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UNIDO INDUSTRIAL TRAINING OFFER PROGRAMME 1979

Introduction

1. This bulletin describes the UNIDO Industrial Training Offer Programme for 1979. It includes information on UNIDO services in industrial training and gives advice how to obtain them. It is addressed, inter alia, to government authorities, UNDP resident representatives, UNIDO senior industrial development field advisers, UNIDO junior professional officers in the field; to intergovernmental and non-governmental agencies; to other pertinent organizations and institutions; and to numerous industrial firms, interested individuals and other possible beneficiaries. It should enable all recipients to co-ordinate their training needs and plans with what UNIDO offers. Such co-ordination may be essential to make best use of industrial training possibilities.

2. In principle, the goal of UNIDO training operations is to improve the skills and broaden the experience of high-level technical, managerial or administrative personnel engaged in industry or in agencies, organizations or institutions dealing with industrial development. Accordingly, the UNIDO Industrial Training Offer Programme addresses itself to personnel at least at post-graduate engineer or economist level or equivalent. UNIDO does not normally deal with vocational training or with formal education to obtain a degree, fields that lie within the competence of the International Labour

Organisation (ILO) and the United Nations Educational, Scientific and Cultural Organisation (UNESCO), respectively. In its training operations, UNIDO emphasizes, inter alia, practical training (in-plant or on-the-job); upgrading or updating of professional skills; transfer of technological and managerial know-how and experience, with a view to enlarging the capacity for making the right choice of both technology and equipment and for developing appropriate indigenous technologies; co-operation among developing countries in industrial training; and assistance to the least developed among the developing countries.

3. UNIDO training operations are in accordance with the Lima Declaration and Plan of Action on Industrial Development and Co-operation. This Declaration states:

"The training activities linked with the industrial development must be conceived in such a way that they make possible the processing of natural resources and other raw materials in the country of origin and the establishment of permanent structures for specialized rapid, large-scale and high-quality training of national labour at all levels and for all professional specializations, whether technical or managerial without discrimination with regard to sex" <sup>1/</sup>

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<sup>1/</sup> Lima Declaration and Plan of Action on Industrial Development and Co-operation (PI/38), para. 53.

"... appropriate measures should be taken by developing countries to organize research institutions and establish training programmes to cover the needs of their industrial development and make possible progressive mastery of the different production and management techniques and of industrial development, thus facilitating the establishment of structures to absorb modern technologies" <sup>2/</sup>

"... [industrialization policies should lay emphasis on ...] the intensification of manpower development programmes and the professional training of management staff including the effective incorporation of women in order to achieve the fullest possible use of available human resources with particular reference to industrial management".<sup>3/</sup>

4. UNIDO training operations endeavour to promote self-reliance of the developing countries by enabling national industrial personnel to replace, eventually, foreign experts on whose services many of these countries still have to rely. In this connection, it is emphasized that UNIDO training operations are offered to both men and women, and attention is drawn to General Assembly resolution 3342 (XXIX) calling for the full integration of women in the development process.

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<sup>2/</sup> Ibid., para. 55.

<sup>3/</sup> Ibid., para. 58(k).

A. Industrial training field operations

5. UNIDO is prepared to conduct, at the request of Governments, a variety of training projects in developing countries. Such activities are strongly emphasized particularly because they contribute directly to improving the industrial training infrastructure, which in turn leads to a rapid increase in the supply of skilled personnel by means of tailored training activities at relatively low cost. These activities may cover for each country:

- (a) Design and development of national and sectoral industrial training institutions;
- (b) Design and development of training departments for Governments, holding companies or individual enterprises;
- (c) Specialized training programmes, including the provision of lecturers, trainers and training equipment, for specific groups of industrial personnel;
- (d) Assistance to national management development institutes;
- (e) Organization of industry-university linkages.

