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Agenda item 5(a) and (b)

PROGRAMME OF WORK FOR 1971 INCLUDING REPORT OF ACTIVITIES

FOR 1969 AND UPDATING OF 1970 PROGRAMME

PART TWO

Group 5: Fertilizers, Pesticides and Petrochemicals Industries



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Corrigendum

Paragraph 20:

Delete the first sentence

Replace by:

"20. In the preparation of the regional fertilizer balance sheets (c.f. 5.01.02 above), and in support of the regional meetings on the subject, the following consultancy work was undertaken by UNIDO in 1969:

Updating of the ECLA studies on fertilizers in the Latin American region;

Findings of an exploratory mission on fertilizer demand and supply in Kuwait, Saudi Arabia and the Trucial States;

Study of petrochemicals, including fertilizers, in the UNESOB region (in co-operation with UNESOB)".

NOTE

Documents ID/B/64/Add.1-15 contain a detailed description of the fifteen groups of activities of UNIDO for the years 1969 to 1971. A list of these fifteen groups appears in the preface to document ID/B/64.

The material in each addendum is organized as follows:

Introduction

A. Operational Activities

B. Supporting Activities

Section A on Operational Activities lists the field projects by technical assistance programmes (UNDP/SF, UNDP/TA, RP and SIS). Under each programme appears a detailed description of the projects approved as of 30 September 1969 and a forecast of new projects. The list of approved projects is followed by a summary of expenditures. Projects that have been completed in 1969 (barring possible extension) are indicated by an asterisk.

Section B on Supporting Activities is divided into "projects" corresponding to major areas of work, each project being subdivided into "components". Under each component details of expenditures are given for the following items: staff man/months, meetings and consultants. The priorities A and B, under which components are listed, apply to the programmed activities in 1970 and 1971, priority B indicating that implementation is subject to availability of funds. Unless otherwise indicated, expenditures on supporting activities are financed from the UNIDO Regular Budget. Because of the nature of the item, expenditures on publications are listed separately in this section. Finally, the section contains summary tables of expenditures on supporting activities by sources of funds for 1969, 1970 and 1971.

INTRODUCTION

1. Many developing countries give high priority to the establishment of industries that supply inputs to agriculture. Among these industries, fertilizers and pesticides rate high. Recently, a trend has also developed towards the extensive use of plastics in agriculture for water conservation and transport. In formulating the proposed supporting activities of UNIDO in this area, note has been taken of this trend. Moreover, the Industrial Development Board, at its third session, recommended that UNIDO should concentrate on these industries and, at the same time, co-operate closely with FAO and WHO (A/7617, para. 117, 123).

2. The discussions at the Athens Symposium as well as those in the inter-regional seminars and expert group meetings organized by UNIDO for the development of the fertilizer and pesticides industries have served UNIDO as guidelines in the preparation of field and supporting activities in this area. The work programme has been developed with the following basic objectives in mind:

Targets for indigenous manufacture or imports of industrial products supporting agricultural output should be based on the needs of the developing countries rather than on demand;

Targets for manufacture or imports and eventual use of fertilizers and pesticides in developing countries should be based on food production requirements and should meet higher nutritional standards;

Full utilization of existing capacities;

Where imports are necessary, encouragement should be given to balanced fertilizer usage and to import of bulk intermediate products to reduce the cost to the farmer;

Regional co-operation should be encouraged in planning, production and marketing;

For the manufacture of sulphuric acid alternate raw materials, such as pyrites and gypsum and especially by-product gypsum from wet process production of phosphoric acid, should be developed;

Production of phosphoric acid and elemental phosphorous should be encouraged;

Development in nitrophosphate processes eliminating use of sulphur should be studied;

Economic and technical advantages of importing molten rather than solid sulphur should be considered.

3. The recommendations have been borne out by the findings of UNIDO field experts and by certain completed supporting activities such as the survey of fertilizer production facilities in Africa, the findings of which stressed the advantage of a regional approach in production and consumption of fertilizers in the East African region. At the same time, the interrelationship of supporting and field activities is reflected by the request received by UNIDO from the East African Development Bank as a result of the above-mentioned survey to assist in a regional feasibility study of the fertilizer industry. As a further by-product of the survey, requests for assistance in analysis of tenders for a fertilizer plant as well as for a feasibility study on pesticides manufacture have been received from the ECAFE region.
4. In some instances, certain developing countries have taken the lead in presenting to meetings sponsored by UNIDO specific project proposals. For instance, in the Meeting on the Promotion of Fertilizer Industries in Africa organized in Rabat in October 1969, and in the Meeting to Promote Specific Industrial Projects in African Countries, the following projects were submitted for discussion and promotion: fertilizer mixing plant, nitrogenous fertilizer plants, urea fertilizer factory, and fertilizer bulk blending plant.
5. Another example of the interaction between field and supporting activities is provided by the findings of UNIDO field experts to the effect that, in developing countries, capacity underutilization in the fertilizer and pesticides industries is frequent. It is the intention of UNIDO to study this problem in terms of: general needs for preventive maintenance, fabrication of spare parts, problems of supply of raw materials, and problems of marketing.
6. The supporting activities of UNIDO pertaining to sulphur have focussed on studies in supply and demand and price trends. These studies will enable developing countries depending on outside sources of sulphur to plan their purchase requirements for existing plants on a long-term basis or to switch to processes using less sulphur. A study on economies of transport of molten rather than solid sulphur will also lead a few developing countries to switch to this form of transportation.
7. The supporting programme of UNIDO in pesticides is related to the technical assistance activities in the field. The objective is to establish guidelines for the manufacture and use of pesticides in developing countries.

8. UNIDO has concentrated on the following targets with regard to petrochemicals:

Development of plastics fabrication and application facilities;

Problems in the man-made fibre industry;

Production trends and competition between natural and synthetic rubber;

