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Agenda item 5(b)(ii)

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THE ACQUISITION AND DEVELOPMENT OF INDUSTRIAL SKILLS
BY DEVELOPING COUNTRIES •

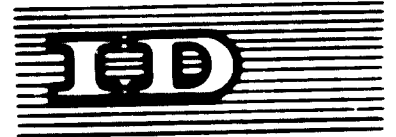
Report of the secretariat of UNIDO in
consultation with UNESCO and ILO .

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Corrigendum

Page 4

Paragraph 3, line 3: after contracts insert 3/

Footnote 2: after the first sentence insert 3/

Renumber footnotes accordingly.

NOTE

The area of training for industrial development is wide and diverse; the present document does not pretend to cover all its aspects. The investigations undertaken so far by the UNIDO secretariat in consultation with ILO and UNESCO have revealed a lack of specific information as to the quantity and quality of the training facilities available in the world for use by developing countries.

In accordance with the mandate given to the UNIDO secretariat by the Industrial Development Board (ID/B/232) and within the framework of the System of Consultations, the approach adopted has been to focus on the problems involved in the acquisition and development of industrial skills, including the capacity of existing training facilities and in particular the nature of contractual relations between industrial enterprises with regard to training. It is expected that these problem areas will be considered in depth at the Consultation that is to be held in 1981.

I. BASIC CONSIDERATIONS

1. Since the 1960s, international relations have been characterized by an accelerated move towards political independence of third world countries, followed by the assertion of their economic sovereignty as expressed, for example, in the Charter of Economic Rights and Duties of States, adopted by the General Assembly on 12 December 1974 by its resolution 3281 (A/9631).^{1/} These are two necessary but not sufficient conditions to enable the third world countries fully to control their development. A third element is technological capacity. To obtain it, the development of industrial skills is crucial, particularly within the context of the Lima Declaration and Plan of Action on Industrial Development and Co-operation (ID/CONF.3/31, chap. IV).^{2/} However, the real process of the transfer, acquisition and development of industrial skills has not yet been understood by all parties concerned.

2. In this connection, developing countries undertake an "investment" in technology whose "rate of return" depends, for example, on their capacity to introduce and to absorb the technological know-how into their production process. The development of industrial skills, through training of industrial manpower, is consequently a key to ensure that an acceptable return on a technological investment shall be obtained; its link with other elements of a technological investment (documentation, technical information, technical assistance) is therefore also of crucial importance. In other words, an important objective of training is to ensure the creation of a technological capacity in the developing countries.

3. The development of industrial skills may take place through various training arrangements between developing and developed countries and among developing countries themselves. Industrial co-operation contracts concluded

^{1/} Official Records of the General Assembly, Twenty-ninth Session, Supplement No. 31.

^{2/} Transmitted to the General Assembly by a note by the Secretary-General (A/10112). The main objective of these contracts may be the training of industrial manpower per se; however, more often than not they are linked to the purchase of plant and equipment, licences etc. in which a training component is included either as part of the main contract or as a separate one.

between enterprises of the third world and of the industrialized countries are of particular significance in the transfer and acquisition of industrial skills. Although no statistical evidence is available, it would appear that these contracts cover as many trainees as official bilateral and multilateral assistance programmes in this field.

4. The world market for the transfer and acquisition of industrial skills is a highly imperfect one. The suppliers of industrial know-how are eager to maintain their technological superiority to avoid undue competition; furthermore, suppliers are not always able to transmit their knowledge properly, a crucial factor that is generally overlooked. It is believed in developing countries that foreign suppliers and financiers impose certain constraints regarding the choice of technology. Similarly, consulting firms, given their connection with the suppliers of plant and equipment, are thought to influence the choice of technology and the nature of skills to be acquired by the developing country. Developing countries face the problem that enterprises wishing to acquire skills lack information on existing suppliers and their relative quality and lack experience in dealing with them, with the consequence that the power of the enterprises to negotiate is limited. Furthermore, these enterprises are not always in a position to determine clearly their needs, to verify the capacity of the supplier to satisfy these needs and to control the implementation of the training programme.

