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PROGRAMME OF WORK FOR 1971 INCLUDING REPORT OF ACTIVITIES

FOR 1969 AND UPDATING OF 1970 PROGRAMME

PART TWO

Group 1: Engineering Industries

id.70-008

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.

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 expenditure 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. Although the programmes of UNIDO in the engineering industries sector may eventually cover assistance to the entire range of industrial activities in the electrical and mechanical industries, availability of resources has thus far limited field and supporting programmes to selected areas. Selection has been based not only on recommendations of the Industrial Development Board and of the Athens Symposium, but also on experiences gained from the technical assistance projects that UNIDO has carried out. The advice and counsel of UNIDO regional field advisers and of the regional economic commissions have also played an important role in the programming and selection process.
2. As a result, UNIDO has given first priority to the following fields: agricultural machinery and implements; electrical and electronics equipment; metalworking and transportation equipment; and repair and maintenance.
3. In the field of agricultural machinery and implements UNIDO participated in a fact-finding team that visited twelve countries in the ECAFE region in 1969. During the same year, an expert group was convened in Vienna. The fact-finding team and the expert group not only addressed themselves to the general problem of technical assistance to the agricultural machinery industry, but also identified a large number of specific assistance requirements in certain countries. These activities led to a number of UNIDO technical assistance projects in these countries. On the basis of this experience, further UNIDO fact-finding missions will be organized. Accordingly, UNIDO, in co-operation with FAO, will send missions to the Middle East and the East African Community in 1969 and to the ECAFE and ECLA regions in 1970. In 1971, five selected countries will be visited by UNIDO missions to identify the problems in even greater depth and to seek out specific areas of assistance.
4. Following the recommendations of the Industrial Development Board (A/7617, para. 86), the question of the manufacture of telecommunication equipment, including low-cost receivers for sound broadcasting and television, as well as electrical and electronic components, has been singled out by UNIDO

as a base for further supporting activities. At the same time, it is envisaged to furnish certain guidelines to developing countries that plan to establish manufacturing facilities for a broad range of electrical and electronic equipment and components. For instance, technical assistance rendered by UNIDO to a certain country in the electrical and electronics industry indicated the need for high quality components for the electric industry in general, and for the telecommunication industry in particular.

5. Taking cognizance of these conditions, UNIDO called a meeting in Vienna in late 1969 to consider the production of telecommunication equipment in developing countries. The recommendations of this meeting will be developed in co-operation with the International Telecommunication Union (ITU), and guidelines will be established in 1970 for the manufacture, in developing countries, of telecommunication equipment, including low-cost radio and television receivers.

6. In yet another priority area, UNIDO launched a campaign for improving maintenance and repair facilities in developing countries. Surveys of needs in this field were carried out in 1969 by six consulting firms in twelve developing countries. In response to this campaign, twenty-nine governments have either requested specific technical assistance or approached UNIDO for the purpose of securing such assistance. It is probable that the Governing Council of UNDP will approve two Special Fund projects in this area in January 1970. UNIDO has already begun to implement an initial group of technical assistance projects, financed under SIS and UNDP/TA, in several countries.

7. The complexity of the maintenance and repair problem is highlighted by the conclusions of the consulting firms and supported by findings of UNIDO field experts. For example, reports received from one UNIDO field expert indicate a need for the establishment of mobile repair facilities as well as for an educational programme to develop awareness of maintenance problems. An interregional symposium on maintenance and repair in the developing countries will be held in 1970 to consider the future programme of UNIDO in the maintenance and repair field and to recommend the best ways of handling and implementing the numerous anticipated requests for assistance. Representatives of FAO, ILO and UNESCO will be invited to attend the symposium.

8. In 1971, UNIDO intends to consider the problems of maintenance and repair of railroad equipment and also plans to take an active part in the 1971 European Conference on Maintenance and Repair. This Conference is being organized by a number of non-governmental organizations in the developed countries for the purpose of promoting and stressing the importance of maintenance and repair in industrial development.
9. The dependence of most engineering industries on metalworking has been shown by a recent analysis of requests for technical assistance projects in the developing countries. Accordingly, UNIDO will hold an expert group meeting in Asia in 1970 and a meeting in Latin America in 1971, with the objective of searching for the best technologies and most profitable use of machine tools in developing countries. The feasibility of manufacturing machine tools in the developing countries will also be discussed. Particular emphasis will be placed on technologies requiring relatively low investment, and a number of studies will be prepared on this and related subjects in 1970 and 1971. The efforts of UNIDO in this field will be co-ordinated with those of the regional economic commissions and with national institutions.
10. A seminar on the establishment and development of the automotive industry in developing countries was held in 1969 in Czechoslovakia. Convened to consider the common problems encountered by developing countries in upgrading their automotive industries, the seminar made a number of recommendations on the subjects of local manufacture of vehicle components, spare parts and development of ancillary industries. The implementation of these recommendations is expected to take place in 1970 and 1971.
11. Shipbuilding and ship repair will continue to receive the attention of UNIDO. On the basis of findings from current technical assistance projects, UNIDO proposes to conduct, in 1970, missions consisting of UNIDO staff and consultants to develop technical assistance programmes in this area.

12. A regional survey in 1971 on container manufacture should enable the developing countries to evaluate their needs for, and the possibilities of utilizing, this new mode of shipment. It is expected that technical assistance will be sought by developing countries for the manufacture of containers and of special equipment and for the establishment of facilities for handling the containers.

13. The inter-action between operational and supporting activities resulted in the identification of additional fields which will be given attention in the 1970 and 1971 programmes of work of UNIDO. These new fields include the development of engineering design capabilities, manufacture of equipment and installations for processing industries. The preparatory work will be done by UNIDO in the form of meetings which should establish the basic guidelines for the activities in these areas.

A. OPERATIONAL ACTIVITIES

UNDP/SPECIAL FUND - approved projects

Project
number

AFRICA

Tunisia

TUN-27 Centre for the development of prototype tools

Purpose: To assist, in association with ILO, in the development of prototype production tools and to train personnel in tool-making. The project manager began his assignment in September 1969 and the plan of operation is under preparation.

Approved: January 1969 UNDP: \$ 681,600
Duration: 4 years Gov't: \$ 746,000

United Arab Republic

UAR-55 Engineering and industrial design development centre, Cairo

Purpose: To assist in the establishment and initial operation of an industrial design and product development centre. Products are to be adapted to local conditions to ease foreign exchange difficulties which have led to an acute shortage of spare parts and accessories. The project became operational in November 1968, and a team of experts has been at work since early 1969.

Approved: January 1967 UNDP: \$1,035,100
Duration: 5 years Gov't: \$1,689,300

THE AMERICAS

Chile

CHI-39 Metalworking industry testing centre, Santiago

Purpose: To assist in the establishment of standardisation and quality control of fabricating materials and manufactured products of the metalworking industry. The project plan of operation was submitted to the Government for signature in August 1969 and project activities began in July 1968 under preliminary operations.

Approved: January 1969 UNDP: \$ 589,400
Duration: 3½ years Gov't: \$ 816,000

UNDP/SPECIAL FUND - approved projects (cont'd)Project
numberASIA AND THE
FAR EASTIndiaIND-67 Design centre for electrical measuring instruments

Purpose: To provide, in association with ILO, to Indian manufacturers of electrical equipment the technical knowledge necessary to increase plant productivity; to carry out research and development to provide modern, indigenous designs and prototypes adapted to local manufacturing conditions; to provide testing and laboratory facilities to smaller manufacturers; to arrange training in design and manufacture of electrical measuring instruments; to maintain liaison with national scientific and research institutes and to assist industry in the development and manufacture of instruments such as jewel bearings, hair springs, pivots and permanent magnets. The project became operational in April 1969.

Approved: January 1968	UNDP: \$ 833,000
Duration: 5 years	Gov't: \$ 739,000

PhilippinesPHI-30 Metal industries development centre

Purpose: To assist the Government in establishing a centre to serve the needs of the metals industry in the fields of technical advisory services, quality control, management and technical training and to guide the Government in formulating policies for the expansion of the industrial sector of the national economy. The plan of operation has been submitted for signature, and the project manager is being recruited.

