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REPORT OF THE  
UNIDO/ILO/UNESCO WORKING GROUP ON THE  
TRAINING OF INDUSTRIAL MANPOWER\*

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JOINT REPORT ON THE  
TRAINING OF INDUSTRIAL MANPOWER

I. Introduction

1. Within the framework of the UNIDO system of consultations and deriving from the sectoral consultations held so far, it has become apparent that the problem of industrial manpower training is crucial to the process of industrialization and to the transfer of technology from the developed to the developing countries. If the Lima targets are to be achieved, the developing countries must have trained manpower in appropriate numbers and quality to receive, absorb, and effectively utilize and develop the technology and know-how on which industrial development depends. This means, inter alia, that the best possible use must be made of training facilities in the developing and developed countries.<sup>1/</sup>

2. Accordingly, the following mandate was given by the Industrial Development Board at its twelfth session to the UNIDO secretariat:

"an inter-secretariat working group should be established by UNIDO, in collaboration with UNESCO and ILO with a view to examining the ways of maximising the use of industrial manpower training facilities existing in developed and developing countries and to exploring their potential for expansion in relation to the needs of developing countries. The Executive Director of UNIDO should report to the Board at its thirteenth session on the results of the group's work, with a view to recommending to the Board, if appropriate, the convening of a Consultation Meeting on the training of industrial manpower".<sup>2/</sup>

II. The ILO/UNESCO/UNIDO working group<sup>3/</sup>

3. In accordance with the mandate given to the UNIDO secretariat and in response to the invitation of UNIDO, both ILO and UNESCO agreed to the establishment of the above mentioned working group. Preparatory activities were undertaken by UNIDO through visits to the respective secretariats in order to discuss the nature of the problem as seen by UNIDO and to review the available documents on the qualitative aspects of the training of industrial manpower and particularly on the co-operation arrangements at the international level for this purpose; selected developed and developing countries were consulted for information on the nature and scope of the training facilities available for industry.

<sup>1/</sup> Reference should also be made to ID/B/204, paras. 119 to 124, 31 March 78.

<sup>2/</sup> ID/B/212 para 169(a), 6 June 1978.

<sup>3/</sup> Annex 1: Report of the Meeting of the intersecretariat working group on the training of industrial manpower.

Subsequently, the working group met in Vienna on 30 November and 1 December 1978 to discuss a background paper prepared by UNIDO and to define the **areas** which would merit further consideration at a possible Consultation Meeting.

4. The working group was in agreement that the problem of industrial manpower training is crucial to the whole process of industrial development and that it must be addressed and solved if the Lima targets are to be achieved. It was agreed that a Consultation Meeting, if approved by the Industrial Development Board, could make a significant contribution toward solving the problems. During the meeting, the following **areas** were identified for discussion at a possible consultation meeting.

- I: The potential for utilization of existing training institutions in the developed countries.
- II: The potential for utilization of existing training institutions in the developing countries.
- III: The potential for co-operation in training between developing countries.
- IV: The potential for improving contractual arrangements for co-operation (assistance) in industrial training.

### III. The approach and activities of the UNIDO secretariat

5. The approach adopted has been to focus on qualitative aspects of the existing training facilities available in the industrialized and developing countries, rather than on purely quantitative aspects. While these are also very important they have been assigned a second priority since existing methodologies are considered to be inadequate by experts in manpower forecasting. The financial implications of training industrial manpower, while also of critical importance, have at the present time also been assigned a second priority because the main constraint is considered to be the lack of appropriate and efficient arrangements.

6. Within the relatively short space of time available, efforts have focussed on the preparation of an "argumentaire" rather than on drafting a comprehensive in-depth report on the subject; this could be undertaken only if the Industrial Development Board authorizes the convening of a Consultation Meeting on the training of industrial manpower. For the present purpose, investigations have considered the availability of training facilities in selected developing and developed countries.

#### IV. Summary of findings

7. In the field of international industrial co-operation, training of manpower should play a role more important than that of industrial financing or of technology in the industrialization of developing countries. Financial resources are required to purchase the necessary technology and equipment; effective training is the very condition for developing countries to fully grasp the know-how and to develop suitable technology for future sustained industrial development.