5. A brief examination of the practice surrounding training contracts brings to the fore one of the main bones of contention: the terms and conditions of training contracts often prevent developing countries from being fully versed in the concept and design of the technological process of the country's industrial sector. Furthermore, prices vary considerably from contract to contract according to the relative power of negotiation of the parties concerned and to the degree of competition.

6. It would, therefore, appear that direct or indirect government measures to improve market conditions would be welcome. Such measures should be designed to facilitate the choice of the best technology, to make more effective arrangements for training, and to improve the negotiating ability of the enterprises of the developing countries.

7. Developing countries may need to review their formal education systems in order to relate them to the world of work and more closely to the specific needs of industry. Governments should influence managers of public and private enterprises to pay more attention to their own training requirements and to provide their own in-service training programmes. In other words, the objective should be to help industry to help itself in acquiring industrial skills, to improve the effectiveness and co-ordination of existing institutions, and if necessary, to establish or to expand formal training institutions.

8. Although in recent years interest in technical co-operation among developing countries has markedly increased, the potential for co-operation in this area is still considerable, particularly when developing countries reach a stage that permits them to provide skills and the corresponding training to other developing countries. Furthermore, the experience of certain developing countries can be more relevant to other developing countries than that of the industrialized world.

9. The following paragraphs describe in greater detail the main areas requiring urgent attention from the Governments of both developing and developed countries, some of which were referred to at the United Nations Conference on Science and Technology for Development (Vienna, 1979). If solutions to these problems are found, the transfer and development of industrial skills to the third world can be expected to become increasingly effective through the improved utilization of existing training facilities. The development of such facilities at the national and regional levels should be accelerated.

II. THE MAIN PROBLEM AREAS

The potential for utilization of existing training institutions in the developed countries for the benefit of developing countries

10. In the developed countries, the formal education system reflects the values and needs of the country concerned. It is usually supplemented by well-developed facilities for further training. Training facilities in the developed countries include mainly public and private training institutions,

industrial firms, and technical institutes. There is general agreement that the use made of these facilities by trainees from the developing countries could be expanded considerably.

11. With respect to the facilities themselves, certain obstacles must be recognized and dealt with. For instance, curricula and training programmes may have to be designed or adapted to suit the backgrounds and needs of the foreign trainees; language difficulties may have to be overcome; problems of socio-cultural differences may arise within the institution itself and within the community. Provision to cover any additional training costs may have to be made.

12. It may be concluded that over the next decade Governments of developed countries will have to consider how:

(a) To establish programmes adapted to the backgrounds and experience of the foreign trainees so that the industrial training provided can be most effective;

(b) To improve at the national level co-ordination of training facilities to be used by trainees from developing countries so as to utilize fully the capacity of existing facilities. It is important to be able to tap the potential of small and medium-scale enterprises, largely ignored at present;

(c) To extend the scope of present training to include higher-level technical and managerial personnel; in this regard, it appears that some industrial firms are reluctant to accept higher-level personnel for training for fear that proprietary information will be lost.

The potential for utilization of existing training facilities in the developing countries and the need for their expansion

13. The formal education system should be the base upon which industrial manpower such as engineers and technologists is trained, particularly in developing countries. Hence, a development strategy should ensure that formal education shall be adapted to the country's development needs. This is essential if industrial technology and skills are to be effectively developed

and a domestic technological capacity established. Developing countries will otherwise continue to be dependent on access to technological know-how and skills from abroad.

14. At present, the basic problem is that formal education systems have generally been established on the pattern of similar institutions in the industrialized countries and thus tend to reflect the values, needs and infrastructure of these countries. Consequently, they are not able to provide graduates with appropriate industrial skills for direct entry into the work force. In the long term, adaptations need to be made; in particular, training facilities to complement the formal education system should be established. In the short run, special efforts will have to be made to meet immediate, urgent training needs and avoid wasting resources.