Approved: June 1969	UNDP: \$ 913,600
Duration: 3 years	Gov't: \$1,000,000

SingaporeSIN-7 Metal industries development centre

Purpose: To provide, with ILO as the executing agency, four experts: an industrial development adviser (technical), an industrial development adviser (financial), a machine tool maintenance and repair expert, and a metrological specialist. The project became operational in July 1969.

Approved: June 1967	UNDP: \$1,143,100
Duration: 6 years	Gov't: \$1,670,000

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

Table 1

Estimated expenditures for approved UNEP/SF projects, 1969-1971
(in US dollars)

	1969			1970			1971		
	<u>Exerts</u>	<u>Fellow</u>	<u>Other</u>	<u>Exerts</u>	<u>Fellow</u>	<u>Other</u>	<u>Exerts</u>	<u>Fellow</u>	<u>Other</u> ^{a/}
TUN-27	6,000	-	1,000	36,000	6,300	92,200	96,200	20,100	104,200
UAR-55	130,000	-	24,100	100,000	60,000	130,500	104,000	8,000	9,100
CHI-30	1,500	3,000	-	71,000	8,400	295,100	85,000	3,400	14,100
IND-67	20,000	-	12,000	139,500	13,000	117,200	133,500	20,000	90,200
PHI-30	2,500	-	500	191,500	37,000	113,000	232,200	9,400	60,000
SIN-7	-	-	-	60,300	-	-	34,000	-	-
	<u>166,000</u>	<u>3,000</u>	<u>20,500</u>	<u>700,800</u>	<u>125,300</u>	<u>740,000</u>	<u>744,200</u>	<u>60,500</u>	<u>204,500</u>

^{a/} Under this heading equipment and subcontracting costs are included.

UNDP/SPECIAL FUND - projects submitted to UNDP for approvalProject
numberAFRICACameroonCMR-19 Repair and maintenance pilot workshop

Purpose: To assist in the establishment of a pilot maintenance and repair workshop in Douala. The pilot workshop will provide guidance in establishing systems and programmes for maintenance of industrial equipment and enable enterprises to maintain and repair their equipment and to produce spare parts locally.

Duration: 2 years

Est. UNDP: \$ 274,600

Est. Gov't: \$ 130,000

Congo (Democratic Republic)CON(K)-
34 Central service for repair and maintenance

Purpose: To assist enterprises in introducing rational maintenance and repair methods, in establishing planned and preventive maintenance programmes and in organising the supply and storage of spare parts.

Duration: 2 years

Est. UNDP: \$ 187,700

Est. Gov't: \$ 55,000

THE AMERICASJamaicaJAM-14 Industrial promotion and maintenance

Purpose: To improve maintenance and repair programmes, to provide specialized training to develop more qualified workshop and maintenance supervisors and tool and die designers, to promote the establishment of maintenance and repair industries, to study possibilities for the establishment of new industries at all levels, and to assist in the preparation and evaluation of specific projects. The project will be undertaken in two stages.

Duration: 3 years

Est. UNDP: \$ 647,000

Est. Gov't: \$ 611,000

UNDP/SPECIAL FUND - projects submitted to UNDP for approval (cont'd)

Project
number

EUROPE AND THE
MIDDLE EAST

Bulgaria

BUL-3 Research institute for instrument design

Purpose: To assist in the establishment and strengthening of an institute to meet the needs and technical requirements of the instruments and devices for measurement industry; to control and automate industrial processes; to create and assure a sound base for the development of that industry; to increase the qualifications and experience of specialists at the institute and within the industry.

Duration: 5 years

Est. UNDP: \$1,455,000

Est. Gov't: \$2,786,000

Spain

SPA-12 Electrical testing and experimentation centre

Purpose: To assist in the establishment of an autonomous centre to provide technical assistance to private and public enterprises. The centre, into which the Central Electro-technical Laboratory will be integrated, will advise public organisations on normalisation of the processes of checking and selecting electrical material and quality control. It will assist private industry by making available its own facilities for testing.

Duration: 2 years

Est. UNDP: \$ 693,500

Est. Gov't: \$3,934,000

UNDP/SPECIAL FUND - projects under preparation

ASIA AND THE
FAR EAST

Establishment of engineering and electrical industries co-operation, regional corporation for development.

UNDP/TECHNICAL ASSISTANCE - approved projects

<u>Project number</u>		<u>1969</u>	<u>1970</u>	<u>1971</u>
		<u>(in US dollars)</u>		
<u>AFRICA</u>				
<u>Algeria</u>				
ALG-69-1	<u>Modernization of the lock factory "Serrurerie Chaabia" - project started in 1968 under SIS programme</u>			
	expert	1/12 m/m	19,250	4,000 -
<u>United Arab Republic</u>				
UAR-69-10	<u>Repair and maintenance - case study of a textile company and investigation of the requirements for the textile industry</u>			
	experts	2/12 m/m	3,850	20,000 -
<u>THE AMERICAS</u>				
<u>Argentina</u>				
ARG-68-6	<u>Assistance to the National Institute for Industrial Technology (INTI)</u>			
	experts	3/14 m/m	3,850	24,000 -
	fellows	2/12 m/m	-	3,400 3,400
<u>Chile</u>				
CHI-68-5	<u>Manufacturing of capital goods* - quality control of rolled steel plate and boiler plate production (project started in 1968 under UNDP/TA)</u>			
	expert	1/6 m/m	11,550	- -
	fellows	2/12 m/m	6,800	- -
	equipment		1,000	- -
<u>Colombia</u>				
COL-68-23	<u>Engineering industry* - tool design and production preparation (assistance to "Forjas de Colombia")</u>			
	expert	1/12 m/m	23,100	- -

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

<u>Project number</u>			<u>1969</u>	<u>1970</u>	<u>1971</u>
			(in US dollars)		
<u>THE AMERICAS (cont'd)</u>					
<u>Mexico</u>					
MEX-68-16	<u>Methodology programming of mechanical and chemical industries - assistance to the "Nacional Financiera" project started in 1967</u>				
	expert	1/6 m/m	11,550	-	-
<u>Peru</u>					
PER-69-1	<u>Automotive industry development* - assistance in preparation and implementation of a new automotive industry legislation and advice on the engineering aspects of increasing locally manufactured spare parts. The project was started in 1968 under UNDP/TA.</u>				
	expert	1/3 m/m	5,775	-	-
PER-69-2	<u>Shipbuilding industry* - assistance to the Industry Division, Ministry of Public Works (project started in 1968 under UNDP/TA)</u>				
	expert	1/6 m/m	11,550	-	-
<u>Venezuela</u>					
VEN-68-6	<u>Assistance to the Venezuelan Development Corporation - mechanical engineering (project started in 1968)</u>				
	expert	1/24 m/m	23,100	24,000	-

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

<u>Project number</u>		<u>1969</u>	<u>1970</u>	<u>1971</u>
		(in US dollars)		
<u>ASIA AND THE FAR EAST</u>				
<u>Indonesia</u>				
INS-69-31	<u>Industrial development</u> - metal products (assistance to the Directorate General of Basic Industries)			
	expert	1/12 m/m	- 24,000	-
<u>Iran</u>				
IRA-69-6	<u>Establishment of ophthalmic and optical industry</u> - lens grinding			
	expert	1/5 m/m	9,625 2,000	-
<u>Pakistan</u>				
PAK-69-8	<u>Repair and maintenance</u> - production engineer and maintenance programming in selected industries			
	experts	2/24 m/m	3,850 46,000	-
<u>Singapore</u>				
SIN-68-1	<u>Assistance to the Economic Development Board*</u> - industrial engineering, development of light engineering industry (continuing project)			
	expert	1/12 m/m	23,100	- -
<u>EUROPE AND THE MIDDLE EAST</u>				
<u>Bulgaria</u>				
BUL-68-8	<u>Quality improvement in the production of railway carriages*</u>			
	fellow	1/3 m/m	2,200	- -

