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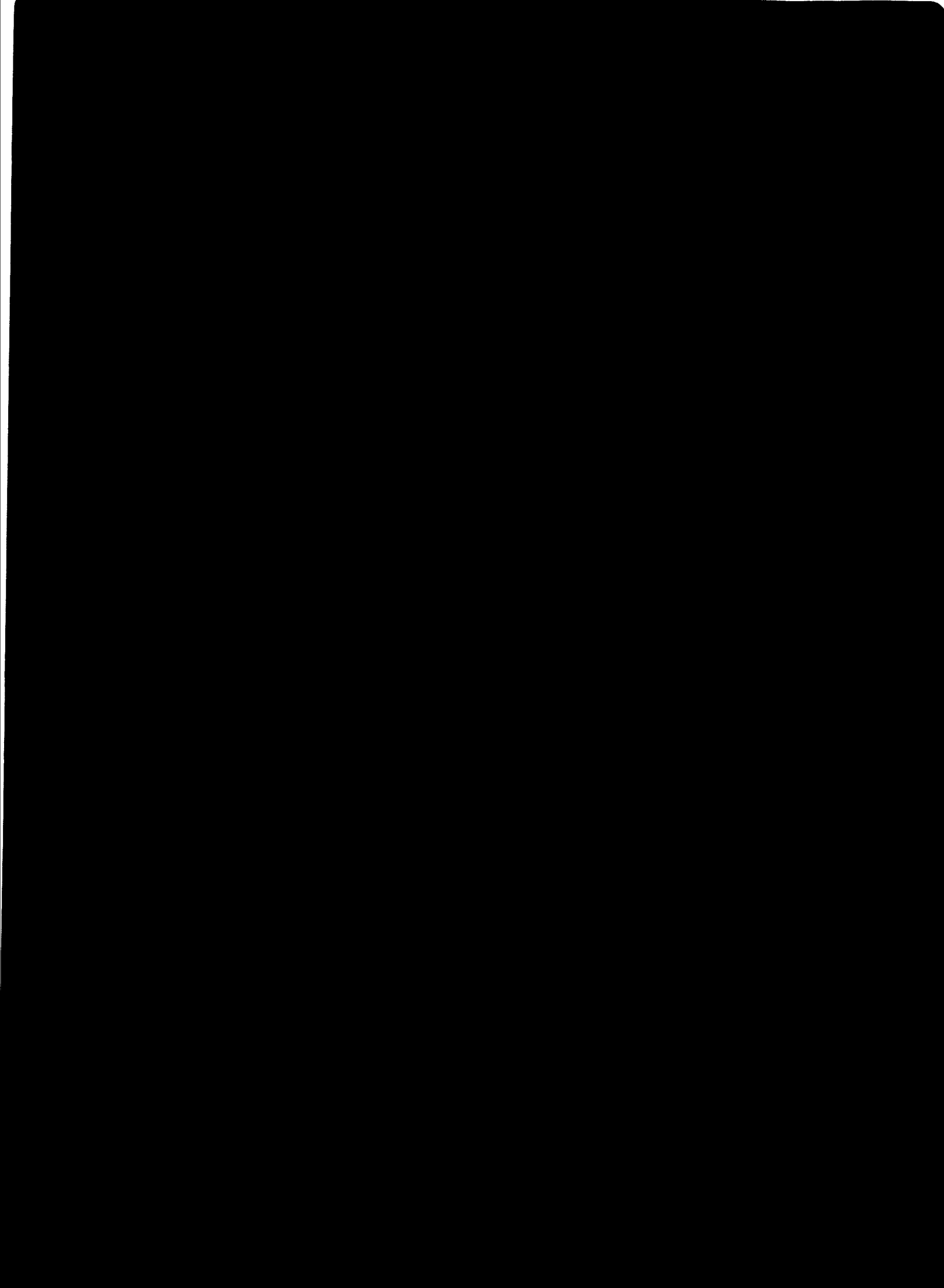
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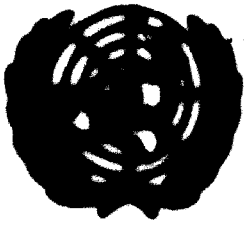
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**Meeting of In-Plant Group  
Training Directors**

**Manchester, British, 6 - 20 September 1976**

**WORLD IN-PLANT TRAINING PROGRAMME  
GENERAL REPORT FOR  
PROGRAMME DIRECTORS**

**Guidance Manual for  
Programs Directors**

This manual has been prepared by a number of present and former directors of UNIB In-Plant Training Programmes with the hope that it may provide help and information on the running and control of programmes to future Directors.

Edited by

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December 1973

0711

Appendix I-A  
(Page 1)

Budget Summary

<u>Expense Budget</u>		<u>Per and Daily Living Cost</u>	<u>Travel Cost</u>
1. Programme Director and Staff		.....	.....
2. Speakers	no. ....	.....	.....
3. Participants	no. ....	.....	.....
		<u>.....</u>	<u>.....</u>
Total 1 - 3 :	..... -	..... +	.....
4. Equipment	.....		
5. Miscellaneous	..... +		
	<u>.....</u>		
Total 1 - 5 :	.....		
Follow up (if any)	..... +		
	<u>.....</u>		
<u>Grand Total</u>	<u>.....</u>		

BUDGET ESTIMATEDateUNIDO IN-PLANT TRAINING PROGRAMME FOR .....(subject)Programme Cost Calculation (20 participants, 10 weeks)FEEs FOR DIRECTORS, LECTURERS, INSTRUCTORS

- Programme director, 6 weeks at x p.w.
  - Administrative director, 14 weeks at x p.w.
  - Secretary, 8 weeks at x p.w.
  - Lecturers, 30 days at x p.d.
  - Instructors, 60 days at x p.d.
- (where x is the salary per week/day in local currency)

Preparations

- Programme director, 4 weeks at x p.w.

TRAVELLING COST AND EXPENSES

- Travelling cost, management
- Travelling cost, lecturers and instructors
- Daily allowance, management
- Daily allowance, lecturers and instructors

PARTICIPANTS' COST

- International travelling 20 x y
  - Freight cost for training material 20 x y
  - Subsistence allowance
  - Group travelling in Host Country
- (where y is the amount estimated per person in local currency).

MATERIAL FOR TRAINING

- Lecture Notes 20 x y
- Binders, note paper, pencils, etc.
- Printing of reports, case studies, etc.
- Rent of lecture rooms and equipment
- Telephone, postage, etc. outside the office

SOCIAL COST

- Opening and closing dinners, 20 x 2 x y
- Guest at these dinners, 10 x 2 x y
- Social evenings, sight-seeings, etc.

MISCELLANEOUS

- UNIDO staff travel
- Unforeseen cost (contingency allowance)

Example of more detailed cost items

Cost items related to the Preparatory Stage

1. Man-hours/days
  2. Course Secretariat
  3. Travels and Communication
  4. Visual-aid Materials for Speakers
- 
1. Man-hours/days (time spent by Programme Director and Staff)
    - 1.01 - preparing outline and detailed course programme
    - 1.02 - recruitment, co-ordination, guidance of speakers
    - 1.03 - editing the "papers" of the speakers
    - 1.04 - selection of the participants
    - 1.05 - design course book (cover, lay-out etc.)
    - 1.06 - arranging for board and/or lodging for participants
    - 1.07 - making arrangements for teaching accommodation
    - 1.08 - making arrangements for in-plant training (industry)
    - 1.09 - preparing guiding information for participants
    - 1.10 - meetings with staff, UNIDO, sponsoring organisation etc.
  2. Course Secretariat
    - 2.01 - time and materials to finalize all papers concerning the theoretical, in-plant training and final programme of the course
    - 2.02 - all correspondence regarding the course
  3. Travels and Communication
    - 3.01 - travel cost (domestic) incurred in connection with activities mentioned under 1.
    - 3.02 - travel cost (abroad) e.g. for meeting(s) at UNIDO
    - 3.03 - telephone, telex, postage etc.
  4. Visual-aid Materials for Speakers
    - 4.01 - e.g. in preparation of theoretical programme:  
(re)production of transparencies, slides, flip-over etc.

Cost items related to the Implementation of the Course Programme

5. Man-hours/days
6. Speakers
7. Teaching Accommodation
8. Travels and Communication
9. Visual-aid Equipment
10. In-plant training programme

11. Participants' (final) reports
  12. Inauguration and closing Ceremonies
  13. Social Activities
  14. Miscellaneous
- 
5. Man-hours/days
    - 5.01 - guidance of participants and speakers during sessions
    - 5.02 - social guidance of participants
    - 5.03 - reading/correcting participants' (final) reports
  6. Speakers
    - 6.01 - fees
    - 6.02 - daily living cost and travel expenses
  7. Teaching Accommodation
    - 7.01 - rental of lecture room(s)
  8. Travels and Communication
    - 8.01 - travel expenses own staff during the implementation
    - 8.02 - cost of transportation for excursions and visits
    - 8.03 - telephone, telex, postage etc.
  9. Visual-aid Equipment
    - 9.01 - rent (purchase) film, slide, overhead projector(s), screen
    - 9.02 - rental of movie films, series of slides etc.
  10. In-plant Training Programme
    - 10.01 - travel cost participants
    - 10.02 - additional cost for lodging
    - 10.03 - eventual compensation for host factory o. organization
  11. Participants' (final) Reports
    - 11.01 - fees if reports are evaluated by third parties
    - 11.02 - materials involved in the final report
    - 11.03 - reproducing the final report
  12. Inauguration and closing Ceremonies
    - 12.01 - drafting and printing invitations and programmes
    - 12.02 - accommodation and hired personnel
    - 12.03 - keynote speakers and special guests
    - 12.04 - cocktails, lunches, flowers etc.
    - 12.05 - certificates (design, printing etc.)



13. Social Activities

- 13.01 - social events organized by cwn organisation
- 13.02 - contribution to participants' initiatives

14. Miscellaneous

- 14.01 - small items needed for classroom session i.e. chalk, pointer, eraser, paper and pencils, sharpener etc.
- 14.02 - Ledges and name plates
- 14.03 - air freight costs of sending participants course material and books to home country.


## Aids to Planning and Control

### 1. Planning

As said in Section 1.6, the best planning aid is that which the PD is conversant with. On the other hand, there may be some PD's who have never used some of the more useful aids, and this appendix attempts to show how some of the known techniques can be used to help plan and control an In-Plant Training Programme.

There are two aspects of the work; the initial planning of the whole project, and the control of progress in relation to the plan. Most people are aware of the type of control chart showing activities against time in the form of a bar ("Gantt" type charts), but these are not much use for showing time relationships between different activities, or how a change in one activity can affect another.