8. The investigations undertaken have revealed a considerable lack of information as to the quantity and quality of training facilities available in both developed and developing countries.<sup>1/</sup> There are many reasons for this state of affairs: for example, the need for training has too often simply been overlooked in the planning process and undertaken on an ad hoc basis to meet specific needs when these have become apparent; there is no concensus amongst planning experts as to what training is or should be. It is essential that the problem of providing the required trained and qualified manpower be addressed with the priority and the urgency which it deserves, particularly if the Lima targets are to be achieved.

9. Although no statistical evidence is available, it is believed that training undertaken through North-South co-operation between industrial enterprises is probably larger than that organized through multilateral or bilateral programmes; hence the importance which has been attached to the potential for improving contractual arrangements, and to the need to tap the potential of small- and medium-scale enterprises in developed countries which generally do not engage in industrial co-operation at the international level.

10. In developing countries, renewed efforts are necessary to link more closely the formal education systems to the specific needs of industry. In addition, efforts are required to help enterprises in developing countries

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<sup>1/</sup> Within the framework of the Lomé Convention, it has been found necessary to help to identify, on the basis of the needs indicated by the ACP States, the opportunities for industrial training and applied research in the EEC and the ACP States, and to provide relevant information and recommendations. The CMEA has established a fund for financing the training of nationals of developing countries in CMEA member countries.

to provide their own in-service training programmes. Firms do need help in devising training programmes, in preparing training manuals, in recruiting and developing a staff of training officers. Such assistance is rarely available in developing countries and is the kind of training which can effectively be promoted through co-operation at the enterprise level. In short, the task ought to be to help industry help itself in training industrial manpower to improve the effectiveness of existing institutions, and only if necessary to establish or to expand formal training institutions.

10. More particularly in regard to the four areas identified by the working group, the following paragraphs summarize the findings of the investigations undertaken so far:

1. The potential for utilization of existing training institutions in developed countries

11. The working group agreed that for the foreseeable future, a substantial amount of training will have to be done in the developed countries and furthermore that there is room for better utilization and expansion of these facilities. It has been found that the existing potential could be better utilized if appropriate support and organization were available at the government level bearing in mind that such improved co-operation is in the economic interest of both developed and developing countries. Existing facilities could be increased through greater emphasis on on-the-job and similar training methods which could be provided by institutions of the developed countries.

12. Some of the problems identified as requiring further investigation are related to:

(a) The extent to which training facilities in developed countries can be adapted to the socio-economic and cultural conditions of developing countries thus improving the quality of the training provided;

(b) The possibility of increasing co-ordination at the level of government institutions concerned with the training of industrial manpower including the provision of a guarantee and insurance of training contracts;

(c) The extent to which the training potential of small- and medium-scale enterprises can be tapped;

(d) The extent to which industrial enterprises in developed countries could extend the access of developing country enterprises to the more complex and sophisticated technologies, as far as higher level technical personnel is concerned.

13. As far as industrial enterprises in developed countries are concerned, their contribution could be more effective if they were supported in the following ways:

- (a) Financially, to compensate for the setting aside of staff for external training programmes;
- (b) Pedagogically, to help the enterprise together with the partner in developing countries in systematizing its knowledge and know-how, and in rendering it easily transferrable to trainees from the Third World;
- (c) Institutionally, to overcome the administrative obstacles faced by developing countries in obtaining access to the training facilities offered by developed country enterprises.

2. The potential for utilization of existing training facilities in developing countries

14. The working group agreed that, on the basis of past experience, the existing training facilities in the Third World could be better utilized and that additional facilities will have to be created. Some of the problem areas requiring further investigation are:

- (a) The ways and means of providing close links between formal education and the training requirements of industry;
- (b) The determination of the most efficient way of training industrial manpower, such as inter alia whether it should be undertaken locally;
- (c) The effectiveness of government policies in promoting investment in manpower training by industrial enterprises and in regulating industrial co-operation so as to ensure the effective transfer of technology.

