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D03501

ID

**Distr.
LIMITED**

**ID/MS. 117/5
27 January 1972
ORIGINAL: ENGLISH**

United Nations Industrial Development Organization

**Meeting of In-Plant Group
Training Directors
Vienna, 7 - 11 February 1972**

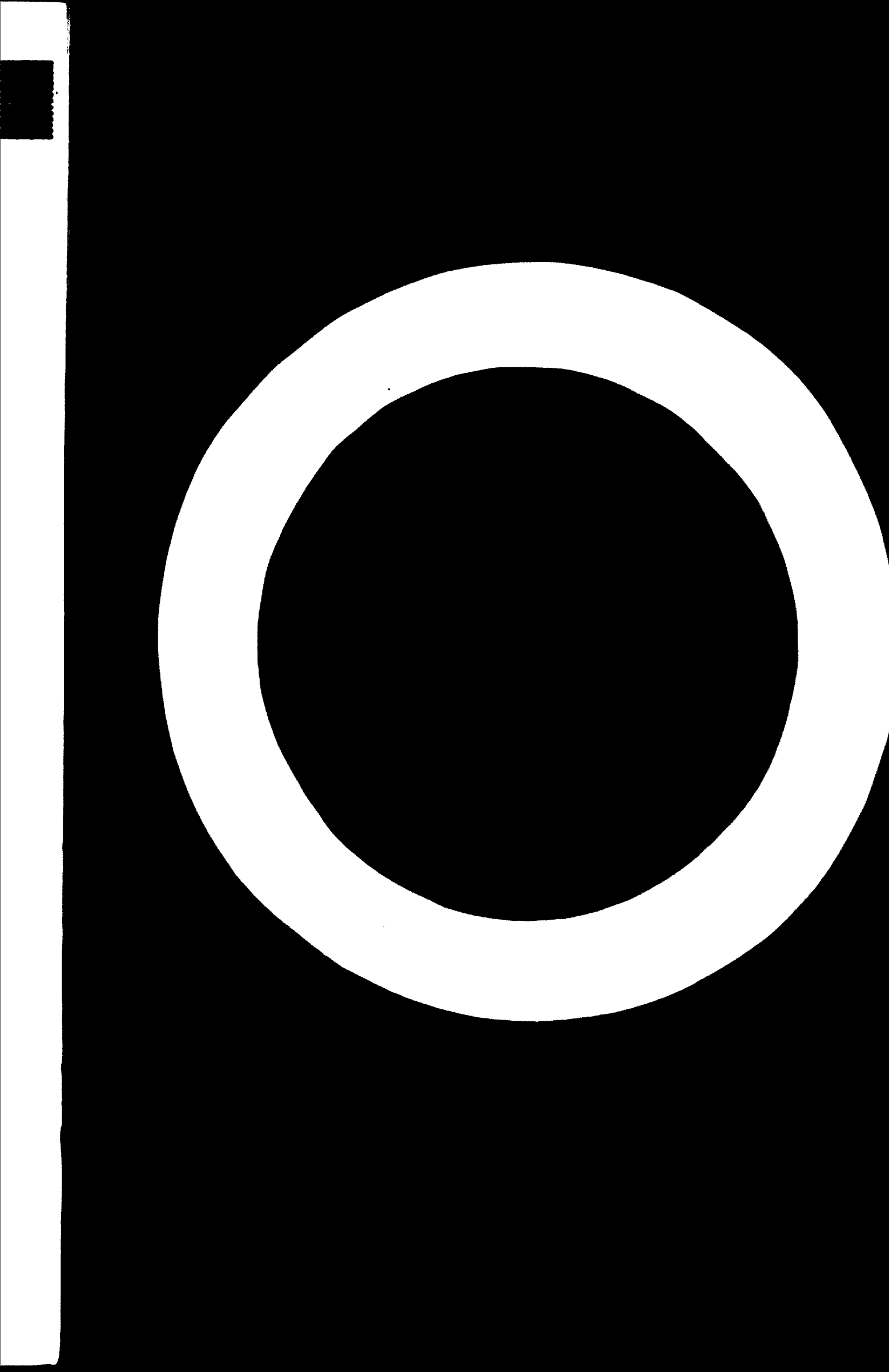
UNIDO'S PAST AND PLANNED TRAINING ACTIVITIES ✓