The network type of chart was specially developed some years ago for planning and controlling activities which had to meet a deadline, and in which elements were liable to change. Their use can be extended from monitoring progress to allocation of total resources. However, in this section their use will be limited to planning and control, and a simple type will be described and illustrated.

In network diagrams, an arrow  $\longrightarrow$  represents an activity within the project. Each activity has a separate arrow, and these arrows start and finish at 'nodes'  usually drawn as circles, which represent an event in time at which a particular activity starts or finishes. Occasionally, an activity occurs which is not part of the logical steps in a project, but which must nevertheless be carried out. These activities are catered for by the use of a 'dummy arrow'. (-----> ).

The first network should be as simple as possible. It should only convey the complete picture of what is to be done and how the activities are inter-related. At this stage it is best not to use a time scale.

Such a network is shown as an example at Fig. 1 to this appendix. It is not feasible at this time to mention all the possible activities (some of them may not even be known yet). Also, in the example there may be activities which are not common to everyone. (The weeks and months specified at the top do not in fact form part of the network: they are given for orientation purposes only and are based upon experience at USIB with a number of similar projects).

For practical reasons, a complete list is made of all the activities (and duration) in the network. (See 'Listing of preparatory activities as presented in the network', Page ). Each individual activity can define a number of detailed actions and items: if necessary, sub-networks can be set up to expand this.

## **2. Control**

While activities get underway, it is important to keep control over the developments, not only with respect to quality, but in terms of time as well.

One of the simpler forms of progress control is the progress chart which, again, has a complete listing of all the activities concerned.

For each activity a target date is set and for some critical or key operations also a deadline is defined at the beginning.

Note that no time scale is used here. Instead, the progress is depicted in a bar diagram. (Fig. 2).

The actual progress of each activity is measured or estimated and expressed as a percentage of the total activity.

The progress chart should be updated at regular intervals. Likewise, the first network can be used to visualise progress up to a certain date. The network in illustration 3 shows the same progress as the progress chart in illustration 2.

To give rapid information about progress to all concerned, copies, in a handy size (e.g. format A4), can be made of the original Progress Chart and Network (Fig. 3).

The above method is simple and gives a fairly direct and clear picture of the state of development or progress at a given moment.

If activities fall behind schedule, however, one cannot immediately derive from the network what the consequences will be in terms of time and co-ordination.

To overcome this problem, the first network can be translated into one that shows all activities in proportion to the time defined for each of them. (See Fig. 4).

This network is set up on the basis of earliest event time; i.e. in this way the initial 'float' for the activities concerned becomes visible.

The network suggests that e.g. eleven activities, labelled 14-15, 14-21 and 14-24 through 32, could be started simultaneously. This is correct provided that the manpower required is available. If not (and that could very well be the case), it will be necessary to shift the start of some of these activities to future dates. This, too, can be shown in the network. The initial 'float' will, of course, change accordingly.

As previously described, this network can be used to visualise the actual progress made to a given point in time.

**2. Making Control easier for yourself**

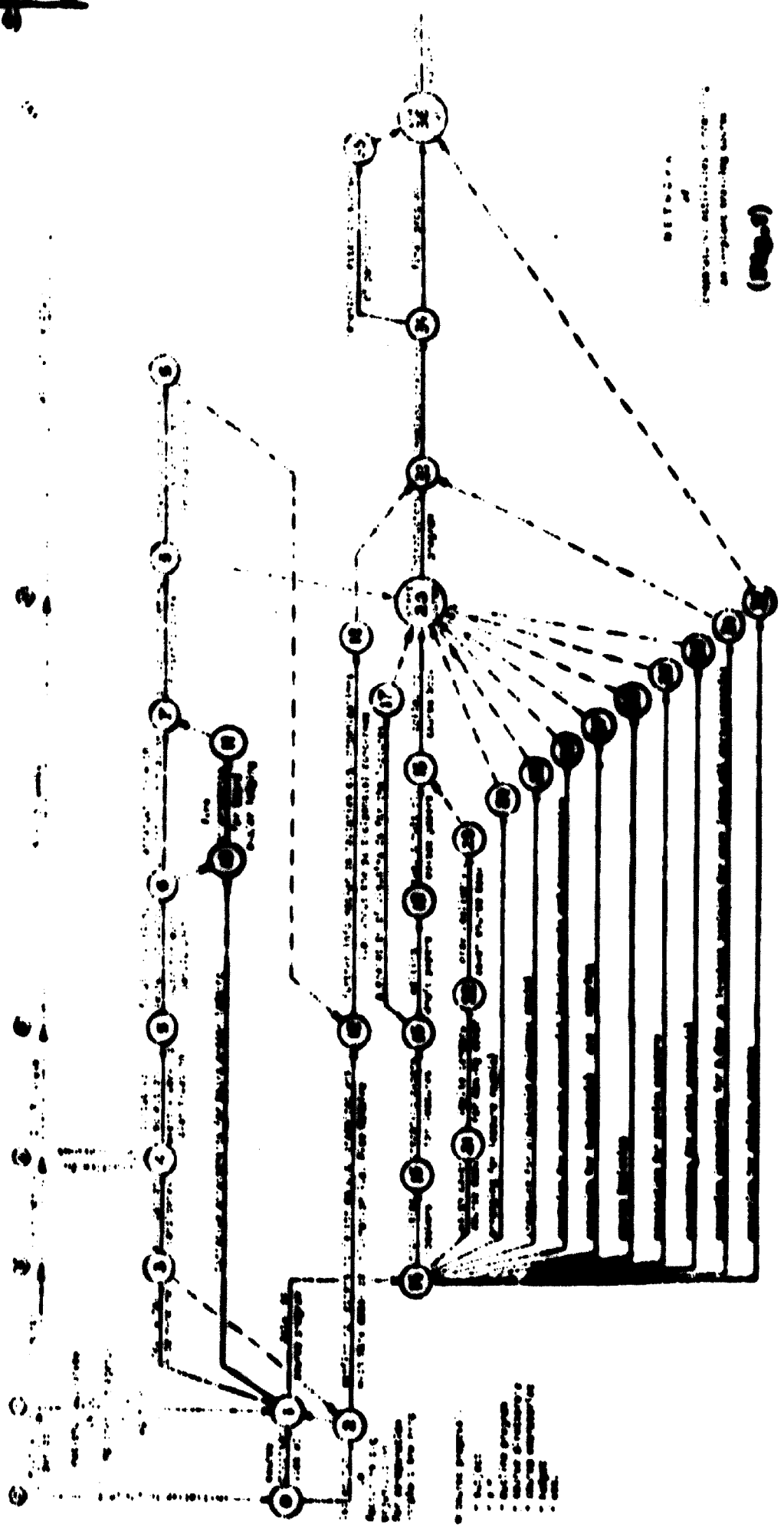
**All the elements to be controlled, many of them are able to be written down.**

**Control is facilitated by having most of the important papers continuously at hand, or, better still, on view. This can be achieved by attaching them to a fair-sized panel of softboard (approx. 1.0 x 1.5 m) which is fixed to the wall, preferably very near your desk.**

**On this softboard panel one can attach all relevant papers and documents, such as:**

- a) list of the participants and their key data;**
- b) the network presenting all the activities in the project;**
- c) the progress chart (to be kept up-to-date by your staff);**
- d) the detailed course programme and timetable;**
- e) the detailed schedule of attachments of the participants to industry during the in-plant training period.**
- f) a list of key persons in the project, etc.**

**In this way, whilst pondering on the project, talking with your staff or even during telephone conversations concerning the project, all the required data can readily be seen from your seat at the desk.**



SECRET  
 This document contains information  
 on weapons, military equipment  
 and other military matters  
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Listing of (preparatory) activities  
presented in the network

<u>number of activity</u>	<u>description</u>
0- 1	course proposal for sponsoring bodies
0- 2	1st approach to factories e.g. organizations or institutes for their co-operation in in-plant training
1- 3	preparing and mailing the Aide Memoire
1-10	tentative arrangements for board and/or lodging
1-14	preparation of detailed course program
2- 1	dummy
2-12	confirming letters to factories e.g. organizations etc. with more detailed information, i.e. Aide Memoire
3- 2	dummy
3- 4	applications by candidates for participation in the course
4- 5	tentative selection of the candidates, eventually seeking clarification
5- 6	final selection, letters of acceptance, preparing note for each participant
6- 7	arrangements with airport and immigration authorities
6-10	dummy
7- 8	arrival and briefing of the participants
8- 9	interviewing the participants, allocation for in-plant training
8-20	dummy
9-12	dummy
10-11	final arrangements for board and/or lodging
11- 7	dummy
12-13	further information to factories e.g. organizations etc., i.e. about the participant(s) concerned
13-20	dummy

