68/1)	TA - continuing	1/12		23,100
		5	In-plant Training Group for Fertilizer Industries	REG - suggested		1/3	2,200
		6	Development of Tropical Fruits Industry	REG - suggested		2/12	6,800
		6	Agro-industry Training	REG - suggested		1/6	3,400

Ref. no.	Region and country	UNIDO activity code	Project title	Programme and nature of project	Experts m/n	Fellows m/n	Estimated Cost US\$
THE AMERICAS (cont'd)							
36	Chile	1	Networking Industry Testing Centre (CHI-39)	SF - under consideration			1,360,000
		6	Agro-industry Training	REG - suggested		2/12	6,800
11	Colombia	8	Institute for Technological Research, Bogota - Phase II (COL-59)	SF - continuing	/228	/120	1,763,700
59		5	Pilot Project for the Production and Application of Pesticides using Excess Chlorine	SF - under preparation			
118		12	Industrial Programming (UNIDO/COL/68/18)	TA - continuing	1/12		23,100
		12	Industrial Planning and Programming	REG - suggested		1/6	3,400
		6	Coffee Processing	REG - suggested		1/12	5,800
		2	Steel Industry	REG - suggested		1/3	2,200
	Costa Rica	10b	Industrial Training	REG - suggested		1/6	3,400
	Cuba	6	Food Industries	REG - suggested		3/12	10,200
119	Dominican Republic	10	Industrial Management (UNIDO/DOM/68/7)	TA - continuing		1/12	23,100
120		11	Development of Small and Medium-scale Industries (UNIDO/DOM/68/8)	TA - continuing		1/12	23,100
		11	Small-scale Industry	REG - suggested		2/12	6,800
60	Ecuador	6	Establishment and Development of the Banana Processing Industry	SF - under preparation			
		12	Industrial Planning and Programming	REG - suggested		1/6	2,400
		6	Textile Industry	REG - suggested		1/6	2,400
		6	Fish Industry (Technology)	REG - suggested		2/12	6,800
	El Salvador	10b	Industrial Training	REG - suggested		1/6	2,400
	Guatemala	10b	Industrial Training	REG - suggested		1/6	2,400
	Guyana	10b	Industrial Training	REG - suggested		1/6	2,400

Ref. No.	Region and country	UNIDO activity group	Project title	Programme and nature of project	Experts m/m	Fellows m/m	Estimated Cost US\$
THE AMERICAS (cont'd)							
121	Haiti	5	Essential Oils and Fats Production (UNIDO/HAI/68/8)	TA - continuing	1/12		23,100
	Honduras	10b	Industrial Training	REG - suggested		2/6	4,400
	Jamaica	10b	Industrial Training	REG - suggested		2/6	4,400
51	Mexico	6	Development of the Integrated Fish Industry	SF - under preparation			
		12	Training Workshop on Project Implementation and Follow-up	REG - suggested	1/6		7,700
		6	Tropical Fruit Processing	REG - suggested		1/6	3,400
122	Nicaragua	12	Industrial Policies (UNIDO/NIC/68/2)	TA - continuing	1/12		23,100
		10b	Industrial Training	REG - suggested		2/6	4,400
	Panama	10b	Industrial Training	REG - suggested		1/5	3,400
12	Paraguay	8	Technical Standards National Institute (PAR-8)	SF - continuing	10/240	8/60	905,900
123		12	Industrial Programming and Policies (UNIDO/PAR/68/5)	TA - continuing	1/12		23,100
		6	Tropical Fruit Processing-Technology	REG - suggested		2/24	11,600
37	Trinidad and Tobago	8	Industrial Research Institute (TRI-5)	SF - under consideration			1,610,000
	Uruguay	6	Fish Industry Development	REG - suggested		1/6	3,400
		6	Meat Preservation	REG - suggested		2/24	11,600
124	Venezuela	1	Mechanical Industry (UNIDO/VEN/68/6)	TA - continuing	1/12		23,100
		6	Fruit Processing Industry	REG - suggested		1/6	3,400
62	Regional	11	Centre for Development of Small-scale Industries	SF - under preparation			
125		12	Central American Programming Mission (UNIDO/LA/68/1)	TA - continuing	3/36		81,000
			Regional Industrial Advisers attached to ECLA	REG - suggested	5/6		150,000

Ref. No.	Region and country	UNIDO activity	Project title	Programme and nature of project	Experts	Fellows	Estimated Cost US\$
126	Afghanistan	8	Metric System (UNIDO/IFG/68/4)	TA - continuing	1/12		23,100
63	Brunei	5	Industrial and Marketing Surveys for Fertilizers	SF - under preparation			
	Burma	6	Rice production	REG - suggested	2/12		6,800
		6	Protein from Soya Bean	REG - suggested	1/3		2,200
127	Cambodia	12	Industrial Programming Data System (UNIDO/CAN/68/15)	TA - continuing	1/12		23,100
		6	Rice Processing	REG - suggested	2/12		6,800
128	Ceylon	3	Ceramics Industry (UNIDO/CEY/68/3)	TA - continuing	1/6		11,550
		6	Cocoon Fibre Products	REG - suggested	1/7		13,500
64	China	3	Pilot Plant for Production of Plastic/Wood Structures by Irradiation Techniques	SF - under preparation			
		10b	Industrial Training	REG - suggested		3/12	10,200
129	Fiji Islands	12	Industrial Programming (UNIDO/FIJ/68/3)	TA - continuing	1/12		23,100
		10b	Industrial Training	REG - suggested		1/6	3,400
13	India	1	Design Centre for Electrical Measuring Instruments (IND-67)	SF - continuing	2/64	1/12	1,572,000
38		6	Leather Research Institute, Madras	SF - under consideration			
65		5	Pilot Project for Production and Application of Ammoniated Superphosphate	SF - under preparation			
		5	In-plant Training Group in Fertilizer Industries	REG - suggested		1/3	2,700
		5	Rice processing	REG - suggested		4/48	17,200
		5	Agro-industry training	REG - suggested		4/48	17,200

