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Athens, 29 November-20 December 1967  
Provisional agenda, Item 4(c)

TECHNICAL ASSISTANCE BY OECD MEMBERS FOR INDUSTRIAL  
DEVELOPMENT IN DEVELOPING COUNTRIES

Presented by the Secretariat of the  
Organisation for Economic Co-operation and Development

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IN DEVELOPING COUNTRIES

Corrigendum

Paragraph 4, insert the following after the last sentence: "However, a mere diversion of resources from official training programmes should be avoided."

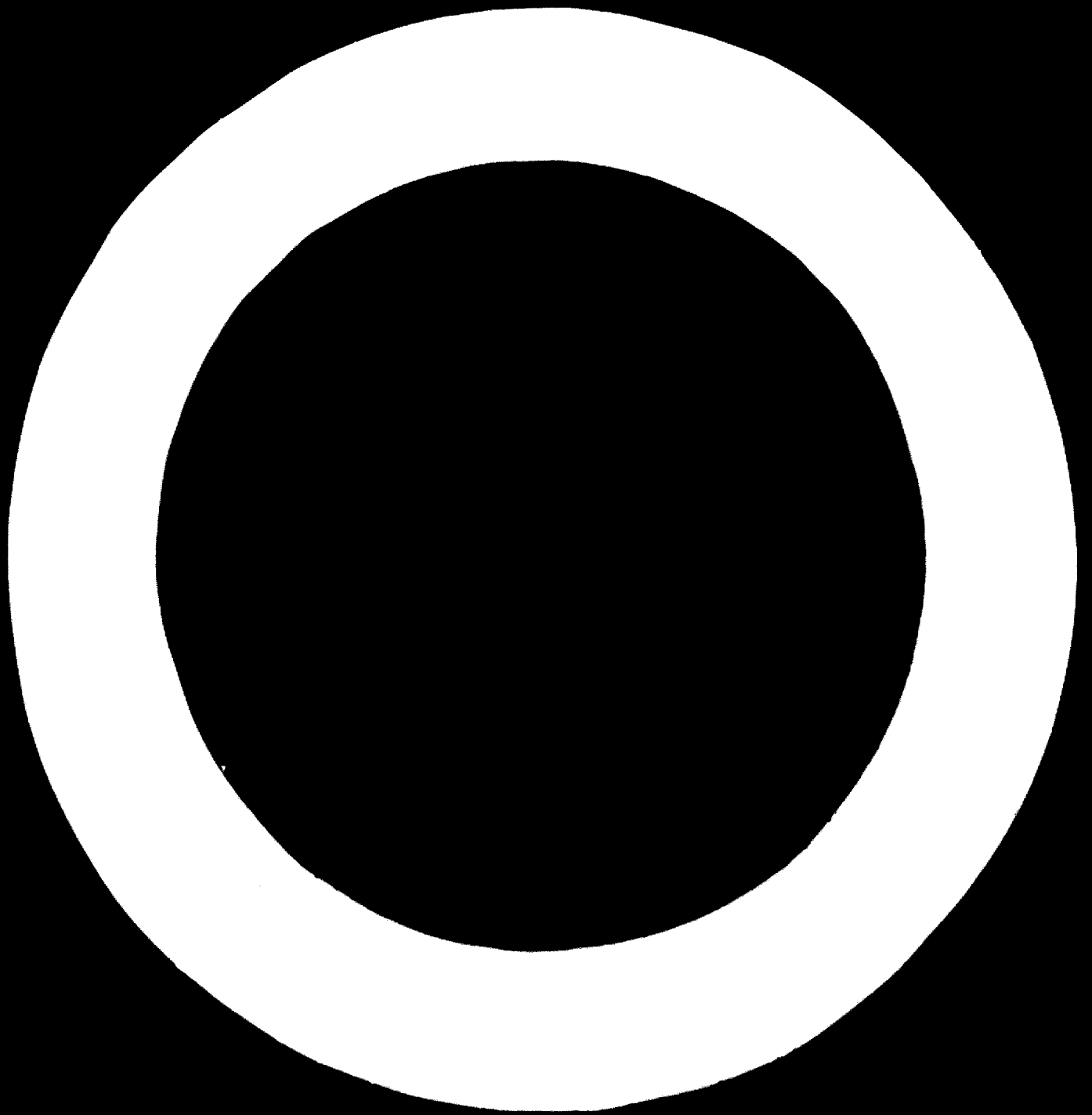
Paragraph 12, in line 1 insert: "annual" after "total".