15. Although there is unquestionably a substantial need for more training facilities, many existing facilities are significantly underutilized. Many reasons for this state of affairs can be cited. For example:

(a) Most industrial enterprises in developing countries have not yet recognized their own responsibility for the development of their own training capabilities. They think that training should be done somewhere else, for instance, in a training centre, failing to recognize that often the most meaningful training takes place in the plant and on the job;

(b) Programmes of existing training institutions do not correspond with actual manpower needs;

(c) In formulating their industrialization strategies, plans and policies, developing countries do not seem to have sufficiently considered training needs to be an integral part of their planning;

(d) Financial and human resources are in short supply and are used inefficiently.

16. In view of these weaknesses, developing countries tend to have recourse to training abroad in skills that could be supplied in the near future by domestic facilities. While training abroad in this case may be the most expedient approach to satisfy immediate needs, it should be of a temporary nature and diminish through time as facilities are developed in the home

countries. However, it can be expected that training in certain other skills will continue to be obtained more efficiently in a foreign country.

17. Governments of developing countries should give special consideration in the future to:

- (a) Planning and developing the educational system;
- (b) Adopting policy measures to provide closer links between the formal educational system and the training requirements of industry;
- (c) Adapting existing training facilities to meet more effectively the immediate and future requirements of industry;
- (d) Developing a comprehensive approach to meeting industrial training needs, including the integration of existing and the establishment of new facilities;
- (e) Identifying the training that should be undertaken in local facilities and training that should be undertaken abroad;
- (f) Increasing the effectiveness of government policies and procedures to encourage and facilitate investment in manpower training by local enterprises and to regulate industrial co-operation activities in order to build up a technological capacity.

The potential for improving contractual arrangements
for the acquisition of industrial skills

18. With regard to contractual arrangements for the acquisition and development of industrial skills, problems arise because each party to the contract - supplier, buyer and the institution financing the transaction - has different motives and objectives. The foreign supplier of plant and equipment wishes to increase his exports and his share of the world market for a given product. To achieve this objective, the supplier agrees to provide the related training, but it is of secondary concern to him. The buyer wishes in the short term to increase production and profits by acquiring new facilities or production methods; his long-term objective is to acquire a technological capacity that will make him ultimately independent

of the foreign supplier. However, the buyer is generally in a weak position, for example, to verify the capacity of the supplier to meet his training needs. The institutions financing the transaction also have their own objectives as expressed in their criteria for evaluating the project and do not necessarily consider the need to establish a domestic technological capacity.

19. The terms and conditions of contracts concluded between enterprises can be considerably improved, particularly with regard to guarantees concerning the results of training in technology that has already been adapted to the needs of the buyer. They can also be improved through a reduction in the number of restrictive clauses, such as "discretion" clauses, according to which technological processes without legal protection may not be used in other training programmes in the developing country.

20. Increased government involvement often appears to be justified, particularly when export credits are involved. Governments of developed countries could play a larger role in:

(a) Influencing enterprises to strengthen guarantees and reduce the restrictive clauses in their training contracts with firms in the third world;

(b) Ensuring that contractual commitments made by firms in their countries to firms in developing countries are fully implemented;

(c) Providing financial and institutional support to firms that have concluded training contracts with firms in developing countries.

21. In short, Governments of both developing and developed countries should recognize that certain points require special attention:

(a) The identification of needs to be met by enterprises of developing countries and of the corresponding services to be provided;

(b) The verification by the supplier of the actual needs of the developing country enterprise;

(c) The supplier's capacity to provide the services contracted;

(d) Evaluation and selection of the most effective training methods to be employed;

(e) The buyer's capacity to monitor contract performance and ability to adapt to changing needs and conditions.

22. Finally, to improve the terms and conditions of training contracts, Governments of developed and developing countries should give special consideration to ways of:

(a) Bringing buyers and sellers of training programmes together more effectively - and of matching needs and offers;

(b) Improving precontractual negotiations between the parties;

(c) Assisting the parties in writing the contract;

(d) Assisting the parties in avoiding and resolving problems that arise during the implementation phase.

The potential for co-operation among developing countries in training

23. Co-operation in training among developing countries has a tremendous potential. For some developing countries training in other developing countries offers many advantages over training in the industrialized countries, such as economy, greater appropriateness because of similarities in socio-economic conditions, and, something more recent, experience in industrialization.