6. Country-based industrial training projects are normally financed from UNDP country programme funds. Other financing possibilities are the Special Industrial Services (SIS) fund (for short-term, small-scale assistance of what may be called the "fire brigade" type), the UNIDO regular programme of technical assistance (RP) and the United Nations Industrial Development Fund (UNIDF).

7. Further and more detailed information on country-based UNIDO industrial training field operations can be requested from the UNIDO training Section (for mailing address, see last page). Projects of this type should be requested by Governments in compliance with the established United Nations rules.

B. Fellowships

8. UNIDO fellowships are awarded in accordance with rules established by the United Nations. Since the inception of UNIDO, in 1968, approximately 5,700 individuals have been awarded fellowships, of whom approximately 5,100 have thus far completed their training programmes. One of the major advantages of individual fellowships is the possibility of designing and implementing a training programme tailored to the needs and wishes of the candidate. In spite of difficulties that sometimes have been encountered in finding suitable placement facilities in the highly industrialized countries for individual fellows, UNIDO has been most successful in placing practically all its fellowship candidates in close co-operation with the national supervising agencies for international fellowships in the various host countries. For both financial and training reasons, UNIDO arranges, where feasible, small special group training programmes for fellowship candidates who request training in the same field, are at a comparable professional level and have a common training language. Such programmes are carefully designed on the basis of information given in the nomination forms of the candidates. They are implemented and supervised in co-operation with selected enterprises and institutions and may yield better results than the traditional

individual training. (These special fellowship group training programmes are not identical with the group training programmes described in sections D and E).

9. Furthermore, it is the policy of UNIDO to place more fellows, whether individual or grouped in suitable industrial training facilities, in advanced developing countries, which helps to promote closer technical co-operation between developing countries. UNIDO is prepared, partly with the support of industrialized countries, to assist potential host countries among the developing countries in identifying local training facilities suitable for trainees from other developing countries and, if necessary, in adapting such facilities to that purpose.

10. The nature of UNIDO training activities and the consequently high level of the industrial personnel to be trained (see paragraph 2) result in a relatively short duration of UNIDO fellowships. (In 1978 the average was less than six months).

Important note!

11. In this connection it should be mentioned that placing a fellowship candidate properly is often a cumbersome and time-consuming process (which also applies to study tours as described in section C). Thus, for example, the average handling time of individual fellowships from the receipt of a nomination form at UNIDO headquarters to the beginning of the training programme abroad, which formerly was about eight months, is now approximately four months. Experience shows that this is the minimum time needed for the proper placing of a fellowship candidate without spoiling the good working relations with the national supervising agencies of the host countries on whose co-operation UNIDO has to rely.

12. Nominations of candidates for all types of UNIDO fellowships can be made only by Governments through the UNDP resident representatives and must be submitted in quadruplicate on official UNIDO fellowship nomination forms

accompanied by a completed and duly signed medical report form and a recognized language certificate when the training language is not the candidate's mother tongue, study language or working language. These nomination forms can be obtained in the offices of the UNDP resident representatives. UNIDO cannot start any fellowship action until it receives the full documentation.

Fellowships financed from the UNIDO regular programme  
of technical assistance

13. A total of \$200,000 is earmarked for fellowships within the 1979 UNIDO regular programme of technical assistance (ID/B/184, para. 5). This amount is allocated to the geographical regions as follows:

<u>Region</u>	<u>Cost</u> <u>(thousand dollars)</u>
Africa	60
Americas	52
Asia and the Pacific	52
Europe and Western Asia	36

14. Within the UNIDO regular programme of technical assistance, fellowship funds or fellowship posts are not allocated by country. Governments are invited to request fellowship awards from the 1979 regular programme only by submitting a complete nomination for each candidate as described in paragraph 12. Any announcement of candidates by letter, cable or otherwise cannot be considered. The deadline for submitting such nominations for fellowships from the 1979 regular programme is 30 April 1979. Nominations received after that date cannot be considered for this year. However, on request of the submitting Governments, such nominations can be brought forward for consideration in the 1980 regular programme.