Paragraph 13, in line 9 insert: "in dollar volume" after "comparable".

Paragraph 15, in line 7 insert: "presently" after "which are".

Paragraph 24, delete the penultimate sentence and replace it by the following: "The United Kingdom sponsors a similar system and has been closely concerned with the establishment of technical institutions, besides continuing to generally consider ways in which it can help build up training facilities overseas."

Paragraph 25, line 6 insert a comma after "faculties", delete "and " and add the following words after "institutes": "industrial development banks and other intermediate credit institutions."



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## Introduction

1. Member countries of the Development Assistance Committee<sup>1/</sup> (DAC) of the Organisation for Economic Co-operation and Development (OECD) have been concerned to provide greater and more effective technical co-operation support for developing countries. This concern has been reflected in the intensive work of a DAC expert group, which recently studied the requirements for, and supply of, technical assistance in various major sectors, including that of industry.
2. This note sets out briefly the relevant considerations arising from that study and goes on to summarize available information on the flow of industrial technical assistance, through official bilateral and private channels, from DAC members.

## General considerations

3. In considering aid for industrial development, the Expert Group found that a major effort is needed to put the skills of the private industrial enterprise sector in DAC countries more extensively at the service of the developing countries. It was further felt that official aid agencies should seek more intensive co-operation with private industry in joint or in parallel action.
4. At present, the principal relationship of private industry with official aid agencies consists of accepting government-sponsored trainees. The intensification of other forms of co-operation between Governments and private enterprise, e.g. the creation and strengthening of institutions providing technical and management training in less developed countries, regular consultative arrangements, and support for organizations engaged in promoting private enterprise in less developed countries, could be instrumental in giving new impetus to industrial development in developing countries.

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<sup>1/</sup> Members of the Committee are: Australia, Austria, Belgium, Canada, Denmark, France, the Federal Republic of Germany, Italy, Japan, the Netherlands, Norway, Portugal, Sweden, the United Kingdom, the United States and the Commission of the European Economic Community.

5. In view of the specific difficulties encountered by countries in the process of industrialization, it would appear that more attention should be paid to raising the efficiency of existing local industries, and to encouraging a fuller utilization and expansion of existing industrial capacity. In general, more thought might be given to the question of increasing the productivity of existing industrial enterprises in developing countries. In particular, the special needs of small and medium-sized industries for credit and for technical assistance are now widely recognized.
6. The creation or expansion of facilities such as industrial estates and pilot plants, designed to encourage the development of indigenous entrepreneurship, constitute useful steps in this direction.
7. Technical assistance can also play a more important role in solving problems related to the financing of production and marketing of products -- again, particularly for small and medium-sized industries -- through the creation or expansion of credit institutions and specialized advisory services.
8. There is also need for advisory assistance on policies directly or indirectly affecting industrial development. Serious difficulties can arise in developing countries from the pursuit of too narrowly defined industrialization policies in favour of import-substitution industries. High production costs, distortions in the use of resources and an unfavourable influence on the balance of payments structure could result from such policies. In these cases, technical assistance can be helpful to decision-making bodies dealing with fiscal and other policy measures for export and trade promotion, to ensure balanced growth.
9. Closer links between technical assistance and financing institutions operating in developing countries are desirable. This applies particularly to feasibility studies and project preparation. Funds have, in some instances, been underutilized for lack of suitable projects. In others, such studies have been undertaken without much regard to the possibilities of financing. The scope for making more extensive use of existing studies might usefully be explored; this would call for arrangements for a fuller exchange of information among agencies and countries.