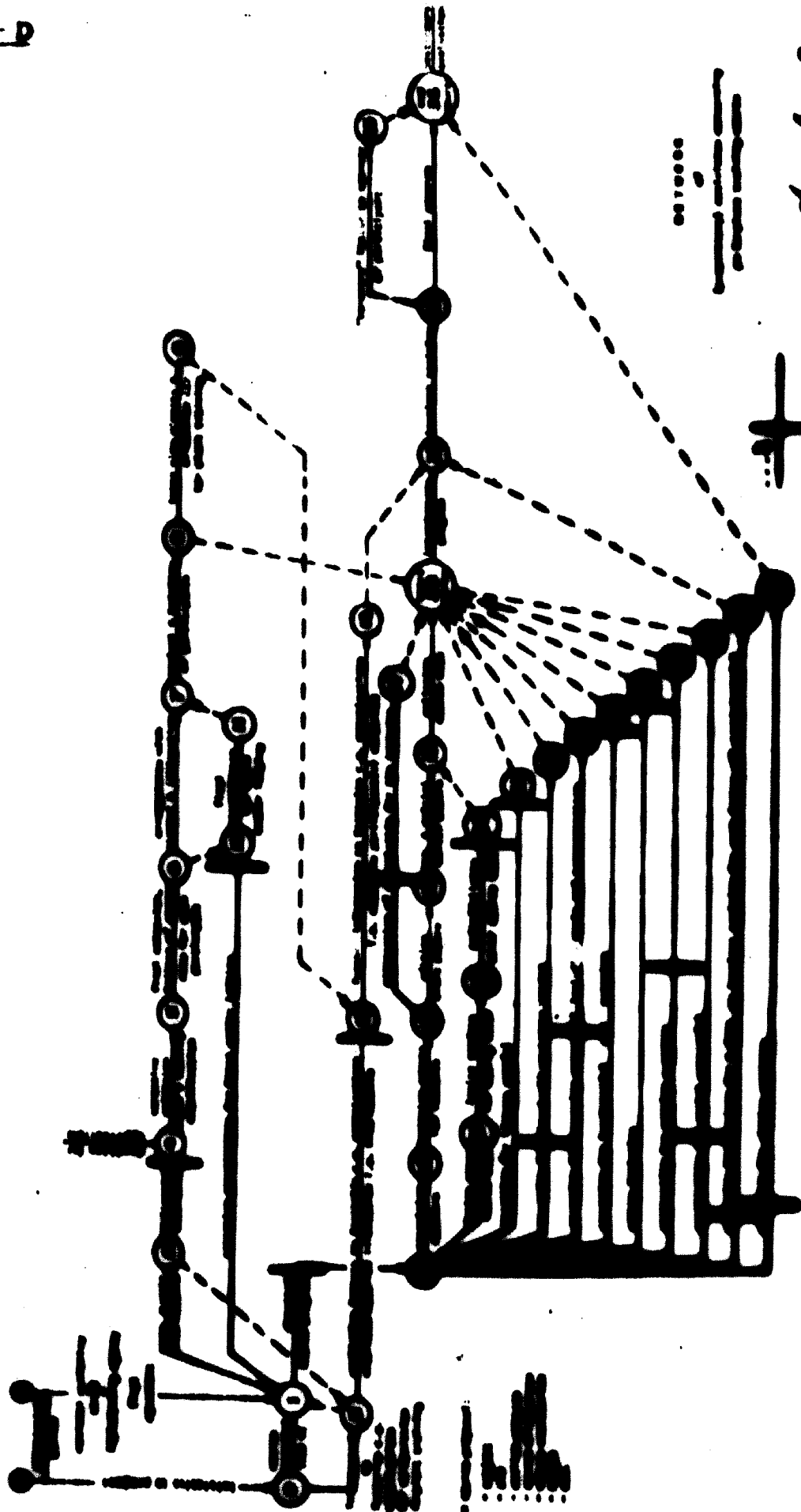
- 14-15 recruiting speakers for the lectures
  - 14-21 designing the cover of the course book
  - 14-24 arranging for the necessary lecture room(s)
  - 14-25 arranging for the visual-aid equipment needed
  - 14-26 arranging for excursion program(s), including meals and transportation
  - 14-27 arranging for lunchroom(s) and catering for the introductory and final programs
  - 14-28 course logistics: the whole body of small but nevertheless important items and physical arrangements that too often are forgotten or neglected
  - 14-29 preparation for the opening ceremony
  - 14-30 arrangements for social program(s)
  - 14-31 preparing instructions and data on the in-plant training itself for each (group of) participant(s), also instructions concerning travelling and contacting certain persons and offices
  - 14-32 preparation for the closing ceremony
  - 14-33 dummy
  - 14-34 dummy
  - 14-35 dummy
  - 14-36 dummy
  - 14-37 dummy
  - 14-38 dummy
  - 14-39 dummy
  - 14-40 dummy
  - 14-41 dummy
  - 14-42 dummy
  - 14-43 in-plant training: the actual practical training
  - 14-44 "re-entry" letters to the sponsors of the participants
  - 14-45 final program
- end

PROGRESS CHART

number of activity	description of activity	accomplishment					target date	completion date	remarks
		20%	40%	50%	80%	100%			
0-1	course proposal								
0-2	1st approach to factories etc.								
1-3	prep. & mail Aide Memoire						8/7		
1-10	tent. arrangements board/led ing						7/28	1/10/50	
1-14	prep. of detailed course program						7/28		
2-12	confirmation letters to factories						8/2		
3-4	applications by candidates						8/2		
4-5	sent. selection, event. clarific						10/6		
5-6	final selection, letters, etc.						7/6	1/10/50	
6-7	arr'ments airport & immigration						10/6		
7-8	arrival & briefing participants						10/6		
8-9	interview p'ants, allocation						10/6		
10-11	final arr'ments board/lodging						9/1	1/10/50	
12-13	info about p'ants to factories						10/6		
14-15	recruiting speakers						10/6		
14-21	design cover of course book						10/6	1/10/50	
14-24	arranging for lecture room(s)						10/6		
14-25	arranging visual-aid equipment						10/6		
14-26	arranging excursion program(s)						10/6	1/10/50	
14-27	arranging luncheon & catering						10/6	1/10/50	
14-28	source legislation						10/6	1/10/50	
14-29	preparation for opening ceremony						10/6	1/10/50	
14-30	arrangements for social program						10/6		
14-31	instructions in-plant training						10/6	1/10/50	
14-32	preparation for closing ceremony						10/6	1/10/50	
15-16	preparing papers for lectures						10/6	1/10/50	
15-17	prep. visual-aids for lectures						10/6	1/10/50	
15-18	editting draft papers						10/6	1/10/50	
15-19	imp. & multipl. edited papers						10/6	1/10/50	
19-20	collation course book						10/6	1/10/50	
20-21	introductory program							10/6	
21-22	lecture papers for multipl. sessions						10/6	1/10/50	
22-23	order/submitting course material						10/6	1/10/50	
23-24	in-plant training							10/6	
24-25	"pre-plant" lectures to speakers						10/6	1/10/50	
24-26	final program							10/6	

Updated: *[Signature]*





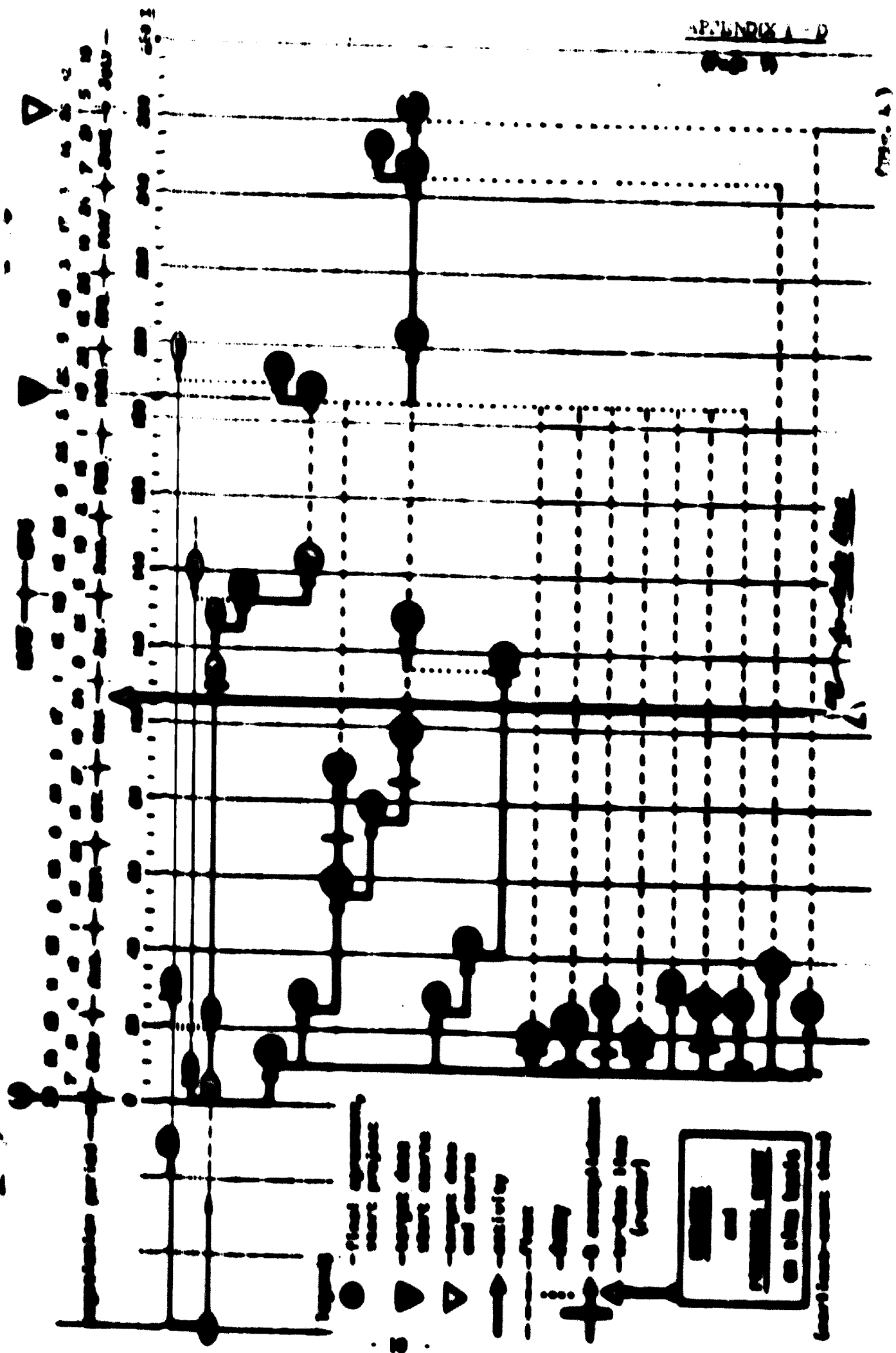
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### Introduction

An in-plant group training programme, as the term is used here, brings together graduate engineers and technologists from developing countries who are working in industry at the middle management level. The programmes aim to up-grade their technical and managerial skills by designing a course of training based on attachments to relevant industries (hence "in-plant") in industrialised countries and supplementing this with theoretical and pilot-scale studies and visits to industrial and research organisations. The programmes are organised by a Programme Director from the country offering the training.

Taking charge of an international training programme for the first time is a formidable task. Though all Directors of such programmes already have considerable knowledge of the principles of training they are often meeting the problem of dealing with an international group, or even arranging industrial attachments, for the first time. The United Nations Industrial Development Organization sponsors about 20 such training programmes and the present or past Directors of these are an obvious source of advice to the newcomer. At a meeting in Vienna in 1974 a group of Directors decided to write a guide to the organisation of in-plant group training programmes and, after subsequent meetings in England (1974) and in Sweden (1975), this book was produced.

Though this manual is based on the experience of Programme Directors of UNIDO in-plant group training programmes, much will be relevant to organisers of other similar courses. It has been compiled from the combined experience of the following people, together with information provided by them and their organisations:

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Layout of the Manual

This manual is divided into seven sections which as far as possible, follow a chronological sequence.

The sections are numbered with Roman numerals, which are also used for the corresponding appendices at the back of the book. Each section starts with a table of contents, listing each subject with an Arabic numeral and each appendix with the Roman numeral and a capital letter.

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I-D	Aids to Planning and Control

1. The Basis of the Decision to Arrange an In-plant Group Training Programme:

Most of this manual describes the detailed planning and execution of a training programme but, before this stage is reached, it is important for everyone concerned to consider whether there is a need for such training and how it can best be met.

The purpose of an international In-plant Group Training Programme for developing countries is, as for any training programme, to satisfy an identified training need. The identification of the need for a particular programme requires the consideration of a number of factors:

- a) The needs of developing countries and how these are being met, or could be met, by industrial development.
- b) The manpower needs of industrial development and the deficiencies in training personnel.
- c) Existing training resources and the areas of training not covered by these resources.
- d) Which of these training needs could be met by in-plant group training programmes in a more developed country.
- e) The order of priority of the possible in-plant group training programmes.