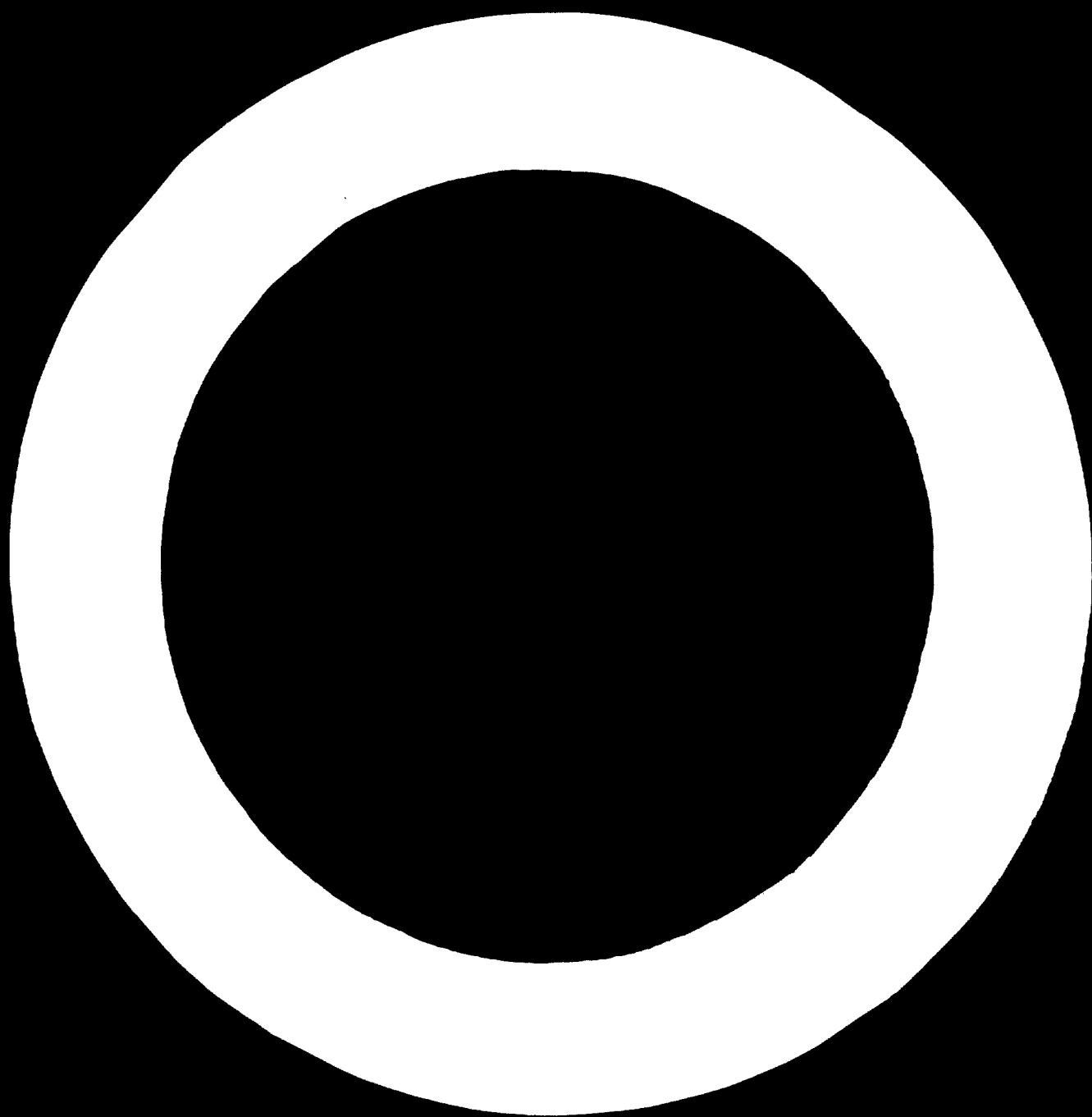
In-plant training for repair and maintenance of petrochemical plants and for plastics fabrication and utilization;

Use of plastics in agriculture;

Production of proteins from hydrocarbons.

9. UNIDO has carried out a considerable number of technical assistance projects in the field of petrochemicals, and the findings from these projects were used as an input into the planning for the 1969 petrochemical symposium at Baku.

10. The interest of developing countries in the use of plastics in agriculture is evidenced by requests received by UNIDO from countries in Latin America which hope to develop plastics for water transport and conservation. A study of the problem will be made in 1971 by a consultant who is to identify other areas for the use of plastics and to establish the cost benefit ratios.



A. OPERATIONAL ACTIVITIES

UNDP/SPECIAL FUND - approved projects

Project
number

AFRICA

Algeria

ALG-18 Centre for industrial and technological studies - phase II

Purpose: To assist in the establishment of an autonomous body to evaluate industrial feasibility studies and advise on projects to be carried out under the national industrial development programme. The Centre is also to serve as counterpart agency for the Government of Algiers in the Centre of Industrial Studies for the Maghreb. The project became operational in February 1969.

Approved: January 1968 UNDP: \$820,700
Duration: 3 years Gov't: \$629,000

Rwanda

RWA-3 Pilot plant for industrialization and pyrethrum production,
Mukingo

Purpose: To assist the Government in the establishment and initial operation of a pilot plant for pyrethrum production with an annual capacity of 200 tons of extract. The project became operational in December 1968, and the project manager began his assignment in July 1969, but delays have been encountered in the design and erection of the pilot plant under subcontract.

Approved: January 1966 UNDP: \$1,459,500
Duration: 3 years Gov't: \$1,280,300

Togo

TOG-12 Fertilizer use, promotion, demonstration and production scheme,
Lomé

Purpose: In association with FAO, to assist the Government in launching an intensive fertilizer use campaign and to establish a fertilizer demonstration plant with an annual capacity of 14,000 tons for the manufacture of single superphosphate. A consultant is being recruited to prepare specifications for subcontract work.

Approved: June 1969 UNDP: \$944,900
Duration: 3 years Gov't: \$941,000

UNDP/SPECIAL FUND - approved projects (cont'd)

Project
number

AFRICA (cont'd)

United Arab Republic

UAR-69

Demonstration pesticide production plant based on chlorine and bromine resources

Purpose: To assist the Government in establishing a pesticide production plant to demonstrate the utilization of chlorine and bromine which presently constitute valuable but wasted by-products of the chemical industry. The plant is to have an annual production of 1,000 tons of D.D.T., 1,000 tons of B.H.C., 500 tons of bromine and the bromination of 150 tons dichloropropane. The project became operational in June 1969.

Approved: January 1968
Duration: 3 years

UNDP: \$1,053,600
Gov't: \$1,253,000

ASIA AND THE
FAR EAST

Pakistan

PAK-26

Pre-investment studies for the promotion of the fertiliser and petrochemical industries

Purpose: In association with FAO, to assist the Government in developing the fertilizer and petrochemical industries and to promote the use of fertilizer and petrochemical end products. The pre-investment studies are to assist the Government in its negotiations with potential sources of investment financing. The project became operational in June 1967. FAO is carrying out studies in fertilizer promotion and use, and the Batelle Institute is carrying out studies of manufacturing processes under subcontract.

Approved: June 1965
Duration: 3 years

UNDP: \$1,532,000
Gov't: \$1,100,000

UNDP/SPECIAL FUND - approved projects (cont'd)

Table 1

Estimated expenditures for approved UNDP/SF projects, 1969-1971

(in US dollars)

	1969			1970			1971		
	<u>Experts</u>	<u>Fellows</u>	<u>Other^{a/}</u>	<u>Experts</u>	<u>Fellows</u>	<u>Other^{a/}</u>	<u>Experts</u>	<u>Fellows</u>	<u>Other^{a/}</u>
RWA-3	57,000	2,000	237,100	61,100	14,000	540,200	24,300	3,700	456,000
TOG-12	800	-	-	42,700	6,800	194,400	54,200	6,800	425,000
UAR-89	900	-	-	24,000	6,000	451,000	12,000	-	458,000
PAK-26	98,000	-	194,300	184,000	40,000	579,400	-	-	-
ALG-18	98,500	400	5,900	184,000	15,000	114,500	135,300	16,800	113,000
Total	258,000	2,400	437,300	395,800	81,800	1,879,500	225,800	26,500	1,448,000

^{a/} Including equipment and subcontracting.

UNDP/SPECIAL FUND - projects under preparation

THE AMERICAS

Demonstration, production and use of fertilizers

EUROPE AND THE MIDDLE EAST

Assistance to the petroleum refinery and petrochemical industry

UNDP/TECHNICAL ASSISTANCE - approved projects

<u>Project number</u>		<u>1969</u>	<u>1970</u>	<u>1971</u>
		(in US dollars)		
	<u>ASIA AND THE FAR EAST</u>			
	<u>India</u>			
IND-69-1	<u>Chemical and petrochemical industries - polymer chemistry (acrylics, polyamides, urethane and systems)</u>			
	expert	1/12 m/m	-	24,000 -
	<u>Regional</u>			
ASI-68-8	<u>Meeting for the development of the fertiliser and pesticides industries^{1/}</u>			
	experts	5/3 m/m	6,000	- -
	fellows	16/8 m/m	7,200	- -
	miscellaneous		800	- -
	<u>EUROPE AND THE MIDDLE EAST</u>			
	<u>Hungary</u>			
HUN-69-1	<u>Production of artificial leather</u>			
	fellows	7/21 m/m	2,200	6,600 6,600
HUN-69-11	<u>Selection of products in petrochemical plants*</u>			
	fellows	1/3 m/m	2,200	- -
	<u>Romania</u>			
ROM-69-4	<u>Study of heterogeneous catalysis and chemical industry based on the catalysis and refining of crude oil* - chemical engineering and heterogeneous catalysis</u>			
	expert	1/1 m/m	1,925	- -
	fellows	6/18 m/m	13,200	- -
	equipment		1,050	- -

^{1/} This project is also reported under Supporting Activities (5.01.02).