(in tabular form)

**prepared by
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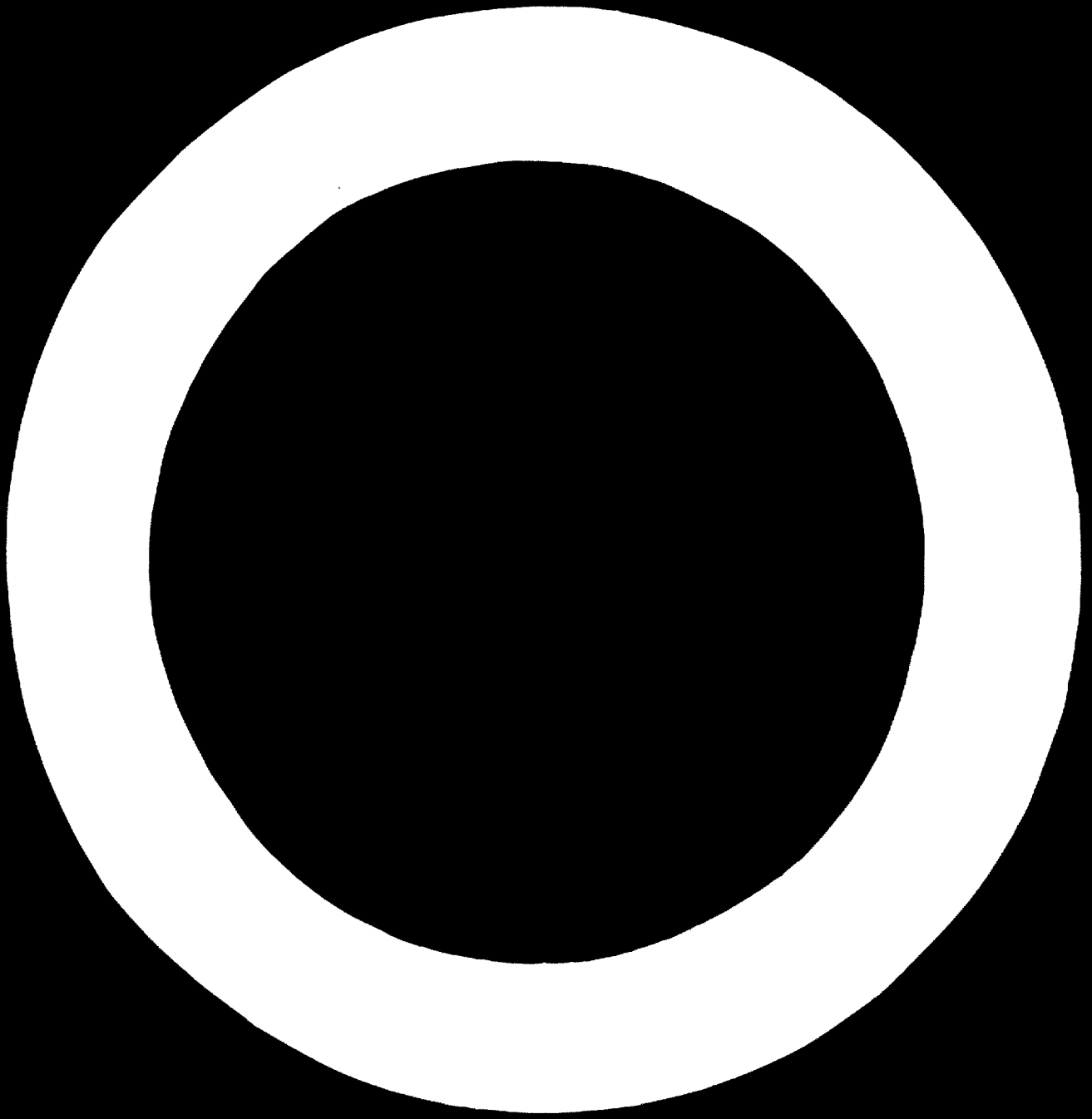


TABLE 1

Major Categories of Industrial Personnel
Requiring Training

The following list gives major categories of personnel required to man the essential industrial activities as well as related activities of an industrializing economy:

- Innovative organizers or entrepreneurs in both public and private sector enterprises responsible for decisions on major resource allocations;
- Organizers, managers, and technical specialists who play leading roles in negotiations with foreign sources for the transfer of technology and finance;
- Managers of independent small-scale and medium-sized industrial enterprises;
- Senior administrators and decision makers from government authorities, agencies, and institutions undertaking planning and programming and providing resources and services for industry;
- Key organizers of various types of associations as well as chambers of industry which mobilise resources and personnel services for accelerated industrialization;
- Key research personnel in the technological, economic, and social sciences who are in a position to develop and introduce appropriate innovations into the industrial sector;
- Senior level training staff including university professors, training administrators, training organizers and personnel managers;
- Key technical, economic, social, and multidisciplinary personnel such as engineers, designers, economists, development technologists, in enterprises and consulting services as well as in government authorities, agencies, and institutions concerned with industrial development;
- Teaching and training staff qualified in the technological, economic and social fields and experienced in theory as well as in practice;
- Intermediate-level technical and administrative personnel such as technicians, supervisors and foremen, senior accounting staff;
- Broadly skilled shop-floor and office workers such as craftsmen in production and maintenance work, senior clerical and sales staff;
- Specialised shop-floor and office workers such as operatives in production and maintenance work, junior clerical and sales staff;
- Unskilled workers with certain minimum qualifications.

TABLE 2

General Categories of UNIDO Training Activities

In its efforts to assist the governments of developing countries, UNIDO undertakes various activities in the field of industrial training which may be categorized as follows:

- a) Basic level pre-employment training to impart practical industrial experience to newly graduated engineers, technologists, and economists.
- b) Upgrading training for specialists to bring them to the management level.
- c) Updating training to keep specialists abreast of latest development in their industrial fields.
- d) Specialized training for industrial personnel executing a specific industrial function in a specific industrial sectors, to convert them from generalists to specialists.
- e) Highly specialized and intensive training for managerial, administrative and other decision-making personnel.

The above categories of UNIDO training activities apply not only to personnel already employed in - or about to enter - industry, but also to personnel in such related fields as consultancy, public industrial administration, industrial policies, industrial institutions, industrial research, industrial development banking, investment promotion, industrial information, etc.

Categories b - e of UNIDO training activities clearly demonstrate the emphasis placed on skill improvement of those personnel already employed in industry, which is the main concern of UNIDO in the field of industrial training.

TABLE 3

Major Industrial Activities and Related Activities
for which UNIDO can provide training

Major sectors of production:

- Food processing,
- Textiles,
- Leather,
- Wood and wood products,
- Non metallic minerals,
- Pulp and paper,
- Metal processing,
- Chemical industries,
- Iron and steel,
- Non ferrous metals,
- Machinery and mechanical equipment,
- Transport equipment,
- Electrical and electronic equipment,
- Construction.

Major services and functions:

- Plant design and application of appropriate technologies,
- Product design and packaging,
- Installation, repair and maintenance services,
- Financial management/management control,
- Management information systems,
- Production management,
- Industrial engineering,
- Marketing services,
- Industrial research services,
- Industrial consulting services,
- Small-scale industries services,
- Quality control,
- Standardisation,
- Industrial legislation,
- Public industrial administration,
- Licensing, patents,
- Industrial information,
- Industrial training organisation and administration,
- Environmental control
- Industrial planning and programming,
- Industrial policies,
- Industrial project preparation and evaluation,
- Industrial project implementation,
- Industrial financial planning and analyses,
- Industrial banking techniques,
- Industrial investment promotion,
- Industrial surveys,
- Promotion of export oriented industries.