Ideally, these factors should be considered jointly by UNIDO, the host countries and the developing countries.

Once the need for an in-plant training programme has been clearly identified, final agreement for the programme will be reached when UNIDO and the host country are satisfied with:

- a) the subject of the programme;
- b) the objectives and scope of the programme;
- c) the budget;
- d) the cooperation that the industry in the host country is prepared to offer (see also Section IV.3 - "Approaches to Plants").
- e) the suitability of the Programme Director.



## 2. Programme Staff:

When an In-plant Training Programme is to be run in a host country on behalf of UNIDO, an individual from that country is nominated as the Programme Director (afterwards in this Manual shown as 'PD'), who, in liaison with the component UNIDO Officer(s), becomes responsible for the entire running of the programme in his or her country. In some cases, responsibility is split between an Administrative Director, who becomes responsible for all the organisational activity required to set up and run the programme and the Programme Director, who is then responsible for the academic and practical aspects of the training agreement with the UNIDO requirements and liaison on evaluation, etc.

In this manual, it will be assumed that the PD carries full responsibility for the whole programme, and the use of the term includes any administrative director as applicable.

The PD must have reliable support staff. The division of functions as above may vary from programme to programme, but support is essential for the running of a successful programme.

The PD's staff should, if possible, be introduced to the participants on the first day, and should be prepared to give information and advice on all local matters, such as conditions, climate, shopping facilities, transport, conformity with local traditions, and the many other and varied problems and questions that arise, particularly during the early part of the programme.

The PD or a member of his staff should be present at all sessions and group visits:

- a) to provide stability and a sense of continuity to the programme and participants;
- b) to promote and guide discussions;
- c) to deal with unexpected problems as they occur, for example, failure of equipment, sudden illness, etc.

The PD should be aware of the developing relationships within the group, and be able to use these constructively.

3. Cost Calculation and the Budget:

The final Agreement between UNIDO, the host country involved, and the Agency that will implement a particular In-Plant Training Programme is based, among other things, upon the budget for the project.

The budget is therefore, one of the earliest matters to be considered, starting during the pre-project stage. Not only is it essential for the acceptance of a programme, it provides a basis for planning and control of costs by the PD.

Once a budget has been developed and receives approval, the information should be made available to all concerned with financial control of the programme. Firstly, so that the sums required are made available at the appropriate times, and secondly, if any amendment is required because of changes of financing in the host country, rapid adjustment can be made to the budget estimates.

Several examples are given in Appendices I.A-B-C of the way a budget can be developed; there is a relatively simple format which has proved adequate at the pre-project or negotiation stage, and a more detailed form which breaks down the cost into specific items.

These examples are given only as a guide; there are a number of different ways in which programmes are funded, depending upon the allocation of funds between sponsors, UNIDO and host country Governments, and the actual form of budget in each case will be an individual matter.

4. Language and Communications:

Good communications between participants and:

- a) instructors, lecturers, tutors and programme staff;
- b) other participants

is essential if the programme is to be successful. A common language is very important. Greater difficulties have to be overcome if the language of the programme is not the language of the host country.

The Selection Panel, consisting of the UNIDO staff and the PD, will ensure that only those candidates with an adequate knowledge of the programme language will be offered a place. Where this is not the language of the host country, the Aide-Memoire may advise participants to acquire at least an elementary knowledge of the language of the host country before leaving home. The PD should emphasise the usefulness of this in any information he sends to the participants.

One way in which difficulties can be lessened in such a case is to send or prepare for issue a basic vocabulary to all participants. This will give them translations of common words, notices, signs, terms in use for common items of food and drink, postal, shopping and transport information.

The PD should also consider how much time, if any, he should devote to formal language instruction after the participants have arrived, and plan for this in the timetable. This may include some study of the host country language, where appropriate.

In some countries the programme language may be a second language of that country, spoken by a fairly large proportion of the population. In such cases, training in the host country language can be left out, limited to the simple vocabulary referred to above - or made optional.

It is useful to include, very early in the programme, one or more sessions on basic technical terminology - which also helps to familiarise participants with the use of the programme language.

Lecturers should have an easy command of the programme language. (See also under Section III.7).

If lecturers are not available in the programme language, simultaneous translation may be used, but this is tiring for participants and reduces communication. Where possible, interpreters should have technical knowledge of the subjects of the programme and the PD should arrange for lecturer and interpreter to meet before the lecture is given so that they can discuss any problem of terminology. In some circumstances simultaneous translation may be desirable at the beginning of the programme, but can be discontinued when participants become familiar with the language of the host country.

Language problems may become particularly difficult during the attachment to industry periods, and this is dealt with in detail under Section IV-2.(c) "Language Problems".

Good communications between members of the programme are vital and must be positively developed by the PD. In promoting this communication, the PD should:

- a) Recognize that differences between national groupings can be less important than differences between individuals.
- b) Form sub-groups for work activities based sometimes on common interests and sometimes on diversity - for example, to break up any tendency to form national or regional groupings.
- c) Use role-playing simulations to create better understanding.

The PD should always remember that a large part of the benefit of any industrial training programme comes from the interaction of the participants. A group of people with common interests from widely different cultural backgrounds and educational attainments will have a lot of useful information to exchange with each other, to the benefit of all, in entirely informal conversation. Do not keep the participants so busy that they have no opportunity to make these informal links; at the same time make every effort to see that communication can exist between participants.

Wherever possible, try to ensure that members of religious groups are given information about places of worship where these exist. Sometimes religion involves a particular diet, and every effort should be made to comply with the participants' wishes. At the same time, it will be found that many participants are often willing to modify the requirements of their own religion or countries' practices in order to conform to the mores of the host country.

5. Programme Planning:

In designing a programme, the parties concerned have to decide how it should be divided between the different aspects of the work, i.e. 'theoretical content', practical work, industrial visits, etc. This division may be different for different types of programmes, and will be agreed at the project stage between UNIDO and the PD.

Some examples of the different allocation of time for various past programmes are given below. (All figures are in weeks).

	Quality Contr.	Elect. Ind.	Paint.	Design Engineers	Fruit and Veg. Proc.	Ind. Eng'g.	Materials Handling	Research Managem.	
Introduction	1	1	1	2	1	1	1**	1	**indicates a combination of the two areas so marked in a programme
Theoretical	5	4	5	1	4**	7**	2**	6**	
Inplant	2	5	2	6	4	5	6	4	
Visits to Ind.	1	1	1	2	**	**	1	**	
Laboratory Training	-	-	-	-	2	-	-	-	
Final Seminar	1	1	1	1	1	2	2	2	

Note these are total times spent on different activities, and do not necessarily represent the sequence of events. For example, a Theoretical period of 5 weeks might be broken into separate portions of 2 and 3 weeks occurring at different times in the total programme. If the theoretical content is likely to be longer than three weeks, it is essential to break it in this way, to prevent overloading the participants with too much information at one time; also it is better than they should see the relevance of some of what has been imparted, in a practical situation, before being taken further into the theory.

6. Planning and Control Aids (See also Appendix I-D)

Preparation for, and implementation of, an in-plant training programme is a very complex matter. Even organisations used to running courses will find that it is not just another course, and needs very intensive preparation and planning.

A large number of activities are involved in preparing the programme, some of them starting as much as a year before the programme commences. Not only are these activities widely different in nature, duration and skills required, the bulk of them are interrelated. This means that it is often difficult to deal with all of them independently.

With this in mind, it is essential that the PD should have complete control over the forward planning of the programme, and the objective of this section and its associated appendix is to offer some suggestions how this might be done.

The best planning aid of course, is the one that the PD is personally familiar with, but some formal method of relating events to each other and the passage of time is essential.

Before any planning aid can be brought into use, there are a number of points to be considered, such as:

- a) A thorough analysis of the whole project from the beginning-
  - i) what activities are to be undertaken;
  - ii) how they are interrelated;
  - iii) how much time they require and when they should start;
  - iv) the staff required and when needed.
  
- b) Complete control during the preparation and implementation. To facilitate both analysis and progress control of the project, a number of tools can be used -
  - i) a general Network showing all the activities and their interrelationship (app. I.D. Fig. 1);
  - ii) A Progress Chart to convey the degree of progress at any point in time (App. I.D. Fig. 2);
  - iii) a general Network used for the same purpose (App. I.D. Fig. 3);
  - iv) A Network of the activities on a time basis, also for use as a Progress Chart (App. I.D. Fig. 4).

**SECTION II - Setting Up an In-Plant Training Programme**

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**Appendices:**

- II-A UNIDO Aide-Mémoire
- II-B.1 UNIDO Fellowship Nominations Form
- II-B.2 Annex to Fellowship Nominations Form
- II-C UNIDO Notes for Participants
- II-D Note for Participants by Host Organisation



1. The Aide-Memoires

After initial agreement between the host country and/or organisation accepting a programme, a document of intent, known as an 'Aide-Memoire', is prepared jointly by the proposed FD and UNIDO staff. This is the key document used in setting up the programme and goes out to Resident Representatives of the UNDP in selected developing countries for dissemination to industries and other organisations interested in submitting candidates. Copies are also sent to the FD who may at his discretion, send them, for information only, to known organisations in the agreed developing countries.

Information included in the Aide Memoire covers:-

Date, place and organisation running the programme in the host country.

Description of the training objectives, in general terms. Detailed objectives of the specific training programme, included in which are the particular aims in the home country of the participant or of the particular industry in that country.

A description of the programme content, showing how it is built up and its division into theoretical studies, in-plant work, study visits or whatever has been agreed.

Admission requirements of participants, including language abilities. (No distinction is drawn between men and women when considering candidates).

General conditions of participation.

Financial and administrative arrangements.

The countries from which participants are to be drawn are selected primarily by UNIDO working with the host country, and will differ from programme to programme, depending for example, on the development of a particular industry in the selected countries, the language of instruction, etc.

An example of a typical Aide-Memoire is attached as Appendix II-A.

2. Recruitment and Nomination:

As a result of the distribution of the Aide-Memoire in the developing countries, candidates for In-plant Training Programmes from firms, agencies and other organizations are put forward through the country's Government channels to the resident UNDP representative. These candidates are required to fill in the standard UN Fellowship Nomination Forms, which are of a very general nature. In addition, a questionnaire has to be designed specific to the programme, and, completed by candidates, submitted together with their Nomination Form (Examples of both as Appendices II-B.1. and II-B.2).

The Aide-Memoire will give the admission requirements, and particular importance is placed on:-

Educational background.

Practical experience in the field concerned, and length of time the candidate has been employed therein.

