



TOGETHER
for a sustainable future

OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.



TOGETHER
for a sustainable future

DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as “developed”, “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

FAIR USE POLICY

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

CONTACT

Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org



D04432



Distr.
RESTRICTED
ID/WG.7/7
31 October 1967
ENGLISH

United Nations Industrial Development Organization

AD HOC MEETING ON IN-PLANT TRAINING
Vienna, 13-18 November 1967



POSTGRADUATE IN-PLANT TRAINING COURSE
IN POLISH TEXTILE INDUSTRIES

by

T. Jedryka
Institute Wlokiennictwa
Ul. Gdanska 91/93, Lodz, Poland

The views and opinions expressed in this paper are those of the author
and do not necessarily reflect the views of the Secretariat of UNIDO

id.67-043

We regret that some of the pages in the microfiche copy of this report may not be up to the proper legibility standards, even though the best possible copy was used for preparing the master fiche.

Introduction

The UNIDO initiated a Postgraduate In-plant Training Course in Textile Industries, which with consent and support of Polish authorities had been held in Poland during the period of time from May the 2-nd, until September the 30-th, 1967. The organization of the Training Course was confided to the Textile Research Institute at Łódź.

The principal target of the Course was to prepare within a short time a group of highly qualified experts in various textile trades so that they should gain knowledge which otherwise would have had to be acquired by them for many years of mill practice, as well as of research and development work.

To hit this target the authorities of the Polish People's Republic secured a vast range of facilities, due to which the participants of the Course could be acquainted with research centres and industrial enterprises in this country. The enterprises in question belonged not only to the textile branch of the industry, but also to other branches, related somehow to the former, e.g. man-made fibres production and textile machinery engineering. The best specialists available in Poland were engaged for a series of lectures and also for discussions in especially organized sessions on selected problems.

The curriculum comprised technical, technological, economic, organizational and research topics, related in any way to the textile problems.

The Textile Research Institute as the organizer of the Course strove, as best it could, to balance carefully the proportion of theoretical lectures and technical discussions, with practical occupations in mills and research laboratories, so that the key textile problems should be attended to, the subjects of the curriculum being mastered in the possibly best way.

Anyhow, the thing which mattered most was to make the subjects presented by the Polish specialists adaptable to the best advantage of the developing countries.

The following forms of training have been assumed:

1. A series of theoretical lectures
2. Practice in research laboratories
3. In-plant training
4. Technical visits
5. Individual practice
6. Sessions on selected problems.

The recruiting of candidates for the training was made by means of an Aide Memoire sent by the UNIDO to 49 countries with a brief description of the course and requirements to be complied with by a prospective participant.

The applications from the countries which were interested in the training were approved by the UNIDO and accepted by the organizers of the Course. Finally there were 13 participants, representing 9 developing countries. All the participants had graduated from higher technical colleges and were employed after a long term experience at some elevated posts in the management of the textile industry.

Organization of the Course

Initiative

The idea to organize a course for textile specialists was taken up 3 years ago by the Centre of Industrial Developments. It was carried out by the UNIDO with cooperation and support of Polish People's Republic authorities.

Aim

The programme briefly outlined by the UNIDO suggested that the Course should aim at a general study of problems which faced all the branches of the textile industry, and also - or above all - at trends of its developments and perspectives of specific techniques and technologies.

These assumptions having been made, the Course was intended for highly qualified specialists, who not only had graduated from technical universities and had a long term experience in textile trades, but also were employed at elevated posts in their countries, having some influence on decisions regarding textile developments in their industry, or were expected to be at such posts.

The vast range of problems concerning textile industries as presented by Polish specialists in a series of lectures and during especially organized sessions on selected topics, as well as a practical possibility of making acquaintance with research work being in progress, or with developments recently introduced, then with the every day activities of plants concerned not only with textile production but also with that of man-made fibres and of textile equipment or machinery, allowed the participants to acquire within a relatively short time the knowledge not to be gained normally, unless after many years of experience. In some individual cases the knowledge of that range would never be gained at all.

Recruiting

Following the usual procedure of the UNO an Aide-memoire was sent to some selected countries /their list comprising 49 items is attached hereto/. The Aide-memoire contained a frame of the programme, place and requirements regarding the

participation on the Course.

Only a part of the countries responded, nominating at first 19 candidates. Some countries in appreciation of the UNIDO initiative nominated more than one candidate.

Difficulties of general nature forced the UNIDO to approve primarily only 10 candidates, nominated by governments of their countries. Then funds were found to cover expenses for 6 more participants selected by the UNIDO. All of them were accepted by the organizers of the Course. Finally there were 13 participants from 9 countries, who attended in all the time of duration. Their list is attached to this as Appendix No.2. Three candidates could not attend for various, justified reasons.