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

<u>Project number</u>			<u>1969</u>	<u>1970</u>	<u>1971</u>
			(in US dollars)		
<u>EUROPE AND THE MIDDLE EAST (cont'd)</u>					
<u>Bulgaria (cont'd)</u>					
BUL-69-41	<u>Semi-automatic programme controlled lathes*</u>				
	fellow	1/5 m/m	3,000	-	-
BUL-69-42	<u>Welding equipment*</u>				
	fellow	1/5 m/m	3,000	-	-
BUL-69-40	<u>Design and development of integrated circuits*</u>				
	fellows	3/11 m/m	7,400	-	-
<u>Hungary</u>					
HUN-69-7	<u>Automation of machine sets for production of paint*</u>				
	fellow	1/3 m/m	2,200	-	-
<u>Poland</u>					
POL-69-1	<u>Industrial technology* - specialisation in mechanical and electrical engineering industries</u>				
	fellows	39/96 m/m	38,400	-	-
POL-69-17	<u>Electro-technical industry* - cathodes of high emission</u>				
	fellows	1/3 m/m	1,200	-	-

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>EUROPE AND THE MIDDLE EAST (cont'd)</u>				
<u>Poland (cont'd)</u>				
POL-69-20	<u>Computing techniques* - automatic control systems, electronic data processing, theory of computergraphic systems</u>			
	fellows	7/42 m/m	16,800	-
POL-69-22	<u>Application of semi-conductors in electric traction*</u>			
	fellow	1/3 m/m	1,200	-
POL-69-28	<u>Mechanical and electrical engineering industries*</u>			
	fellows	9/45 m/m	18,000	-
<u>Romania</u>				
ROM-69-3	<u>Electronic spare parts production* - electronic engineering</u>			
	experts	2/4 m/m	7,700	-
	fellows	4/12 m/m	8,800	-
	equipment		1,500	-
ROM-69-5	<u>Designing and production of machine tools with numerical programming*</u>			
	experts	2/2 m/m	3,850	-
	fellows	4/12 m/m	8,800	-
	equipment		2,350	-
ROM-69-24	<u>Automatic installation for loading and unloading of products*</u>			
	fellows	1/4 m/m	2,600	-
<u>Turkey</u>				
TUR-69-14	<u>Industrial engineering development</u>			
	fellow	1/5 m/m	-	1,500

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

<u>Project number</u>	<u>1969</u> <u>1970</u> <u>1971</u>		
	(in US dollars)		
<u>INTERREGIONAL</u>			
INT-68-15	<u>Meeting on manufacture of telecommunication equipment in developing countries^{1/}*</u>		
	experts	5/3 m/m	8,000 - -
	fellows	20/10 m/m	24,000 - -
	miscellaneous		750 - -

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	18/86	167,700	9/72	144,000	-	-
Fellows	79/282	144,400	1/6	4,900	1/6	3,400
Other	-	5,600	-	-	-	-
Total		<u>317,700</u>		<u>148,900</u>		<u>3,400</u>

^{1/} This project is also reported under Supporting Activities (1.02.01)

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>			
Feasibility study for local manufacturing of hand tools	12/40	-	-
Application and utilization of welding equipment	2/12	-	-
Feasibility study on the local production of agricultural implements	4/25	-	-
Container manufacture	1/4	-	-
Maintenance and repair for agricultural equipment	4/24	4/24	25,000
Feasibility study on the production of aluminium cables and wires	1/3	-	-
Maintenance of industrial equipment	4/24	5/24	100,000
Maintenance of transport equipment	5/36	9/40	75,000
Central repair shop	2/12	2/12	-
<u>THE AMERICAS</u>			
Feasibility study on the desirability of setting up a design centre for electronic process control equipment	2/6	-	-
Feasibility study for the local production of agricultural machinery	4/12	-	-
Transfer of technology and automation	1/6	-	-
Introduction and application of progressive measuring and controlling methods for machine tools	2/12	-	-
Over-all cost reduction programme in medium-size manufacturing enterprises in the developing countries	1/9	1/3	-

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

	<u>Experts</u> m/m	<u>Fellows</u> m/m	<u>Other</u> US\$
<u>THE AMERICAS (cont'd)</u>			
Sub-regional study on the manufacture of radio telecommunication equipment	2/6	-	-
Maintenance of industrial equipment	8/48	9/57	200,000
<u>ASIA AND THE FAR EAST</u>			
Design standardization and co-ordination of production of electrical distribution equipment - fuses, switches, circuit breakers, etc.	1/4	-	-
Assistance in proper utilization of machine tools and other industrial equipment	1/6	-	-
Quality control of final mechanical engineering products	1/6	-	-
Assistance towards manufacture of irrigation pumps preferably on regional basis	1/3	-	-
Assistance towards reinforcing design and development in facilities in agricultural machinery	2/12	-	-
Assistance in the settlement of the problem of underutilization of capacities in engineering industry	3/18	-	-
Assistance in the expansion of the production of metal products - hardware, cutlery, hand tools, shovels, hoes, axes, etc.	3/9	-	-
Feasibility study on the manufacture of teleprinters and associated electro-mechanical equipment	1/6	-	-
Specialization, co-ordination and standardization in the production of metal products	1/6	-	-
Maintenance of industrial equipment	11/54	12/64	200,000

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

	<u>Experts</u> <u>m/m</u>	<u>Fellows</u> <u>m/m</u>	<u>Other</u> <u>US\$</u>
<u>ASIA AND THE FAR EAST (cont'd)</u>			
Maintenance and repair promotion in heavy industry	2/12	2/12	-
Maintenance promotion unit	2/12	3/12	-
Maintenance of agricultural equipment	3/12	3/12	50,000
<u>EUROPE AND THE MIDDLE EAST</u>			
Assistance towards product planning control and in-plant standardization in agricultural machinery field	1/6	-	-
Pre-investment mission on agricultural machinery	1/4	-	-
Pre-investment feasibility study on planting and harvesting machinery and analysis of manufacture	1/5	-	-
Assistance towards expansion of existing facilities in agricultural machinery and manufacture of pumps	2/10	-	-
Transfer of technology - automation	-	30/100	-

UNIDO REGULAR PROGRAMME - approved projects

<u>Project number</u>			<u>1969</u>	<u>1970</u>
			<u>(in US dollars)</u>	
<u>AFRICA</u>				
<u>United Arab Republic</u>				
RP-01-62	<u>Light industries*</u> - use of particle board in furniture construction and special finishing of textiles (non-iron and drip-dry)			
	expert	1/3 m/m	6,200	-
	fellow	2/6 m/m	4,400	-
<u>THE AMERICAS</u>				
<u>Argentina</u>				
RP-01-85	<u>Engineering industries*</u> - electronic computers and machine tools			
	fellow	2/12 m/m	6,800	-
<u>El Salvador</u>				
RP-01-95	<u>Engineering industry*</u> - assembly plants			
	fellow	1/6 m/m	3,400	-
<u>Mexico</u>				
RP-100	<u>Electronic equipment production*</u>			
	fellow	1/5 m/m	3,000	-
<u>Paraguay</u>				
RP-01-2	<u>Industrial engineering</u> - ship repairing			
	fellow	1/6 m/m	-	3,400
<u>Yemenia</u>				
RP-01-2	<u>Engineering industries</u> - mechanical plant training			
	fellow	2/12 m/m	-	6,800

UNIDO REGULAR PROGRAMME - approved projects (cont'd)

<u>Project number</u>			<u>1962</u>	<u>1970</u>
			<u>(in US dollars)</u>	
<u>ASIA AND THE FAR EAST</u>				
<u>Ceylon</u>				
RP-01-5	<u>Engineering industries</u> - safety latch production and quality control	expert	1/6 m/m	- 11,550
<u>China</u>				
RP-01-4	<u>Engineering industries</u> - shipbuilding	fellows	2/12 m/m	- 6,800
<u>Iran</u>				
RP-01-4	<u>Engineering industries</u> - optical instruments and tool and die production	fellows	2/12 m/m	- 6,800
<u>Philippines</u>				
RP-01-72	<u>Engineering industries*</u> - metal processing	fellow	1/5 m/m	3,000 -
<u>Singapore</u>				
RP-01-2	<u>Engineering industries</u> - metal products	expert	1/5 m/m	- 9,575
<u>Regional</u>				
RP-01-81	<u>Industrial engineering</u> - agricultural machinery and transport equipment (regional adviser)	expert	1/9 m/m	17,600 -