10. The question of appropriate levels of technological transfer is already the subject of considerable research, which should be extended. However, a priori judgements should be avoided; the situation of manpower surplus and capital shortage which characterizes most developing countries may or may not call for the devising of specific technologies, depending largely on the industry under consideration.

11. Finally, technical assistance needs for industrial development cannot be defined in general terms and have to be set against the requirements of each individual country. The needs are varied and a wide range of arrangements, bilateral and multilateral, public and private, is possible. An interchange of experiences and information among the various agencies and countries could substantially contribute to the improved definition of assistance requirements in this sector.

Official bilateral technical assistance from DAC members

12. In 1962-1965, total expenditures for official bilateral technical assistance by OECD/DAC member countries combined rose by 40 per cent to more than one billion dollars (\$1,050 million), or from about 13 to 18 per cent of net official bilateral aid disbursements. In 1965, member countries financed more than 92,000 experts (including volunteers) and almost 62,000 students and trainees in all fields.

13. These data refer only to official contributions, provided under separate technical co-operation programmes budgeted as such, and, consequently, exclude all technical co-operation which is provided as an integral part of capital projects or of general budget subsidies and grants-in-aid. They also exclude all private technical co-operation contributions, i.e. aid activities of non-governmental, non-profit-making organizations (such as foundations, missions and trade unions) in OECD/DAC member countries and the activities of private enterprise. Recent studies in OECD suggest that the total scale of these contributions is comparable to that of official technical aid.

14. The increase in expenditures allocated for technical assistance has been accompanied by an important number of new initiatives and new programmes designed to increase the stock of experts available for work overseas and to expand training facilities. A number of member countries are now taking further steps to involve a wider range of their own institutions in development projects. Some members, who until recently provided only small amounts of technical assistance, are undertaking a thorough review of recruitment possibilities for personnel to work overseas.

Official technical assistance for industrial development

15. It is first necessary to define the economic activities comprised under the heading of "Industrial Development". Ideally, these should include not only manufacturing industry and mining but also certain types of industrial infrastructure, processing of raw materials and related industrial services. Unfortunately, statistical source material is not adequate to permit bilateral technical assistance over this range to be distinguished separately. The statistical data which are available on a sectoral basis are summarized in table 1 (below). They comprise training in industry (manufacturing and mining) and personnel dispatched for advisory and operational activities directly concerned with the industrial process. Although data for students in engineering and some educational personnel have been added to this table, the picture is still far from complete. For example, with a few exceptions, experts who were engaged in pre-investment studies, are not included. Furthermore, technical assistance directly connected with capital projects is frequently not included; it should be noted that in 1965 one quarter of all capital project commitments of DAC members were for industry.

16. Members' official technical assistance programmes directly connected with industrial development provide for training grants and fellowships in aid-supplying countries, for the dispatch of advisers and operational personnel, for teachers in vocational and technical training institutions in developing countries, as well as for professors and lecturers in engineering and higher technical

education. A number of the volunteers (about 800 in 1965) from OECD member countries are also acting as operational personnel and trainers in this sector.

17. The DAC member countries - especially the major aid suppliers (France, the Federal Republic of Germany, United Kingdom, United States) - have been increasingly concerned with the establishment and strengthening of permanent institutions for the transfer of industrial skills in the developing countries themselves. This has been done for the purposes of:

- (a) Shifting the location of the training from the industrialized countries to the developing countries, especially for lower and middle-level training;
- (b) Replacing expatriate operational personnel by local personnel.

These institutions comprise, in the main, vocational and technical training centres, centres for accelerated training, institutes of technology and faculties of engineering.