15. On the basis of the information given in the nomination form and within the framework of the financial resources available, the UNIDO fellowship selection panel will promptly make recommendations as to the amount of the



award, the host country (countries), the duration of the fellowship and the type of implementation (e.g., individual training, participation in a special fellowship group training programme or participation in a suitable UNIDO group training programme). The duration of fellowships financed from the regular programme should not exceed six months. Neither study tours nor academic studies to obtain a degree can be financed from the fellowship component of the regular programme. Furthermore, these funds cannot be used to compensate for a lack of UNDP country programme funds.

Fellowships financed from UNDP country programme funds

16. Fellowships financed from UNDP country programme funds form by far the majority of UNIDO-sponsored fellowships. However, in 1977 and 1978 in many projects financed under the UNDP country programme an alarming gap appeared between the established ceilings or annualized budget components earmarked for training (budget lines 31 and 32) on the one hand and the number of candidates nominated on the other, the latter remaining far below what was provided in the former. In other words: within the same budget provisions far more individuals from developing countries could have received highly qualified training by means of fellowships than actually was the case. Governments, UNDP resident representatives, UNIDO senior industrial development field advisers and junior professional officers, project managers and national project directors, field experts and others concerned with technical assistance projects financed under UNDP country programming and executed by UNIDO should be aware of this problem. One way to contribute to narrowing this gap would be to start the process of selecting fellowship candidates as soon as the respective annual budget has been established. It should also be kept in mind that early selection of fellowship candidates can originate only in the field and not, as with expert services or procurement of equipment, in UNIDO headquarters. An early nomination of

fellowship candidates would also leave a better chance for participation in a suitable fellowship group training programme as described in paragraph 8. UNIDO would like to draw the attention of all concerned, in particular government authorities, senior industrial development field advisers and project managers, to the possibility of organizing special fellowship group training programmes for teams of counterparts from the same field project. Such team training is designed to meet both the individual needs of the trainees and the needs of the project as a whole, so that the trainees can work together more effectively.

17. Because of numerous difficulties, the number of host countries in which a given fellowship candidate will be placed is often restricted.

18. Most fellowships (and study tours) financed under the UNDP country programme and executed by UNIDO are project-oriented, that is to say, such training activities form a component of a technical assistance project comprising also other components. It is, however, obvious that in most of the developing countries the overall demand for training in industry goes far beyond what such projects can offer. Therefore, Governments and resident representatives might consider including a UNIDO-executed project entitled "Industrial training abroad" (or similar) in the country programme. Such a project could cover the financing of:

- (a) Fellowships (individual or group);
- (b) Study tours (individual or group);
- (c) Travel of UNIDO headquarters staff to monitor and evaluate group training as listed under (a) and (b);
- (d) Miscellaneous items such as purchase of technical literature.

19. The budget lines of such projects should, at least at the beginning of a country programme cycle, not be further broken down, so that UNIDO, in co-operation with the Government and the UNDP resident representatives, can have funds available in quick response to existing needs. The lifetime of

such projects for training abroad should not be limited. The size of such projects, while taking into account past practice, should correspond to the estimated needs for industrial training abroad in priority areas not covered by other projects or by other sources of technical assistance (e.g., bilateral funds).

20. UNIDO is prepared to assist Governments both in drafting projects for industrial training abroad and in carrying them out.

Fellowships financed from the Special Industrial Services fund (SIS)

21. Fellowships financed from the SIS fund will in general be handled in the same way as those financed from UNDP country programme funds, but in this connection it should be kept in mind that SIS financing should respond to urgent, short-term needs. Under such circumstances projects for industrial training abroad as described in paragraphs 18-20 could be financed from SIS funds.

Fellowships financed from funds-in-trust

22. UNIDO is prepared to organize fellowship training at the request of Governments of developing countries willing to bear the full cost plus overhead by establishing funds-in-trust with UNIDO earmarked for this purpose. The use of such funds is particularly appropriate for projects for industrial training abroad as described in paragraphs 18-20, including the possibility of fellowship group training (see paragraphs 8 and 16). Thus the Government, while paying the total cost itself, would benefit from the experience and administrative capacity of UNIDO in this particular field.