UNIDO REGULAR PROGRAMME - 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</u>				
<u>Albania</u>				
NP-01-2	<u>Engineering industries*</u> - machine tools production	fellows	2/6	m/m - 3,000
<u>Bulgaria</u>				
NP-01-113	<u>Engineering industry*</u> - production of highly accurate gears	fellows	2/8	m/m 3,000 -
<u>HUNGARY</u>				
NP-01-2	<u>Engineering industries</u> - electronic	fellow	1/3	m/m - 1,500
NP-01-152	<u>Engineering industries*</u> - mechanical and electrical	fellows	3/9	m/m 3,600 -
<u>Jordan</u>				
NP-01-2	<u>Engineering industries</u> - repair and maintenance	expert	1/4	m/m - 7,700
<u>Poland</u>				
NP-01-3	<u>Engineering industries</u> - machine tools production	fellows	2/6	m/m - 3,000
<u>Romania</u>				
NP-01-2	<u>Engineering industries</u> - glass fibres and tissues for textile and electronic industries, technical glasses for laboratories	fellows	2/6	m/m - 3,000

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>Southern Yemen</u>				
RP-01-2	<u>Engineering industries</u> - repair and maintenance of industrial equipment	expert	1/3 m/m	- 5,775
<u>Spain</u>				
RP-01-121	<u>Engineering industry*</u> - refrigeration equipment	fellow	1/12 m/m	3,900 -
<u>Turkey</u>				
RP-01-122	<u>Industrial engineering*</u> - machine tools	fellows	2/23 m/m	7,200 -
<u>Yugoslavia</u>				
RP-01-4	<u>Industrial engineering</u> - production of wheel gears, technology of joining elements	fellows	2/6 m/m	- 3,000
<u>INTERREGIONAL</u>				
RP-01-2	<u>Engineering industries</u> - interregional adviser	expert	1/12 m/m	- 24,500

Table 3Estimated expenditures for approved RP projects, 1969-1970

	<u>1969</u>		<u>1970</u>	
	<u>m/m</u>	<u>US\$</u>	<u>m/m</u>	<u>US\$</u>
Experts	2/12	23,800	6/42	83,600
Fellows	15/86	38,300	16/75	37,300
Other		-		-
Total		<u>62,100</u>		<u>120,900</u>

UNIDO REGULAR PROGRAMME - forecast of new projects for 1971

	<u>Experts</u> m/m	<u>Fellows</u> m/m
<u>AFRICA</u>		
Metal products production	-	2/12
Manufacturing of agricultural machinery	-	1/12
Repair and maintenance	1/3	-
<u>THE AMERICAS</u>		
Metal products manufacturing	-	1/6
Repair and maintenance	-	2/6
<u>ASIA AND THE FAR EAST</u>		
Irrigation pumps manufacturing	-	2/8
Metal products design	-	2/12
Ship repairing	-	1/6
Machine tools production	-	2/12
New techniques in engineering industries	-	1/6
<u>EUROPE AND THE MIDDLE EAST</u>		
Electrical engineering	-	1/6
Electronic industry	-	1/3
Repair and maintenance	-	1/3
Metal mechanical products	-	1/3
<u>INTERREGIONAL</u>		
Interregional adviser on repair and maintenance of industrial equipment	1/12	-

SPECIAL INDUSTRIAL SERVICES - approved projects

<u>Project number</u>			<u>1969</u>	<u>1970</u>
			(in US dollars)	
<u>AFRICA</u>				
<u>Dahomey</u>				
69/590 DAH-2	<u>Shipbuilding and repair*</u> - exploratory mission expert	1/1 m/m	1,500	-
<u>Uganda</u>				
68/290 UGA-4	<u>Assistance to TUMPECO on enamelled household electric appliance production*</u> - production engineering (metalworking) expert	1/6 m/m	13,000	-
<u>United Arab Republic</u>				
68/289 UAR-15	<u>Design of insulation of high-voltage transmission lines*</u> - design and manufacture of high-voltage insulators and design and operation of high-voltage transmission lines experts	2/3 m/m	9,000	-
68/394 UAR-20	<u>Assistance to the mechanical department of the Egyptian railways</u> - design and manufacture of compressed air brakes, their operation and maintenance; mechanical workshops (production of spare parts); iron and steel foundries experts	4/36 m/m	-	66,000
68/373 UAR-23	<u>Repair and maintenance of technical apparatus and equipment at agricultural research stations</u> expert	1/6 m/m	-	11,000
69/558 UAR-29	<u>Repair and maintenance of facilities in bus transport industry</u> - organization of spare parts and materials stores; bus repair, maintenance organization and programming experts	3/18 m/m	-	36,000

SPECIAL INDUSTRIAL SERVICES - approved projects (cont'd)

<u>Project number</u>			<u>1969</u>	<u>1970</u>
			(in US dollars)	
<u>AFRICA (cont'd)</u>				
<u>Upper Volta</u>				
69/529 UPV-11	<u>Dry battery plant pre-investment study - production engineering</u>	expert	1/1	m/m - 2,000
<u>Zambia</u>				
67/164 ZAM-3	<u>Rationalisation, development and expansion of the metalworking and engineering industries</u>	expert	1/3	m/m 7,500 -
<u>Regional</u>				
69/523 AFR-11	<u>Exploratory mission in the field of motor vehicle assembly in East Africa</u>	expert	1/1	m/m 3,000 -
<u>THE AMERICAS</u>				
<u>Colombia</u>				
68/278 COL-4	<u>Assistance to the Forjas de Colombia - design and manufacture of forging dies</u>	experts	2/18	m/m 15,500 7,500
<u>Jamaica</u>				
69/562 JAM-6	<u>Surveys for the promotion of the chemical, electrical and metal industries -</u>	experts	2/24	m/m - 48,000

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>Fiji (Oceania)</u>				
69/531 FIJ-1	<u>Assistance for the expansion and development of metal products factories</u>			
	metal product engineer	1/6 m/m	-	12,000
69/542 FIJ-3	<u>Assistance for the development of ship-building and repairing facilities</u>			
	expert	1/6 m/m	6,000	6,000
<u>Hong Kong</u>				
69/487 HONK-1	<u>Assistance to the electrical industry - electrical testing and safety design consultant</u>			
	expert	1/6 m/m	-	12,500
<u>India</u>				
69/484 IND-17	<u>Electrical industry, Bhopal - transformers and variable speed drives</u>			
	experts	2/8 m/m	-	18,000
<u>Mongolia</u>				
69/597 MON-2	<u>Complex service team in maintenance and repair of industrial equipment</u>			
	experts	2/12 m/m	-	24,000
<u>Philippines</u>				
67/254 PHI-3	<u>Assistance to board of investments - industrial economist - mechanical engineer - chemical engineer - market analyst</u>			
		4/37 m/m	53,000	24,000

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 (cont'd)</u>			
<u>Republic of Korea</u>			
69/565 KOR-4 and 5	<u>Assistance to Korean Productivity Centre (KPC) for the establishment of a quality control system and development of repair and maintenance facilities</u>		
	experts	2/12 m/m	- 24,000
<u>Singapore</u>			
68/402 SIN-8	<u>Assistance to the ship repair and shipbuilding industry - small shipyards</u>		
	expert	1/6 m/m	3,500 7,500
<u>EUROPE AND THE MIDDLE EAST</u>			
<u>Israel</u>			
69/508 ISR-4	<u>Assistance to government mint - minting techniques</u>		
	expert	1/2 m/m	2,000 2,000
<u>Romania</u>			
69/452 ROM-3	<u>Assistance in appraisal of the state of technology of precision measure and process control instruments - measurement and process control instruments design and manufacture</u>		
	expert	1/6 m/m	- 12,000
<u>Syria</u>			
68/441 SYR-12	<u>Assistance for the expansion and modernization of the electric cable industry - engineering</u>		
	consulting firm		3,000 14,600

SPECIAL INDUSTRIAL SERVICES - approved projects (cont'd)

