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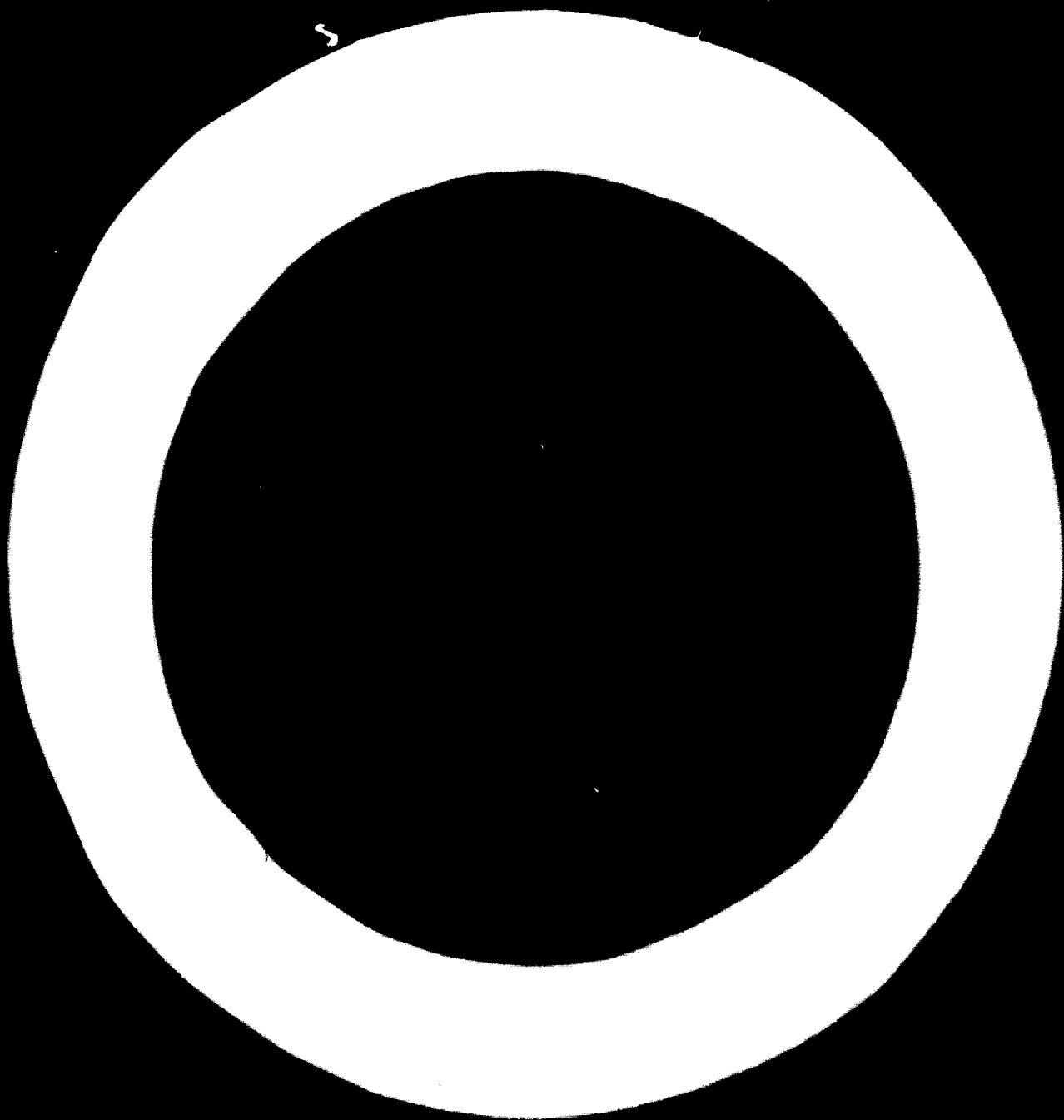
Meeting of In-plant Group
Training Directors
Vienna, 2- 6 September 1974

DEVELOPING COUNTRIES AS HOST COUNTRIES FOR INTERNATIONAL
TRAINING ^{1/}

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Training abroad - a tradition

1. If we nowadays talk about international training or training abroad, we very often believe that this is rather a new way of transferring knowledge and experience. This is, however, not at all the case. It is true that, particularly after the Second World War, as a consequence of the increasing economic development in the Third World and facilitated by the breathtaking development of international air traffic the number of individuals receiving education and training abroad has grown explosively; however, this should not let us overlook that through all the past individuals left their home countries and went abroad for learning purposes. One of the most famous ones was Peter the Great of Russia who had gone to the Netherlands in order to study shipbuilding; another one was Armin the "Liberator" who as a prominent hostage studied military science in the ancient Rome and later vanquished a Roman army in his home country; Friedrich Krupp before founding his well known enterprise observed and studied the most modern production and processing methods in the English iron and steel industry. Throughout the Middle Ages and increasingly with the dawnning renaissance it was quite usual to encounter foreign students at the universities or foreign journeyman in the artiean workshops.