UNDP/TECHNICAL ASSISTANCE - approved projects (cont'd)

<u>Project number</u>		<u>1969</u>	<u>1970</u>	<u>1971</u>
		<u>(in US dollars)</u>		
<u>INTERREGIONAL</u>				
<u>IFT-68-6</u>	<u>Second United Nations interregional symposium on the development of petrochemical industries in developing countries</u>			
	experts	9/5 m/m	14,000	-
	fellows	40/20 m/m	40,000	-
	miscellaneous		2,000	-

Table 2

Estimated expenditures for approved UNDP/TA projects, 1969-1971

	<u>1969</u>		<u>1970</u>		<u>1971</u>	
	<u>m/m</u>	<u>US\$</u>	<u>m/m</u>	<u>US\$</u>	<u>m/m</u>	<u>US\$</u>
Experts	15/9	21,925	1/12	24,000	-	-
Fellows	70/70	64,800	3/9	6,600	3/9	6,600
Other	-	3,850	-	-	-	-
Total		<u>90,575</u>		<u>30,600</u>		<u>6,600</u>

2/ This project is also reported under Supporting Activities (5.04.01).

UNDP/TECHNICAL ASSISTANCE - forecast of new projects for 1971

	<u>Experts</u> <u>m/m</u>	<u>Fellows</u> <u>m/m</u>	<u>Other</u> <u>US\$</u>
<u>AFRICA</u>			
Assistance in establishment of petrochemical production	4/24	3/18	-
Fertilizer industries development	3/18	3/18	-
Urea plant-tender evaluation and construction	2/12	-	-
Production of PVC sheet and film	1/6	-	-
<u>THE AMERICAS</u>			
Feasibility study for establishment of DMT production	1/6	-	-
Assistance in formulating petrochemical policy	3/18	-	-
Co-ordination of petrochemical production units - PVC and polyethylene - and by-product utilization	2/12	-	-
Assistance in the establishment of specific petrochemical production	2/12	-	-
Strengthening regional plastics technology centre in quality control and testing, physics of polymers and plastics fabrication	4/30	4/24	-
Assistance for application of plastics in agriculture	2/12	-	-
Assistance in establishment of a rational petrochemical development policy in Central America	1/6	-	-
Assistance in using radiation in plastic-wood combination, in co-operation with IAEA	2/12	-	-

UNDP/TECHNICAL ASSISTANCE - forecast of new projects for 1971 (cont'd)

	<u>Experts</u> <u>n/m</u>	<u>Fellows</u> <u>n/m</u>	<u>Other</u> <u>US\$</u>
<u>ASIA AND THE FAR EAST</u>			
Feasibility study for establishment of a methanol plant	2/6	-	-
Feasibility study for establishment of a styrene monomer plant	2/6	-	-
Assistance on polymerization	2/12	2/12	-
Improvement on synthetic fibre properties by chemical modification	2/12	4/24	-
Assistance in the establishment of ethylene glycol production	2/12	-	-
Feasibility study for establishment of a petrochemical complex in Southeast Asia	2/12	-	-
Assistance in undertaking studies on possibilities for joint petrochemical ventures in the region	2/12	-	-
Assistance in estimation of demand for petrochemical products at national and regional level	2/12	-	-
Feasibility study for establishment of joint vinyl chloride monomer production for several countries of the region - in co-operation with ECAFE	2/12	-	-
Assistance to application of plastics in agriculture	4/24	2/12	-
Feasibility study for establishing Asian plastics institutes	2/12	-	-
Assistance in establishment of a melamine plant	2/12	-	-
Assistance in establishment of tetraethyl lead production	1/6	-	-
Production of plastic foam products	1/6	-	-
Fertiliser industry survey	2/12	-	-

UNDP/TECHNICAL ASSISTANCE - forecast of new projects for 1971 (cont'd)

	<u>Experts</u> <u>n/m</u>	<u>Fellows</u> <u>m/m</u>	<u>Other</u> <u>US\$</u>
<u>EUROPE AND THE MIDDLE EAST</u>			
Assistance in the application of plastics in agriculture	3/15	4/24	-
Assistance in working out a regional petrochemical policy	1/6	-	-
Assistance in establishing fertilizer plants	3/12	6/36	-
Assistance in the development of plastics industries	3/12	6/36	-
Insecticides industry development	2/12	4/24	-

UNIDO REGULAR PROGRAMME - approved projects

<u>Project number</u>			<u>1969</u>	<u>1970</u>
			(in US dollars)	
<u>AFRICA</u>				
<u>United Arab Republic</u>				
RP-05-4	<u>Fertilizer industry</u> - in plant training			
	fellow	1/3 m/m	-	2,200
<u>United Republic of Tanzania</u>				
RP-05-39	<u>Fertilizer industry development*</u> - training			
	fellow	1/6 m/m	3,400	-
<u>THE AMERICAS</u>				
<u>Argentina</u>				
RP-05-2	<u>Fertilizer industry</u> - in-plant training			
	fellow	1/3 m/m	-	2,200
RP-05-158	<u>Plastics industries*</u> - Latin American Plastics Institute			
	experts	4/2 m/m	7,600	-
<u>Brazil</u>				
RP-05-2	<u>Fertilizer industry</u> - in-plant training			
	fellow	1/3 m/m	-	2,200
<u>ASIA AND THE FAR EAST</u>				
<u>China</u>				
RP-05-139	<u>Petrochemical industries*</u> - polyesters			
	fellows	1/6 m/m	3,400	-
<u>India</u>				
RP-05-4	<u>Petrochemical industries</u> - in-plant training			
	fellows	1/3 m/m	-	2,200

UNIDO REGULAR PROGRAMME - approved project (cont'd)

<u>Project number</u>			<u>1969</u>	<u>1970</u>
			(in US dollars)	
<u>ASIA AND THE FAR EAST (cont'd)</u>				
<u>Indonesia</u>				
RP-05-61	<u>Fertilizer industry*</u>			
	expert	1/12 m/m	23,100	-
	fellow	1/6 m/m	3,400	-
<u>Iran</u>				
RP-05-5	<u>Fertilizer industries - in-plant training</u>			
	fellow	1/3 m/m	-	2,200
<u>Pakistan</u>				
RP-05-3	<u>Fertilizer industry - in-plant training</u>			
	fellow	1/3 m/m	-	2,200
<u>Singapore</u>				
RP-05-3	<u>Chemical and petrochemical industries</u>			
	expert	1/5 m/m	-	9,575
<u>Regional</u>				
RP-05-9	<u>Fertilizer industries</u>			
	regional adviser	1/12 m/m	-	24,500
RP-05-84	<u>Fertilizer industries*</u>			
	regional adviser	1/9 m/m	17,600	-
<u>EUROPE AND THE MIDDLE EAST</u>				
<u>Iraq</u>				
RP-05-3	<u>Fertilizer industries - in-plant training</u>			
	fellow	1/3 m/m	-	2,200

UNIDO REGULAR PROGRAMME - approved projects (cont'd)