23. For fellowships financed from funds-in-trust, the United Nations financial and administrative rules established for this purpose will apply.

Use of bilateral resources for fellowships

24. UNIDO has been informed by several host authorities in industrialised countries that, under certain circumstances and within certain limits, UNIDO fellowship candidates can be financed from their bilateral fellowship funds

on recommendation of UNIDO. Particular emphasis is given to training nationals of least developed countries. The training programme for such fellows will be carried out in the respective donor countries. UNIDO is trying to extend this possibility, which is still very limited.

C. Study tours

25. At the request of Governments, UNIDO can organize study tours for both individuals and groups. Participants in such study tours can be, inter-alia, high-ranking government officials responsible for industrial development, top managerial staff from certain industrial firms or institutions, or national directors or teams of counterpart experts from UNIDO-sponsored projects.

26. The aims of UNIDO-organized study tours are primarily to enable decision makers from developing countries to exchange views with their peers in other countries; specialists to obtain information on technological developments (e.g., at pertinent institutions or firms or trade fairs); technologists and managers to study solutions to problems in existing factories of a certain industrial sector; scientists to compare results of their research; and experts to attend conferences to broaden their professional competence. The duration of UNIDO study tours is, in principle, short, the average tour lasting about two weeks; it should not exceed one month. The maximum number of countries to be visited is five. A tour can be financed from UNDP country programme funds if the project includes a budget line 32 for that purpose; from the SIS fund; from the United Nations Industrial Development Fund (UNIDF); or from earmarked funds-in-trust pledged by the recipient countries. Study tours cannot be financed from the general training component of the UNIDO regular programme of technical assistance; however, special provision is made in the regular programme for study tours for decision makers or government officials from the least developed countries (ID/B/184, paragraph 13).

Important note!

27. To design and organize a successful study tour is, in most cases, a rather complicated undertaking, which needs continuous close co-ordination on the part of numerous authorities, institutions and firms in several countries. For this reason, nominations of candidates for study tours should reach UNIDO on the study tour nomination forms ("short form") at least three months before the date on which the tour is expected to start. This applies also to study tours where part or all of the arrangements have been prepared by direct contacts between the home country authorities or the management of a field project on the one hand and the host institutions on the other. The aforementioned forms can be obtained at the office of the UNDP resident representative. Nominations can be submitted to the Training Section of UNIDO only by Governments through the UNDP resident representatives.

D. Group training programmes

28. In co-operation with Governments and pertinent institutions of host countries, UNIDO has developed a system of group training programmes for advanced technical and managerial personnel engaged in industry or its development in developing countries.

29. One major part of the UNIDO group training scheme consists of in-plant programmes carried out by industrial firms or institutes that have the relevant specialized know-how and experience.

30. The objective of these programmes is to provide the participants with concentrated practical experience in their fields and with an opportunity to upgrade and update their theoretical knowledge in a relatively short time (from two to five months). The programmes are monitored by experts, and most of them comprise four major components: a theoretical introduction; actual in-plant training, which may include laboratory or similar work; study visits; and a final evaluation session. During the evaluation session, the

participants assess the value of what they have learned in terms of conditions in their home countries.

31. Many of these programmes are repeated; others are organized on an ad-hoc basis. All of them are carried out subject to the availability of funds and suitable host facilities. The requirements for admission are a degree in engineering (or equivalent) and several years of experience in a responsible capacity within the field of training.

32. Invitations to nominate candidates are sent to the appropriate government authorities of selected developing countries through the UNDP resident representatives once the agreement with the host country has been concluded, funds, have been secured, and dates and curriculum of the programme have been established. The selection of the 12-20 participants from among candidates nominated is carried out jointly by UNIDO, the host authorities and, where possible, representatives of the host institutions.