Present position in his or her organization, giving duties and responsibilities.

In certain cases, age limits or brackets will be laid down.

In stating the required educational background, only a general indication can be given (e.g. minimum B.Sc. in Engineering) but attempts should be made to be as specific as possible, perhaps by describing the branch of engineering in the example (i.e. Civil, Mechanical, Electrical), as degrees in different countries are often not comparable. An alternative is to offer an equivalent qualification, particularly where the candidate has considerable professional experience in the field of work, to allow some flexibility in selection.

In stating professional experience in the field, it is not sufficient to give the number of years which the candidate has been engaged on the work, it should also show the positions he or she has held during that time, and in the case of a wide ranging

technology, what particular areas he or she is conversant with.

Candidates should be encouraged to be as precise as possible when describing their positions and duties, i.e. 'food technologist in charge of quality control laboratory' rather than 'engineer, employed in food processing industry', or 'engineer in charge of metal cutting operations, including design, selection and operation of machine tools', instead of 'engineer in charge of metal cutting operations'.

The more clearly the position is defined, the easier the selection. An inadequate description could lead to the rejection of a candidate who might be otherwise acceptable.

The nomination of candidates to UNIDO will be made through the UNDP Resident Representative. After submission of the nominations to UNIDO Headquarters, final selection of candidates is made by UNIDO in liaison with the PD, and sometimes the sponsoring agency. Before this final selection of candidates takes place, the PD must satisfy himself that certain conditions can be fulfilled. In making these decisions, some of the factors that must be considered are:-

The ideal group for these programmes seems to be about 15-20, but this may depend on the group breakdown and particular programme.

Check particularly that the language of the programme is totally acceptable by all candidates: failure in this respect will not only reduce the effectiveness of the programme, but create additional problems.

Make sure that the industry in the host country can accept the projected number of candidates before acceptance.

Try to keep a good balance of participants geographically and technically.

Make sure that the same selection criteria are applied equally to men and women candidates.

Try not to change the admission standard, even if this reduces the number of candidates to less than the ideal.

The Notes for Participants may be regarded as 'joining instructions', and are a minimum source of information for attendance by participants. Some host countries are prepared to send out supplementary information in addition, although this may depend on the time available between selection and joining. (Example of Notes for Participants at Appendix II-C.)

3. Time Scales:

The time-scale on which the implementation of a programme is operated may depend on a number of factors which are not always predictable: these can range from the availability of funds to the ability of the PD to organize the programme in a particular industry in the host country. (For example, a PD should never accept more candidates than he knows he already has acceptance for).

Nevertheless, experience has shown that certain minimum times exist for some activities, and the following scale should be regarded as a guide. (See also Section I.6. on Planning).

<u>Optimum</u>	<u>Minimum</u>	
1 month		Agreement UNIDO/PD/Host Govt. Sending out Aide Memoire and nomination papers.
6 months	3 months	Recruitment: circulation of information in developing countries. Nomination Deadline for submission
3 weeks	2 weeks	Selection and ruling clarification. Selection and acceptance of candidates (Notification by cable)
10 weeks	6 weeks	Travel arrangements made. Start of programme

4. Participants' Joining Arrangements:

Make sure that when the letter of acceptance is sent out it is in a form that will make it possible for the host country to issue a visa for the participant, if this is necessary. Ensure that UNIDO has an agreed 'start date' so that every participant will be

certain to be in the host country by that time. As UNIDO has to arrange travel through an agent, make certain that if specific airlines are to be used, this is known to all concerned. (For example, the country's national airline may not have a through service to the host country, whereas another airline may have; such transit changes may result in arrival delays).

If possible, the host country should be able to send information to participants about the arrangements made for their reception in the host country before they depart. An example of such special notes for participants is included at Appendix II.D. Particular attention must be paid to the addresses given by participants if this course is taken: it is advisable to send this information to the mailing address, with a copy to the participants' home address as well. Where time does not permit this arrangement, or it is not possible for other reasons, this detailed information can be left at the information desk at the airport of arrival. (But see also 5 below).

5. Arrival of Participants in Host Country:

It is very important that participants are well taken care of from the first moment of arrival, as their first impressions of the host country are very likely to have a direct bearing on their attitude to the programme.

The participants should be asked to arrive in the host country a few days before the commencement of the programme, in order to allow for recovery from 'jet-lag' and acclimatization. For example, if the official commencement of the programme is on a Monday, the participants should be instructed to arrive the previous Friday or Saturday.

Arrangements must be made for the participants' country or organization to notify the PD (or receiving organization where this is different) by teleprint or cable at least three days in advance of arrival, giving flight number and expected arrival time. (In some countries this may require despatch of the cable earlier than three days).

If the airport is sufficiently compact to allow of the arrangement, it is advisable for someone from the PD's staff to be present at the airport to meet and welcome the participants. If this is not possible (such as Heathrow, London), then the participants should have adequate instructions either sent in advance, as above, or by flight announcement on arrival, to enable them to meet welcoming representatives, or to obtain the further information they require from airport information desks. Any such information provided at the airport should be placed in a sealed envelope with the participants name and country clearly marked, together with the address of the welcoming organisation or PD, and telephone number. If possible, the airport arrival information service should be asked to notify if the participant fails to arrive on the advised flight.

Such information should be very explicit, and written in the simplest possible terms, to avoid misunderstandings. If the language of the programme is different from that of the host country, then an explanation should be given of any notices or signs which they are likely to need to find their way about the airport. Similarly, if the participants are to be met, clear instructions should be given about identification of the programme representatives.

Any written instructions awaiting the participants at the airport must contain detailed travelling instructions from the airport to where their accommodation is, together with a small sum of money in the country's currency, sufficient to cover the transportation fare to the accommodation plus, say, a cup of coffee or tea. (Not every participant will arrive with a supply of currency of the host country, and in some countries there are exchange difficulties).

Do not rely on the fact that instructions have been sent direct to the participant, unless an acknowledgement has been received. It is better to duplicate information at the airport of arrival, than to have participants losing their way.

If possible, notify passport control and immigration authorities about the arrival and purpose of the participants' visit. There are sometimes political or other reasons which can cause frustrating delays between countries.

6. Accommodations:

At their hotel or hall of residence the participants should find more information about their host country. (Maps, places of entertainment, local transport, etc.). This kind of material is often freely available from the national tourist offices. There should also be further instructions about the first meeting with the programme staff, who should contact the participants as soon as possible after arrival.

It is advisable to accommodate all the participants together, and within easy reach of the place of instruction. This will not only make control easier, but will enable them to get to know each other more quickly.

The accommodation should be comfortable but within the financial range of the participants. Whenever possible, single rooms should be provided, with essential services (bath/shower/toilet) either en suite or close by.

If possible, there should be a room which may be used in common, as a sitting room, TV room, or for informal meetings, and which is exclusively for the use of participants, in addition to any rooms which they may share with others.

Make certain that the method of payment for accommodation is clear - whether they are required to pay individually from stipends, or payment is made from central funds. Make clear what the payment involves, i.e. meals, etc. and no drinks included.

It should be made clear to the participants if they are expected to stay at the accommodation arranged for them. If, in spite of this, they move to other accommodation, they must be made

aware that they will be responsible for all additional expenses, and will not receive any refund of the cost of the officially arranged accommodation.

7. First Meetings:

An informal meeting should be arranged for all participants soon after their arrival, the aim being to introduce them to each other and to the programme management. For example, they could meet on a Saturday morning if the programme begins on the Monday, and this may be followed by a second meeting on the Sunday.

In order to weld the participants and the course management into a team as early as possible, it is an excellent idea to embark on a social programme during these first two days. This could be a tour of any city or area they are living in, with a guide who can identify places and landmarks. They should also be allowed some free time.

Other information which will be useful to them during their stay can be made available at this time, such as postal rates, banking instructions, Embassy addresses, excess baggage rates, local transport charges and routes, etc.

The PD and his staff should make every effort to get to know each participant individually during these first few days. Any general or personal problems should be discussed, special food requirements arranged for, or any difficulties resolved. If such matters are not attended to at this time, they can often grow into major problems at a later date. At the same time the directing staff should be assessing the participants with a view to their industrial attachments, and in some cases, could begin discussions on this subject.

8. Programme Inauguration:

The commencement of the programme should be opened in a more or less formal manner. For example, the senior person in the



organization or some suitable industrial or political personality could welcome them officially to the programme. This could be followed by a simple reception, preferably not in the same area in which they will be working.

The next stage should be to inform the participants about the objectives of the programme, and the broad outline of the plan. If it is being held in a large institution, a quick tour of other departments and areas would be worthwhile.

Formal introduction by the programme management should be followed by each participant giving his or her professional background, job occupied, etc. Any additional general information which the programme management finds necessary for participants may be given at this time, i.e. a short history of the country, labour relations, political or economic systems, etc.

A Welcome Lunch or Dinner could be held on one of the first days, at which representatives of participating organizations could be invited to attend. However, it is recommended that efforts in this direction should not be greater than can be maintained over the whole programme.

#### 9. Social and Cultural Programme:

The social programme will depend to some extent on the funds available, but a lot can be done in this most important aspect without spending too much money; it helps to integrate the group; provokes greater interest in the programme, and can contribute greatly to an understanding of the host country; as well as helping to solve the sometimes difficult spare-time problem at weekends.

Social activities which can be easily arranged include sight-seeing tours, visits to places of historical or cultural interest or technical achievement; local or national clubs, sporting activities.

Another activity which has proved successful is to arrange some period or evenings during which each member of the programme gives a short talk, preferably illustrated with slides, etc., about his or her own country, its history, traditions, industries, etc.

If the PD is in a position to send out the information referred to in paragraph 4 of this section, a note could be included to encourage participants to bring any records, slides or small musical instruments for such an occasion.

As the programme develops, it is better to let the participants make their own collective decision about how much or how little organization they would like on the social side, so long as they have the feeling that interest in, and support of, their needs is available.

**SECTION III - The Theoretical Part of the Programme**

This term is used to describe all those technical parts of the programme which are not arranged as plant visits and in-plant attachments. It includes lectures, discussions, group and individual exercises, simulations, "games", etc.

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1. Content:

The content of the theoretical part of the programme must be based on:

- a) The objectives of the total programme.
- b) The participant's "profile".
- c) The theoretical knowledge needed to support the industrial attachments.
- d) The need, if any, for language training.
- e) The PD's previous experience.

Whatever the major subject, it is important to include, in each programme, sessions on:

- a) Management and industrial relations, e.g. motivation, group behaviour, leadership, supervision, participation, resistance and adaption to change.
- b) Training techniques and how to transfer knowledge. Every participant must be regarded as somebody who, on returning to his or her country, will pass on much of what he or she has learned.
- c) The problems of the transfer of technology and how technological innovation must be related to local and world needs.