ASIA/FAR EAST

Ref. No.	Region and country	UNIDO activity group	Project title	Programme and nature of project	Exper's m/m	Fellows m/m	Estimated Cost US\$
ASIA/FAR ASI (cont'd)							
130	Indonesia	8	Industrial Research (UNIDO/IND/68/12)	TA - continuing	1/12		23,100
131		10b	Industrial Management (UNIDO/IND/68/11)	TA - continuing	1/12		23,100
132		12	Industrial Classification and Data Processing (UNIDO/IND/68/10)	TA continuing	1/12		23,100
133		12	Industrial Programming (UNIDO/IND/68/9)	TA - continuing	1/12		23,100
		12	Industrial Planning and Programming	REG - suggested		1/6	3,400
		5	In-plant Training Group in Fertilizer Industries	REG - suggested		1/3	2,200
		5	Production of Irradiated Plastic Impregnated Soft Wood	REG - suggested		1/3	2,200
		5	Industrial Training	REG - suggested		5/30	17,000
14	Iran	11	Establishment of an Industrial Estate, Ahwaz (IRA-11)	SF - continuing	9/240	4/24	1,760,500
15		12	Research Centre for Industrial and Trade Development	SF - continuing	8/156	6/186	2,618,900
39		8	Institute of Standards and Industrial Research	SF - under consideration			4,225,000
40		11	Supplementary Assistance to the Industrial Estate, Ahwaz, for the Development of Small-scale Industries	SF - under consideration			1,233,000
66		5	Pilot Project Production and Application of Pesticides Using Excess Chlorine	SF - under preparation			
134		6	Food Industries Development (UNIDO/IRA/68/28)	TA - continuing		1/6	11,550
		5	In-plant Training Group in Fertilizer Industries	REG - suggested		1/3	2,200
		5	Agro-industry Training	REG - suggested		4/24	13,600
136	Laos	11	Small and Medium-scale Industry	TA - continuing	1/12		23,100
		6	Cassava Production	REG - suggested		1/3	2,200
		6	Light Industries	REG - suggested		1/3	5,800

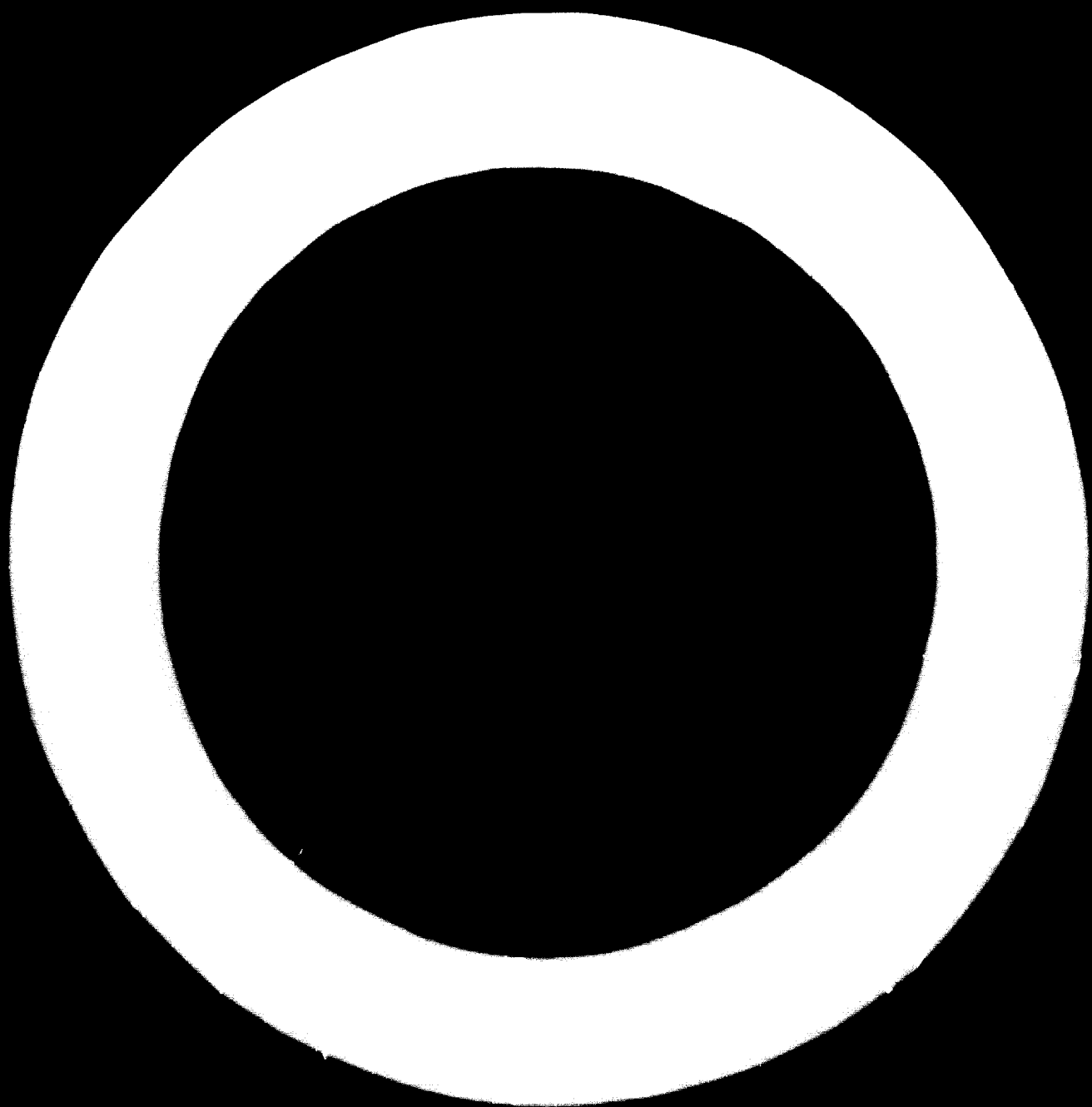
Ref. No.	Region and country	UNIDO activity group	Project title	Programme and nature of project	Experts #/m	Fellows #/m	Estimated Cost US\$
<u>ASIA/FAR EASI (cont'd)</u>							
41	Malaysia	8	National Institute of Scientific and Industrial Research	SF - under consideration			
67		12	Industrial Project Preparation and Implementation Centre	SF - under preparation			
		12	Industrial Planning and Programming	REG - suggested	1/6		3,400
		5	Production of Irradiated Plastic Impregnated Soft Wood	REG - suggested	1/2		2,200
		6	Rice Processing	REG - suggested	2/12		6,800
		9	Industrial Information	REG - suggested	1/6		11,500
	Mongolia	10b	Industrial Training	REG - suggested	4/24		13,500
	Nepal	10b	Industrial Training	REG - suggested	3/18		10,200
16	Pakistan	5	Pre-investment Studies for the Promotion of the Fertilizer and Petrochemical Industries (PMK-26)	SF - continuing	9/198		2,632,000
42		10b	Centre for the Organization and Development of the Jute Industry	SF - under consideration			280,000
68		5	Pilot project for the Production and Application of Pesticides using Excess Chlorine and Ammoniated Superphosphate	SF - under preparation			
138		12	Industrial Engineer (UNIDO/PMK/68/9)	TA - continuing	3/36		69,300
		12	Industrial Planning and Programming	REG - suggested	1/5		3,400
		5	In-plant Training Group in Fertilizer Industries	REG - suggested	1/3		2,200
		10b	Industrial Training	REG - suggested	4/24		12,500
43	Philippines	1	Metal Industries Development Centre	SF - under consideration			4,000,000
		5	Production of Irradiated Plastic Impregnated Soft Wood	REG - suggested	1/3		4,700
		6	Vegetable Oil Processing	REG - suggested	2/12		3,800
		6	Research Practice on Rice Processing	REG - suggested	2/12		3,700