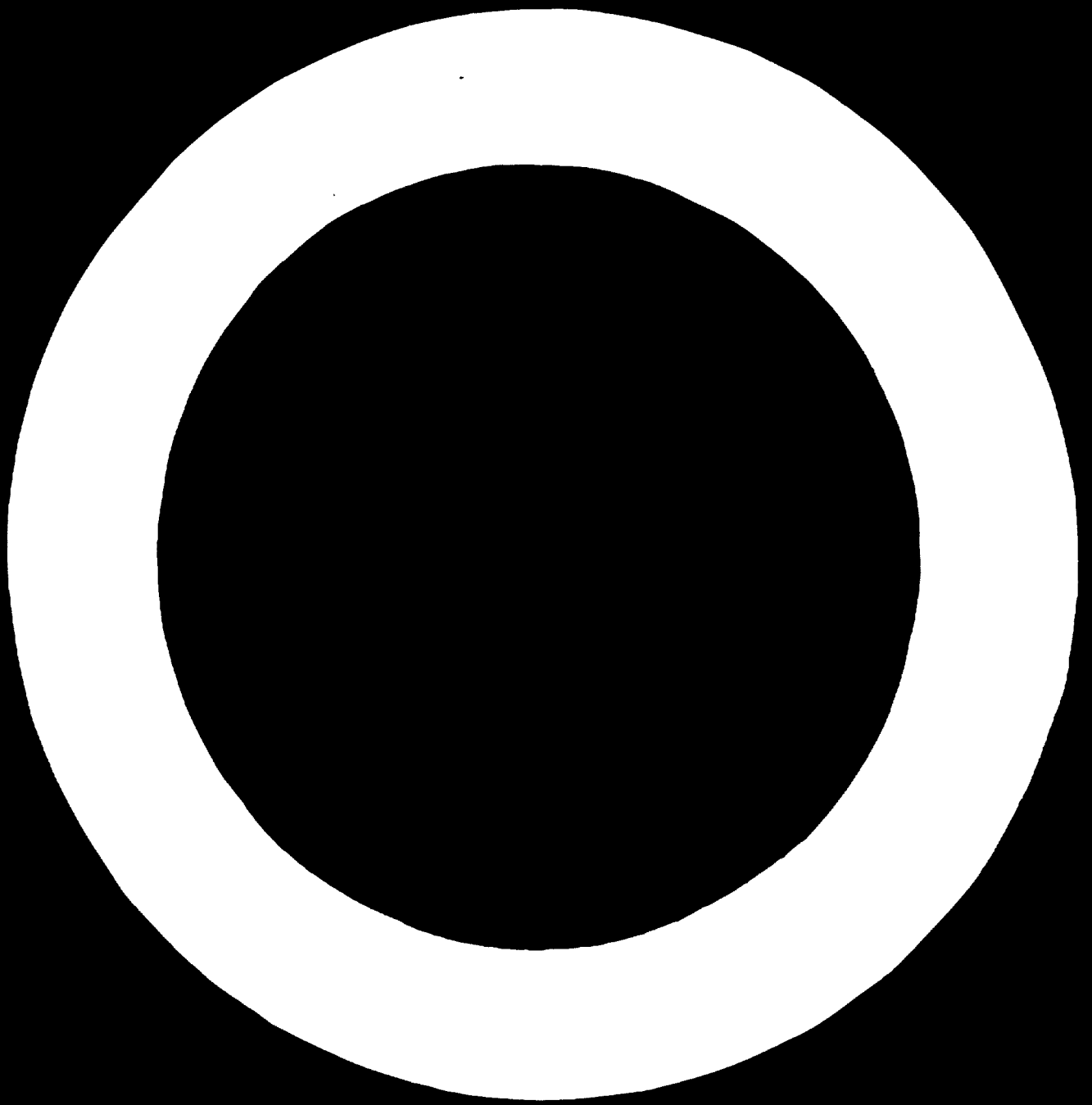
<u>Project number</u>		<u>1969</u>	<u>1970</u>
		(in US dollars)	
<u>EUROPE AND THE MIDDLE EAST (cont'd)</u>			
<u>Syria (cont'd)</u>			
69/536 SYR-15	<u>Assistance to the Al Nasr Radio and TV Company - design engineering and manufacture</u> experts 2/6 m/m	-	12,000
69/492 SYR-17	<u>Complex service team in maintenance and repair of industrial equipment</u> experts 2/12 m/m	-	24,000
69/607 SYR-23	<u>Assistance to the engineering works in Aleppo</u> expert 1/6 m/m	-	12,000
<u>INTERREGIONAL</u>			
68/424 INT-5	<u>Campaign for improvement of repair and maintenance facilities* - exploratory surveys by five consulting firms</u> consulting firms	57,000	-
69/475 INT-6	<u>Exploratory mission in the field of maintenance and repair of industrial equipment* - People's Republic of Southern Yemen and Indonesia</u> expert 1/1 m/m	1,500	-
69/525 INT-8	<u>Evaluation of opportunities for implementation of projects in the field of heavy industry* - exploratory mission</u> expert 1/1 m/m	500	-

SPECIAL INDUSTRIAL SERVICES - approved projects (cont'd)

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	14/51	115,000	26/168	360,500
Fellows	-	-	-	-
Other	-	61,000	-	16,000
Total		<u>176,000</u>		<u>376,500</u>



B. SUPPORTING ACTIVITIES

14. The supporting activities for Group 1 are classified under the following projects:

Agricultural machinery and implements	1.01
Electrical and electronic industries	1.02
Repair and maintenance	1.03
Metalworking industries	1.04
Transportation equipment	1.05
Design capabilities	1.06
Processing industry machinery	1.07

15. 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 experience 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.

Agricultural machinery and implements (1.01)

16. The Industrial Development Board at its third session recommended that UNIDO provide more assistance in the design and manufacture of agricultural machinery and implements (A/7617, para. 85). This recommendation was supported by an ECAFE/UNIDO fact-finding mission on industries involved in the manufacture of agricultural machinery and implements. The mission, which visited twelve countries in 1968, also identified problem areas and specific needs for technical assistance in the countries visited. As the result of this mission, UNIDO received in 1969 four requests for technical assistance in this area from Asian countries.

17. As a step towards an integrated action programme, close liaison has been established with FAO. Technical consultation meetings have been initiated with the aim of formulating a co-operative action programme. Action has also been taken towards the initiation of a co-ordinated programme with the regional economic commissions. Contacts have been established with national agricultural engineering associations and national research and development institutions as well as with international agricultural engineering institutions.

**Development of the agricultural machinery industry
in developing countries (1.01.01)**

18. Many developing countries lack expertise in formulating programmes in the sector of agricultural equipment and implements. Consequently, UNIDO convened an expert group meeting in Vienna in 1969 to formulate guidelines for country and regional programmes. The meeting recommended a number of guidelines and suggested that UNIDO sponsor missions to the various regions to formulate technical assistance programmes and projects in this sector. A report on plant requirements for specific agricultural machinery is expected to be published in 1970. The report of the expert group meeting is to be published in 1971.

19. In keeping with the recommendations of the expert group meeting on the agricultural machinery industry, two teams will visit the Middle Eastern countries and the countries of the East African Community early in 1970. The teams will consist of a UNIDO staff member, a consultant and a staff member of the regional economic commission concerned. Similar teams will be sent during 1970 to the ECLA region and to other countries in the ECAFE region. UNIDO will also co-operate in 1970 with ECAFE in a regional market and feasibility study on small gasoline and diesel engines.

20. In order to assist in the establishment and expansion of the agricultural equipment and implement manufacturing industry, UNIDO proposes in 1971 to undertake special programmes in five selected countries. These programmes will concentrate on: (a) identification of existing manufacturing facilities which are not being utilized to full capacity; (b) study of changes in processes or design of equipment currently being manufactured, including the possibility of concentrating these and related efforts in a design institute; and (c) prospects for establishing demonstration plants.

Priority A

	<u>Staff</u> <u>(in n/n)</u>	<u>Meetings</u> <u>(US\$)</u>	<u>Consultants</u> <u>(US\$)</u>
1969	4	13,621	7,163 ^{g/}
1970	2	-	5,000
1971	6	-	8,000

^{g/} Of which \$1,333 were financed from the General Trust Fund of UNIDO.

Electrical and electronic industries (1.02)

21. As developing countries become increasingly industrialized, the demand grows for a large variety of electrical and electronic equipment and components, both for the consumer market and for engineering requirements. The components range from basic electrical parts to more complex electronic equipment and elements. The approach of UNIDO to this problem is explained in the following project components.