<u>Project number</u>			<u>1969</u>	<u>1970</u>
			(in US dollars)	
<u>EUROPE AND THE MIDDLE EAST (cont'd)</u>				
<u>Kuwait</u>				
RP-05-2	<u>Fertilizer industries</u> - in-plant training			
	fellow	1/3 m/m	-	2,200
RP-05-129	<u>Chemical industry*</u> - petrochemicals			
	fellow	1/6 m/m	3,400	-
<u>Syria</u>				
RP-05-3	<u>Fertilizer industries</u> - in-plant training			
	fellow	1/3 m/m	-	2,200
RP-05-133	<u>Fertilizer industries</u> - production			
	fellow	1/6 m/m	3,400	-
<u>INTERREGIONAL</u>				
RP-05-4	<u>Petrochemical industries</u>			
	interregional adviser	1/12 m/m	-	24,500

Table 3

Estimated expenditures for approved RP projects, 1969-1970

	1969		1970	
	<u>m/m</u>	<u>US\$</u>	<u>m/m</u>	<u>US\$</u>
Experts	6/23	48,300	3/24	58,575
Fellows	5/30	17,000	9/27	19,800
Other	-	-	-	-
Total		<u>65,300</u>		<u>78,375</u>

UNIDO REGULAR PROGRAMME - forecast of new projects for 1971

<u>Project number</u>	<u>Experts n/n</u>	<u>Fellows n/n</u>
<u>AFRICA</u>		
Fertilizer production	1/6	2/12
<u>THE AMERICAS</u>		
Plastic products	-	3/18
<u>ASIA AND THE FAR EAST</u>		
Fertilizer production	-	1/3
Regional adviser, iron and steel industries	1/12	-
<u>EUROPE AND THE MIDDLE EAST</u>		
Fertilizers production	-	1/6
Complex fertilizer industries	-	3/6
Petrochemical industries	-	1/3
<u>INTERREGIONAL</u>		
Interregional adviser on petrochemicals industries	1/12	-

SPECIAL INDUSTRIAL SERVICES - approved projects

<u>Project number</u>			<u>1969</u>	<u>1970</u>
			(in US dollars)	
<u>AFRICA</u>				
<u>Burundi</u>				
68/454 BDI-2	<u>Preliminary study for the production of organic fertiliser*</u>	expert	1/1 m/m	4,000 -
<u>Guinea</u>				
69/507 GUI-6	<u>Study on the feasibility of composting town's garbage at Conakry</u>	consulting firm		3,000 17,000
<u>Sudan</u>				
67/152 SUD-7	<u>Assistance for the establishment of a plant - ammonia and urea (nitrogenous fertiliser)</u>	expert	1/4 m/m	7,000 -
<u>United Arab Republic</u>				
69/471 UAR-5	<u>Feasibility study for a phosphorus and phosphatic fertiliser complex - phase II (team leader, mechanical or civil engineer, market researcher, contract engineer)</u>	expert	4/4 m/m	4,000 18,000
69/472 UAR-6	<u>Assistance in assessing the feasibility of establishing an ammonia/urea fertiliser plant - phase II* (contract engineer)</u>	expert	1/1 m/m	3,000 -
<u>THE AMERICAS</u>				
<u>Bolivia</u>				
68/298 BOL-8	<u>Assistance in the establishment of a vegetable oil processing industry - agricultural economist</u>	expert	1/3 m/m	5,000 2,000

SPECIAL INDUSTRIAL SERVICES - approved projects (cont'd)

<u>Project number</u>		<u>1969</u>	<u>1970</u>
		(in US dollars)	
<u>THE AMERICAS (cont'd)</u>			
<u>Brazil</u>			
67/228 BRA-6	<u>Tetraethyl lead project - chemical engineer, petrochemical market researcher</u> experts	2/4 m/m	- 12,000
<u>Chile</u>			
69/588 CHI-7	<u>Development of the plastics industry - industrial economist, mechanical engineer, plastics specialist</u> experts	3/4.5 m/m	5,400 5,400
<u>Trinidad and Tobago</u>			
69/545 TRI-10	<u>Assistance in the field of petrochemicals marketing - exploratory mission*</u> experts	1/0.25 m/m	1,200 -
<u>Venezuela</u>			
68/295 VEN-4	<u>Industrial project implementation - chemical or industrial engineer, industrial economist, industrial chemist</u> experts	3/3 m/m	2,500 4,500
<u>Regional</u>			
69/488 LA-2	<u>Assistance to petrochemical and assembly industries - industrial engineer in petrochemicals, assembly engineer</u> experts	2/12 m/m	3,000 21,000

SPECIAL INDUSTRIAL SERVICES - approved projects (cont'd)

<u>Project number</u>		<u>1969</u>	<u>1970</u>
		<u>(in US dollars)</u>	
<u>ASIA AND THE FAR EAST</u>			
<u>China</u>			
69/500 CHA-11	<u>Assistance to the Union Industrial Research Institute in the field of high polymers</u> - chemical engineer, high polymers chemist experts	2/12 m/m	- 25,000
<u>Philippines</u>			
69/604 PHI-11	<u>Assistance to board of investment</u> - petrochemical industries expert	1/6 m/m	- 12,000
<u>EUROPE AND THE MIDDLE EAST</u>			
<u>Syria</u>			
68/309 SYR-5	<u>Assistance to Home nitrogen fertilizer project</u> - chemical and mechanical engineer experts	2/18 m/m	25,600 8,500
68/325 SYR-3	<u>Study of fertilizer requirements and urea production</u> - chemical engineer expert	1/6 m/m	- 11,000
69/509 SYR-19	<u>Adviser on natural gas development</u> - petrochemicals and fertilizers expert	1/6 m/m	- 12,000
69/535 SYR-16	<u>Assistance to insecticides industry</u> - insecticides production expert	1/3 m/m	- 6,000
<u>Yugoslavia</u>			
68/345 YUG-9	<u>Assistance to petrochemical industries</u> - chemical/mechanical expert	1/6 m/m	- 12,000

SPECIAL INDUSTRIAL SERVICES - approved projects (cont'd)

<u>Project number</u>		<u>1969</u>	<u>1970</u>
		<u>(in US dollars)</u>	
<u>EUROPE AND THE MIDDLE EAST (cont'd)</u>			
<u>Yugoslavia (cont'd)</u>			
68/437 YUG-9B	<u>Assistance to petrochemical industry - chemical engineer</u> expert	1/6 m/m	- 12,000
68/438 YUG-9C	<u>Assistance to petrochemical industry - chemical engineers</u> experts	2/8 m/m	- 16,000
69/566 YUG-17	<u>Production development trends and by-product finalization*</u> <u>Processing of coal into fuels and complex fertilizers*</u> experts	3/2 m/m	3,900 -
<u>INTERREGIONAL</u>			
69/510 INT-7	<u>Training Course for Industrial Production of Pesticides and Insecticides in Developing Countries 1/</u> participants	21/105 m/m	65,000 -

Table 4

Estimated expenditures for SIS projects, 1969-1970

	<u>1969</u>		<u>1970</u>	
	<u>m/m</u>	<u>US\$</u>	<u>m/m</u>	<u>US\$</u>
Experts	15/30	64,200	25/79	177,400
Fellows	21/105	65,000	-	-
Other	-	3,000	-	17,000
Total		132,200		194,400

3/ This project is also reported under Supporting Activities (5.03.04).

B. SUPPORTING ACTIVITIES

11. The supporting activities for Group 5 are classified under the following projects:

Fertilisers	5.01
Sulphur	5.02
Pesticides	5.03
Petrochemicals	5.04

12. As was mentioned in the prefatory remarks to the section on supporting activities in Part One (ID/B/64), the objective of the supporting activities is to establish a two-way flow of information and experiences between the supporting activities at headquarters and the field. A great deal of material on which headquarters' studies and meetings are based is derived from information received from the field. In turn, the studies and meetings are intended to improve the substantive support given by headquarters to the field operations. In many cases these results are fed directly to the field in the form of reports. In all cases, they constitute an accumulation of knowledge and experience on which both headquarters and field staff are able to draw in response to the needs arising in the technical assistance operations.