33. Another type of UNIDO group training follows the pattern of seminars, workshops etc. of a shorter duration (from two to six weeks). Its objective is to give the participants an opportunity to upgrade or update their professional capability in a highly specialized field. The activities may include lectures, discussions, working groups, simulations, management games, case studies or visits to plants, institutions, trade fairs or exhibitions. The requirements for admission are a university degree (or equivalent) covering the respective field of study plus several years of practical experience in that field.

34. Applications for participation in UNIDO group training programmes can be made only by Governments - after receipt of a formal invitation - through the UNDP resident representatives. However, Governments are invited to notify UNIDO as early as possible of their interest in specific programmes. More detailed information, in particular about specific admission requirements and curricula, can be obtained from the Training Section of UNIDO.

35. The table below shows the UNIDO group training programme scheduled to be carried out in 1979, a part of which may be repeated in 1980.

<u>Month, Duration</u>	<u>Subject</u>	<u>Host country</u>	<u>Language</u>
<u>January</u>			
7 weeks	Quality improvement of industrial products	Japan	E
3 months	Application of dyes and chemicals to textiles	Switzerland	F
<u>February</u>			
5 months	Iron and steel industry	UKSSR	E
6 weeks	Industrial training management	Austria	E
<u>March</u>			
3 months	Pulp and paper	Sweden	E
3 months	Fertilizer industry	USSR	E
4 months	Metalworking industry	USSR	E
2 months	Documentation and industrial information	USSR	E F or S
3 months	Grain milling and storage	USSR	E
4 months	Organization of standardization systems in manufacturing industries	USSR	E
4 months	Metalworking industry	USSR	E
4 months	Electric welding	UKSSR	E
<u>April</u>			
1 month	Industrial planning	German Democratic Republic	E
3 months	Engineering and industrial design	Egypt	F
3 months	Organisation and management of maintenance systems	Sweden	E
<u>May</u>			
8 weeks	Pesticide formulation	German Democratic Republic	E

<u>Month, duration</u>	<u>Subject</u>	<u>Host country</u>	<u>Language</u>
<u>May</u>			
2 months	Methods and techniques of pesticide production and formulation	German Democratic Republic	E
<u>August</u>			
6 weeks	Environmental control in chemical and pharmaceutical industries	Belgium	E or F
6 weeks	Pharmaceutical technology	Belgium	E or F
2 months	Quality control	Sweden	E
2 months	Organization and management of agroindustrial enterprises	Yugoslavia	E
3 months	Production of alumina	Hungary	E
4 months	Organization of metrology and metrological quality assurance	USSR	E
4 months	Electric welding	UkSSR	E
<u>September</u>			
3 weeks	Management and training in public enterprises	Yugoslavia	E
1.5 months	Mould design and mould making in plastic industry	Austria	E
2 months	Plastic technology	Austria	E
2.25 months	Maintenance of biomedical electronic equipment	Hungary	E
2.5 months	Petrochemical industry	Romania	E
3 months	Iron and steel industry	UkSSR	E
3 months	Diesel engines	Czechoslovakia	E
3 months	Textile industries	Czechoslovakia	E
<u>October</u>			
5 weeks	Production and application of synthetic fibres	Austria	E
2 months	Management techniques in manufacturing industry	Belgium	F
2.5 months	Production management of mechanical industry	Japan	E



<u>Month, duration</u>	<u>Subject</u>	<u>Host country</u>	<u>Language</u>
<u>November</u>			
3 weeks	Printing industry	German Democratic Republic	E
6 weeks	Industrial development banking	India	E
6 weeks	Industrial training management	Austria	E

36. UNIDO is also prepared to develop on a country, subregional or regional basis specific group training programmes in response to existing demand. Such programmes can be initiated by UNIDO in co-operation with Governments or intergovernmental organizations. The financing will be secured by UNIDO, partly in co-operation with donor countries or institutions. Some examples of possible training programmes are given below.