Manufacture of telecommunication equipment, including low-cost receivers for sound broadcasting and television (1.02.01)^{2/}

22. The major obstacles to the improvement of telecommunications in the developing countries are the shortage and low quality of equipment. There is a need for locally manufactured telephone equipment and exchanges, micro-wave communication links, power supplies and many components of such equipment and, in certain instances, for cables and batteries. These needs have been recognized by ECA (resolution 163/VIII), which recommended active assistance in the production of low-cost radio and television receivers, and by the Industrial Development Board at its third session (A/7617, para. 86). Strong interest in the matter has also been demonstrated by ILO, UNESCO and ITU, and UNIDO has co-ordinated its efforts in this field with these organizations.

23. Accordingly, UNIDO convened in October 1969 in Vienna a development meeting for 40 participants, including eighteen participants from the developing countries and ten experts from industrialized countries. In addition, ILO, ITU and UNESCO, as well as observers from the industry, participated. Ten studies that had been previously commissioned were submitted to the meeting. The meeting made specific recommendations to UNIDO and to developing countries and established guidelines for technical assistance. The report of the meeting will be published in 1971.

24. Guidelines for the manufacture in developing countries of two-way communications equipment and low-cost radio and television receivers will be drawn up in 1970. In co-operation with ITU and its study groups, professional societies and the industry of the developed countries, ITU specifications will be taken into account (ID/B/44, para. 57). These guidelines will assist in increasing the range of domestically produced components of professional equipment and help in introducing the manufacture of low-cost radio and television receivers in developing countries in which, according to a UNESCO survey, the available equipment is beyond the purchasing power of the majority of the population.

^{2/} This project is also reported under Operational Activities (UNDP/TA approved project INT/68-15) p. 17.

Priority A

	<u>Staff</u> <u>(in m/m)</u>	<u>Meetings</u> <u>(US\$)</u>	<u>Consultants</u> <u>(US\$)</u>
1969	5	32,750 ^{a/}	-
1970	3	-	-
1971	2	-	-

a/ UNDP/TA funds.

Expert group meeting on improved technologies in connexion with an international exhibition of radio and television equipment to display low-cost receivers manufactured in developing countries (1.02.02)

25. In keeping with the policy of UNIDO, developing countries are being encouraged to produce indigenously radio and television receivers. As there is inadequate knowledge in many developed countries of actual and potential production capabilities of developing countries, UNIDO plans to prevail upon the authorities of an international exhibition of radio and television equipment to include, in their 1971 exhibition, equipment manufactured in developing countries in order to demonstrate the state of technology achieved by manufacturers in these countries and to encourage participation in these efforts on the part of manufacturers in developed countries.

26. During this exhibition, UNIDO proposes to convene, subject to availability of funds, an ad hoc expert group meeting of fifteen participants to discuss technologies appropriate for improving the competitive position on world markets of telecommunication equipment manufactured in developing countries. If this project materializes, a report will be published in 1972.

Priority B

	<u>Staff</u> <u>(in m/m)</u>	<u>Meetings</u> <u>(US\$)</u>	<u>Consultants</u> <u>(US\$)</u>
1969	-	-	-
1970	3	-	-
1971	7	8,000 ^{a/}	1,200

a/ From the General Trust Fund of UNIDO.

Expert group meeting on electrical and electronic components (1.02.03)

27. The findings of experts engaged in technical assistance projects have shown the need in developing countries for establishing or improving manufacturing plants for high-quality electrical and electronic components. To assist developing countries in this problem, UNIDO will convene an expert panel of ten participants in 1971 to examine questions relating to the production of electrical and electronic components. The regional economic commissions will be invited to attend. A report of this meeting will be published in 1972.

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	-	-
1971	5	8,000	3,000

Manufacture of refrigeration equipment (1.02.04)

28. In keeping with the agreement signed between FAO and UNIDO in 1969, UNIDO will give increased attention to assist industries manufacturing food processing and preserving equipment. Accordingly, it is suggested that, subject to availability of funds, the possibilities for manufacturing industrial refrigeration equipment in the developing countries be considered in Vienna in 1970 at a joint session of experts in food processing and representatives from developing countries (ID/B/44, para. 70). Representatives of manufacturers of refrigeration equipment would be invited to attend as observers. It is expected that proposals would be advanced for promoting manufacturing operations on complex refrigeration machinery and equipment, for which technical assistance requests are anticipated in 1970. A report of this meeting would then be published in 1971. (The priority listing has been changed from "A" in document ID/B/44, para. 70, to "B".)

Priority B

	<u>Staff</u> <u>(in m/m)</u>	<u>Meetings</u> <u>(US\$)</u>	<u>Consultants</u> <u>(US\$)</u>
1969	-	-	-
1970	4	6,500 ^{a/}	3,000
1971	-	-	-

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

Repair and maintenance (1.03)

29. Following the recommendations made by the Industrial Development Board that priority should be given to the promotion of repair and maintenance (A/7215, para. 115), UNIDO is implementing two UNDP/SF projects in this sector and is working on additional ones. Moreover, a number of technical assistance projects are in various stages of discussion and implementation under SIS or UNDP/TA

Interregional symposium on repair and maintenance in
developing countries (1.03.01)

30. On the basis of the findings from projects and exploratory work carried out in 1968 and 1969, an interregional symposium will be organized in Vienna in 1970 on repair and maintenance of equipment in developing countries (ID/B/44, para. 71). FAO, ILO and UNESCO, as well as the regional economic commissions, will be invited to participate in the symposium. Fifteen papers and case studies have been commissioned for the symposium. A document reflecting the findings, conclusions and recommendations of the symposium will be published in the same year and distributed to governments and industrial enterprises in the developing countries for comments and consideration.

Priority A

	<u>Staff</u> (in m/m)	<u>Meetings</u> (US\$)	<u>Consultants</u> (US\$)
1969	2	-	10,000
1970	8	38,000 ^{a/}	1,500
1971	-	-	-

a/ UNDP/TA funds.

31. As a follow-up to the interregional symposium on repair and maintenance, which will deal with broad issues and develop general guidelines in the field of repair and maintenance, it is proposed to focus on problems that will be identified in detail in specific industrial sectors.

Meeting on preventive maintenance and repair
of railway equipment (1.03.02)

32. The Industrial Development Board, at its third session, recognising the importance of internal transportation systems, recommended that emphasis be placed by UNIDO upon the development of railway systems and equipment (A/7617, para. 90). UNIDO has completed one project and is working on others in this

field. Initial findings indicate that, in addition to the need for new facilities, there is an urgent need for the repair of existing equipment and installations. UNIDO proposes to hold in 1971 a seven-day meeting for 30 participants on the maintenance and repair of railway equipment. ILO will be invited to attend. It is envisaged that suggestions will be made at the meeting with regard to approaches to railway maintenance and repair in the developing countries. A report of the meeting will be published in 1972.

Priority A

	<u>Staff</u> <u>(in m/m)</u>	<u>Meetings</u> <u>(US\$)</u>	<u>Consultants</u> <u>(US\$)</u>
1969	1	-	-
1970	2	-	-
1971	7	22,000 ^{a/}	4,000

a/ From the General Trust Fund of UNIDO.

Metalworking industries (1.04)

33. The Interregional Symposium on Development of Metalworking Industries in Developing Countries, held in 1966, discussed general problems of metalworking industries in Africa, Asia and Latin America and drew attention to the different levels of development in these regions. The Symposium also emphasized the key role played by the machine tool industry in the expansion of industrial production.

34. An analysis of technical assistance projects being implemented by UNIDO in the engineering industries indicates that the development of domestic metalworking industries is one of the main concerns of developing countries, a finding which has been recognised by the Industrial Development Board (A/7617, para. 87). Among the many problems with which developing countries are faced when they establish metalworking industries is the choice of technology and production processes.

Development of metalworking industries in
Asia and Latin America (1.04.01)

35. Recognizing these problems, UNIDO proposes to hold, in co-operation with ECAFE, a regional meeting in Asia in 1970 to discuss the results of technical assistance provided by UNIDO to metalworking industries, with particular regard to the production, application and utilization of machine tools, industrial machinery and metal products. This meeting will focus on the feasibility of technologies requiring relatively low investment. It is proposed that this meeting be followed in 1971 by a meeting in Latin America to be held in co-operation with ECLA. Four studies on the following subjects were commissioned by UNIDO in 1969 for the meeting in Asia: profitable use of machine tools and related equipment in developing countries; problems in marketing industrial machinery and metal products; financing of the metalworking industry; and acceptance tests for metalcutting machine tools. The last-mentioned study is scheduled for publication in 1971.