Fertilisers (5.01)

13. The supporting activities of UNIDO in this area are designed to provide information for the formulation of national and regional projects and for the improvement of existing facilities. All pertinent activities in this area are being co-ordinated with FAO.

Prospects of fertiliser development possibilities (5.01.01)

14. A survey of fertiliser production facilities was conducted by UNIDO in 1968 in the African region. In 1969, another survey was carried out in Asia with the help of a consultant who visited eight countries in the region, he is now preparing the directory of fertiliser production facilities (ID/B/26, para. 82). In 1970, a similar survey will be carried out in Latin America (ID/B/44, para. 134) and in 1971, a survey will be made in the Middle East.

15. These surveys, undertaken with a view to identifying prospects of fertilizer development possibilities, highlight plans of development, identify requirements of nitrogen, potash and phosphates, and project - wherever possible - requirements through 1975 and 1980.

16. The results of these surveys will be used in the development meetings planned for each region (see 5.01.02) and for compiling the directory of fertilizer production facilities. It is also expected that, in the course of these surveys, technical assistance projects will be identified. The draft for the African survey has been submitted to ECA and FAO and their comments have been incorporated. The drafts for the other surveys will be handled similarly.

	Staff (in m/m)	Consultants (US\$)	<u>Priority A</u>
1969	10	7,674	
1970	10	8,000 ^{a/}	
1971	10	5,000	

^{a/} Including \$4,000 from the General Trust Fund of UNIDO.

Meetings for the development of fertilizer
and pesticide industries (5.01.02)^{4/}

17. UNIDO has carried out a number of technical assistance projects in the fertilizer industry. The findings from many of these projects indicate that many developing countries face similar problems such as those connected with the selection of processes and equipment, marketing and financing. These findings were discussed at the Meeting on the Promotion of Fertilizer Industries in Africa, in Rabat in October 1969 (ID/B/50, para. 31) which was held along with the Meeting to Promote Specific Industrial Projects in African Countries (see Group 13, ID/B/64/Add.13, 13.09.02). A similar meeting was held in Teheran in October 1969 (ID/B/26, para. 80) in conjunction with the Industrial Promotion Service organized by UNIDO at the Second Asian International Trade Fair (see Group 8, ID/B/64/Add.8, 8.04.01). The purpose

^{4/} This project is also reported under Operational Activities (UNDP/TA approved project ASI/68/8) p.10.

of these meetings was to bring viable fertilizer and pesticide projects to the attention of financial institutions (this is a joint exercise of Groups 5, 8 and 13).

18. A meeting will be held in Latin America in 1970 (ID/B/44, para. 135) which will focus on technological factors in the development of the fertilizer industry in Latin America, namely the selection of product mix, choice of location, selection of processes, size of units and credit, marketing problems and project planning and execution. In 1971, a meeting of this type will be held in the UNESOB region with a similar agenda.

19. In each case these meetings will bring together fifteen representatives of developing countries and representatives from developed countries. The results of the fertilizer production surveys (5.01.01) will be discussed and efforts will be made to draw up fertilizer balance sheets for each region (ID/B/26, para. 83). Project files will be built up on each identified opportunity, and it is expected that UNIDO assistance will be requested in the promotion and implementation of these projects. These meetings will be held in close co-operation with the regional economic commission concerned. Any promotional aspects of these meetings will be closely co-ordinated with Group 13.

	Staff (in m/m)	Meetings (US\$)	Consultants (US\$)
1969	4	14,000 ^{a/}	1,500
1970	4	12,000 ^{a/}	2,000
1971	4	11,000 ^{a/}	3,000

^{a/} UNDP/TA funds.

Fertilizer balance sheets (5.01.03)

20. In order to prepare the regional fertilizer balance sheets (mentioned under 5.01.02 above) and to support the regional meetings on the subject, the following consultancy studies were carried out by UNIDO in 1969:

Updating of ECLA studies;

Fertilizer supply and demand in the Indian Ocean and Arabian Gulf region;

Study of the crucial states;

Petrochemicals in the UNESOB region.

Priority A

	<u>Staff</u> <u>(in m/m)</u>	<u>Consultants</u> <u>(US\$)</u>
1969	2	4,746
1970	-	-
1971	-	-

Study of underutilization of capacities in the fertilizer
and pesticide industries (5.01.04)

21. The problem of underutilization of existing capacities is becoming increasingly common as new fertilizer production facilities are established in developing countries. This fact is reflected by the shift in emphasis in the technical assistance requests being received by UNIDO. In recognition of this problem, UNIDO proposes to carry out a survey of fertilizer production facilities, based on checklists to be prepared and circulated, to identify instances of underutilization of existing capacities in fertilizer and pesticide industries. On the basis of the findings of this survey, a study will be carried out by UNIDO in 1970 in a country in Asia (ID/B/44, para. 136). The project will be planned in co-operation with FAO. Where underutilization of capacity is due to lack of demand caused by insufficient sales promotion and inadequate development of markets, the assistance of FAO will be solicited by UNIDO to study this problem. It is proposed to conduct a similar study in another region in 1971.

Priority A

	<u>Staff</u> <u>(in m/m)</u>	<u>Consultants</u> <u>(US\$)</u>
1969	-	-
1970	3	4,500
1971	3	4,500

Second interregional symposium on the production
of fertilizers (5.01.05)

22. An interregional seminar on production of fertilizers was held in 1965 by the United Nations Centre for Industrial Development (CID) in co-operation with the Ukrainian Soviet Socialist Republic in Kiev. The seminar transmitted recent technologies to participants and evaluated the problems faced by the

industry. Since that time there have been substantial changes in technologies, sizes of plants, types of products, manners of bulk transport, uses of intermediate products and in regional development.

23. In 1970, an expert group meeting will be held in Vienna to make preparations for the 1971 symposium, to which representatives from FAO will be invited. ECAFE is planning a meeting on fertilizer production in the Asia region which is also expected to lead up to the proposed 1971 symposium.

24. The symposium will have a promotional approach. Whilst the first meeting in Kiev in 1965 highlighted economies of scale and use of liquid and gaseous feedstocks for ammonia synthesis, the second meeting will concentrate on project identification and assistance in implementation.

	Staff (in m/m)	Meetings (US\$)	Consultants (US\$)
1969	-	-	-
1970	3	7,500 ^{a/}	2,000 ^{a/}
1971	24	145,000 ^{b/}	30,000 ^{b/}

a/ From the General Trust Fund of UNIDO.

b/ The financing of the meetings and consultants in 1971 will be \$120,000 from the General Trust Fund of UNIDO and \$55,000 from UNDP/TA.

Studies (5.01.06)

25. In 1969, two studies were commissioned (ID/B/50, para. 32) on the following subjects:

Experience of the Union of Soviet Socialist Republics with processes for reducing the use of sulphur in fertilizer manufacture;

Direct use of phosphate rock as fertilizer and cattle feed.

These studies are of interest to developing countries that have no sulphur resources.

	Staff (in m/m)	Consultants (US\$)
1969	1	11,112 ^{a/}
1970	-	-
1971	-	-

a/ From the General Trust Fund of UNIDO.

Publications (5.01.07)

26. In accordance with the 1969 programme (ID/B/50, para. 33) two publications were commissioned during the year:

Techno-economics of nitrophosphate fertilizers;

Utilization of by-product gypsum from wet process phosphoric acid for production of sulphuric acid and cement clinker.