Organizers

The Course was run by the Textile Research Institute at Łódź, an organism which leads in research work on textile developments in Poland. The TR Institute has a staff of highly qualified research workers, a rich equipment for measurements and control, good technical laboratories and - above all - great experience in organization of international meetings, conferences and symposia. Because of a high importance of the Course, the general lead of it was in hands of the Chief Director of the Institute, Dr T.Jędryka.

The organizational arrangements of the Course were made by Mr.Józef Wolnicki - Head of the Training Department in the TR Institute and simultaneously the manager of the Course, then Mrs. Danuta Mordaka - Head of the Department for Cooperation with Foreign Countries in the TR Institute. The finances were arranged by Mr. Stan. Skwarna. Direct care of the participants was confided to Mr. Jan Przepiórkowski.

During their stay at Łódź the participants were accommodated in the Central Hotel, some 600m from the Institute.

When outside Łódź, during technical visits and practice, rooms in the best local hotels were reserved.

A daily allowance of zł.90.- was paid once per month in advance. Transport for all technical visits and sightseeing tours was provided by means of an autocar, borrowed for the whole duration of the Course.

The organizers did their best to help the participants in all the matters which could have arisen during their 5 month stay in Poland. Thus, periodic meetings were laid out /once per fortnight/ with the management of the Course, to handle any problems which might have appeared before the participants with regard to the training or personal affairs. Any problems were promptly attended to.

Having in view a reasonable pastime, desirable after an intense work, the organizers made arrangements for some sight-seeing tours and tourism. At this opportunity the participants visited many towns and attractive rest centres in Poland.

Beside the persons mentioned above a great part of the normal personnel of TR Institute was directly, or indirectly engaged in work related with the curriculum of the Course.

Curriculum

The curriculum was based on the frame-programme as suggested by the UNIDO, i.e. it divided the training into two principal parts: lectures and in-plant training.

The detailed programme prepared by the TR Institute was later on modified by introduction of individual practice and by sessions on selected subjects, held at the end of the Course.

After the programme was approved of by the UNIDO /in December 1966/, a detailed time-table was worked out for use of the participants and all concerned. A copy of it is attached hereto as Appendix No.3.

The training time was divided as follows:

- Lectures - 6 weeks
- Practice in works producing man-made fibres - 3 weeks
- " " " textile machines - 2 weeks
- " in textile mills - 9 weeks
- Individual practice - 1 week
- Sessions on selected problems - 1 week

Total time - 22 weeks

Much care was taken to balance well the time for theoretical lectures with practical in-plant training so that the participants of the Course should learn to their best advantage.

The participants were engaged in the training on all the ~~day~~ days of the week except Saturdays, Sundays and Holidays, according to the following plan:

- | | |
|-----------------|--------------------------------|
| 7.30 - 8.00 hrs | - breakfast |
| 9.00 - 13.00 " | - training time |
| 13.00 - 15.00 " | - break for lunch |
| 15.00 - 17.00 " | - training time |
| 17.00 " | - free for individual studies. |

This plan was changed only in some exceptional cases.

Lectures

A series of lectures was one of the principal items of the curriculum. The lectures were prepared by specialists from the TR Institute and they referred to such problems as the textile

raw-material basis, methods of the examination and control of technological processes, development trends of principal textile techniques, new textile techniques, technical problems of textile mills as e.g. air-conditioning, ventilation, automation, heating problems, repairs, economics and organization. The lectures were meant not to repeat or discuss the common-place things which college students usually learn during their normal studies, but they dealt with such problems which faced the managing staff of the textile industry, requiring some definite solution.

The lecturers were picked up from among the best Polish specialists in particular subjects. Mostly they belonged to the personnel of the TR Institute, but there were also experts from universities, the industry, as well as some individuals particularly engaged in the problem being dealt with.

The time taken for specific problems was:

1. Textile fibres	6 hours
2. Modern ways of checking the properties of fibres, yarn and fabrics	10 "
3. Spinning	8 "
4. Weaving	8 "
5. Knitting	6 "
6. New textile techniques	8 "
7. Power and drive problems	13 "
incl. a/ air-conditioning and ventilation	2 hrs
b/ automation	2 "
c/ power problems	3 "
d/ lubrication problems	1 "
e/ drying problems	1 "
f/ maintenance problems	1 "
g/ sewage and water mains	1 "
8. Finishing	7 hours
9. Making-up to clothes	3 "

10. Textile economics	8 hours
11. Organization and management	6 "
12. Foreign trade	2 "
<hr/>	
Total time for lectures	85 hours

Beside the obligatory lectures on techniques and technology, there were lectures on the Polish language, history of culture and present economic situation of Poland. Although the attendance at those lectures was optional, the participants showed much interest in them and attended in full number.