24. The concept of technical co-operation among developing countries has been recognized and accorded formal status within the framework of United Nations activities.^{3/} Bilaterally, training activities between developing countries have increased in the last few years and will increase even more in the future. Several obstacles stand in the way of realizing their potential, for example, the limited number of facilities available, a lack of information on the availability of training facilities, the poor quality of the offerings, the inadequacy of physical facilities and social and political barriers. Another frequent obstacle is a pronounced preference of nationals of developing countries for training in the industrialized countries.

^{3/} See Report of the United Nations Conference on Technical Co-operation among Developing Countries, Buenos Aires, 30 August - 12 September 1978 (United Nations publication, Sales No. 78.II.A.11). The concept was also discussed at the United Nations Conference on Science and Technology for Development held at Vienna, August 1979.

25. To realize the potential benefits of co-operation in training among developing countries, Governments of these countries should make special efforts to devise ways of:

(a) Strengthening regional and interregional co-operation among developing countries in training (strategies, policies and institutional framework);

(b) Making existing training facilities more appropriate for trainees from other developing countries;

(c) Overcoming social and political barriers and differences in outlook that prevent full utilization of existing facilities.

Migrant workers

26. Skilled manpower from developing countries exists in large numbers in the developed countries as well as in other developing countries. In recent years, skilled workers have migrated for economic reasons. This migration has brought certain benefits to the individual workers (increased earnings); to the host country (addition of readily usable manpower to its labour force); and to the country of origin (source of foreign exchange through emigrants' remittances).

27. Foreign workers in developed countries constitute an important reservoir of skilled manpower. They have acquired not only industrial skills that are needed in their countries of origin, but even more important, they have adopted new attitudes towards work. To ensure that this source of manpower shall be used effectively, the following government action would be desirable:

(a) The developed countries should adopt policies specifically designed to upgrade the skills of foreign workers in sectors and types of skills needed by the home countries of these workers;

(b) The developing countries should adopt measures to facilitate the reintegration of workers returning from abroad so that they can make full use of the skills they have acquired;

(c) The possibility of channelling this source of skilled manpower to other developing countries (i.e., not the workers' country of origin) should be examined.

III. ACTION REQUIRED

28. The Third General Conference of UNIDO, bearing in mind the basic considerations and the main problem areas in this report, is requested:

(a) With regard to the UNIDO secretariat:

- (i) To take note of the report on the acquisition and development of industrial skills submitted to it;
- (ii) To request the UNIDO secretariat to pursue its activities in close collaboration with UNESCO and ILO and other relevant agencies within and outside the United Nations system, in accordance to the mandate given to the UNIDO secretariat by the Industrial Development Board at its twelfth session, 4/ and to its decision to authorize UNIDO to convene a consultation meeting on the training of industrial manpower in 1981; 5/
- (iii) To recommend that the continuing dialogue established through the System of Consultations be designed to reach a consensus on a programme of action for industrial training at national, regional and interregional levels;
- (iv) To request the Executive Director of UNIDO to report to UNIDO IV on the progress made within the System of Consultations in reaching a consensus on solutions to the issues and problems identified;

(b) With regard to member countries:

- (i) To urge Governments of developed countries to improve, if necessary, national co-ordination of the activities of training facilities directly or indirectly under their jurisdiction for the benefit of developing countries; to influence enterprises, especially those benefiting from export credits, to pay special attention to the training requirements of developing countries;
- (ii) To urge Governments of developing countries to develop comprehensive industrial training systems in support of their long-term industrial development strategies and to pay special attention to the training component of industrial co-operation contracts concluded with foreign enterprises;

4/ Official Records of the General Assembly, Thirty-third Session, Supplement No. 16.