Priority A

	Staff (in m/m)
1969	2
1970	-
1971	-

Sulphur (5.02)

27. Approximately 60 per cent of the world production of sulphur is utilized in the production of fertilizers. Given the importance of fertilizer for the solution of the world food problem, it is obvious that questions pertaining to processing and transport of sulphur are of vital significance to all countries.

Transport of molten sulphur (5.02.01)

28. The transport of sulphur in molten form is taking place regularly between developed countries. This mode of transport would offer considerable advantages in transport costs and handling facilities to developed countries which are now importing large quantities (100,000 tons and over per year) of sulphur in solid form. In 1969, UNIDO commissioned a study in two parts from an outside consultant on world supply, demand and price trends of sulphur (ID/B/26, para. 84). This study is expected to touch on, among other subjects, the advantages of molten sulphur transport for developing countries. In 1971, subject to availability of funds, UNIDO proposes to make a study in depth on this subject; the study will focus attention on the various advantages accruing to developing countries from molten sulphur transport. Except for the preparation for publication of the study commissioned in 1969, no activity is foreseen in this area during 1970.

Priority B

	<u>Staff (in m/m)</u>	<u>Consultants (US\$)</u>
1969	1	8,422
1970	1	-
1971	1	3,000

Pesticides (5.03)

29. The work of UNIDO in the area of pesticides is being given increasing emphasis as many developing countries plan to establish manufacturing facilities of their own and will, therefore, require additional technical assistance. As the pesticide industry is highly sophisticated and know-how is restricted, many developing countries start with formulation plants, while others begin with the production of active ingredients for pesticides. Some of these ingredients, such as natural and chlorinated products, are being replaced in developed countries by phosphorus-based products, a trend that is of considerable importance to developing countries. Another matter of concern to the developing countries is the residual effects of pesticides. In 1969, UNIDO, with the help of a short-term adviser, carried out preliminary investigations on formulation units and on residual effects. In addition, UNIDO, as the executing agency, has had in operation two UNDP/SF projects on the production of pyrethrum and DDT.

Mission to investigate the availability of excess chlorine and its potential use for pesticides production (5.03.01)

30. There is a growing interest in the developing countries in the proper utilization of by-product chlorine obtained during the manufacture of caustic soda by the electrolytic method. Accordingly, UNIDO plans to continue its investigations on the availability of excess chlorine. An increasing interest in phosphorus-based pesticides, which are rapidly replacing chlorinated products, is also anticipated. UNIDO proposes to continue investigations in depth on chlorine and the residual effects of pesticides in 1971. In keeping with the recommendations of the Industrial Development Board at its third session (A/7617, para. 123, 124), this investigation will be effected in close collaboration with FAO and WEC.

Priority A

	<u>Staff</u> <u>(in m/m)</u>	<u>Consultants</u> <u>(US\$)</u>
1969	-	-
1970	2	3,000
1971	2	3,000

Pesticides manual (5.03.02)

31. In 1969, a draft outline of the pesticides manual was drawn up by UNIDO staff. In the 1970 work programme, compilation of a pesticides manual has been included under Priority B (ID/B/44, para. 139). Following the same pattern as the Fertilizer Manual (ST/CID/15), the pesticides manual will provide up-to-date information on recent technological developments, criteria for selection of raw materials and products, economies of scale, patents and the hazards of handling pesticides.

Priority B

	<u>Staff</u> <u>(in m/m)</u>	<u>Consultants</u> <u>(US\$)</u>
1969	3	-
1970	6	15,000
1971	3	10,000

Workshop on pesticides (5.03.03)

32. UNIDO proposes, subject to availability of funds, to convene a workshop of ten participants for one week in Vienna in 1971 to formulate an approach and strategy for the development of the pesticide industry in developing countries. Representatives of FAO and WHO would be invited to attend. The report of the meeting would be circulated to all developing countries.

Priority B

	<u>Staff</u> <u>(in m/m)</u>	<u>Meetings</u> <u>(US\$)</u>	<u>Consultants</u> <u>(US\$)</u>
1969	-	-	-
1970	1	-	-
1971	3	12,000 ^a	3,000

a/ UNDP/TA funds.

Training Course for Industrial Production of
Pesticides and Insecticides in Developing Countries (5.03.04)^{5/}

33. An interregional training course on the above subject was conducted in collaboration with the Syracuse University, New York, United States of America, in July/August 1969 for nineteen participants from nineteen countries. The organization and servicing of the course were carried out by staff of the UNIDO Liaison Office, New York.

Priority A

	<u>Staff (in m/m)</u>	<u>Meetings (US\$)</u>
1969	-	65,000 ^{a/}
1970	-	-
1971	-	-

a/ SIS funds.

Petrochemicals (5.04)

34. This sector of activity includes plastics, synthetic rubber, synthetic fibre and protein manufacturing or processing industries. Some developing countries have started the fabrication of plastics using imported basic materials, while others are producing indigencously the basic materials for the plastics fabrication industry. However, the quality of the plastic products is not always up to standard. Training in use of up-to-date machines and materials and introduction of quality control methods are required. UNIDO has been requested to provide technical assistance in this field.

Interregional Petrochemical Symposium on the Development
of Petrochemical Industries in Developing Countries (5.04.01)^{6/}

35. The Interregional Petrochemical Symposium was held in Baku, Union of Soviet Socialist Republics in October 1969 (ID/B/26, para. 81). Participants from 40 developing countries, and some 40 participants from developed countries as

5/ This activity is also reported under Operational Activities (SIS approved project 69/510 INT-7) p.22.

6/ This activity is also reported under Operational Activities (UNDP/TA approved project INT 68/6)p.11.

well as 30 participants from the host country attended; two regional economic commissions also participated in the meeting. The symposium concentrated on new technological developments, the problems facing the industry in developing countries and the assistance UNIDO could render in this sector. The development of this industry during the Second Development Decade was discussed. The report of the symposium will be edited in 1970 and, subject to availability of funds, published in 1971.

	<u>Priority B</u>		
	<u>Staff</u> (in m/m)	<u>Meetings</u> (US\$)	<u>Consultants</u> (US\$)
1969	12	141,873 ^{a/}	10,000 ^{a/}
1970	3	-	7,500
1971	6	-	-

a/ The financing of meetings and consultants in 1969 was \$54,928 from UNDP/TA and Roubles 110,448 (equivalent of \$96,945) from the General Trust Fund of UNIDO.

Study on establishment of plastic fabrication and application facilities (thermo-plastics materials) (5.04.02)

36. In 1970, UNIDO proposes, subject to availability of funds, to obtain the services of a consultant to carry out a study on the experience gained from technical assistance projects in establishing plastics fabrication units (ID/B/44, para. 140). The study would provide information on plastics fabrication and application in specific cases and would give guidelines to developing countries wishing to establish plastics fabrication facilities. The study would also assist the developing countries to obtain information on technologies and suppliers of technologies in plastics fabrication. A similar study on thermo-setting plastics will be carried out in 1971, also subject to availability of funds.

	<u>Priority B</u>	
	<u>Staff</u> (in m/m)	<u>Consultants</u> (US\$)
1969	-	-
1970	4	5,000
1971	4	5,000

**Expert group meeting on future trends in,
and competition between natural and synthetic rubber (5.04.03)**

37. There is growing apprehension in countries producing natural rubber about the competition from countries manufacturing synthetic rubber. At the same time, many developing countries with gas and oil resources are interested in developing a synthetic rubber industry.

38. In order to obtain expert advice on the significance of these conflicting trends to developing countries, it is proposed to convene an expert group meeting of six participants in either London or Singapore in 1971 to discuss aspects of future production trends in, and competition between, natural and synthetic rubber in developing countries. A study to be made in 1970 (ID/B/44, para. 141) will serve as the basis for discussion. Particular emphasis will be placed upon new synthetic rubber types based on ethylene and acetylene. The impact of the new range of synthetic rubber on natural rubber production will also be analysed. This meeting will be held in co-operation with ECAFE and the International Study Group, and FAO will be invited to attend.