#### Production management

37. One way to increase industrial production capacity in developing countries is to make better use of existing capacities. To this end systematic subregional or regional programmes in production management for specific industrial sectors could be organized. Existing training institutions plus existing industrial enterprises in developing countries could form the basis for such training programmes.

#### Preventive maintenance

38. Another approach to increasing industrial production through better utilization of existing capacities is through preventive maintenance. Subregional or regional training programmes could be organized providing training in preventive maintenance for specific industrial sectors. Such programmes could be organized in developing countries by making use of existing enterprises and institutions. Emphasis could be placed on corrosion prevention and increasing capacity of existing power plants.

Quality improvement

39. Systematic quality assurance plays a key role with regard to such vital economic and social factors as job security and improvement in the balance of payments. Quality improvement activities may include on-the-spot assessments of the needs for quality improvement; national or subregional seminars for engineers responsible for quality control in their enterprises; interregional group training programmes for upper-level quality control engineers and directors; regional or subregional quality control symposia for decision makers from industry and government.

Industrial development banking

40. Development banks play an increasingly important role in industrial development. Many of these banks are handicapped by the lack of highly skilled personnel at all levels. Regional or interregional training programmes could be organized covering all essential aspects of industrial development banking.

Small- and medium-scale industries

41. The development of small- and medium-scale industries depends largely on the availability of know-how, skills and motivation. Developing countries could co-operate on a subregional basis by pooling their existing capacities in this regard as follows: one country would maintain a centre that organizes training programmes in small- and medium-scale industry management; a second would maintain a centre that organizes training programmes for extension workers; a third would do the same for training government and other officials in charge of promoting small- and medium-scale industries; a fourth would offer training services for pertinent staff of development banks etc. UNIDO could assist in organizing such training programmes and co-ordinating them.

Project evaluation or feasibility studies

42. There is a great demand in industry and government in developing countries for experienced staff skilled in evaluating projects and preparing feasibility studies. Country-based or subregional training programmes could be organized in these areas with existing industrial projects serving as case studies.

Transfer and development of technologies

43. The transfer and development of technologies is essential to industrial development. Subregional or regional training programmes in this area could be developed for specific technological sectors.

Utilization and saving of energy

44. In numerous industrial enterprises in developing countries energy consumption is widely underestimated as a decisive cost factor. On the basis of careful problem analyses, regional or subregional training programmes could be organized according to specific industrial sectors to improve the energy balance of the respective enterprises. This type of training would include both technological and economic aspects. UNIDO, in co-operation with the International Centre for Advanced Technical and Vocational Training, Turin, could assist in preparing and organizing such training programmes.

E. Information and Inquiry Service

Guide to Training Opportunities for Industrial Development

45. For 1979, UNIDO has prepared the seventh issue of its "Guide to Training Opportunities for Industrial Development" (PI/63), which gives information on more than 1,200 training courses in a great variety of industrial fields, courses that will be organized during 1979 all over the world by private, national and international organisations and institutions, including UNIDO.

These courses are suitable for and available to industrial personnel from developing countries. Approximately one third of these courses are offered by institutions in developing countries and are open to participants from other developing countries. The Guide will be mailed free of charge to Governments, UNDP resident representatives, UNIDO industrial development field advisers, managers of UNIDO-sponsored large-scale field projects, enterprises, industrial associations and institutions and many others. The total circulation is about 4,500. Requests for copies of the Guide should be directed to the Training Section of UNIDO. Institutions that believe that they could contribute to the next issue (1980) of the Guide by announcing suitable training courses should feel free to address the Training Section.