2. In this connexion it is interesting to note that these two sectors, namely the universities and the crafts, were obviously at the outset and by nature open for and interested in exchange of views and experience across existing borders, while other sectors as, e.g., agriculture or public administration were more introverted. Together with a number of other factors the combination of scientific research and trade skills led to the development of what was later called "technology" which, in turn, was one of the basic preconditions for the launching of the industrial age. It can, therefore, rightly be said that there is an affinity between industrial development and training abroad that goes back to the very origins.

Training abroad, a one-way street?

3. During the last 25 years or so, international and national organizations and agencies have been developed and expanded, the task of which is to channel the growing streams of students and trainees flowing back and forth between the about 150 countries on our globe. Back and forth? Is this really so? This question deserves a somewhat deeper consideration.

4. If we make a rough distinction between industrialized countries on the one side and developing countries on the other, then we have three possibilities for the flow of individuals seeking education and training abroad: a) among industrialized countries; b) between developing and industrialized countries; c) among developing countries.

5. For the purpose of this working paper the consideration should be concentrated on training and education abroad with regard to or in connexion with industrial development. From this viewpoint the following becomes obvious as to the three possibilities above.

6. Possibility a) is very strongly utilized. It becomes more and more a matter of course that high level and, increasingly, even intermediate level technical and managerial staff employed in industry or related fields have spent a certain period of time in industrialized countries other than their own in the course of their professional education and training both before and during their employment. This is, with certain restrictions, a real two-way street and leads, inter alia, to a crossfertilization of the respective sectors in the countries concerned. The restrictions mentioned refer to what experience has shown, namely that some of the countries concerned are obviously more attractive as host countries than others. So, e.g., the flow from European

industrialized countries to the United States of America has been up to now stronger than vice versa. One of the reasons for this is obviously different technological standards.

7. Possibility b) occurs most frequently and can almost fully be determined as a one-way street from the developing to the industrialized countries. The main parameters for the attractiveness of host countries among the industrialized countries are technological standard in the respective fields of interest, language and cost. (In this connexion it should be mentioned that UNIDO in its in-plant group training programmes has neutralized the language factor to the extent possible by organizing such programmes in main world languages regardless of whether these languages are the mother tongues of the respective host countries or not, which led to the effect that technological know-how can be tapped for training purposes where it is available.)

8. Possibility c) is the matter of concern of this paper. It occurs, in quantitative terms, far less frequently than a) or b) each. On the first glance it is to a certain extent a real two-ways street; if, however, one looks deeper into the details than one can discover, that possibility c) includes strong elements of both the a) and b) types; there is an increasing mutual flow among certain groups of advanced developing countries as, e.g., in Latin America, in the Arab speaking world or in Asia and the Far East; there is, however, also a not yet too big but continuously increasing stream from less developed to higher developed developing countries. Finally there exist mutual slender rills between less developed countries, including some of the least developed ones, particularly on a sub-regional basis and mostly related to vocational training institutes.

9. This being outlined, a further limitation of the scope of consideration can be made here by disregarding possibility a) as such.

Major advantages and disadvantages of training nationals of developing countries in industrialized countries:

10. Major advantages of training nationals of developing countries in industrialized countries are, among others, the following:

- High standard technologies;
- experienced and specialized education and training institutions;
- suitable in-plant training facilities;
- high caliber teaching and training staff;
- organizational machinery for international education and training;
- highly developed infrastructure;
- physical and mental industrial environment;
- incentives for motivation;
- financial resources (not always necessary).

11. Major disadvantages of training nationals of developing countries in industrialized countries are, among others, the following:

- The availability of education and training facilities suitable for nationals of developing countries does not keep abreast of the increasing demand;
- high cost;
- discrepancies or incomparabilities between conditions and circumstances prevailing in the home and in the host countries;
- the technological gap;
- the alienation effect;
- incentives for brain drain.

12. A juxtaposition of the two lists above shows that training and, to the extent possible, education of nationals of developing countries in industrialized countries should be limited to key personnel from

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priority areas whose adequate employment in their home countries after their return is warranted. (The reservation as to education in the foregoing phrase means that universities and comparable bodies in industrialized countries should limit the admission of regular students from developing countries in favour of study and research opportunities for high caliber technical and managerial staff from those countries in the course of their continuous education.)