18. The establishment of vocational training centres and technical training institutes has constituted the core of the technical assistance provided by the OECD/DAC member countries in this field. In general, the aid-supplying country assists with the planning of the buildings, technical equipment, pedagogic materials, technical advisers and instructors, and training of counterparts. The recipient country is usually responsible for the construction of the premises, local costs, and the provision of counterparts. Experience suggests that from eight to twelve years are required for such institutions to become self-sufficient.

19. The transfer of managerial and entrepreneurial skills is channelled through management and productivity centres, promotion centres (for exports and handicraft), small industries service institutes etc., in co-operation with private enterprise in ways which are described below.

20. The share of the industrial sector in total expert personnel - in particular of operational personnel - is generally low (cf. table 1). This situation reflects the fact that most of the requirements of less developed countries in this field are met by private enterprise. Moreover, the non-inclusion of technical

assistance personnel connected with capital projects, contributes to this low ratio. Grants and scholarships allocated for industrial purposes are considerably higher.

21. Table 2 shows geographical distribution of bilateral official technical assistance. Most of the operational personnel in industry work in Africa (80 per cent in 1965), with the overwhelming majority concentrated in countries south of the Sahara. The remainder (16 per cent) worked mainly in South Asia. On the other hand, locations of advisory staff were more widely spread: 22 per cent were in the Far East; 21 per cent in South Asia; and 17 per cent in Africa South of the Sahara. Students and trainees were also drawn from a very wide area.

#### Characteristics of members' programmes

22. There is as wide a range in the scale and character of individual OECD/DAC members' technical assistance programmes for industrial development as there is in their technical assistance programmes as a whole. Broadly, programmes are determined by:

- (a) Aid requirements of the developing countries assisted;
- (b) Present and past relations of members with these countries;
- (c) National institutions, aid policies and capacities of the aid-supplier countries.

23. In 1965, the United States provided more than one half of all industrial advisers coming from OECD member countries (combined). The Federal Republic of Germany provided more than one third of all grants for in-service training and about one third of all scholarships for engineering studies. France provided two thirds of all educational personnel in technical and vocational training and one half of the operational personnel in industry.

24. There is a certain degree of specialisation in training. Among the main aid suppliers the Federal Republic of Germany tends to specialise in the setting up, staffing and continued support of technical and vocational training institutions. The United States receives, for the most part, university students in engineering

and for research work, France has organized substantial numbers of specialized courses in French private enterprises for foreign engineers and technicians. The United Kingdom sponsors a similar system and has been closely concerned with the establishment of technical schools. Japan specializes in the establishment of training centres for small-scale industry.

25. It should be noted that France had established about ninety vocational training centres in developing countries up to 1965 and the Federal Republic of Germany, about eighty technical training institutes with another seventy in the planning stage. The United States has also played an important role in strengthening and establishing industrial-technical centres, local management and engineering faculties and productivity institutes.

26. Practically all member countries and the Commission of the European Economic Community (EEC) finance and receive trainees in industry. Their number exceeded 5,600 in 1965 for the members combined. For some of the countries, this is their principal technical assistance activity in this field. The provision of teachers for technical training institutes (e.g. the Netherlands), the creation of institutes for higher technical education, (e.g. Australia), the carrying out of pre-investment studies for industrial projects (e.g. Austria) are other activities.

#### Technical assistance through the private sector

27. A pilot survey carried out by the OECD showed that foreign firms operating in developing countries have a wide variety of arrangements for the transfer of skills and know-how, and have developed very valuable experience in adapting these methods to the conditions prevailing in newly industrializing countries.

28. Many firms train company personnel and they have developed varied forms of training - including training in other developing countries - as well as at their headquarters and in the countries of operation. Training is given to technical personnel of all levels and to certain categories of managerial staff. For this purpose, apprentice schools, training centres and staff colleges are conducted, seminars are organized and schemes are devised to combine on-the-job training with theoretical schooling. Firms often accede to requests for training of technical

staff made by buyers of their equipment, or by buyers of licences for new production processes.