Ref. No.	Region and country	UNIDO activity group	Project title	Programme and nature of project	Experts	Fellows	Estimated Cost US\$
<u>ASIA/FAR EAST (cont'd)</u>							
135	Republic of Korea	11	Industrial Estates and Location of Industry (UNIDO/KOR/68/8)TA - continuing	1/12			23,100
		5	Production of Irradiated Plastic Impregnated Soft Wood	REG - suggested		1/3	2,000
		5	Rice Processing	REG - suggested		1/3	2,200
69	Singapore	8	Institute of Standards and Research	SF - under preparation			
		1,10,12	Assistance to the Economic and Development Board (EDB) (UNIDO/SING/68/1)	TA - continuing	3/36		64,200
		5	Production of Irradiated Plastic Impregnated Soft Wood	REG - suggested		1/3	2,200
		5	Textile Training	REG - suggested		2/12	6,800
17	Thailand	8	Technological Research Institute (THA-16)	SF - continuing	8/240	8/96	3,013,300
		5	Production of Irradiated Plastic Impregnated Soft Wood	REG - suggested		1/3	2,200
		10b	Industrial Training	REG - suggested		4/24	13,600
	Western Samoa	10b	Industrial Training	REG - suggested		1/6	3,400
	Regional		Regional Industrial Advisers attached to ECAFE	REG - suggested	5/60		150,000

UN/IDB activity	Ref. No.	Region and country	Project title	Programme and nature of project	Experts n/a	Fellows n/a	Estimated Cost US\$
		<u>EUROPE/MIDDLE EAST</u>					
		Albania	1 Engineering Industry	REG - suggested		2/6	2,400
	70	Bulgaria	1 Devices Research Institute	SF - under preparation			
			1 Engineering Industries	REG - suggested		2/6	2,400
		Cyprus	11 Small-scale Industry	REG - suggested		1/6	11,500
	71	Greece	11 Industrial Area, Estate and Free Zone near Salonica	SF - under preparation			
			12 Industrial Planning	REG - suggested		1/6	2,100
		Hungary	1 Electronic Industry	REG - suggested		1/3	1,200
			12 Industrial Programming	REG - suggested		1/3	1,200
	72	Iraq	5 Pilot Plant for the Recovery of Sulphur from Natural Gas and Crude Oil	SF - under preparation			
			5 In-plant Training Group in Fertilizer Industries	REG - suggested		1/3	2,200
			14 Industrial Market Survey	REG - suggested		1/6	11,500
	18	Israel	8 Industrial Research Centre (ISR-11)	SF - continuing	23/108	43/276	5,236,500
			10b Industrial Training	REG - suggested		2/6	4,400
	19	Jordan	12 Centre for Industrial Development, Amman (JOR-13)	SF - continuing	14/372	12/322	1,681,100
			3 Feasibility Studies on Producing Ceramic Pipes for Regional Large-scale Irrigation Project	REG - suggested		1/3	1,200
	73	Kuwait	5 Pilot Plant for the Recovery of Sulphur from Natural Gas and Crude Oil	SF - under preparation			
			In-plant Training Group for Fertilizer Industry	REG - suggested		1/6	4,200