2. Planning:

When planning the theoretical programme, the PD must consider:

- a) The time needed - and the time available.
- b) The most suitable training methods.
- c) How long to devote to each session.
- d) How many sessions per day.
- e) How many speakers to use in each programme.
- f) How to maintain interest at difficult periods during the day, i.e. after lunch or in the evenings.

The programme plan should be flexible and should be capable of some modification after contact with the group of participants in the first one or two weeks.

After the first programme, subsequent ones will take account of previous successes and mistakes, but the FD must be prepared for different preferences in subsequent groups.

Earlier successes may become failures and vice versa.

### 3. Training Methods

The emphasis must be on the active participation of all members of the group in all parts of the programme. In the initial stages it may be more difficult to develop this participation within an international group than with a national group, and a positive effort by the FD will be needed. One of the most important jobs of the FD is to encourage the involvement in the programme of all the participants.

Group work based on problem-solving exercises should form an important part of any programme. Games and simulations, case studies and project work - in small teams - provide excellent methods of ensuring that all participants become actively involved and also help to break down any initial barriers between them.

Lecturers should be encouraged to use an informal style of presentation, taking questions and comments as they arise. The lecturer - and the FD - should try to develop a two-way interchange of ideas rather than have a group which is "lectured at". Good personal contact, in a relaxed atmosphere, between instructors and participants is of decisive importance for the success of the entire training programme.

### 4. Teaching Aids

- a) Keep teaching aids as simple as possible. Make sure that a chalk board and chalk, or something equivalent, is available.
- b) Remember that very sophisticated aids may:
  - i) Create more interest in the equipment than in the lecture.
  - ii) Make participants think that these aids are essential

for satisfactory teaching - even though they may not be readily available in the home country of the participant.

- e) Never encourage a speaker to use an aid with which he is not familiar. Do not allow complicated equipment to put the lecturer - or the PD - in a strait-jacket; these devices are intended as aids - not as a strait-jacket.
- d) In addition to a chalk board, the following teaching aids may be useful:
  - i) Magnetic board, flannelgraph or flip chart.
  - ii) Overhead projector.
  - iii) Slide projector.
  - iv) Film projector (or video tape recorder).
  - v) Tape recorder.
  - vi) Closed Circuit Television (CCTV).
- e) Remember that elaborate aids are no substitute for a good teacher.

##### 5. Teaching Accommodations:

The main teaching room should be chosen to provide comfortable working conditions conducive to concentrated study by the participants. The PD should pay particular attention to:

- a) Size - appropriate for the group, neither too small nor too large, and adaptable for different seating arrangements.
- b) Temperature and ventilation - especially when the room is darkened for slides or film projection.
- c) Noise - both from outside and from within the building itself.
- d) Lighting - must be readily controlled for showing of slides, films, etc.
- e) Chairs and tables - comfortable seating (without being sleep-inducing) and adequate desk/table space for papers, folders, etc.

- f) A screen for showing slides, films, etc. is essential. If an overhead projector is used, a separate inclined screen is recommended. A separate projection room may be desirable.
- g) Cloak rooms and toilet facilities (including drinking water) - must be near at hand.

The arrangement of seating plays a very important part in promoting discussion and interchanges between participants. Rows of seats, one behind another, should be avoided. A U - or V - arrangement, with the open end towards the lecturer, screen, etc. is very satisfactory. A closed circle is convenient for discussions when no slides, films, etc. are being shown. Whatever the seating arrangement, a place must be provided for the PD (or one of his staff).

Smaller rooms should be available for the participants when they divide into working groups. There should be one room per group, equipped with a table around which the group members can sit. This is the ideal, though sometimes it may not be possible; in such cases, separate the groups into different parts of the same room, or use portable screens.

All rooms must have clear sign-boards. Where necessary, direction arrows must be placed to help participants find their way.

## 6. Timetable Planning

The speed of training and the depth of coverage of a subject are the two main variables which should be matched with the needs of each particular international group during the theoretical part of the programme.

Lectures should be short - shorter than for a "national" group with no language problems. The maximum length should be 45 minutes, there may be many advantages in breaking this down into sections of 10-15 minutes with a pause for questions and comments between sections.

Whatever the style of the lecturer, the timetable must allow adequate time for questions and discussion - at least 15 minutes in a 1 hour session. The PD has an important role to play in encouraging discussion, stimulating questions and relating the points made by the lecturer to earlier (and later) parts of the programme and to what the PD has learned about participants' individual interests.

The timetable should be planned to provide a 15-30 minute break in morning and afternoon teaching sessions for coffee, tea, etc., as well as the mid-day lunch break, which should be at least  $1\frac{1}{2}$  hours, preferably  $1\frac{3}{4}$ . This gives participants an opportunity to talk in an informal atmosphere to the lecturer and raise individual problems which they might be more reluctant to mention during the session. Remember that in many countries an extended lunch break or 'siesta' is the norm, and some participants will find it difficult to adapt to a European day.

When possible, speakers, especially those visiting the programme for one contribution only, should be invited to stay on for dinner and an informal evening chat with the participants.

#### 7. Selection of Speakers/Lecturers:

The characteristics to look for when selecting a speaker are that he should:

- a) have a lively and stimulating personality;
- b) have an easy and fluent command of the programme language and the ability to use simple and easily understood speech, without too many "difficult" words;
- c) avoid use of metaphors and idiomatic phrases, or extreme colloquialisms which may be incomprehensible to participants;
- d) be able to engage and hold the interest of a group with differing backgrounds;
- e) be aware of and sympathetic with the problems and



needs of developing countries and be able to see the relevance of his expertise to those needs and problems;

f) have comprehensive and up-to-date knowledge of his subject.

When selecting speakers, teaching ability is more important than expert knowledge. Never choose an expert in the subject unless you know he is also a good teacher.

The best guide to the suitability of a speaker is the PD's personal knowledge of that speaker. When he does not have this knowledge, he may be able to obtain advice from colleagues. The general reputation of a speaker may have to be used as a basis for selection in some cases but this is not always a reliable guide.

The reaction of a potential speaker to the requirements set out in the initial approach should also help to indicate suitability - but there is no substitute for the PD's personal experience. With a programme being run for the first time, risks will have to be taken - and mistakes will be made. But the second programme will be better.

In general it is advisable to limit the number of lecturers by selecting good teachers capable of covering several consecutive sessions.

Suitable speakers may be identified during the planning stage of the programme. Informal contact can be useful at this point to establish - tentatively, at least - the speaker's interest in contributing to the programme.

#### 8. Briefing of Speakers:

As soon as possible - well before the programme starts - send each speaker:

- a) A copy of the Aide-Memoire.
- b) Details of the provisional date and time of his lecture.

- c) Information on fee, financial arrangements, etc.
- d) Confirmation of the subject of his lecture and the required breadth, pace, and depth of coverage.
- e) A list of related lectures (and the names of the speakers).
- f) A provisional list of participants with details of their jobs and employing organizations.
- g) Guidance on the style of presentation desired - informal, with plenty of time and opportunity for discussion and interchange of ideas, etc.
- h) A warning (when appropriate) that the "programme language" is not the first language of the participants and of the need to make allowance for this in his presentation.
- i) A request to prepare a written handout (see paragraph 10 - Written material) and a notification of the date by which this must reach the PD (who may have to arrange for reproduction).
- j) Details of facilities available - blackboards, slide projectors, etc.
- k) An invitation to get in touch with the PD to discuss any difficulties.
- l) An invitation to a meeting which will attempt to obtain continuity and prevent overlapping of subject material.

9. Final Details for Speakers:

Two or three weeks before he is due to speak, send to each speaker:

- a) A copy of the Programme.
- b) Confirmation of date and time of this lecture.
- c) Any necessary guidance on travelling arrangements, car parking facilities, etc.

- d) A list of participants with any information available on special interests, etc.
- e) A request for details of any teaching aids - especially slide and film projectors that will be needed.
- f) Any changes relative to the initial briefing.

10. Written Materials:

- a) Provide each participant with written notes covering, at least, the essential points of each lecture. Include copies of the most important diagrams, graphs, sets of figures that the lecturer uses, in the language of instruction.
- b) Tell the participants, before any lecture, what written material is being provided, and encourage them to concentrate on what the speaker is saying rather than spend time taking notes themselves.
- c) Consider carefully when to distribute written material. If simultaneous translation is being used, notes should be distributed beforehand, but any written material given out immediately before or during a lecture tends to distract attention from the speaker. If notes are given out well beforehand, it is essential to remind participants to study them before they attend the lecture.
- d) All papers should be produced in a standard size and format and should be punched to fit the file cover or folders provided.

11. Materials and Services:

- a) Each participant should be supplied with file covers (or folders) with register pages if possible, to hold lecture notes; file paper, firm-backed note pad or clipboard, ball-point pen, pencil, rubber, ruler.

- Reserve supplies of these items should be kept in the main teaching room.
- b) In the main teaching room there should be a supply of sketching paper, paper punch, stapler, pencil sharpener. It is also useful to have wrapping paper, string, adhesive tape at hand.
  - c) It is useful to have available a few reference books, particularly to help with problems of variations in nomenclature, together with simple dictionaries in several languages, say, English - French - German - Italian - Spanish, as appropriate.
  - d) It is helpful to provide, for the participants:
    - i) Some typing and photo-copying facilities, but be very clear about the conditions of use.
    - ii) A telephone - with an explanation of how to use it and the method of charging for calls made, preferably by pre-payment.
  - e) A world map, with marker pins, placed in the main teaching room.
  - f) It is convenient to have, easily available, a street map of the local town, local transport maps and timetables.

## 12. Continuous Evaluation:

Three types of evaluation must be carried out during a programme:

- a) Continuous or running evaluation throughout the theoretical part of the programme.
- b) Continuous or running evaluation of the practical in-plant training. (See also Section IV.10(b)).
- c) Overall evaluation at the end of the programme.

Evaluation methods are dealt with separately in this manual. (See section VI, 1 and 2).

**SECTION IV - In-Plant Training and Visits to Industry**

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1. In-plant Training for Groups or Individuals:

This period of working experience in industry is the essential core of the in-plant training programme. Its purpose is to teach the participants practical and managerial techniques and to allow them to observe the industrial methods and organization of the host country. As far as possible it should be based on active participation rather than passive observation. In-plant training may sometimes be in a government organization but, for simplicity, it will be referred to here as "the plant".

The in-plant training attachment is the most important as well as the most difficult part of the Programme for the PD to organize and control. Sufficient time should be allowed for making the arrangements which can take up to one man-week per attachment.