3. The potential for co-operation in training between developing countries

15. The working group agreed that training through co-operation between developing countries offers substantial mutual benefits. There is considerable potential as certain developing countries reach a level of development that permits them to efficiently train manpower from other developing countries. The establishment of regional development centres has also promoted such co-operation by identifying suitable training programmes within the region. In the recent past, co-operation in training on a bilateral or multilateral basis has been increasing and it is possible to identify some of the main problems; these are related to:

- (a) Attitudinal obstacles regarding the acceptability of training manpower in other developing countries;



- (b) Obstacles to the acceptance of foreign experts from developing countries by institutions in other developing countries;
- (c) Obstacles to the acceptance of foreign trainees by training institutions in host countries, due to insufficient capacity and training equipment, attitudes, adjustment problems, etc.;
- (d) The need to provide more information on the training capacities available at the regional level.

16. It would, therefore, be desirable of a Consultation Meeting were to address this matter in depth by disseminating information, suggesting ways and means of overcoming obstacles to the greater utilization of the existing potential. This should be viewed within the context of the Programme of Action of the Buenos Aires Conference on TCDC in September 1978.

4. The potential for improving contractual arrangements for industrial training

17. The working group agreed that the whole process of negotiating and implementing contractual arrangements needs to be addressed, since the potential for improvement is considerable. It is also important since the quantity of industrial training undertaken directly by industrial enterprises is probably larger than that carried out under multilateral or bilateral programmes. However, industrial co-operation contracts generally deal with training in a superficial fashion without clear specification as to the rights and obligations of each party; the result has been dissatisfaction and a considerable wastage of resources.

18. Investigations have focussed on the pre-contractual, contractual and implementation phases of a training contract; it is the first of these which deserves most attention if effective training is to be provided. It has been possible to identify the main problem areas:

- (a) The correspondence of actual requirements between the needs as perceived and as specified by developing countries;
- (b) The determination of suppliers' ability and capacity to satisfy training needs; and
- (c) The selection of training methodologies.

19. It is equally important to consider possible ways to improve contractual arrangements, for example through:

- (a) Information at the disposal of potential partners;
- (b) Advisory services and technical assistance;
- (c) Direct financial support; and
- (d) Government policies in developed and developing countries.

INTERSECRETARIAT WORKING GROUP ON THE TRAINING OF INDUSTRIAL MANPOWER

Vienna, 30 November - 1 December 1978

FINAL REPORT

I. Introduction

Within the framework of the UNIDO system of consultation and deriving from the sectoral considerations held so far, it has become apparent that the problem of industrial manpower training is crucial to the process of industrialization and to the transfer of technology from the developed to the developing countries. If the Lima target is to be achieved, the developing countries must have trained manpower in appropriate numbers and quality to receive, absorb, and effectively utilize the technology and know-how on which industrial development depends. This means, inter alia, that the best possible use must be made of training facilities already existing in the developing and developed countries.

Accordingly, the following mandate was given by the Industrial Development Board at its twelfth session to the UNIDO Secretariat:

"an inter-secretariat working group should be established by UNIDO, in collaboration with UNESCO and ILO with a view to examining the ways of maximising the use of industrial manpower training facilities existing in developed and developing countries and to exploring their potential for expansion in relation to the needs of developing countries. The Executive Director of UNIDO should report to the Board at its thirteenth session on the results of the Group's work, with a view to recommending to the Board, if appropriate, the convening of a Consultation Meeting on the training of industrial manpower". 1/

II. Summary and conclusions

Mr. Hacini chaired the Meeting on Thursday and Mr. Dee on Friday.

After a brief description by Mr. Hacini of the UNIDO programme of Consultations, Mr. de Faria presented a review of the UNIDO Background Paper<sup>2/</sup> which had been distributed to the participants prior to the Meeting and suggested that the group address itself to the following topics in the following order:

ISSUES TO BE LOOKED AT IN CONSIDERING:

1. The potential for utilization of existing training facilities in the developed countries;
2. The potential for utilization of existing, and the creation of new training facilities in the developing countries;
3. The potential for co-operation in training between developing countries;
4. The need for improving contractual arrangements for co-operation/assistance in industrial training.

Two points relating to all of the above items were discussed:

- (i) It was agreed that one has to keep in mind the distinction between education and training, and the discussion focussed on training.

1/ ID/B/212 para 169(a)

2/ "Problems in the training of industrial manpower".

- (ii) The group recognized both quantitative and qualitative aspects of the problem. Existing methodologies for examining quantitative aspects are inadequate and the Consultation Meeting should address itself at this time mainly to the qualitative issues.