Industrial Inquiry Service

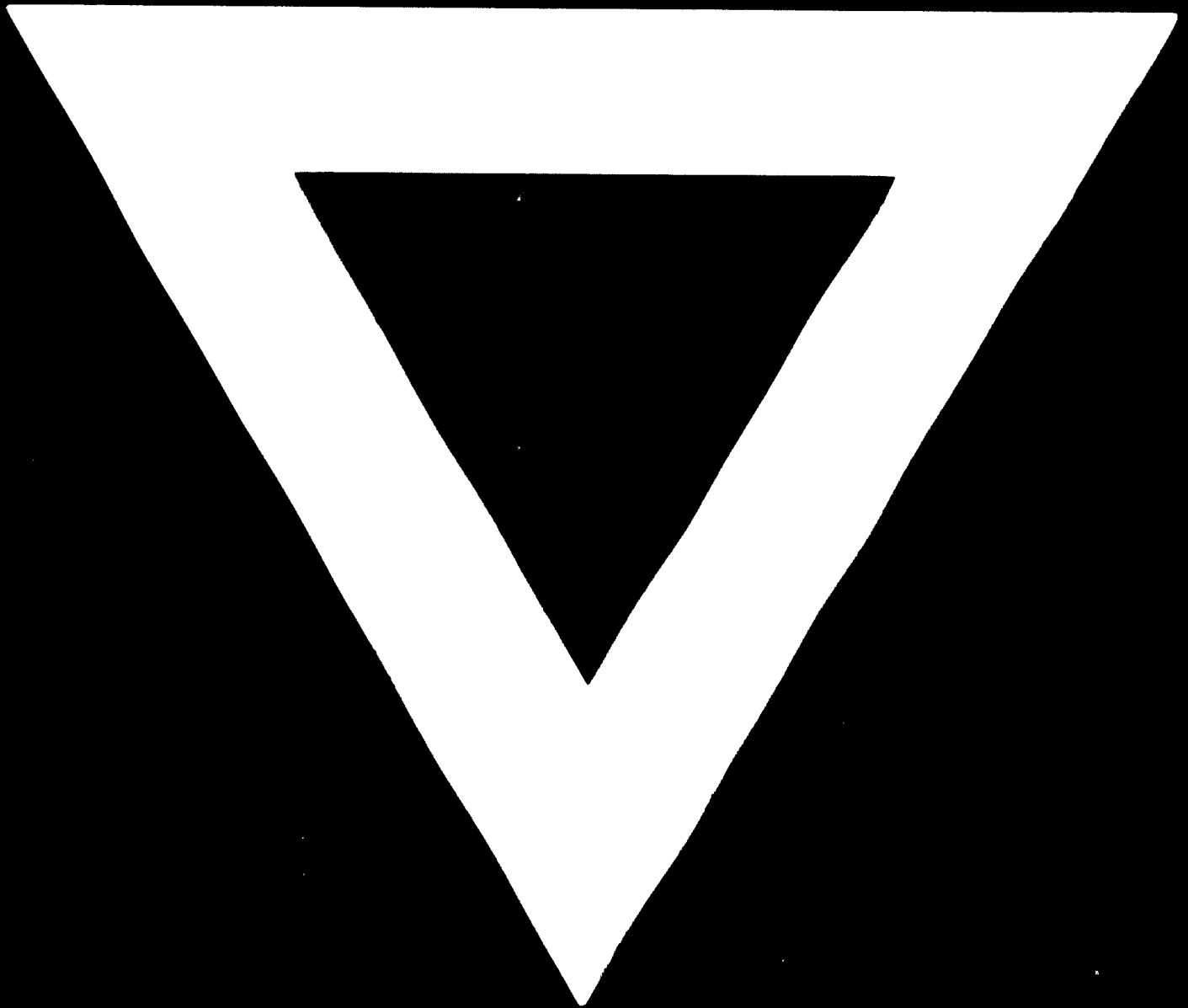
46. The UNIDO Industrial Inquiry Service is prepared, inter alia, to answer any questions related to industrial training. This service, free of charge, is at the disposal of everyone.

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For further information on assistance UNIDO provides or can provide in training, communication may be addressed to:

Training Section  
Industrial Operations Division  
United Nations Industrial Development Organisation (UNIDO)  
P.O. Box 707  
A-1011 Vienna  
Austria

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