2. General:

a) Choice of Plant

The plant chosen must be appropriate in size and type of technology. It need not, and perhaps should not, be a modern 'show' place. A list of suitable plants should be prepared before it is finally agreed that the programme will be held. Remember, however, that small firms may find it difficult to train and accommodate more than one person, whereas larger firms may be more willing to accept a group.

b) Group/Individual Attachments:

Depending on the nature of the course and the type of industry in which it is being operated, a decision has to be made whether attachments are to be as individuals or as groups. There are other factors which will influence this decision; the ability of a firm to accept a group of people, the period of the

attachment, and the willingness or otherwise of of the participants to work as single units. In any event, it is better to limit groups to six members or less; a larger number than this makes instruction and control difficult, particularly if interpretation is required. Group programmes are usually less complicated for the PD from an organizational point of view.

c) Language Problems

If the programme language is different from the host country language, the plant must have sufficient speakers of the programme language who have sufficient time available and who are at the right level. If such people are not available, interpreters will be needed.

Types of interpreter:

- i) Technical tutors who are also interpreters.
- ii) Professional technical interpreters.
- iii) Local "semi-participants" (e.g. undergraduates).
- iv) Local participants willing to interpret.
- v) Professional (non-technical) interpreters.

Of these, (v) is the least suitable. The work is very demanding, so interpreters need to be enthusiastic and also willing to be in the plant environment. It is important to check in advance on their willingness to be so involved.

3. Approaches to Plants:

a) First approach to Plants

It is essential to approach plants before final agreement to run the Programme is made with UNIDO. It is not enough to get agreement in principle from a central authority except in very centrally controlled industries. Professional associations can sometimes

advise, but it is usually best for the PD to make the request to the plants himself. The actual method of approach will depend on the PD and the country's traditions. If, for instance, the PD already knows someone in the plant, it is useful to speak to him first and ask who would deal with this type of training request. This may be the training officer, personnel officer or a production manager. If this person is sympathetic but cannot give final agreement to accept a participant or group, the PD should find out who can give authority.

b) First letter to Plants

This confirms the first, informal, approach and asks for a promise to take one or more participants. It is usually better to write a fairly concise letter and enclose other information. The following minimum information will be needed:

- i) Explanation of PD's function and his organisation.
- ii) Purpose of UNIDO Programmes.
- iii) Summary of Programme.
- iv) "Candidate profile" including level, experience, education, language.
- v) Type of training required.
- vi) Period and dates (if known).
- vii) Fees and expenses payable.
- viii) Participant's financial support.
- ix) Who will arrange accommodation.
- x) Responsibilities and attendance.
- xi) Insurance against injury and third party liability.
- xii) Visits by PD.



c) Confirmation of Programme

When sufficient positive replies have been received, final agreement can be made with UNIDO.

d) Second approach to Plants (after Programme has been announced)

In some circumstances information listed for the first approach may be sent at this stage. If detail has already been sent out, only the Aide-Memoire (or similar information) need go at this stage, with a letter saying that the names of the actual participant(s) they will be asked to take will follow after the start of the Programme.

4. Allocation of Participants:

a) Selection of candidates

As soon as application forms and any additional questionnaires are received, it is useful for the PD to try to match candidates and suitable plants.

At the selection meeting the possibility of finding a suitable industrial attachment must be considered. In a few cases it might not be possible to accept an otherwise suitable candidate if no suitable plant were available. After offers have been dispatched, groups and individual participants are allocated provisionally.

b) Final allocation to plants

Very early in the Programme, each participant should be interviewed to discuss his or her needs and decide on the final placement. It is best not to give participants or the plant the final choice. It is also wise not to turn down an offer from a plant which is keen to help unless there are insufficient participants or no one who would fit what the plant can offer. However, the needs of the participants should be paramount.

The following points should be borne in mind when placing participants:

- i) Size of plant.
- ii) Type of technology.
- iii) Type of study assignment.
- iv) Whether there should be one long or several shorter attachments.
- v) Preferences and restrictions on employment of plants and participants.

5. Confirmation to Plant

This letter should include the following:

- a) Name and all necessary details of participants or group, (nationality, age, sex, education, job, experience).
- b) Exact dates.
- c) Request for information on reporting time, protective clothing, how to reach plant, etc.
- d) Information on visits by PD or staff.

6. Details of Industrial Training

The ideal is a very detailed (daily) programme worked out between the PD and plant training staff. The PD should do all that is possible to get this but must avoid putting unreasonable pressure on busy people and must remember that, especially in some industries, unexpected pressures can prevent the ideal.

Discussion of the training schedule can begin as soon as agreement with the plant has been reached, and details arranged after the participant or group is allocated. The following points may be useful:

- a) Individual schedules can be more flexible than group schedules.
- b) If possible, the PD or staff should visit the plant to discuss the training.

- c) It may be easier to ask the plant to produce training plans for discussion rather than try to tell them what to do.
- d) The person in the plant responsible for planning the training should be known by name to the PD. In small firms this may be the owner or managing director; in larger firms the training officer, a member of training staff or several delegated people may be responsible. In every case there should be a professional/technical person who is guide and friend to the participant. He is usually called the Industrial Tutor.
- e) Most of the UNIDO trainees will be experienced managers in their own countries; when arranging attachments to industry in the host country, endeavour to make this point clear. Encourage the plant to look at the attachment as being the temporary acquisition of an experienced man, and to treat and use him as such.
- f) Specific assignments can be extremely useful, and are essential if the participants are in an industry where they cannot easily participate in day-to-day work. Such an assignment may, for instance, expose problems, and thus encourage participants to analyse or consider how procedures etc. could be adapted to their own countries.
- g) Participants should be encouraged to keep a daily record of events as this will help them to think about what has been seen and done, as well as helping in compiling their reports at the end of the programme.

7. Briefing of Participants:

a) Informal.

The participants may be concerned about the industrial attachment period. During the early part of the programme they should be reassured, given information about the host country's industries, and told what will be expected of them. (Especially if there is likely to be strenuous industrial shop-floor work). They should be encouraged to regard themselves as temporary members of the staff of the company to which they are to be attached, rather than as privileged visitors.

It should also be pointed out to them that the plants to which they are attached may be quite different to those of their own countries, even in the same industry, and possibly different to their own expectations.

b) Formal.

Before the departure for their industrial attachments, the PD should have a session to talk about this part of the programme with the participants. Matters to be covered should include:

- i) Travel details (Documents, etc. - see para.8).
- ii) Information on the host country's industry and industrial relations (though this should have been covered earlier in the programme).
- iii) What will be required from them by way of reports, etc.
- iv) Visits which will be made to them whilst on attachment.
- v) Encouragement to co-operate, perhaps mentioning the effect on future courses, and the reputation of their own country. (This sort of briefing depends very much on the relationship of the PD with the group).

- vi) Instructions on what to do if things appear to be going wrong.

8. Written Instructions to Participants:

The participants should be given the following written instructions and information:

- a) Travel details and maps.
- b) Address and telephone number of accommodation.
- c) Address and telephone number of plant.
- d) Address and telephone number of PD.
- e) Who to report to and when, or who will collect him or her (i.e. from railway or bus station).
- f) Details of responsibilities and hours of attendance.
- g) Instruction for reports and other work during attachment.
- h) List of where fellow participants will be working, telephone numbers and addresses.

9. Written Instructions to Plant:

The plant should be sent most of the details given to the participants, and directions should be given on action to be taken if the participant fails to arrive within a reasonable time from that given. They should also know what to do if any difficulties arise on either side, or the participant fails to conform to the normal expectations of the plant.

10. Control and Contact during and after Attachment:

a) First day of attachment

In some cases participants may be taken to the plant by the PD or his staff.

It is very important that someone should be available at the PD's office in case any participant has problems, such as not finding the plant or having serious misgivings about his or her attachment.

b) Contact during attachment:

It is very important that neither the participant nor

the plant staff should feel forgotten by the PD. It is also important not to make unreasonable demands on the plant staff's time. In order to get continuous evaluation, it is useful to ask for weekly short reports from the participants, especially after the first week, as a check on how well they have settled down. A printed form and pre-addressed, stamped envelope helps to ensure its prompt dispatch.

Evaluation method is dealt with separately in this manual (See Section VI, 1 and 2).

The PD or his staff should visit participants at least once and talk to the training officer, industrial tutor, participant(s), together and separately. If the plant is helping for the first time, or if problems are expected, visits should be made early in the attachment. Someone should always be available to visit at once if there are any serious difficulties.

c) Report writing

During their period of industrial attachment, or after their return, the participants write reports and there should also be group discussions, in which some PD's may wish to involve plant staff. A report from participants, seen and signed by the industrial tutor, may also be useful.

d) Letters of thanks

As soon as possible the PD should write and thank the plant staff and, if things have gone well, add the hope that they will co-operate in future courses. Plants often like to see the participants' final reports, especially if they reflect well on their firm. Plant contacts appreciate invitations to final ceremonies and parties.

11. Visits to Industry and other Organizations:

(Each of half to one-day duration)

The approach needs to be similar to that for attachments. Larger, more sophisticated plants may be suitable for visits even if they are less suitable for practical attachments.

The following points should be remembered:

- a) The plant should be told that the group are professionals, not tourists.
- b) The guides should be able to answer organizational and technical questions.
- c) The participants should be split into small groups in order to see and hear properly and be able to ask questions.
- d) The party may need to have suitable protective clothing.
- e) The visit should be the correct length and the party must arrive and leave on time.
- f) Visits can sometimes be partly social or cultural.
- g) Firms may offer hospitality on the day of the visit, in which case any special dietary requirements should be mentioned beforehand.
- h) Inform everyone of specific rules, i.e. no smoking, taking photographs, etc.
- i) If possible, a meeting should be arranged, after the tour of the plant, with qualified personnel who would be prepared to answer questions relating to production processes, etc.

**SECTION V - Final Seminar and End of Programme**

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1. Certificate of Attendance:

The In-plant training programmes are intended to impart knowledge over a specific field or technology, and offer no academic qualifications, diploma or any other recognized standard of achievement. Nevertheless, it is often very important for a person who has attended such a programme to be able to produce evidence that he or she has done so; in some countries it is almost a necessity. Since any form of examination is neither possible nor desirable, the most that can be offered is usually a form of words indicating that the participant has 'participated and completed' the programme.

2. "Re-Entry" letter to Employer:

In-plant Training Programmes last about 3 months or so, and taking into account travelling time, the participants will have been absent from their organization for a considerable time. During this absence, it is likely that changes will have taken place, and it cannot be assumed that on their return, the participants simply take up their old job where they left off.

It is also possible that the participant's employer and colleagues may not be aware of the knowledge and experience which they have gained, or know to what extent it will be useful to the organization.

It could be helpful to the participant if a letter is sent by the PD to the employer shortly before the participant's return, drawing attention to the fact that Mr. or Ms. X will shortly be returning from the training programme, and giving some details of the programme content and the work done. (It might also say that Mr. or Ms. X is looking forward to making use of this new knowledge on return).