Ref. No.	Region and country	UNIDO activity group	Project title	Programme and nature of project	Experts #/m	Fellows #/m	Estimated Cost US\$
EUROPE/MIDDLE EAST (cont'd)							
20	Malta	7	Industrial Standardization in Chemical Industry	REG - suggested	1/3		5,800
	Poland	2	Metallurgical Industry	REG - suggested		3/9	3,600
	Romania	1	Electrical Industries	REG - suggested		2/6	2,400
	Saudi Arabia	12	Industrial Studies and Development Centre, Riyadh (SNU-14)	SF - continuing	8/208	1/24	2,582,900
		1	Development of Traditional Industries	REG - suggested		1/3	5,800
	Spain	1	Refrigeration Equipment	REG - suggested		1/6	2,100
		4	Pharmaceutical Industry	REG - suggested		1/3	1,200
74	Syria	3	Centre for Development of Housing and Construction	SF - under preparation		1/3	2,200
		5	In-plant Training Group for Fertilizer Industries	REG - suggested			5,800
		8	Industrial Development Centre	REG - suggested	1/3		
21	Turkey	11	Small Industries Development Programme (TUR-25)	SF - continuing	/288	/72	2,202,800
22		10	In-plant Training Centre for Engineers, Kipikkale (TUR-29)	SF - continuing	/360	/222	4,420,300
140		2,4,12	Industrial Planning (UNIDO/TUR/68/1)	IA - continuing	3/36		69,300
141		3	Building Materials Industries (Cement Manufacture) (UNIDO/TUR/68/3)	IA - continuing	1/12		23,100
		12	Industrial Planning and Programming	REG - suggested		1/6	3,400
		2	Aluminium Industry	REG - suggested		2/12	4,200
		1	Mechanical Industry	REG - suggested		1/6	2,100

Ref. No.	Region and country	UNIDO activity group	Project title	Programme and nature of project	Experts #/■	Fellows #/■	Estimated Cost US\$
EUROPE/MIDDLE EAST (cont'd)							
75	Yugoslavia	6	Centre for the Development of the Furniture Industry	SF - under preparation			
76		10b	Centre for Industrial Organization and Development	SF - under preparation			
77	Regional	8	Regional Industrial Standardization Institute	SF - under preparation			
78		12	Industrial Development Centre	SF - under preparation			
			Regional Industrial Adviser attached to UNESOB	REG - suggested		1/12	25,000



ANNEX III

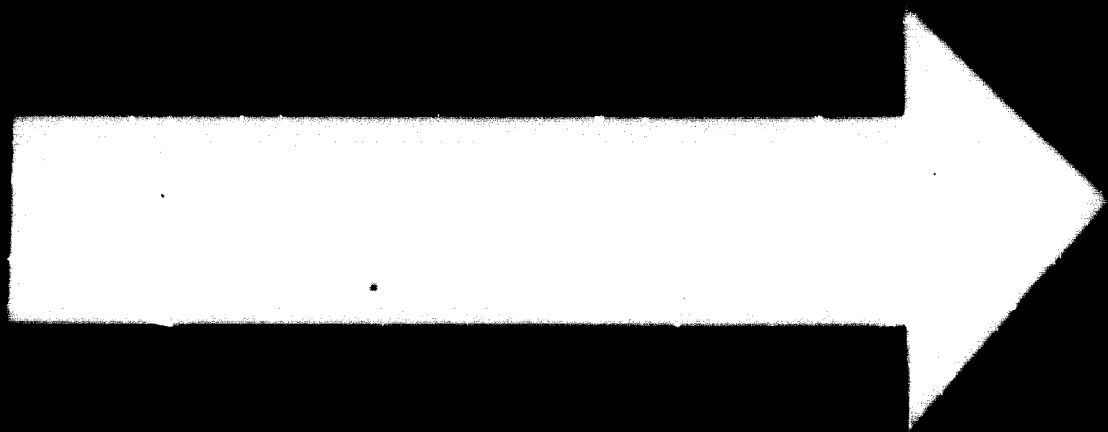
EXPERT GROUP MEETINGS, SEMINARS, GROUP TRAINING
PROGRAMMES AND WORKSHOPS PLANNED FOR 1970

	<u>Place</u>
<u>Group 1</u> <u>Engineering Industries</u>	
Expert consulting group on requirements of metalworking industry and utilization of machine tools in developing countries	Vienna
Promotion seminar on construction of installations for the chemical industries in the developing countries in connexion with a meeting of the German Society for Design and Manufacture of Chemical Apparatuses	Federal Republic of Germany
Joint meeting on manufacture of refrigeration equipment in developing countries (joint session of the representatives of the manufacturers of refrigeration equipment, experts in food processing, and representatives from developing countries)	Vienna
Interregional symposium on repair and maintenance in developing countries	Vienna
Expert group meeting on development of engineering design capabilities in developing countries	Vienna
<u>Group 2</u> <u>Metallurgical Industries</u>	
Expert group meeting on interregional alumina and aluminium production facilities (in conjunction with ECAFE)	Asia
Expert group meeting on new hydro- and pyrometallurgical processes for the production of copper, cobalt and nickel, and their significance for developing countries in increasing the domestic processing of non-ferrous raw materials (in conjunction with ECLA)	Latin America
Expert group meeting on the problems of pelletizing of iron ores in developing countries (in conjunction with ECE)	Geneva
Seminar on tin plate production in developing countries (in conjunction with ILAFA / Instituto Latinoamericano del Fierro y el Acero/ and ECLA)	Latin America
Steering committee on installation of alumina testing laboratory	

	<u>Place</u>
<u>Group 3</u> <u>Construction and Building Materials Industries</u>	
Regional seminar on prefabrication in the building industries in Africa (in co-operation with the UN Centre for Housing, Building and Planning and with ECA)	Denmark or Africa
Regional workshop on the development of clay building materials industries in Africa (in co-operation with the UN Centre for Housing, Building and Planning, and with ECA)	Denmark or Africa
<u>Group 4</u> <u>Chemicals, Pharmaceuticals and Other Related Industries</u>	
Interregional seminar on basic chemicals	Moscow
Expert group meeting on industrial fermentation (in co-operation with FAO and WHO)	Vienna
<u>Group 5</u> <u>Fertilizers, Pesticides and Petrochemical Industries</u>	
Expert group meeting on the acquisition of licences and know-how in petrochemical products and the manufacture of basic intermediates and polymers (in conjunction with the second interregional seminar on petrochemicals to be held in the USSR in 1969)	Vienna
<u>Group 6</u> <u>Light Industries</u>	
Expert group meeting on the selection of machinery for the dyeing and finishing industry	Vienna
Expert group meeting on the selection of machinery for the knitting industry	Vienna
Expert group meeting on rice processing (in co-operation with other UN bodies)	Bangkok
Expert group meeting on cassava processing (in co-operation with FAO)	Vienna
Expert group meeting on the main aspects of industrial vegetable oil and fats production in developing countries (in co-operation with FAO)	London
Expert group meeting on food equipment normalization	Moscow