Major advantages and disadvantages of training abroad of nationals of developing countries in advanced developing countries:

13. Major advantages of training abroad of nationals of developing countries in advanced developing countries are, among others, the following:

- Frequently and increasingly technological standards in a number of fields correspond to those in industrialized countries, but are, as far as their application is concerned, much closer geared to the circumstances prevailing in many developing countries;
- increasingly well equipped institutions with high caliber staff exist which either provide education and training themselves or are able to serve as a basis for training activities;
- education and training can be arranged on a regional or sub-regional basis;
- in some cases training activities can be carried out in languages other than the most common world languages;
- in many cases cost may be lower than in industrialized countries;
- the socio-economic environment will, in the majority of cases, not differ too widely from that in the respective home countries, which contributes to diminishing adjustment problems, alienation effects and the danger of brain drain.

14. Major disadvantages of training nationals of developing countries abroad in advanced developing countries are, among others, the following:

- More often than not lack of suitable on-plant training facilities;
- sometimes lack of adequate organizational machinery for international education and training;
- less developed infrastructure;
- less developed physical and mental industrial environment;
- to a certain extent lack of motivating factors;
- the reputation as host countries for education and training abroad is in the public opinion very often lower rated than that of industrialized countries, regardless of whether this is the case or not (image effect).

15. A juxtaposition of the two lists above shows that education and training abroad in advanced developing countries for nationals of other developing countries can, in the majority of cases, be very use- and successful for those individuals whose education and training needs cannot be met in their home countries. Furthermore, one can imagine that under retention of the advantages and under elimination to the extent possible of the disadvantages, advanced developing countries could become host countries comparable or even equal to industrialized countries with regard to ambitious, high-level education and training activities in a number of fields.

Further considerations:

16. There are not only pragmatic aspects in this context. The cooperation among developing countries has become a policy issue for the UN system of organizations. In its Resolution 36 (VII) the Industrial Development Board strongly recommended such cooperation and urged UNIDO to support it.

17. Specific training activities with regard to the transfer, the adaptation and the development of appropriate technologies could most beneficially be carried out in advanced developing countries.

Such training activities could give particular attention to problems such as employment, export orientation of industries under conditions prevailing in developing countries.

18. Another priority area within the UN system of organizations is that of assistance to the **Least Developed Countries**. A great deal of the training needed for their industrial development can be carried out on regional or sub-regional basis in other developing countries. This does not only apply to ad-hoc training activities, but also to the establishment of permanent institutions for this purpose, including vocational training institutes.

UNIDO's activities in this connexion

19. In its Report on the Training of National Personnel for Industrial Development (Doc.ID/B.101 of 18 January 1972, paragraph 24) UNIDO has laid down the following principles: "Wherever possible, priority should be given to training in the home country.

Training abroad in more advanced developing countries may be a second consideration since in general the training facilities in these countries often correspond to conditions in the home country and, moreover, the danger of the brain drain may be substantially reduced. Training abroad in industrialized countries should be considered only for key industrial personnel from priority industrial areas, and only if this type of training is not available in the home country or in another developing country".

20. In the framework of its in-plant **group training programmes** UNIDO has done a first step in this direction by organizing an in-plant group training programme in close cooperation with the Central Food Technology Research Institute in Mysore, India. Further steps will be in-plant group training programmes in quality control of cotton textiles (Arab Rep. of Egypt), industrial design (Arab Rep. of Egypt), plastic technology (Argentina).

21. In its individual fellowships programme UNIDO has taken charge of the placement of individual fellows in host countries outside Europe and North America. The bulk of these possible host countries are developing countries. It is a considerable task to discover and make available more and more suitable facilities for high level industrial training within these countries.

22. A field project is ongoing in Iran aiming, inter alia, at domestic pre-employment and on-the-job in-plant training of engineers. This project could serve as a pilot project for **augmenting** the in-plant training capacity of advanced developing countries which, in turn, would then be in a better position not only to cover their own training needs but also to serve as host countries for trainees from abroad.

23. About 30% of the training courses listed in the second issue of the UNIDO guide "Selected Training Opportunities for Industrial Development" ^{1/} are organized by institutions in developing countries and open for participants from abroad.

24. A proposal has been made to examine UNIDO large scale projects as to their aptitude to serve as basis for international training activities including in-plant group training programmes. The two programmes listed above planned to be carried out in the Arab Rep. of Egypt fall into this category.