36. Preparation for the Asian meeting will be co-ordinated with the planning of the Second Asian Conference on Industrial Development.

Priority A

	<u>Staff</u> <u>(in m/m)</u>	<u>Meetings</u> <u>(US\$)</u>	<u>Consultants</u> <u>(US\$)</u>
1969	2	-	3,600
1970	7	15,000 ^{a/}	3,000 ^{a/}
1971	12	25,000 ^{b/}	3,000

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

^{b/} \$20,000 from UNDP/TA and \$5,000 from the General Trust Fund of UNIDO.

Studies for the Expert Group Meeting on the Design,
Manufacture and Utilization of Dies and Jigs (1.04.02)

37. An expert group meeting was convened in Vienna in 1968 for the purpose of discussing problems of design, production and utilization of dies and jigs in the developing countries (ID/B/43, para. 114). It was attended by experts from both developed and developing countries, and papers prepared by international experts formed the basis for the discussions. The report of this meeting, including studies prepared in connexion with it, will be published in 1970.

Priority A

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

a/ From the General Trust Fund of UNIDO.

Transportation equipment (1.05)

38. This field covers not only the automotive industry but also shipbuilding industries associated with shipping such as the construction of containers. UNIDO has been requested to provide technical assistance in this sector in several countries.

Seminar on the establishment and development of automotive
industry in developing countries (1.05.01)

39. UNIDO has provided technical assistance in the field of automotive transportation to a number of countries. Findings from these projects indicate the existence of many common problems in developing countries in the establishment and upgrading of automotive assembly and manufacturing facilities.

A seminar on the automotive industry was held early in 1969 in Karlovy Vary, Czechoslovakia, to examine and discuss these common problems (ID/B/26, para. 51). The meeting was attended by 50 experts and observers from the developed and developing countries as well as by representatives from ILO and ECLA. The main topics of discussion were the possibilities of stepping up assembly and of introducing manufacture of parts and also the status and prospects of the automotive industry in the developing countries, with special consideration of the economic, technological and financial problems involved. The report of the seminar is to be published in 1970.

Priority A

	<u>Staff</u> <u>(in m/m)</u>	<u>Meetings</u> <u>(US\$)</u>	<u>Consultants</u> <u>(US\$)</u>
1969	12	34,801 ^{a/}	-
1970	2	-	-
1971	-	-	-

a/ From the General Trust Fund of UNIDO.

**Assessment of ancillary automotive and spare
parts production industries (1.05.02)**

40. In the course of assembling automobiles and trucks, plants in some developing countries have encountered problems in increasing the domestically produced parts of the assembled vehicle owing to the non-existence or slow growth of supporting and ancillary industries. This problem was taken up in the technical assistance programme of UNIDO in 1969 (ID/B/44, para. 65-67). A UNIDO staff member and an expert will examine the present stage of development of the ancillary industries in order to identify problems and find solutions. This examination will be carried out in connexion with several field projects of UNIDO in 1970, and the findings and recommendations of the two-man team will be published and distributed.

Priority A

	<u>Staff</u> <u>(in m/s)</u>	<u>Meetings</u> <u>(US\$)</u>	<u>Consultants</u> <u>(US\$)</u>
1969	-	-	-
1970	4	-	1,500
1971	-	-	-

Utilisation of idle shipbuilding and repair facilities (1.05.03)

41. Some countries have shipyards that are lying idle or that, for a variety of reasons, are being used below their capacity. The awareness of this problem is reflected by a growing number of technical assistance requests received by UNIDO for shipbuilding and repair. In 1970, a mission consisting of a UNIDO staff member and a consultant will visit idle shipyards and shipyards working below capacity and will collect data and information, analyse the problems and formulate corrective measures (ID/B/44, para. 63-64). Their report will be published in 1971.

Priority A

	<u>Staff</u> <u>(in m/s)</u>	<u>Meetings</u> <u>(US\$)</u>	<u>Consultants</u> <u>(US\$)</u>
1969	-	-	-
1970	4	-	1,500
1971	1	-	-

Regional survey on container manufacture (1.05.04)

42. The use of containers facilitates the exchange of goods with countries using this advanced method of handling. Containers are particularly useful in transporting pilferable cargo; they also shorten the turn-around time of ships and reduce handling costs in ports. The last two factors are particularly important for countries that own merchant ships and transport their own products to the world markets.

43. As a follow-up to the previous work in the transportation field and, in particular, to the 1970 survey on idle shipbuilding facilities (ID/B/44, para. 64), UNIDO intends to study in 1971 the possibility of manufacture in the developing countries of containers for land and water transportation. A position paper for this survey will be prepared by staff of UNIDO. The survey is to make recommendations with regard to the manufacture of metal and wooden containers. This project will be co-ordinated with the activities described in document ID/B/44, para. 463.

Priority A

	<u>Staff</u> <u>(in m/m)</u>	<u>Meetings</u> <u>(US\$)</u>	<u>Consultants</u> <u>(US\$)</u>
1969	-	-	-
1970	2	-	-
1971	5	-	6,800 ^{a/}

a/ UNDP/TA funds.

Design capabilities (1.06)

44. Findings from many technical assistance projects point out that the success of engineering industries in developed countries largely reflects the capacity to develop new designs and to adapt existing designs to specific requirements under licensing agreements. Consequently, the creation and development of design capabilities in developing countries have been recognized by UNIDO as vital steps towards industrial development. The importance of this area to developing countries is evidenced by four UNDP/SF projects carried out by UNIDO. Experience gained thus far indicates a need for setting up guidelines for developing countries in the establishment and operation of design centres.

Expert group meeting on development of engineering design capabilities (1.06.01)

45. As a first step in the development of such guidelines, a UNIDO staff member participated in 1969 in the Congress of the International Council of Societies of Industrial Design, held in London. In 1970, a working group consisting of project managers of engineering design and development centres and two consultants will meet at UNIDO headquarters in Vienna for five days to exchange views concerning their experiences, to discuss their problems and to transmit their experience and recommendations to other developing countries (ID/E/44, para. 75). Representatives of the regional economic commissions and of ILO will be invited to attend. Several papers for the working group were commissioned by UNIDO in 1969. The report of the working group will be published in 1971 and distributed to developing countries.

Priority A

	<u>Staff</u> <u>(in E/E)</u>	<u>Meetings</u> <u>(USD)</u>	<u>Consultants</u> <u>(USD)</u>
1969	1	-	4,607 ^{g/}
1970	3	5,800	2,000
1971	1	-	-

^{g/} Of which 8667 were financed from the General Trust Fund of UNIDO.

Processing industry machinery (1.07)

46. In support of the 1970 work programme (Group 4, document ID/E/64/Add.4), a three-day panel on construction of installations for the chemical industries in the developing countries is planned for 1970.

Panel on the construction, operation and maintenance of
installations for the chemical industries (1.07.01)

47. The panel 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) in Frankfurt to discuss the questions of planning and construction of large installations in the chemical industries in general (ID/B/44, para. 68). UNIDO anticipates requests for technical assistance in this field, especially as concerns installations for the manufacture of basic pharmaceutical ingredients, synthetic chemicals and chemical derivatives from local raw materials (A/7215, para. 125). The panel will also discuss the conditions under which certain types of equipment could be brought from the developed countries for use in less developed areas. A report of the panel will be published in 1971.