29. A number of firms engage in other forms of technical assistance, including the dispatch of expert personnel, the running of general and technical educational institutions, the granting of scholarships and teaching materials, and the donation of research laboratories.

30. One of the purposes of the pilot survey was to collect information on the nature of the current relationship between official aid and private enterprise in the technical assistance field. It emerged from the enquiry that, in addition to the financing of training costs, Governments co-operate with the private sector in a number of ways, including:

- (a) Participate in industrial training centres overseas or provide official support for organizations which train technical personnel in less developed countries;
- (b) Certain firms delegate high-level company staff as lecturers to technical schools and universities in less developed countries; in these cases, the firm's own Government frequently shares the costs;
- (c) Governments (e.g. Belgium, United States) organize or sponsor management training jointly with private enterprise and universities;
- (d) External aid authorities have meetings with industrial federations either on a regular basis (e.g. the United Kingdom), or informally (several member countries), or set up permanent advisory committees (United States), on private enterprise in foreign aid;
- (e) Some Governments support private organizations of businessmen whose purpose is to transfer managerial and entrepreneurial know-how to industry and commerce in developing countries (e.g. the International Executive Service Corps of the United States).

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Table 1

Official bilateral technical assistance  
for industrial development of developing countries<sup>a/</sup>  
by OECD/DACb/members (combined in 1965)

(Number of persons financed)

	All fields	Industry	Share of industry in total (%)
Students and trainees	63,369	10,452	16.5
a. Students <sup>d/</sup>	30,037	4,647	15.5
b. Trainees <sup>d/</sup>	33,332	5,805	17.4
Experts and volunteers	92,302	( 6,456 )	7
a. Personnel in education	40,252	3,712 <sup>e/</sup>	9.2
b. Operational personnel	23,185	564	2.4
c. Advisers <sup>f/</sup>	12,834	1,380	10.8
d. Volunteers	16,031	( 800 ) <sup>g/</sup>	( 5.0 )

- a) For definition, see annex to "The Flow of Financial Resources to Less Developed Countries, 1961-1965" (OECD, Paris, 1965).
- b) Includes DAC members plus Switzerland.
- c) Students in engineering only. A number of students of other faculties who may eventually work in industry, e.g. students of natural and social sciences and economics, are not included.
- d) Trainees in industry, mining and handicraft, excluding power, transport and communication.
- e) In the absence of information on the share of industry, all educational personnel in technical and vocational training have been included. No higher technical education and teacher training has been included in this figure since the industrial share cannot be distinguished.
- f) Advisers to industry, mining and handicrafts only. Advisers for industry in national planning, in power, transport and communication, and for labour relations are not included.
- g) Secretariat estimate on volunteers engaged in operational work for industrial development and in training for industry.

Table 2

Regional distribution of bilateral official technical assistance in all fields and in industry of OECD/DAC members (combined) in 1965