TABLE 4

In-Plant Group Training Programme

Carried out by UNIDO and its predecessor, Centre for Industrial Development (1965-71)

Field of Study	Host Country	Number of Participants								TOTALS
		1965	1966	1967	1968	1969	1970	1971		
Iron and steel	Ukr. SSR	25	37	44	39	33	32	42	252	
Electrical industry	Sweden	-	20	17	20	13	17	13	100	
Non-ferrous industry	Yugoslavia	-	18	-	-	-	-	-	18	
Textile industry	Poland	-	-	13	14	19	16	17	79	
Textile machinery	Italy	-	-	9	-	-	-	-	9	
Metallurgical industry	Italy	-	-	9	-	-	-	-	9	
Cement industry	Denmark	-	-	-	17	-	-	-	17	
Diesel engines	CSSR	-	-	-	20	-	14	-	34	
Mechanical industry	Japan	-	-	-	12	12	8	15	47	
Pulp and paper industry	Sweden	-	-	-	-	12	12	12	36	
Shoe industry	CSSR	-	-	-	-	18	-	-	18	
Food Processing	UK	-	-	-	-	14	-	11	25	
Metelwoking industry	USSR	-	-	-	-	20	11	17	48	
Pesticides	USA	-	-	-	-	19	20	7	54	
Maintenance	Sweden	-	-	-	-	-	-	20	37	
Plastic industry	Austria	-	-	-	-	-	17	14	29	
Maintenance	Italy	-	-	-	-	-	15	14	14	
Standardization	USSR	-	-	-	-	-	-	20	20	
Food Processing	India	-	-	-	-	-	-	14	14	
Maintenance railway	Fed. Rep. of Germany	-	-	-	-	-	-	18	18	
Total no. of participants		25	75	92	122	160	170	234	996	
Total no. of programmes		1	3	5	6	9	10	14	48	

TABLE B

UNIDO In-plant Group Training Programmes:
Tentative List of Training Subjects for the Second Development Decade

Sectors of Industry

Training is planned of either a general or specialised nature for the following industrial sectors:

Iron and steel industry,
Non-ferrous metal industry,
Metalworking industry,
Electrical industry,
Mechanical/electrical industry,
Electronics industry,
Basic chemical industry,
Fertilizer industry,
Pesticides and insecticides,
Plastics,
Non-metallic industries,
Building materials,
Leather and leather products manufacturing,
Textile industry,
Pulp and paper industry,
Woodworking industry,
Food processing industry.

Functional subjects

Maintenance: general or for specific sectors of industry,
Production management: for specific broad sectors of industry,
Quality control: general or for specific sectors of industry,
Materials handling,
Industrial consultancy: general and/or specific functional aspects;
small-scale industry (extension workers),
Packaging,
Plant design,
Product design/value analysis

Specialized subjects

Investment promotion,
Financial management,
Promotion of export oriented industries,
Marketing,
Industrial programming/planning,
Industrial research,
Appropriate technology: design capability, selection of technologies,
Public industrial administration,
Industrial information,
Environmental control.

TABLE 6

Based on present and projected estimates of headquarters staff and available training facilities, and subject to the availability of sufficient financial resources for this purpose from UNDP funds, UNIDO plans to gradually increase the number of in-plant group training programmes. For the period 1972-80, the following development has been envisaged:

1972	20 programmes
1973	24 "
1974	27 "
1975	30 "
1976	32 "
1977	34 "
1978	36 "
1979	38 "
1980	40 programmes.

It should be pointed out that some of the planned in-plant group training programmes included in UNIDO work programmes may be cancelled or postponed owing to various reasons such as difficulties in finalising financial arrangements in time, or non predictable placement difficulties beyond control.