Priority A

	<u>Staff</u> <u>(in m/m)</u>	<u>Meetings</u> <u>(US\$)</u>	<u>Consultants</u> <u>(US\$)</u>
1969	-	-	-
1970	1	-	2,000
1971	3	5,000	-

**In-plant training programme in plastics fabrication
and utilization (5.04.04)**

39. In accordance with resolution 8(II) adopted by the Industrial Development Board at its second session (A/7215, Annex VI), a programme in plastics and related products for qualified personnel from developing countries will be started by UNIDO in 1970. The programme will be designed for those actually engaged in the industry and will consist of lectures and practical work in the use of new machines and new raw materials as well as in the use of standard testing methods and machines. It will also include visits to plants to acquaint the participants with modern techniques of production and fabrication of plastics. Several discussions have taken place between UNIDO and concerned institutions in Austria about details of the programme; handbooks of plastic

technology have been commissioned. It is proposed to repeat the programme in 1971, which will be held in Vienna for three months in 1970 for fifteen participants.

Priority A

	<u>Staff (in m/m)</u>	<u>Meetings (US\$)</u>	<u>Consultants (US\$)</u>
1969	-	-	-
1970	4	30,200 ^{a/}	10,800 ^{a/}
1971	6	31,800 ^{b/}	10,800 ^{b/}

^{a/} The financing of meetings and consultants in 1970 will be \$21,000 from UNDP/TA funds and \$20,000 from the General Trust Fund of UNIDO.

^{b/} The financing of meetings and consultants in 1971 will be \$22,600 from UNDP/TA funds and \$20,000 from the General Trust Fund of UNIDO.

Expert group meeting on use of plastics in agriculture (5.04.05)

40. Technical assistance projects on the use of plastics in agriculture have been carried out by UNIDO in two countries in 1969. Other countries have also expressed interest in the wider use of plastics such as polyethylene and polyvinyl chloride for transport and conservation of water. The use of polyethylene mulch and row covers for plants are also of interest to a number of countries.

41. UNIDO proposes to hold an expert group meeting with ten participants for one week in 1971 to study progress in developed countries and to assess the needs of developing countries in this area. The meeting will focus on the economies of the use of plastics in agriculture, with particular emphasis on comparison of production costs of plastic materials in developing countries and developed countries. The meeting will be co-ordinated with FAO, and the report of the expert group will provide guidance to interested developing countries.

Priority A

	<u>Staff (in m/m)</u>	<u>Meetings (US\$)</u>	<u>Consultants (US\$)</u>
1969	-	-	-
1970	-	-	-
1971	3	8,000 ^{a/}	2,000 ^{a/}

^{a/} UNDP/TA funds.

Proteins from hydrocarbons (5.04.06)

42. The production of protein for animal as well as human consumption is becoming increasingly important due to the shortage of protein. Hydrocarbons provide cheap raw material, and two commercial plants have been built in developed countries using hydrocarbons for this purpose. Several countries have installed pilot plants to test new strains of cultures for fermentation. Investigations are in progress to select the best raw materials such as gas, oil, normal paraffins and natural gas. The selection of process and equipment for fermentation, separation and purification of proteins is also important. Indications of interest have been received from several developing countries.

43. In order to assess the situation in this important field, UNIDO plans to make a study to establish guidelines for future development. These guidelines will be developed in co-operation with FAO and UNEBCO.

Priority A

	Staff (12 M/E)	Consultants (US\$)
1969	-	-
1970	2	3,000 ^{a/}
1971	3	6,000

^{a/} From the General Trust Fund of UNIDO.

Other studies on plastics and petrochemicals (5.04.07)

44. The following consultancy papers were commissioned and completed in 1969:
Manual on acrylic sheets;
Production, consumption and trade in petrochemicals;
Manual on the development of the plastics industry in developing countries.

Priority A

	Consultants (US\$)
1969	3,500
1970	-
1971	-

PRINTED PUBLICATIONS

		<u>Languages</u>	<u>Cost</u> <u>(US\$)</u>
<u>Publications issued in 1969</u>			
ST/CID/15	Fertilizer manual	F S	
ID/2	Fertilizer technology, production and use	F	
ID/5	Report of the meeting of <u>ad hoc</u> expert group on fertilizer production in six selected countries with good natural gas resources (New York, December 1966)	E F S	
ID/13	Factors inhibiting the indigenous growth of the fertilizer industry in developing countries (report of <u>ad hoc</u> expert group, Vienna, May 1968)	E	
	<u>Fertilizer industry series</u>		
ID/SER.F/1	Chemical fertilizer projects: their creation, evaluation and establishment	F S	
ID/SER.F/2	Guide to building an ammonia fertilizer complex	E F S	
ID/SER.F/3	The reduction of sulphur needs in fertilizer manufacture	E F S	
ID/SER.F/4	The ammonium chloride and soda ash dual manufacturing process in Japan	E F S	
ID/SER.F/5	New process for the production of phosphatic fertilizers using hydrochloric acid	E F S	
	<u>Petrochemical series</u>		
ID/SER.J/1	The Brazilian synthetic polymer industry	E F S	
ID/SER.J/2	Selection of projects and production processes for basic and intermediate petrochemicals in developing countries	E F S	
ID/SER.J/3	Studies in plastics fabrication and application	E	

PRINTED PUBLICATIONS (cont'd)

		<u>Languages</u>	<u>Cost (US\$)</u>
	<u>Petrochemical series (cont'd)</u>		
ID/SER.J/4	Studies in the development of plastics industries	E F S	
ID/SER.J/5	Establishing standardisation of plastics in developing countries	E S	
			<hr/> 34,172
	<u>1970 publications programme</u>		
ID/2	Fertiliser technology, production and use	E	
ID/13	Factors inhibiting the indigenous growth of the fertiliser industry in developing countries (report of <u>ad hoc</u> expert group, Vienna, May 1968)	F S	
	<u>Fertiliser industry series</u>		
ID/SER.F/6	Techno-economics of nitrophosphate fertilisers	E	
ID/SER.F/7	Fertiliser demand and supply projections to 1980 for South and Central America	E	
ID/SER.F/8	Utilisation of by-product gypsum from wet process phosphoric acid for production of sulphuric acid and cement clinker	E	
	<u>Petrochemical series</u>		
ID/SER.J/3	Studies in plastics fabrication and application	F S	
ID/SER.J/5	Establishing standardisation of plastics in developing countries	E	
-	Manual on acrylic sheets	E	
			<hr/> 16,700

PRINTED PUBLICATIONS (cont'd)

	<u>Languages</u>	<u>Cost</u> <u>(US\$)</u>
<u>Forecast of 1971 publications programme</u>		
Techno-economics of nitrophosphate fertilizers	F S	
Fertilizer demand and supply projections to 1980 for South and Central America	F S	
Utilization of by-product gypsum	F S	
World supply, demand and price trends of sulphur	E	
Directory of fertilizer production facilities - Part 1 - Africa	E	
Part 2 - Asia	E	
Report: Interregional symposium on petrochemical industries (Baku, 1969)	E F S R	
Report: Training course for industrial production of pesticides and insecticides (Syracuse, 1969)	E	
		<hr/> 15,800

Note: In the computation of the printing costs a standard formula was applied based on averaging the cost of printing inside UNIDO and by an outside firm. The standard formula is used to provide for comparability of the cost of printing.