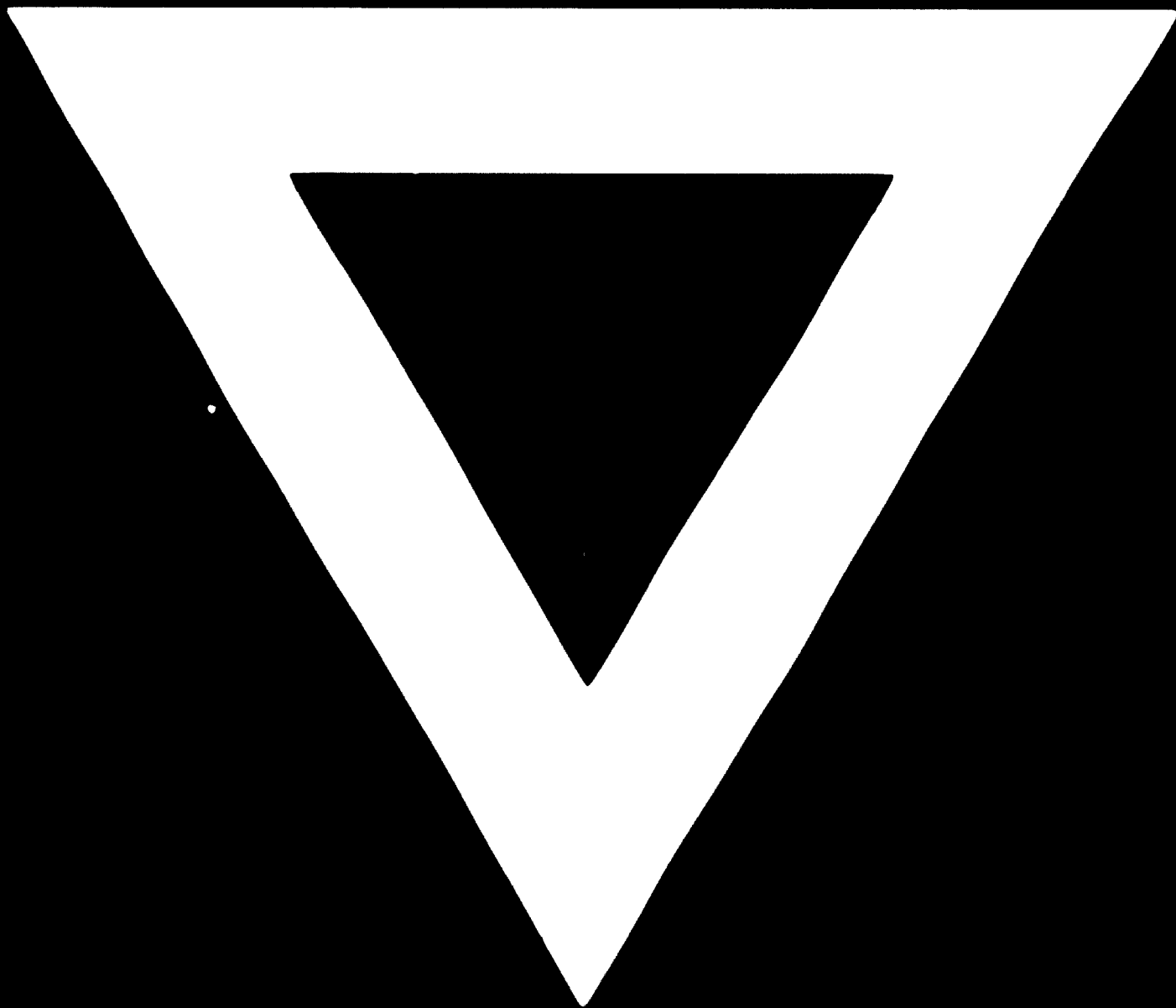
5/ Official Records of the General Assembly, Thirty-fourth Session, Supplement No. 16.

(c) With regard to the United Nations system:

- (i) To recommend that the next United Nations conference on technical co-operation among developing countries focus specifically on the training of industrial manpower;
- (ii) To recommend that international organizations explore the possibility of improving the quality of the exchange of information on training and ensure that training programmes shall be adapted to the specific needs of developing countries, bearing in mind the views and recommendations expressed at the United Nations Conference on Science and Technology for Development held at Vienna in 1979.



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