Priority A

	<u>Staff</u> <u>(in e/m)</u>	<u>Meetings</u> <u>(US\$)</u>	<u>Consultants</u> <u>(US\$)</u>
1969	1	-	-
1970	2	1,200	1,500
1971	2	-	-

PRINTED PUBLICATIONS

Publications issued in 1969

		<u>Language</u>	<u>Cost (US\$)</u>
IB/6	Development of metalworking industries in developing countries (Proceedings of interregional symposium Moscow 1966)	E	
IB/8	Report of the interregional symposium on metalworking industries in developing countries (Moscow 1966)	F	
			<hr/> 11,885

1970 Publications Programme

IB/10	Report of expert group meeting on design, manufacture and utilization of dies and jigs in developing countries (Vienna, December 1968)	E F S	
IB/14	Establishing domestic production of distribution transformers in developing countries	E S	
IB/16	Report and proceedings of the seminar on the establishment and development of automotive industry in developing countries (Karlovy Vary, February - March 1969)	E	
-	Plant requirements for specific agricultural machinery		
			<hr/> 11,800

PRINTED PUBLICATIONS (cont'd)

<u>Forecast of 1971 publications programme</u>	<u>Languages</u>	<u>Cost</u> <u>(US\$)</u>
Report: Meeting on development of engineering design capabilities	E	
Report: Metalworking industries in Asia (Japan 1970)	E	
Report and proceedings: Seminar on automotive industry (Karlovy Vary, February - March 1969)	F S	
Report: Expert group on agricultural machinery industry (Vienna, August 1969)	E F S	
Report: Manufacture of telecommunication equipment (Vienna, October 1969)	E F S	
Report: Meeting on repair and maintenance (October 1970)	E	
Report: Meeting on manufacture of refrigeration equipment (August 1970)	E	
Report: Panel on construction, etc. of installations for chemical industries	E	
Idle shipbuilding and repair facilities	E	
Assessment of ancillary automotive and spare parts production industries (consultant study)	E	
Acceptance tests of metal-cutting machine tools	E	
		<hr/> 19,400

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				UNDP/TA	UNIDO General Trust Fund	Total ^{b/}
	(1) Staff m/m	(2) Meetings US\$	(3) Consultants US\$	(4) Publications US\$			
1-01-01	4	13,621	5,830		-	1,333	20,784
1-02-01	5	-	-		32,750	-	32,750
1-03-01	2	-	10,000		-	-	10,000
1-03-02	1	-	-		-	-	-
1-04-01	2	-	3,600		-	-	3,600
1-04-02	-	-	-		-	2,000	2,000
1-05-01	12	-	-		-	34,801	34,801
1-06-01	1	-	4,000		-	667	4,667
1-07-01	1	-	-		-	-	-
Total	28	13,621	23,430	11,885	32,750	38,801	120,487

^{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.

Table 6

Estimated expenditures for supporting activities in 1970

Project component	UNIDO Regular Budget				UNDP/TA	UNIDO General Trust Fund	Total ^{a/}
	(1) Staff m/m	(2) Meetings US\$	(3) Consultants US\$	(4) Publications US\$			
Priority A							
1-01-01	2	-	5,000		-	-	5,000
1-02-01	3	-	-		-	-	-
1-02-03	1	-	-		-	-	-
1-03-01	8	-	1,500		30,000	-	30,500
1-03-02	2	-	-		-	-	-
1-04-01	7	-	-		-	10,000	10,000
1-05-01	2	-	-		-	-	-
1-05-02	4	-	1,500		-	-	1,500
1-05-03	4	-	1,500		-	-	1,500
1-05-04	2	-	-		-	-	-
1-06-01	3	5,800	2,000		-	-	7,800
1-07-01	2	1,200	1,500		-	-	2,700
Total	40	7,000	13,000	11,800	30,000	10,000	87,800
Priority B							
1-02-02	3	-	-		-	-	-
1-02-04	4	-	3,000		-	6,500	9,500
Total	7	-	3,000	-	-	6,500	9,500

^{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.

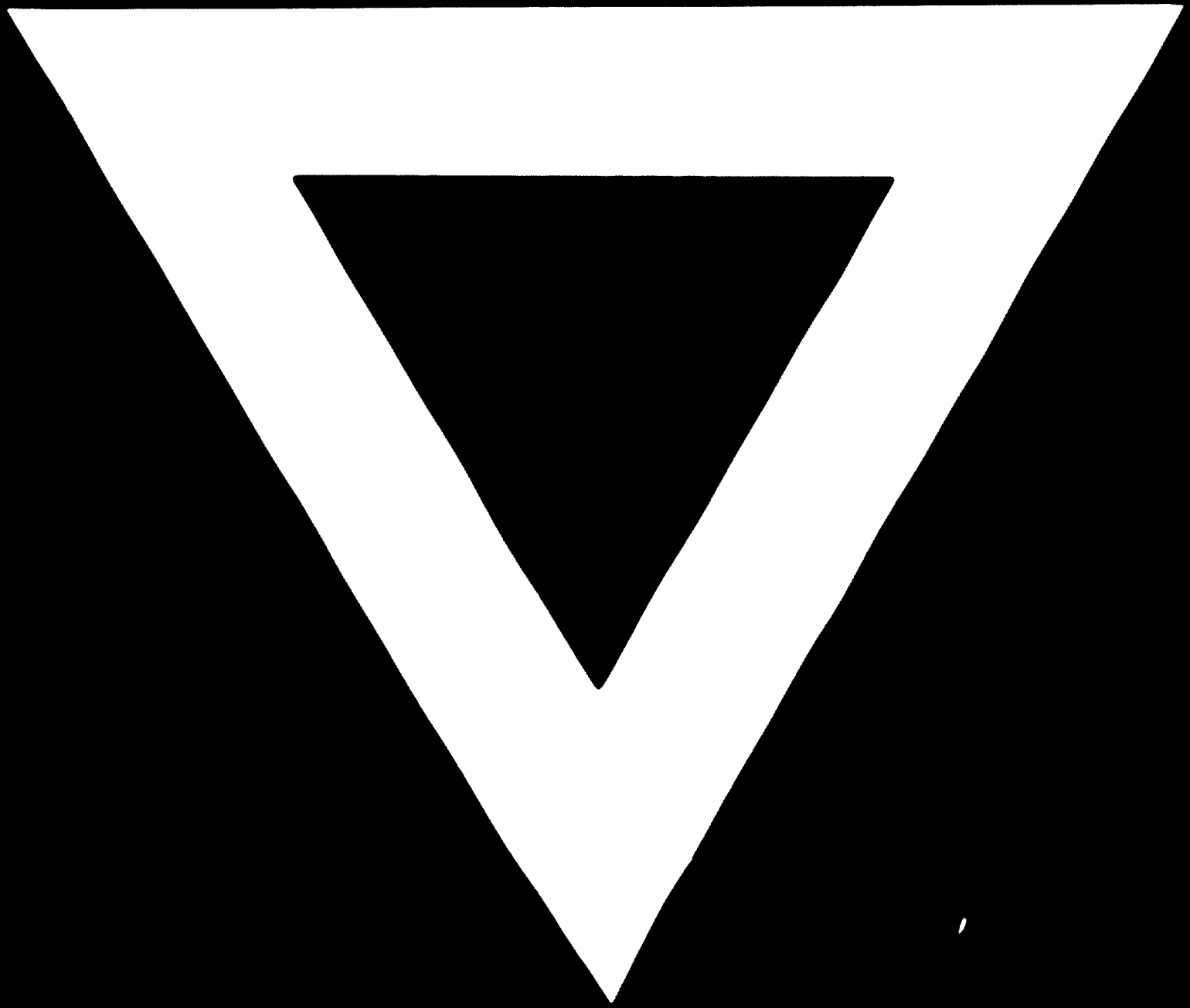
Table 7

Estimated expenditures for supporting activities in 1971

Project components	UNEP Regular Budget				UNEP/TA	UNEP General Trust Fund	Total ^{g/}
	(1) Staff n/a	(2) Meetings US\$	(3) Consultants US\$	(4) Publications US\$			
Priority A							
1-01-01	8	-	8,000		-	-	8,000
1-02-01	2	-	-		-	-	-
1-02-03	5	8,000	3,000		-	-	11,000
1-03-02	7	-	4,000		-	22,000	26,000
1-04-01	12	-	3,000		20,000	5,000	20,000
1-05-03	1	-	-		-	-	-
1-05-04	5	-	-		6,000	-	6,000
1-06-01	1	-	-		-	-	-
1-07-01	2	-	-		-	-	-
Total	41	8,000	18,000	10,400	26,000	27,000	90,700
Priority B							
1-02-02	7	-	1,200		-	8,000	9,200
Total	7	-	1,200	-	-	8,000	9,200

^{g/} 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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