TABLE 7

Past and Estimated Future Development of
UNIDO Individual Fellowship Programme (1968-80)

<u>Year</u>	<u>Fellowships awarded m/m</u>	<u>Total cost in US\$ a/</u>	<u>Average pro forma cost a/ per m/m in US\$</u>
1968	279/1,219	766,600	629
1969	333/1,715	1,019,000	594
1970	388/1,887	1,142,800	606
1971 <i>esti- mates</i>	500/2,500	1,585,000	634
1972	600/3,000	1,950,000	650
1973	700/3,500	2,280,000	698
1974	850/4,250	2,760,000	650
1975	1,000/5,000	3,250,000	650
1976	1,200/6,000	3,900,000	650
1977	1,300/6,500	4,230,000	650
1978	1,450/7,250	4,710,000	650
1979	1,600/8,000	5,200,000	650
1980	1,750/8,750	5,690,000	650
TOTAL	11,956/59,574	38,483,400	

Total for the
period 1972

to 1980: 10,450/52,250

33,970,000

a/ From 1972 onward the calculations are rounded-off to full US\$10,000 based on rounded-off proforma costs per man/month (including proportional travel cost) at 1971 constant prices.

TABLE 8

Subjects covered by UNIDO seminars and training workshops (1967-71)

Food processing,
Leather industry,
Wood processing; furniture,
Clay building materials,
Copper production,
Tin plate production,
Metallurgy,
Design operations and maintenance of chemical plants and equipment,
Fertilizers,
Pesticides,
Plastics technology,
Machine tool industry,
Automotive industry,

Industrial policies,
Industrial planning and programming,
Industrial project evaluation,
Investment promotion,
Promotion of export oriented industries,
Industrial surveys,
Financial analysis,
Auditing,
Technical and financial co-operation,
Financial aspects of manufacturing enterprises in the public sector,
Industrial processing,
Project implementation,
Industrial location and regional development,
Productivity promotion,
Industrial services,
Industrial estates,
Extension services for small-scale industries,
Financing of small-scale industries,
Standardization,
Metrology,
Industrial administration,
Management of chambers of industry,
Industrial information,
Information on UNIDO operations.