International co-operation

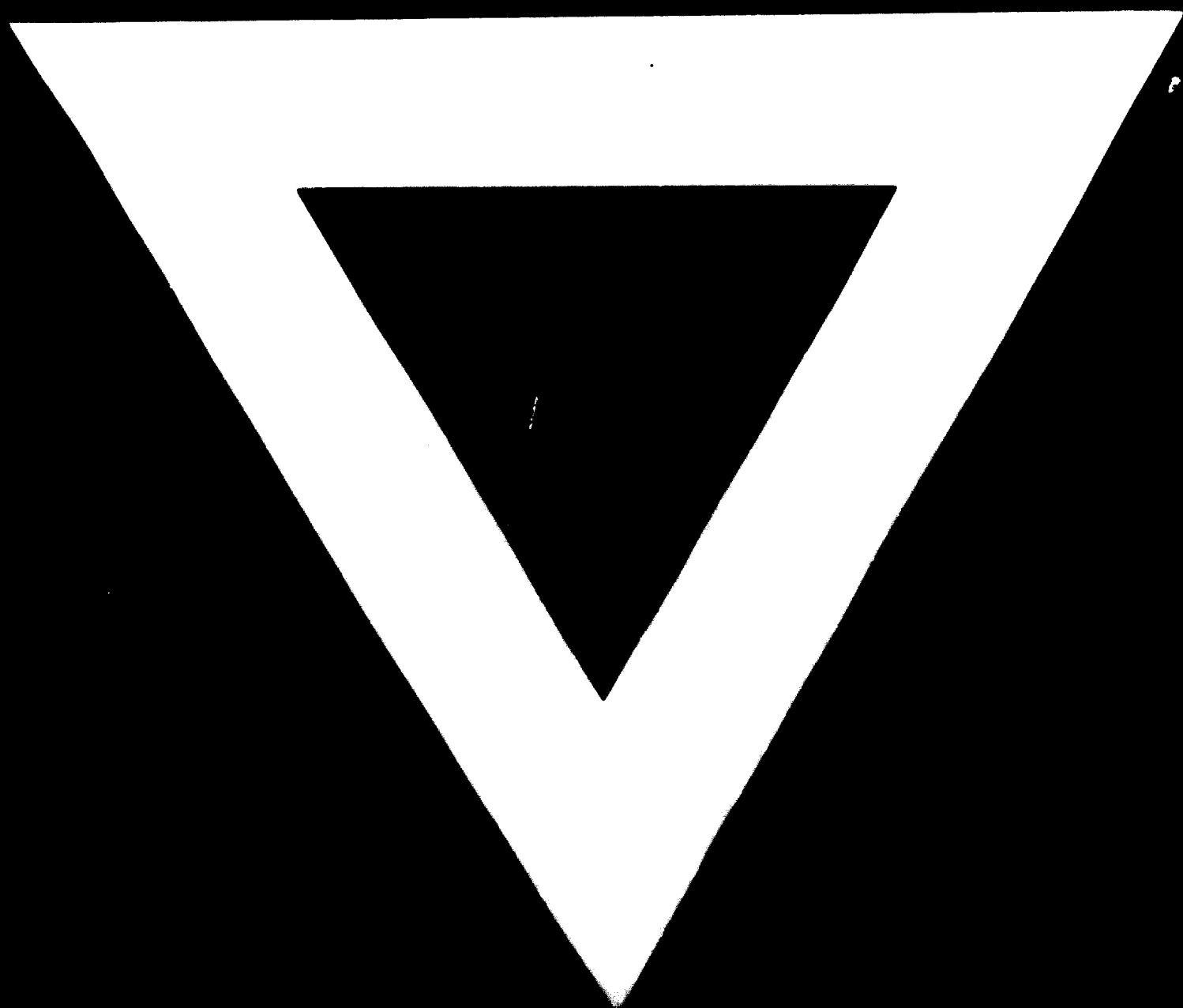
25. It is obvious that all efforts should be made to utilize the present and future education and training potentials of advanced developing countries for the benefit of industrial personnel from other developing countries. It is, however, also **obvious that the advanced developing countries cannot simply be left alone with this task.** All too many preconditions will have to be fulfilled before the target is reached. UNIDO and other international organizations

^{1/} Document PI/15

are willing to assist these countries in their pertinent efforts. Beyond that it seems to be worthwhile considering whether and to what extent industrialized countries could also participate in these endeavours. More and more industrialized countries have recognized that in the field of development assistance international co-operation is to be given highest priority. Possible contributions of industrialized countries in this connexion could be such as: provision of experts to advise and assist in the local organization and implementation of international training activities in developing countries; provision of teaching and training staff as need may be; exchange of experience; provision of necessary equipment; financial contributions (e.g. through funds in trust). Furthermore it might be considered whether foreign investors having subsidiary firms in the potential host countries should be solicited to also participate particularly by providing placement facilities for in-plant training.

26. It is hoped that the discussion of these questions will contribute to find additional ways and means to assist developing countries in coping with the tremendous problems they are faced with in view of education and training of personnel urgently needed for industrial development.





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