	<u>Place</u>
<u>Group 6</u> (cont'd)	
Expert group meeting on finding substitutes for wood in developing countries (in co-operation with FAO)	Vienna
Expert group meeting on research on panels from coconuts and other tropical products	Vienna
Expert group meeting on secondary wood processing industries	Vienna
Preparatory expert group meeting on research work in the leather industry	Vienna
<u>Group 7</u> <u>Industrial Legislation, Patents and Licensing</u>	
Expert group meeting on a manual on patent office organization and administration in developing countries	Vienna
Expert group meeting on manual on licensing practices	Vienna
<u>Group 8</u> <u>Industrial Services and their Administration</u>	
Meeting of directors and managers of twenty institutes of research and technical services on the evaluation of effectiveness of industrial research institutes	Vienna
Regional training workshop for personnel engaged in standardization in Africa (in co-operation with ECA, UNESCO and ISO)	Africa
Training workshop for industrial administrators	not yet decided
Interregional training workshop for the managerial staff of chambers of industry	not yet decided
Meeting of the international association of industrial research institutes under the auspices of UNIDO	not yet decided
Workshop on the organization and administration of industrial services in Latin America (in co-operation with ECLA)	Latin America
<u>Group 9</u> <u>Industrial Information and Promotion</u>	
Seminar for African industrial information officers (in conjunction with ECA)	Addis Ababa
Workshop on sources of industrial information (in conjunction with ECLA)	Latin America
Regional seminar for supply managers (in conjunction with ECAFE)	Bangkok

<u>Group 10a</u> <u>Industrial Training</u>	<u>Place</u>
Middle level in-plant training programmes:	
Foundry techniques	Austria
Diesel engineering	Czechoslovakia
Shoe industry	Czechoslovakia
Feasibility and factory design	Czechoslovakia
Cement industry	Denmark
Textile production	Poland
Electrical engineering	Sweden
Pulp and paper	Sweden
Iron and steel	USSR
Machine tools and instruments	USSR
Fertilizer plants	USSR
Standardization	USSR
Food processing	United Kingdom
Top level in-plant training programmes:	
Mechanical industry	Japan
Meeting of directors of in-plant training programmes	Vienna
Expert group meeting on organization and working methods of national agencies to perform the functions of an industrial training organization (in co-operation with ILO)	Vienna
 <u>Group 10b</u> <u>Industrial Management and Consulting Services</u>	
Fifteen management clinics	not yet decided
Meeting of directors of consultancy firms from Asia and the Far East (in co-operation with ECAFE and the Asian Productivity Organization)	Asia
 <u>Group 11</u> <u>Small-scale Industries, including Industrial Estates and Industrial Extension Services</u>	
Expert group meeting on the development of small-scale industry in the West-African sub-region (in co-operation with the ECA)	West Africa
Expert group meeting on the development of small-scale industry in the East-African sub-region (in co-operation with ECA)	East Africa

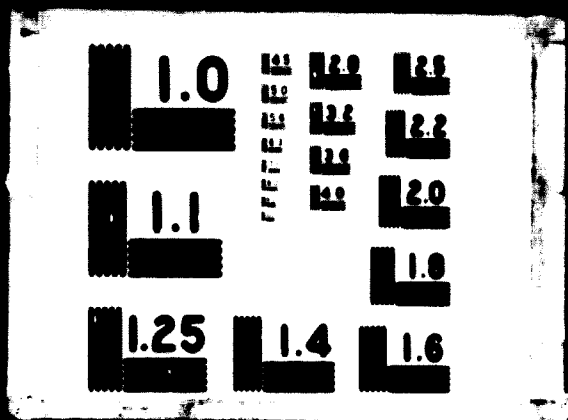


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	<u>Place</u>
<u>Group 11</u> (cont'd)	
Expert group meeting on the financing of small-scale industry in Latin America (in co-operation with ECLA)	Santiago, Chile
Group training courses on the planning, establishment and management of industrial estates (for 20 French-speaking trainees)	Italy
<u>Group 12</u> <u>Industrial Programming and Project Planning</u>	
Two subregional expert group meetings on industrial programming data	not yet decided
<u>Group 13</u> <u>Industrial Policies and Industrial Financing</u>	
Regional seminar on incentive policies for industrial development in Latin America (in co-operation with ECLA)	Latin America
Regional seminar on incentive policies for industrial development in the Middle East countries (in co-operation with UNESOB)	Middle East
Annual conference of technical assistance field experts advising on industrial policies	Vienna
Meetings of the advisory consultant panel on industrial policies	Vienna
Two workshops on industrial banking techniques	not yet decided
Second seminar on industrial financing - public manufacturing enterprises	not yet decided
Third workshop on financial planning of industrial projects	not yet decided
Two training courses on techniques of investment promotion	not yet decided
Two expert group meetings on the promotion of specific industrial projects in developing countries	not yet decided
<u>Group 14</u> <u>Promotion of Export-oriented Industries</u>	
Training course for techniques of production for export (in co-operation with UNCTAD)	not yet decided
<u>Group 15</u> <u>Industrial Reviews and Surveys</u>	
Training workshops in methods of industrial surveys for nationals of developing countries	not yet decided

ANNEX IV

STUDIES AND RESEARCH PROJECTS
PLANNED FOR 1970

Group 1 Engineering Industries

Assessment of technology of design and production of agricultural machinery and equipment in developing countries

Manufacturing guidelines for telecommunication equipment in developing countries

Study of requirements of metalworking industries and utilization of machine tools in developing countries

Utilization of idle shipbuilding and repair facilities

Assessment of ancillary automotive and spare parts production industries

Report reflecting the findings, conclusions and recommendations of the interregional symposium on repair and maintenance in developing countries (to be held in Vienna in 1970)