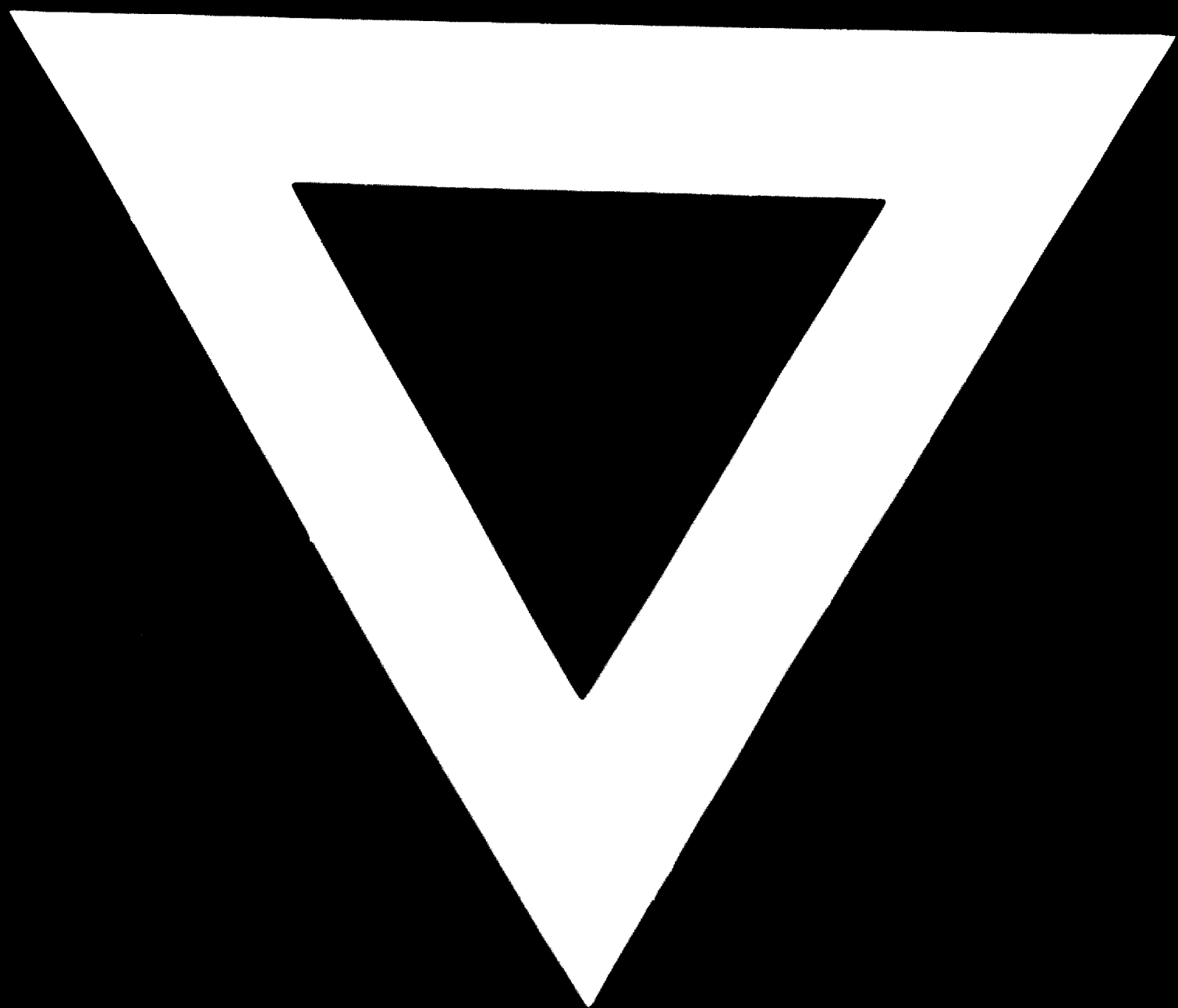
(in numbers)

	Europe	North Africa	Africa South of the Sahara	Asia	Middle East	South	Far East	Un-specified	Latin America	Other and un-allocated	Total
Expert personnel:	393	5,882	19,142	6,020	1,200	1,704	3,113	3	3,168	1,444	36,049
All fields -	68	206	544	689	53	353	282	1	288	7	1,802
Industry -											
Educational personnel in technical and vocational training:	37	1,524	1,815	228	86	34	108		95	13	3,712
All fields -	4,837	5,304	17,951	19,147	4,182	6,181	8,449	335	11,826	2,486	61,551
Industry -	790	1,461	2,415	3,751	786	1,322	1,626	17	1,561	19	9,997
Students and trainees:											
All fields -	1	16	53	17	3	5	9		9	4	100
Industry -	4	11	30	39	3	20	16		16	2	100
Educational personnel in technical and vocational training:											
All fields -	1	41	49	6	2	1	3		3	-	100
Students and trainees:											
All fields -	8	9	29	31	7	10	14	1	19	4	100
Industry -	8	15	24	38	8	13	16		15	-	100
<sup>a/</sup> Mainly industry.											

(in percentages)







**7. 10. 71**