The group was in agreement that the problem of industrial manpower training is crucial to the whole process of industrial development and that it must be addressed and solved if the Lima Targets are to be achieved. A Consultation Meeting, if approved by the Industrial Development Board, could make a significant contribution toward solving the problem. During the discussion, consensus emerged on the following points with respect to each of the agenda items:

Issue No. 1: "The potential for utilization of existing training facilities in the developed countries"

There was general agreement that (i) a certain amount of training will have to be done in the developed countries and (ii) there is room for greater and better utilization of these facilities. In addressing this issue, it was felt that the Consultation Meeting might look at the following points:

- (a) What are the existing facilities and organizational frameworks for their utilization?
- (b) To what extent and in what ways are they utilizable for trainees from developing countries?
- (c) What obstacles exist (and what needs to be done, by whom, to overcome the obstacles) for a better utilization of these existing facilities?
- (d) What can/should be done to make these facilities more suitable for trainees from developing countries?

Issue No. 2: "The potential for utilization of existing training facilities in the developing countries"

There was general agreement that existing facilities could be better utilized and that new facilities will have to be created. There was also agreement that one of the major points to be kept in mind is the relative strength of existing education and training systems. The group felt that in approaching this general issue the Consultation Meeting might look at the following points:

- (a) The appropriateness and adequacy of existing training facilities;
- (b) The need for additional training facilities;
- (c) What training can or should be conducted in the developing countries; in this connection, the following factors should be considered:
  - (i) The output of the existing educational system of the countries;
  - (ii) Training possibilities within the existing industrial infrastructure;
  - (iii) The numbers and categories of persons to be trained;

- (iv) The cost of training in the country as compared to training abroad (either in more advanced developing countries or in industrialized countries);
  - (v) Considerations relating to alternative technologies;
  - (vi) The need for and availability of internal and external assistance;
  - (vii) Social and political considerations.
- (d) The correspondence between training, employment and industrial development plans and policies;
  - (e) Co-ordination between and within the following parties: Government agencies, training institutions and industrial organizations. Suggestions for improved co-ordination and for overcoming obstacles.

Issue No. 3: "The potential for co-operation in training between developing countries"

There was general agreement that the concept of co-operation between developing countries offers vast possibilities. The practical problems involved in implementing the concept needs to be carefully studied and resolved. A suggestion was made in this connection to examine and disseminate case studies of successful and unsuccessful instances of technical co-operation between developing countries.

Issue No. 4: "The potential for improving contractual arrangements for co-operation/assistance in industrial training"

There was general agreement that the whole process of negotiating and implementing contractual arrangements for industrial training needs to be addressed. For the advantage of both parties - the contractees and the contractors - the following factors should be considered:

- (a) Clear specification of training needs to be met;
- (b) Evaluation of the contractor's ability to meet the needs as specified;
- (c) Better specification of the responsibilities of each of the parties to the contract;
- (d) The ability of both parties to monitor and control the implementation of the contract.

In the Friday session of the Meeting, it was further agreed that the following additional problems should be mentioned in the Report of the Executive Director to the Industrial Development Board on the subject; however, they should not necessarily be taken up separately in the Consultation Meeting if that is approved by the Industrial Development Board.

- (i) The discrepancy between the foreseeable supply of manpower and the demand by industry, which has certain implications for training;
- (ii) The problem of communication between users who tend to think in terms of jobs to be done and the suppliers of training who think in terms of training courses and programmes. This lack of a common language is further complicated by the fact that the actual needs may differ from expression of demand and will vary from enterprise to sectoral and national levels. Moreover, it is affected by the country's level of economic development, technology choice and degree of self-reliance.

It was further agreed that the issues of quantitative needs and financing of training are very important, must be kept in mind, and certainly should be mentioned in the Report to the Industrial Development Board. However, the proposed Consultation Meeting should not address these issues in any detail.

Finally, it was felt that the role of international organizations need not be a separate item on the agenda but that this would emerge from the Consultation Meeting.

At the conclusion of the Meeting, Mr. Versluis promised to send additional documentation providing examples of successful collaboration arrangements between developing countries.

Mr. Goodyear indicated that he believed that UNESCO would be happy to assist UNIDO in preparation for the Consultation Meeting if that is approved by the Board.