Report on the recommendations of the expert group meeting on development of engineering design capabilities in developing countries (to be held in Vienna in 1970)

Group 2 Metallurgical Industries

Report reflecting the results of the expert group meeting on lead and zinc production in developing countries (to be held in London in 1969 in conjunction with the Imperial Smelting Processes Limited)

Report reflecting the results of the expert group meeting on the utilization of scrap in developing countries

Selected studies prepared for the thirty-seventh International Foundry Congress (to be held in 1970 in the United Kingdom)

Group 3 Construction and Building Materials Industries

Survey of the cement industry

Three studies on plastics as a building material in developing countries

Studies reflecting the results of the interregional workshop on fibre-cement composites

Group 4 Chemicals, Pharmaceuticals and Other Related Industries

Background papers for interregional seminar on basic chemicals (to be held in Moscow in 1970)

Studies on basic chemicals derived from salt (two studies)

Techno-commercial assessment of marine salt industries in ECAFE countries

Studies on Carbo-chemicals with emphasis on the economic aspects of chemicals from coal

Group 5 Fertilizers, Pesticides and Petrochemical Industries

Regional studies on fertilizer and pesticides industry promotion

Case study of under-utilized capacity in fertilizers and pesticides in Africa and Asia

Completion of a study of world supply and demand and price trends of sulphur

Investigation of availability of excess chlorine and its potential use for pesticides production

Preparatory studies for pesticides manual (to be published in 1971 in co-operation with FAO)

Studies on the acquisition of licences and know-how in petrochemical products and the manufacture of basic intermediates and polymers

Study on the establishment of plastics fabrication units for developing countries

Study on the technological aspects of the future production trends and competition between natural and synthetic rubber, particularly in the developing countries

Studies on new products from hydrocarbon fermentation

Study on production of fodder yeast from natural gas

Proceedings of the second interregional petrochemical seminar (to be held in the USSR in 1969)

Group 6 Light Industries

Background papers for the expert group meeting on the selection of machinery for the dyeing and finishing industry

Background papers for the expert group meeting on the selection of machinery for the knitting industry

Preparatory country studies (Brazil, Iran, Pakistan and the United Arab Republic) for the second interregional workshop on textile industries (to be held in 1971)

Proceedings of the two expert group meetings on fish protein concentrates and on soya bean protein processing (to be held in 1969)

Preparatory studies for the seminar on the solution of national and regional rice processing problems (to be held in Bangkok and 1971)

Background papers for the expert group meeting on cassava processing (to be held in Vienna in 1970)

Background papers for the expert group meeting on oils and fats (to be held in London in 1970)

Group 6
(cont'd)

- Survey of the Latin American food processing industry
- Food processing research (joint programme with FAO, UNICEF and other UN bodies and the Sprenger Institut in the Netherlands)
- Background documentation for the expert group meeting on finding substitutes for wood in developing countries (to be held in Vienna in 1970)
- Background documentation for the expert group meeting on research on panels from coconuts and other tropical products (to be held in Vienna in 1970)
- UNIDO catalogue of woodworking machinery (continuation of a catalogue published in 1965)
- Preparatory studies for the seminar on furniture industry in developing countries (to be held in 1971)
- Background documents for the preparatory expert group meeting on research work in the leather industry (to be held in 1970) and seminar on leather and leather products industry (to be held in 1971)

Group 7

Industrial Legislation, Patents and Licensing

- Comparative analysis of industrial laws and regulations
- Preparatory studies for a training workshop on organization and administration of patent offices for government officials from Africa and the Middle East (to be held in 1971, in cooperation with ECA and UNESOB)
- Studies on setting up an international proprietary technology bank

Group 8

Industrial Services and their Administration

- Preparatory studies for the meeting on the evaluation of effectiveness of industrial research institutes (to be held in 1970)
- Preparatory studies for the regional training workshop for personnel engaged in standardization in Africa
- Diagnostic studies for standardization and quality control
- Preparatory studies for the training workshop for industrial administrators (to be held in 1970)
- Preparatory studies for the interregional training workshop for the managerial staff of chambers of industry, (to be held in 1970)
- Five case studies of administrative machinery for industrial development
- Preparatory work for the final establishment of the international association of industrial research institutes

Group 8
(cont'd)

Preparatory work for the establishment of a standards documentation centre for the developing countries

Preparatory studies for the workshop on the organization and administration of industrial services in Latin America (to be held in 1970)

Preparatory work for a handbook on professional associations related to industrial development (in co-operation with UNESCO)

Preliminary studies on the initial stages of research and development of new international industrial transfer institutions:

The UNIDO matrix of industry development potentials

The UNIDO roster of sources of external assistance

The proposed UNIDO industry development institutes

The proposed UNIDO-sponsored international industrial equity funds

The proposed UNIDO-sponsored medium industry multiple plant chains

The proposed UNIDO consultants consortium

The proposed UNIDO-university co-operation programme

- The preliminary studies on industrial equity funds

Group 9

Industrial Information and Promotion

Study on price trends of industrial equipment in world trade

Collection of lists of used plant and machinery from developed countries

Industrial documentation for the data centre of UNIDO

Preparatory work for establishing an international clearinghouse for audio-visual media

Collection of feasibility studies currently being assembled by the industrial documentation and data centre of UNIDO

Research for the planned publication: Directory of foreign firms with manufacturing interests in developing countries

Studies for organizing industrial promotion services at trade fairs

Study on "Accelerating Industrial Development" (in connexion with World Plan of Action for the Application of Science and Technology to Development)

Data collection on cases of technology transfer (in co-operation with the UN Advisory Committee on the Application of Science and Technology to Development and with the UN regional economic commissions)

Group 10a Industrial Training

Study on evaluation of the individual fellowship programmes
General studies on methods of in-plant training programmes
Preparatory work related to improvement of local consulting resources