TABLE 2

**Past and Estimated Future
Development of UNIDO Seminars and Training Workshops (1967-80)**

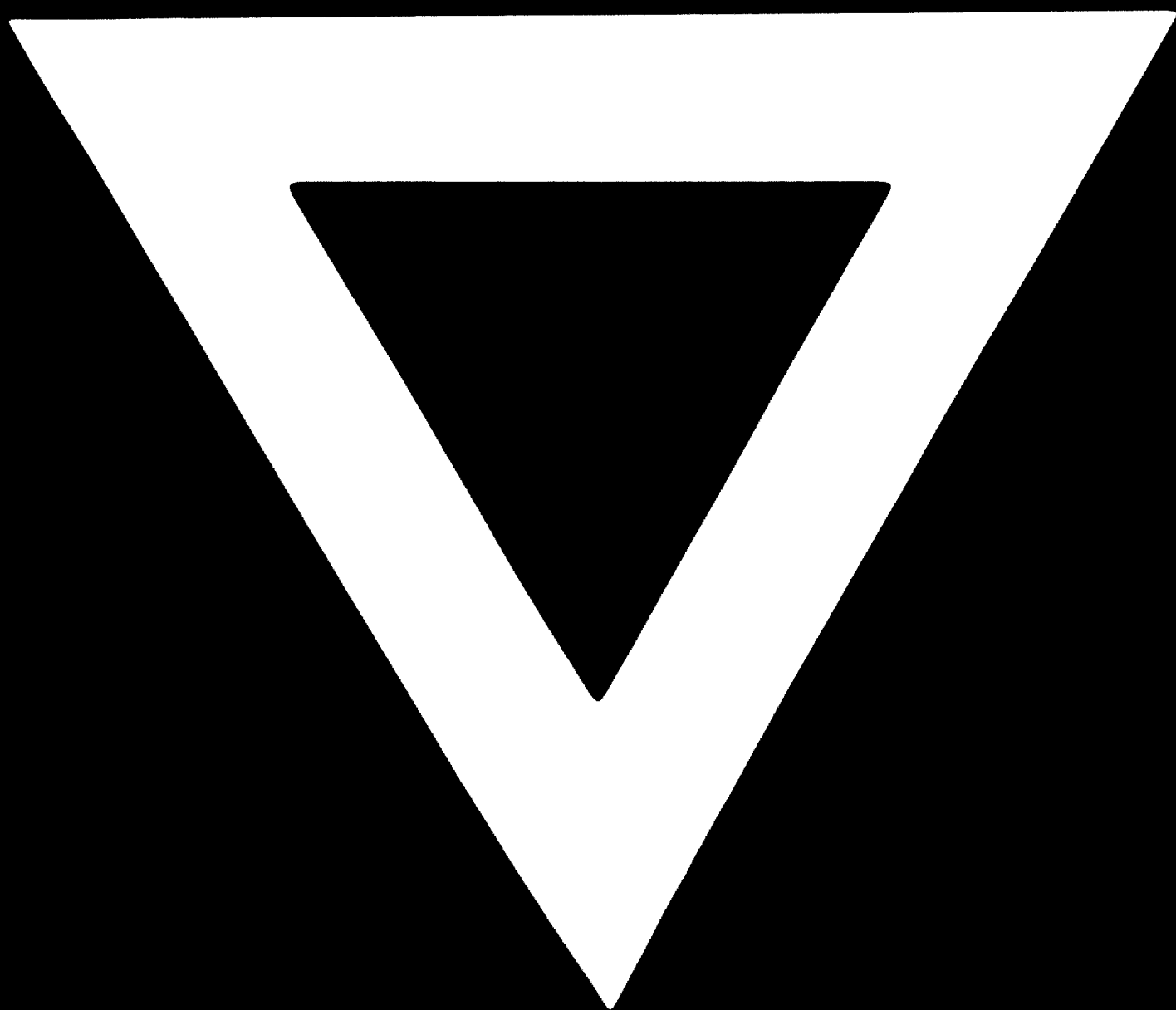
Year	Number of Seminars and Training Workshops	Number of Participants (Rounded-off)
1967	3	70
1968	7	200
1969	19	400
1970	21	400
1971	29	600
	<hr/>	<hr/>
	79	1,770
1972	29	600
1973	32	700
1974	35	770
1975	38	800
1976	42	900
1977	45	1,000
1978	50	1,100
1979	55	1,200
1980	60	1,300
	<hr/>	<hr/>
	367	8,970
Total:	466	10,300

TABLE 10
Estimating Development of IEDO Industrial Training Exports
and IIEP Industrial Training Advances (1971 to 1980)

Year	Regional Industrial Training Advances		National Industrial Training Advances		Industrial Training Exports for Specific Branches/Institutions		Total (rounded-off) (m/m) thousands \$/	
	(m/m)	(US\$ thousands \$/)	(m/m)	(US\$ thousands \$/)	(m/m)	(US\$ thousands \$/)		
1971	1/2 ^{a/}	10	-	-	6/5 ^{b/}	140	7/56	150
1972	2/24	60	3/36	90	9/61	200	14/141	350
1973	3/36	90	5/60	150	12/108	270	20/204	510
1974	4/48	120	8/96	240	15/135	340	27/279	700
1975	4/48	120	10/120	300	20/180	450	34/348	870
1976	5/60	150	12/144	360	25/225	560	42/429	1070
1977	6/72	180	14/168	420	30/270	680	50/510	1280
1978	7/84	210	16/192	480	35/315	790	58/591	1480
1979	8/96	240	18/216	540	40/360	900	66/672	1680
1980	10/120	300	20/240	600	45/405	1010	75/765	1910
TOTAL:	50/592	1,480	106/1272	3,180	237/2133	5340	393/4000	10,000

^{a/} Rounded off figures based on 1971 constant prices.

^{b/} Established posts.



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