As a rule, English was used during the Course, but some knowledge of Polish appeared to be very useful, since it facilitated contacts with the surrounding people, and even allowed to use Polish technical papers. Informations about Poland, her history, culture, traditions and economic position were listened to very willingly.

Manual /Typescript of lectures/

To secure texts of basic training subjects the UNIDO ordered to prepare a manual, comprising about 300 typed sheets, covering the above mentioned training programme. It was a right and valuable decision of the UNIDO due to which the participants could more easily acquire knowledge of what was being lectured to them in English, which was not their native language.

The organizers did prepared this typescript in time so that at each lecture every participant was provided with a copy of its abbreviated text, to be included into the planned part of the manual. However, since even an abbreviated text of one hour lecture comprised 7 to 10 typed pages, it was not possible to keep to the limited range of the manual, and the total number of its pages was more than doubled.

Accounting for the difficulties of such a collective publication, efforts were made to smooth up its form by a proper editorial work.

The final effect of those efforts was entitled "Textile Industries - Techniques, Technology, Economics, Organization - A Series of Lectures at the Postgraduate Training Course in Textile Industries".

We consider it as a valuable text-book, serving well its purpose with the participants of the Course. However, we do not think it may be considered as a text-book in a broad meaning of that word, but we treat it as a valuable starting base for further improvements.

If next courses of that type were confided to the Textile Research Institute, we are sure we could prepare for a time, range and volume agreed upon a manual serving not only the purpose of the course, but also a complete source of valuable information for economic and technical activists in developing countries.

Practice

Practical training was carried out in form of:

- 1/ tests made in research laboratories
- 2/ visits to particularly interesting production plants or factories
- 3/ in-plant practice.

The time taken for that training amounted to 15 weeks in research centres, textile mills, engineering works and man-made fibre production plants. The training of that type had the following aim:

- 1/ In research laboratories:

The participants attended at practical demonstrations of the most modern laboratory equipment for research work and control of production processes. They learned also methods for interpreta-

tion of test results.

2/ Technical visits:

Special visits were organized to show the operation of plants of particular interest, as e.g. foam-backing, texturing of yarn, special finishing of fabrics, production of non-wovens, centres of special destination /computation and programming, cotton arbitration court/ etc.

The autocar for transport of the participants visiting the above mentioned plants and centres covered a total distance for that purpose only, amounting to 10,000 km. The itinerary is shown on the enclosed map.

3/ In-plant training:

The aim was to let the participants acquaint themselves practically with all the problems concerning production, organization, management, supplies, sales, cooperation, control methods and also production techniques actually applied there.

In the industry of man-made fibres - the participants made acquaintance with the Research Institute of that industry, being informed about its organization, actual research work, methods of research etc.

Then they visited four main production plants of that industry. Thus they learned all the general problems regarding production and prospects of such fibres as staple and filament rayon, new viscose tyre-cords /polynosic/, polyamide fibres of Nylon 6 and 66 type, casein-, polyester- and polyacrylic fibres.

In the industry of the textile machinery engineering - the participants were shown the "O.B.T." - central designing bureau of textile machines and two big engineering works, incl. the "Befama" works, a factory of a long standing tradition and of world renown. The participants of the Course were given the

opportunity to see for themselves how the machines were built - right from the moment of making a design, then testing of prototypes and pilot series, until the full problem of commercial production. The programme concerned problems of spinning machinery production for cotton and wool, looms and finishing equipment.

In the textile industry - the Textile Research Institute as a main training base exposed not only its laboratories and equipment, but also gave the participants an opportunity to contact the specialists working there so that many friendly personal relations were started.

The same applied to several other research centres, which the Course participants got knowledge of.

The total number of textile plants of cotton, wool, flax, knitting and clothing branches of the industry, which the participants of the Course were visiting, amounted to 26 enterprises. It enabled them to learn the whole range of problems of that industry, with all the multitude of its techniques in the principal branches.

The organizers of the Course think that such a practical approach to the problems facing the textile and allied industries was of a particular use for the specialists from developing countries who took part on the training and learned those problems, so that advantageous conclusions could be drawn for their own industries. Of course, this was possible only due to the valuable initiative of the UNIDO and a helpful cooperation of the authorities in the Polish People's Republic.