Group 10b Industrial Management and Consulting Services

Research on the organization of management improvement clinics
Preliminary study on consultants consortium
Study on UNIDO-university co-operative programme (in co-operation with appropriate university organizations)
Studies on adaptation of industrial management techniques

Group 11 Small-scale Industries, including Industrial Estates and Industrial Extension Services

Study on single-trade industrial estates (leather goods, woodworking and agricultural equipment)
Ground work on the organization of the floating exhibition combined with promotional services
Studies on the establishment or strengthening of industrial extension service organizations (in co-operation with ILO)
Research on modernization of equipment and production and on stimulation of new entrepreneurship
Study of mobile demonstration workshops
Promotion of supervised credit schemes, especially hire-purchase programmes in developing countries
Study on the production of lathes (to be published in 1971 in the series "Small-scale manufacturing")
Studies on the promotion of subcontracting
Ground study for a meeting on marketing and export promotion of small-scale industry products (to be held late in 1971)

Group 12 Industrial Programming and Project Planning

Ground studies on the "Profiles of pre-investment industrial projects" and "Profiles of manufacturing establishments"
Three survey case studies of industrial plans and programmes (part of special study series on "Industrial programming - country experience")
Compilation of up-to-date statistics on the characteristics of industrial development programmes and projects in the developing countries

Group 12
(cont'd)

Ground studies dealing with the multi-national aspects of industrial development programmes

Collection of empirical studies on special topics of industrial project preparation and implementation

Ground studies on project implementation delays covering one or two subregional groups of developing countries

Ground studies related to UNIDO programme for the Second Development Decade

Group 13

Industrial Policies and Industrial Financing

Ground work on industrial policies and national economic development policy (to be submitted to the advisory consultant panel)

Ground work on industrial policies of selected countries (to be submitted to the advisory consultant panel)

Studies on policies related to regional co-operation in the industrial field (in conjunction with the regional economic commissions)

Studies of the experience of individual countries on industrial policy measures

Ground studies on selected industrial policy measures of general applicability

Background studies on prototype statutes for new industrial finance institutions (to be submitted to the advisory consultant panel)

Studies on instruments for establishment of a capital market

Case studies on the development of materials for financial planning workshops

Study on the improvement of terms and conditions of external financing

Ground study on prototypes of joint-venture agreements

Group 14

Promotion of Export-oriented Industries

Ground studies on supply - demand position of export-promising manufactures and semi-manufactures

Studies on export production opportunities in the developing countries for markets opened up by GATT or other similar agreements (in co-operation with UNCTAD)

Studies on identification of excess manufacturing capacity and its utilization for export production

Group 14
(cont'd)

Case studies on the promotion of exports of manufactures from the developing countries under specific arrangements between developed and developing countries

Report on the joint UNIDO/UNCTAD/UNDP exploratory missions regarding export of manufactured products in Africa, Asia and the Middle East

Studies on regional and subregional economic co-operation among developing countries (in co-operation with the regional economic commissions)

Studies on the promotion of production for export by domestic market oriented industries

Ground study on market acceptance practices as a guide to production for export

Ground study on "Raising the efficiency of export-oriented industries in the developing countries through the establishment of demonstration projects"

Group 15 Industrial Reviews and Surveys

Ground studies on "Industry branch reports" (for quinquennial and decennial review in depths): Reports for engineering, textiles and building materials

Studies on the industrial application of radio-isotopes and radiation (in co-operation with the IAEA)

Studies on packing materials, package design and related industries

Sectoral studies for the Second Development Decade

Ground studies for the "Industrial Development Survey 1970"

Ground studies for the "Survey of import substitution strategies: An appraisal in the light of the experience of countries pursuing alternative strategies" (in co-operation with the regional economic commissions, UNESOB and other UN organizations)

Studies for the "Survey of special problems of industrial development of the smaller developing nations" (in co-operation with UNCTAD, the regional economic commissions and UNESOB)

Ground studies on the effects of industrialization on manufacturing employment and productivity for the preparation of "A survey of recent experiences of selected developing countries" (in co-operation with the ILO, the regional economic commissions and UNESOB)

Preparatory work on the organization of industrial statistics

ANNEX V

1970 PUBLICATIONS PROGRAMME

REPORTS AND STUDIES^{1/}

Languages

<u>Group 1</u>	<u>Engineering Industries</u>			
	Agricultural equipment and machinery manufacturing industries	E	F	S
	Telecommunications equipment manufacturing	E	F	S
<u>Group 2</u>	<u>Metallurgical Industries</u>			
	Proceedings of the Second United Nations Inter-regional Symposium on Techno-economic Principles of the Development of the Iron and Steel Industry in Developing Countries (Moscow, 1968)	E	F	S
	Report of Expert Group Meeting on Lead and Zinc Industries (May 1969)	E		
<u>Group 4</u>	<u>Chemicals, Pharmaceuticals and Other Related Industries</u>			
	Proceedings of Expert Group Meeting on Fibro-cement Composites (October 1969)	E		
<u>Group 5</u>	<u>Fertilizers, Pesticides and Petrochemical Industries</u>			
	New polymers for developing countries	E		
	Problems in initial establishment of a petrochemical industry in developing countries	E		
	The transfer of technology	E		
	The substitution of some natural materials by plastics	E		
	The production of protein from petroleum	E		
	Papers and proceedings of Petrochemical Seminar (October 1969)	E	F	S

^{1/} In addition to the 38 new titles listed under this heading, provision is made in the proposed 1970 budget to print translated versions of 31 reports and studies previously published in English.