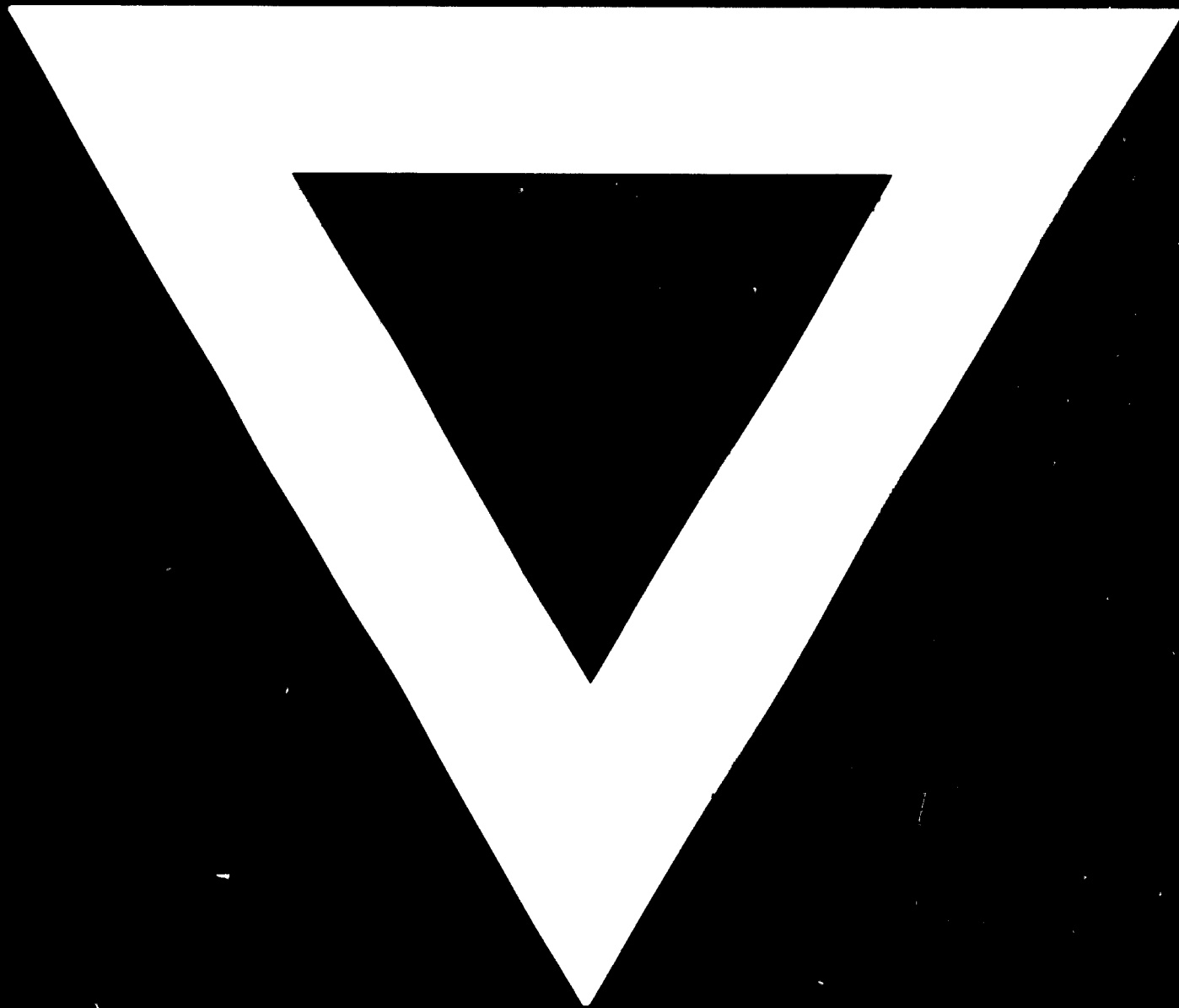
UNIDO has offered to send to UNESCO and ILO advance copies of the draft report to the Industrial Development Board and expects that they will review the draft and comment on it prior to its submission to the Industrial Development Board.

LIST OF PARTICIPANTS

UNESCO: Mr. A. Goodyear, Chief, Section of Engineering Education  
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Mr. I. Angelov, Regional and Country Studies Section  
Mr. J. P. Dee, Training Section  
Mr. A. de Faria, Negotiations Section  
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