Individual Practice

Expecting that during the training the participants would show an individual interest towards some particular problems of their own specific trade, provisions were made for a supplementary week of the so-called individual practice. It took place at the final stage of the Course, after the main problems had been

presented by lectures and in-plant training. Thus, time was given to make for each participant a decision what had to be learned more closely by him.

This form of training gave good results, although there were many organizational difficulties which had to be overcome.

Some participants had additional wishes concerning the training, e.g. two of them, who were particularly interested in the organization and realization of research work, applied for a one month prolongation of their stay in the TR Institute. It was granted to them. One participant expressed his intention to return to the TR Institute in order to make a research work and acquire a doctor's degree.

Sessions on Selected Problems

To sum up the detailed information collected by the Course participants during the whole period of training, i.e. during lectures, in-plant training, practice in laboratories, technical visits and individual practice on one side, and on the other - to make the participants meet top executives of the textile industry in the host-country in order to discuss some problems, special sessions were arranged with the following topics on the agenda:

- 1/ Perspectives of textile developments and the research background of the industry
- 2/ Textile vocational training
- 3/ Textile raw-materials
- 4/ Quality control methods
- 5/ Wool industry
- 6/ Cotton industry
- 7/ Knitting industry
- 8/ Clothing industry
- 9/ Textile machinery

The sessions were held according to the following frame-
-programme;

- introduction into the problem of the day, with presentation of the general situation regarding that problem in the world and in Poland,
- complementary explanations given by invited guests with respect to the discussed problem,
- information given by the participants, relating the situation in their countries regarding the same subject,
- general discussion,
- conclusions.

The idea, difficult as it was to carry it out, has appeared very useful. The TR Institute made provisions to secure the participation of the really top people in various branches of the industry, viz. directors of Unions, chief executives, high rank specialists from the TR Institute, Universities and research centres.

The selected problems, as well as the participation of best specialists available, have made the Sessions a good contribution to the training of experts from developing countries.

A summary of topics presented at each of the Sessions, together with conclusions drawn regarding the training and its results, has been presented in the final report.

Closing of the Course

The official document to be made up at the closing of the Course is - according to recommendations of the UNIDO - a final report. It had to be made up in co-operation with the Course participants.

The TR Institute had not been instructed how the report should be made up, what should be its range and to whom it should be presented.

In this situation the text of that document comprises:

- 1/ Introduction /general information /
- 2/ Report on detailed programme and organizational forms,
- 3/ Summary of Sessions on Selected Problems,
- 4/ Suggestions of organizational character,
- 5/ General conclusions.

To stress the importance of the Course and in appreciation of efforts made by its participants and organizers, the closing ceremony was given a specially solemn character. Its main part concerned naturally the handing-out of especially prepared certificates. Beside the organizers, the ceremony was attended by directors of main enterprises which were engaged in the training, a representative of the Ministry of Light Industry and a delegate of the Committee for Economic Cooperation with Foreign Countries. The ceremony took place in the big, representative room of the TR Institute at Łódź according to the following programme:

1. Ceremonial opening
2. Word of the delegate of the Committee for Economic Cooperation with Foreign Countries
3. word of the representative of the Minister
4. Handing-out of certificates
5. Word of a representative of the participants

The solemn character of the ceremony, as we think, has also been an essential element in the whole organizational framework of the training.

Actually, not only the organizers, but also the Course participants paid much attention to the form of the final certificate. Having had no directives in advance, we suggested its text and form to the UNIDO and got their approval.

An interesting "textile" effect was achieved due to the fact

that the certificates had been printed on a non-woven fabric, a recent development of the TR Institute, with patent already granted. We think, it must have been a match to the high rank of the Course.

Assessment of Course Results

It stands to reason that an assessment of Course results should not be a concern of the Course organizers. It is to be expected that in due time it would be made by the initiators and co-organizers, i.e. by the UNIDO.

As organizers we did our best to make all the necessary arrangements for the Course. It was the first time that we organized the training of such a rank and naturally we had to overcome many difficulties. The experience we have gained at that should be an advantage at the next occasion of a similar character.