Languages

<u>Group 6</u>	<u>Light Industries</u>			
	Report of Expert Group Meeting on Testing and Manufacturing Controls in the Textile Industry (October 1969)	E		
	Information papers on technological developments in food-processing equipment	E		
	Report of Working Group on Production of Panels from Agricultural Wastes	E		
	Starch production in developing countries	E		
<u>Group 7</u>	<u>Industrial Legislation, Patents and Licensing</u>			
	Industrial Legislative Series, Vol. I, No. 1	E	F	S
	Industrial Legislative Series, Vol. I, No. 2	E	F	S
<u>Group 8</u>	<u>Industrial Services and Their Administration</u>			
	Manual on industrial co-operatives	E		
<u>Group 9</u>	<u>Industrial Information and Promotion</u>			
	Industrial Development Abstracts, No. 4	E		
	Selected list of enterprises in industrialized countries with manufacturing interests in developing countries	E		
<u>Group 10</u>	<u>Industrial Training, Management and Consulting Services</u>			
	Manual on maintenance and repair	E		
<u>Group 11</u>	<u>Small-scale Industries, including Industrial Estates</u>			
	Study of ancillary industrial estates for small sub-contractors	E		
	Sub-contracting - an analysis of international experience (June 1969)	E		
	Study of the free-zone industrial estates	E		

Languages

Group 12 Industrial Programming and Project Planning

Studies in economics of industry: Iron and steel	E		
A portfolio of case studies in project formulation and evaluation	E	F	S
Operational guide to industrial project preparation	E		
Implementation of Industrial Programmes, No.4	E	F	S
Industrial plans and programmes - experiences in several selected countries	E		
Issues and techniques of industrial project programming	E		
Profiles of Manufacturing Establishments, Vol.V	E		
Profiles of pre-investment industrial projects	E		
Analytical digest of profiles data	E		
Time profiles of industrial project implementation	E		
Implementation and follow-up of industrial projects	E		

Group 13 Industrial Policies and Industrial Financing

Prototype texts for the establishment of investment promotion centres	E		
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Group 15 Industrial Reviews and Surveys

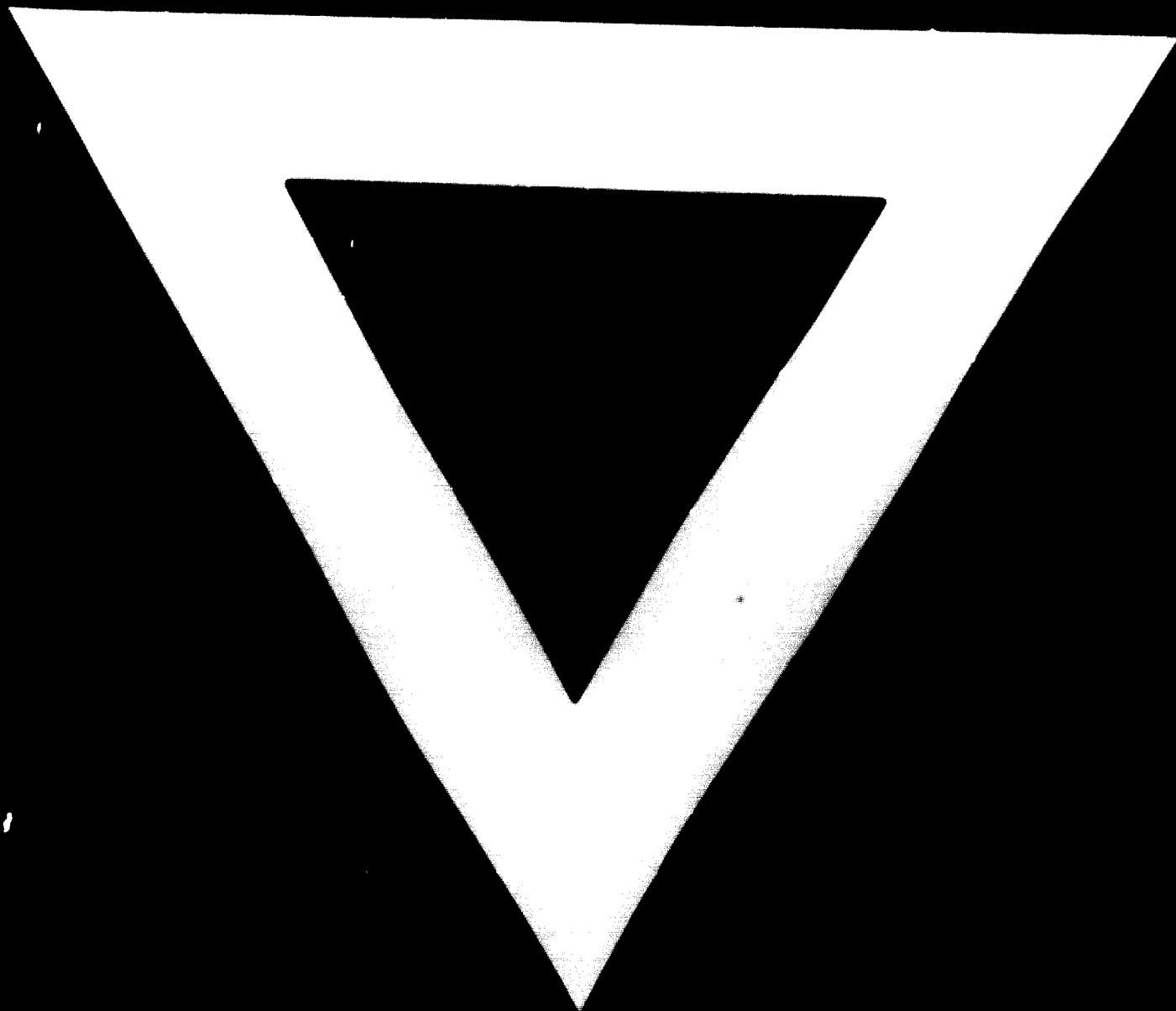
Survey of Industrial Development, Vol.3	E		
Industry branch reports	E		

RECURRENT PUBLICATIONS

UNIDO Newsletter, 12 issues	E	F	2/
Industrial Research and Development News, 4 issues	E	F	S
Industrialization and Productivity Bulletin, 2 issues	E	F	S

2/ Subject to technical feasibility and related budgetary considerations, the Newsletter will be published also in Arabic, German and Russian.





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