Table 5

Expenditures for supporting activities in 1969^{a/}

Project components	UNIDO Regular Budget				UNOP/TA	UNIDO General Trust Fund	Total ^{b/}
	(1) Staff <u>n/a</u>	(2) Meetings <u>US\$</u>	(3) Consultants <u>US\$</u>	(4) Publications <u>US\$</u>	(5) <u>US\$</u>	(6) <u>US\$</u>	(7) <u>US\$</u>
5-01-01	10	-	7,674	-	-	-	7,674
5-01-02	4	-	1,500	-	14,000	-	15,500
5-01-03	2	-	4,748	-	-	-	4,748
5-01-06	1	-	-	-	-	11,112	11,112
5-01-07	2	-	-	-	-	-	-
5-02-01	1	-	8,422	-	-	-	8,422
5-03-02	3	-	-	-	-	-	-
5-03-04	-	65,000	-	-	-	-	65,000
5-04-01	12	-	-	-	54,828	96,945	151,873
5-04-07	-	-	3,500	-	-	-	3,500
Total	35	65,000	25,842	34,172	68,828	108,057	301,999

^{a/} Expenditures have been calculated on the basis of actual expenditures up to 30 September 1969, projected to the end of the year.

^{b/} The totals in column 7 do not include the cost of publications. Thus the total of the items in this column does not correspond to the last line of the column.

^{c/} SIS funds.

Table 6

Estimated expenditures for supporting activities in 1970

Project components	UNIDO Regular Budget			UNDP/TA	UNIDO General Trust Fund	Total ^{a/}	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Staff m/m	Meetings US\$	Consultants US\$	Publications US\$	US\$	US\$	US\$
Priority A							
5-01-01	10	-	4,000	-	-	4,000	8,000
5-01-02	4	-	2,000	-	12,000	-	14,000
5-01-04	3	-	4,500	-	-	-	4,500
5-01-05	3	-	-	-	-	9,500	9,500
5-03-01	2	-	3,000	-	-	-	3,000
5-04-03	1	-	2,000	-	-	-	2,000
5-04-04	4	-	-	-	21,000	20,000	41,000
5-04-06	2	-	-	-	-	3,000	3,000
Total	29	-	15,500	16,700	33,000	36,500	101,700
Priority B							
5-02-01	1	-	-	-	-	-	-
5-03-02	6	-	15,000	-	-	-	15,000
5-03-03	1	-	-	-	-	-	-
5-04-01	3	-	7,500	-	-	-	7,500
5-04-02	4	-	5,000	-	-	-	5,000
Total	15	-	27,500	-	-	-	27,500

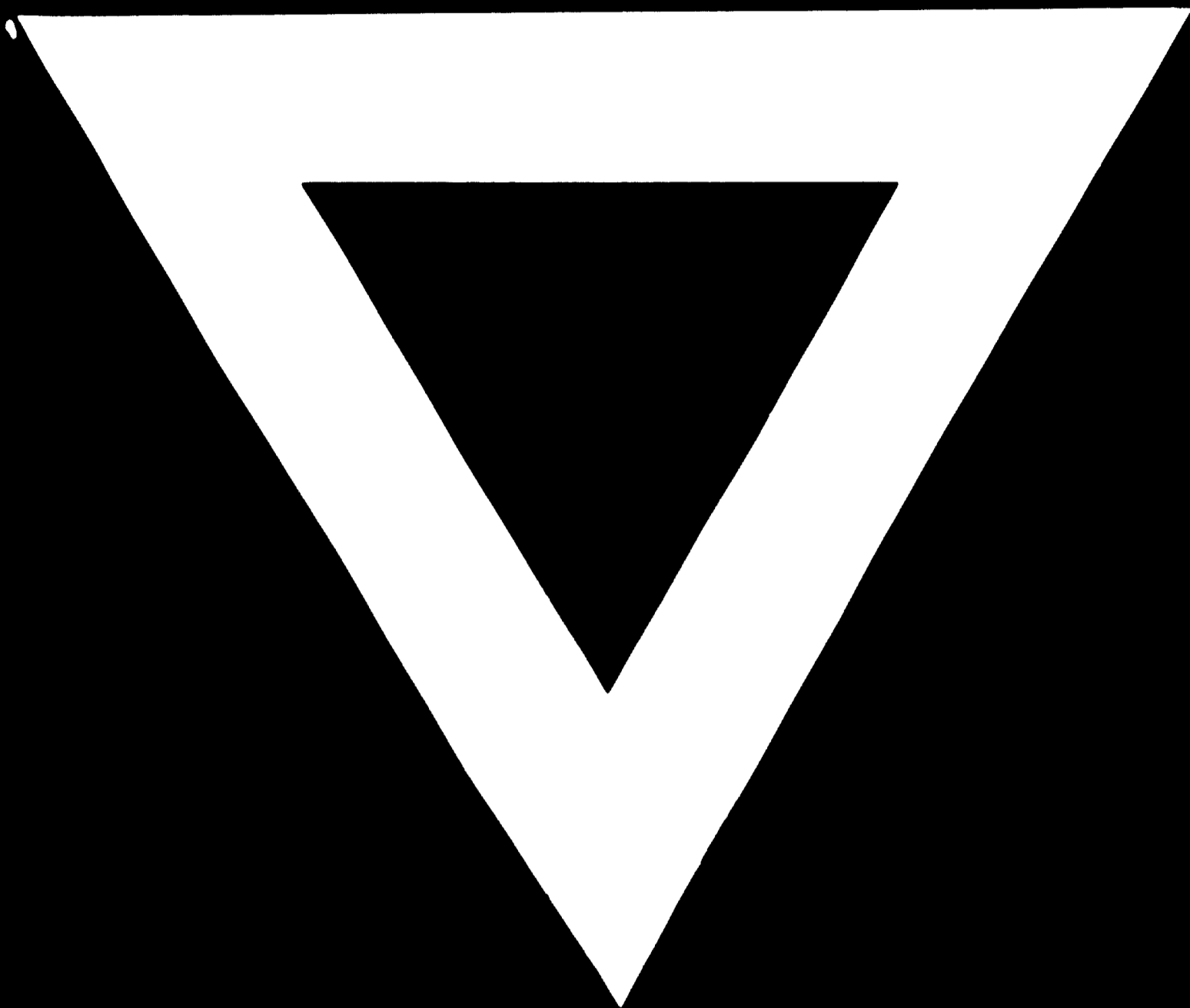
^{a/} The totals in column 7 do not include the cost of publications. Thus the total of the items in this column does not correspond to the last line of the column.

Table 7

Estimated expenditures for supporting activities in 1971

Project components	UNIDO Regular Budget				UNDP/TA	UNIDO General Trust Fund	Total ^{a/}
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Staff n/a	Meetings US\$	Consultants US\$	Publications US\$	US\$	US\$	US\$
Priority A							
5-01-01	10	-	5,000		-	-	5,000
5-01-02	4	-	3,000		11,000	-	14,000
5-01-04	3	-	4,500		-	-	4,500
5-01-05	24	-	-		95,000	120,000	175,000
5-03-01	2	-	3,000		-	-	3,000
5-04-03	3	5,000	-		-	-	5,000
5-04-04	8	-	-		22,000	20,000	42,000
5-04-05	3	-	-		10,000	-	10,000
5-04-08	3	-	6,000		-	-	6,000
Total	50	5,000	21,500	15,000	98,000	140,000	280,000
Priority B							
5-02-01	1	-	3,000		-	-	3,000
5-03-02	3	-	10,000		-	-	10,000
5-03-03	3	-	3,000		12,000	-	15,000
5-04-01	8	-	-		-	-	-
5-04-02	4	-	5,000		-	-	5,000
Total	17	-	21,000	-	12,000	-	33,000

^{a/} The totals in column 7 do not include the cost of publications. Thus the total of the items in this column does not correspond to the last line of the column.



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