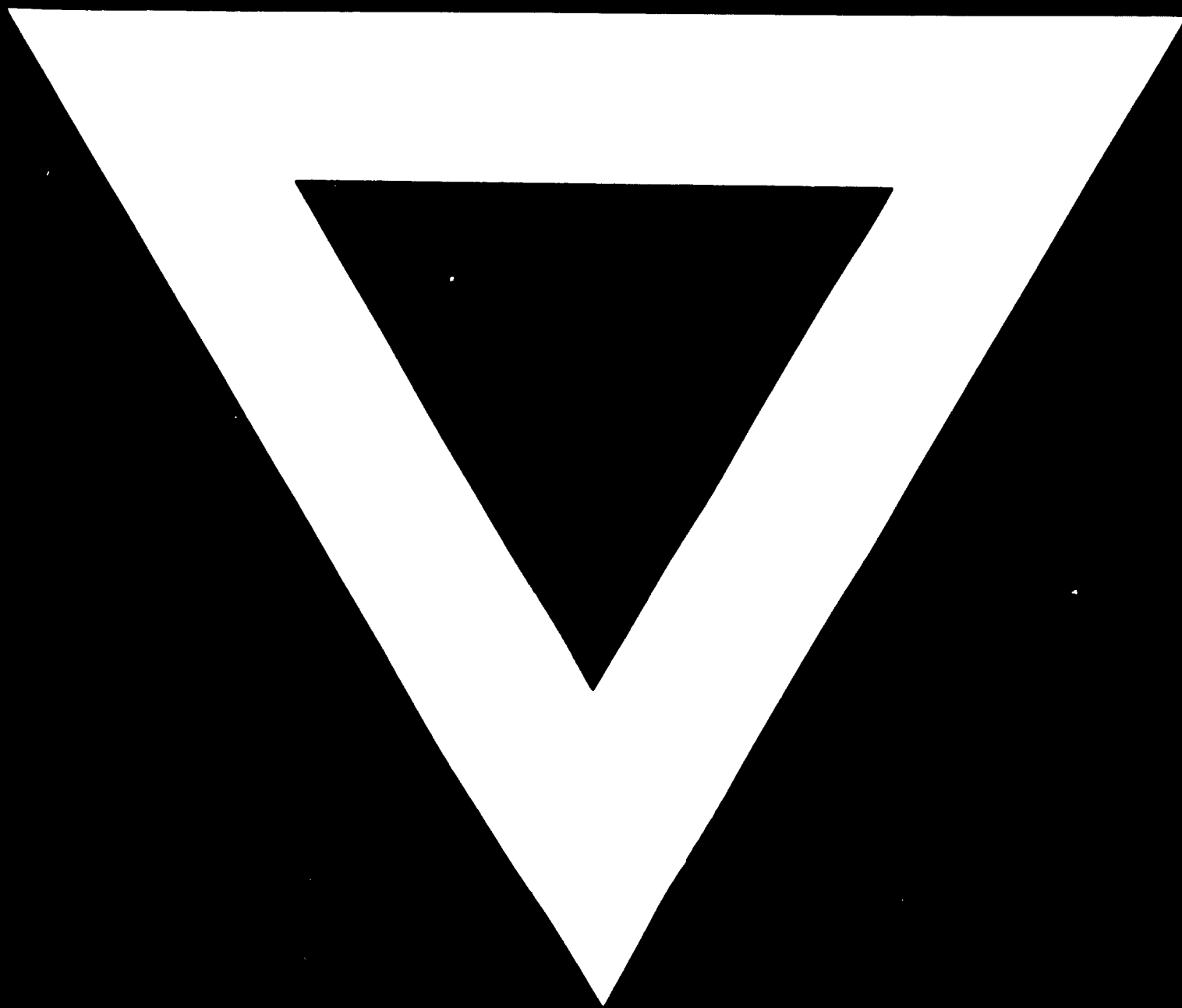
During the Course we tried to collect critical remarks and suggestions of our own personnel, as well as of the participants. An especially distributed questionnaire regarding the curriculum and organization of the Course has also contributed much to that collection.

The mentioned questionnaire was worked out on our own behalf, and the frank and free relations between the organizers and participants which had been all the time make us consider its answers as an absolutely independent opinion, to be fully relied upon. The summary of the questionnaire is enclosed hereto /Encl. No. /. In the majority of cases the answers to the questionnaire are in concord with our own observations and the preliminary organizational suggestions which we have presented in a separate paragraph, are a resultant of all the available opinions.

Suggestions

1. Having in view requirements of the developing countries, organizational efforts of the TR Institute and the gained now experience, a general Course in Textile Industries should be held every year.
2. Duration of the Course should be spread over 6 months.
3. There should be 20-25 persons attending as participants of the training.
4. Although the present results of the training are good, the programme, text-papers and forms of it should be further improved.
5. Frequent consultations and contacts between organizers and the UNIDO are necessary.
6. French language variant of the Course should also be eventually taken under consideration, enabling thus many developing countries to send their candidates with that language to attend the training.
7. Some forms of help to organizers should be agreed upon by the UNIDO, e.g. supply of a supplementary equipment to be used at the training.
8. There is a demand for other type of courses in textile industries, beside that one of the general character, their programme and duration to be agreed upon between the TR Institute and the UNIDO.





30.8.74