The decision to send a letter of this kind should be agreed by the PD with the participant beforehand, and not sent as a matter of course.

As there can be many delays in the delivery of mail, it is suggested that the participant could offer help about the timing of the despatch of such a letter, in order that it will arrive before his or her return.

3. Participants' Final Report:

The participants are requested to prepare an individual report of 4 to 6 typewritten pages on problems and methods studied during the training programme and on the applicability of the methods in their home countries. These reports will be distributed to the sponsoring agencies' - Quote from UNIDO Aide-Memoire.

PD's staff should offer any help required by participants in compiling this report, but it must be in the participants own words. A list of possible headings might be given, as below:

- a) Background information on participant's work in home country.
- b) Administrative aspects (in home country, travelling, introduction and programme period).
- c) Technical aspects of the programme -
  - Theoretical part
  - Practical part
  - Study visitsin a summarized form,  
not just a repetition of  
the programme.
- d) Teaching material received (literature, pamphlets, books, etc.) as an Annex.
- e) Possibilities for implementation in participant's organization.
- f) Any matters outside the technical programme.
- g) General aspects of the programme as a whole.

The emphasis of the report should be on item (e).

When requesting participants to prepare this report, emphasise that copies will have to be made from their draft, and that legibility is import.

4. Final Seminar - Time Scale:

This last part of the programme is intended to cover three areas: reports, both on attachment periods and the whole programme; a number of special subjects which may not have been relevant until this point in the programme, e.g. lectures on communications and dissemination of knowledge, problems of knowledge transfer between different countries; and lastly, evaluation of the entire programme, both by the host country organization and by UNIDO.

There is a divergence of opinion on the amount of time required for this last section of the programme; in some cases one week has sufficed, in others two weeks have been allocated. If one takes into account the time required for arranging the return journey, plus in some cases, exist visas, etc., one week is rather short. At least one, and at best two days should be available as free time for participants to complete their departure arrangements.

Teaching levels: If additional subjects are included in this final seminar, the level of teaching must be high, since by this time, the participants being fully conversant with the teaching language, will tend to be critical of matter which does not in their opinion, reach the levels they have been led to expect.

Revision and questions: One day at least should be set aside for revision of matter learned during the programme, and possibly for discussions in areas where there is some doubt, or gaps in knowledge.

Reports of attachments: These may be written during this final period; some parts of the material may well have been put together during the attachment period, but many participants may require help from the directing staff in their final report.

Depending on the cohesion of the group, a day could be set aside during which participants report individually (or in the case of group attachments, as a group) on their attachments, to the other members of the programme. This could be regarded as part of their report, or be treated separately. Every attempt should be made to assist the participants with presentation, i.e. the use of any visual aids, etc., as this can be regarded as part of their training in passing information and knowledge on to others on their return to their countries.

Books: At this time the participants can be informed of any books, journals or periodicals relevant to their field of work, which can be obtained after return to their countries. Details should be given of publisher, prices, and availability or subscription cost etc. in their home countries.

Evaluation: During this final period, evaluation of the programme by discussion and questionnaires will take place. Both the PD and UNIDO staff are here concerned, and an agreed amount of time must be set aside for this activity. (See also Section VI relating to Evaluation.)

5. Baggage and Handling:

On many programmes a considerable amount of material and books are provided for participants, and this presents them with a problem on return to their countries. They may wish to take it with them, in which case they will almost certainly incur excess baggage charges; on the other hand, if they elect to send it by surface route, the journey may take weeks or months, or possibly it may not arrive at all. One solution to this might be for the participants to provide a properly addressed label, and the host organization to despatch the items by air freight or unaccompanied baggage. Whilst much cheaper than excess baggage charges, the sums expended in this way will have to be accounted for, and it is suggested that if PD's elect to

take this course, they should include an item in their original budget to cover the cost.

6. Visas and Exit Permits, and Return Travel Arrangements:

As mentioned above, time must be allowed to participants to put their return arrangements in order before departure. In some countries, it is necessary to obtain an exit visa before return, and in many there is a legal requirement to report their departure.

Many participants endeavour to make visits to cities and countries along the route of their return to their home country. The tickets issued by UNIDO through their agency may make no provision for this, and in some cases a specific route is endorsed. This fact should be made clear to all participants, and also that if they wish to vary the route they must make their own arrangements, and any expense occurring is their own responsibility. Whilst some participants may wish to make arrangements, in this way during their allowed free time, it is recommended that PDs take no initiative in this matter.

7. Closing Ceremony:

At a day close to final departure, a closing ceremony can be held, in a fairly formal setting, at which the attendance certificates are presented. This might be done either by the person who attended the opening ceremony (q.v.) or by some person conversant with the field of knowledge in which the participants have been working, and who is also a well-known figure, nationally or internationally. The UNIDO representative who attends to supervise the final evaluation will usually be present for the closing ceremony.

The participants may elect a member of the programme to make a speech of thanks on departure at this ceremony. This should never be insisted upon; in most cases, the wish to do so will

arise naturally from the group, who will choose their own spokesman. If asked, give him or her any help needed in putting together their remarks. Alternatively, there may be a final communal meal (lunch or dinner) either preceding or following the ceremony, at which a speech of thanks may be given.

Sometimes the group may organize a meal or party of their own volition, to which they may invite members of the directing staff.

SECTION VI - Programme Evaluation

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- VI-A Assessment form - Lectures
- VI-B Theoretical Programme Questionnaire
- VI-C UNIDO Final Questionnaire

1. Levels of Evaluation:

Evaluation of any educational programme is always a difficult problem. It involves, at some stage, an assessment or a measurement of people behaviour, and therefore some methodology typical of social sciences.

Two 'words of warning,' are necessary:

First, sociological data is much more subjective than data in most other fields, and not too much reliance can be placed on short-term experimental results.

Second, to produce more reliable results, a great deal of time, money and experience is required: resources which are not usually available after an in-plant training programme.

However, efforts should be made to obtain any information which could be of use in future programmes. Evaluation might be said to commence even at the design stage.

That is to say that the primary stage, and with the qualifications and requirements of the participants in mind.

Of course, it is not always possible to have sufficient information about all the participants at the time the detailed programme is being prepared, although this is the ideal. Any evaluation which takes place after the programme has started, is an attempt to provide a feed-back which will in turn, modify inputs to produce more desirable results before the end of the programme. In the event, such feedback may be of greater value in modifying future programmes.

The difficulty is one of measurement. 'Success' in the short term can mean a satisfied participant, but not necessarily a properly informed one. Indeed the full results of any programme may not be apparent for some years, and may require much money and research to discover.



In the case of the UNIDO In-plant Training Programme, evaluation generally takes place at four levels:

- a) Level 1 - Continuous Evaluation  
The day-to-day running evaluation carried out by the Directing Staff.
- b) Level 2 - More Detailed Evaluation by PD  
The formal evaluation of programmes, either in whole or in separate parts, at the conclusion of each part, on a formal or written basis, by the Directing Staff.
- c) Level 3 - UNIDO End-of-Programme Evaluation  
The UNIDO end-of-programme evaluation which attempts to gain an assessment of the effect of the programme as a whole on each participant, again on a formal written basis.
- d) Level 4 - Follow-up Evaluation  
Subsequent follow-up in the home countries of the participants, carried out by UNIDO staff or their agencies, both formally and informally.

These different levels of evaluation are all intended to improve the effectiveness of the programme, and it is as well to examine what changes may be effected by each stage.

2. Levels 1 and 2:

Level 1 - Continuous Evaluation

Level 1 can only affect the current programme; i.e. modifications can be introduced to suit particular circumstances as a result of direct contact with the participants. Unless something is seriously wrong, these modifications will be quite minor; a change of emphasis, a re-arrangement of some part of the programme, greater depth on a subject of common interest. They are more likely to be an effect of a group of people on a

**particular programme rather than a modification of the overall plan, although this must still be borne in mind.**

Continuous evaluation is essential to indicate whether the programme is meeting its objectives. The PD should be prepared to modify the programme if faults are identified - for example, if the level at which lectures are pitched is too high (or too low).

Information may be obtained from questionnaires and from the PD's contact with the participants. Both methods are needed to obtain a reliable picture.

Participants could complete and hand in a simple evaluation questionnaire immediately after each lecture or group of lectures given by a single speaker, although this can lead to a lot of administrative work (Example of format for this at Appendix VI-A).

When the programme makes extensive use of case studies, group work and exercises as well as lectures, a more formal evaluation, with questionnaires at the end of a longer period, may be preferable. A member of the PD's staff should be made responsible for distributing and collecting the questionnaires.

When studying the questionnaires, the PD should allow his assessment to be modified by informal discussions with participants. Failure of communication can be as much as a result of personality conflict as lack of subject knowledge.

Remember that accurate evaluation is difficult, particularly when dealing with a varied group of participant with many different backgrounds and characteristics. Some people and some cultures for instance, consider it impolite to criticise.

But, evaluation is vital and the results obtained must be used. The over-riding objective is to modify the programme so as to make it as useful as possible to the participants. Beware of over-reacting to adverse criticism, however; the problem may well be in the group composition and attitude rather than the material.

### Level 2 - Detailed Evaluation by PD

This evaluation has been referred to in several previous sections; it ranges from assessment of individual lectures to written weekly or sectional questionnaires. This level is completely under the control of the PD, and should be used with caution. Some people prefer to make assessment immediately after a lecture, although too hasty an evaluation of a lecture can lead to anomalies; it may take several days for the material presented at a particular lecture to 'settle' in the minds of the participants. Perhaps it may also be related to other work or lectures in the programme, and without reference to this would appear less meaningful. Also the possible conflict between the personalities of the lecturer and his listeners is much more difficult to separate from the material when presented at short range, so that evaluation tends to be coloured by whether the participants 'liked' the lecturer or not. This level of evaluation is probably best conducted on a weekly or sectional basis, and by using questionnaires which allow the participants to remain anonymous. Whether the analysis of these questionnaires should be shown to and discussed with the participants is a matter which the individual PD must decide.

### 3. Use of Information:

Information gained at Level 2 is, of course, after the event and can only affect the current programme indirectly; i.e. modification of some future event in the current programme subsequent to the partial evaluation. Whilst it is certain that these assessments will throw up any gross errors of presentation or information content, they are unlikely to reveal whether the programme is or has been of real value to the participants, their firm or country. What is really being attempted at Level 2 is to confirm or otherwise that the PD and UNIDO made a correct assessment of the agreed programme and its content. Of course, they can only do this in the first instance on their own

(and other people's) experience, so that evaluations of this kind allow for corrections for future programmes on the principle of successive approximations rather than by definite statements.

The types of assessment format for Level 2 are many and varied, and an example is shown at Appendix VI-B. It is probably best to have a series of multiple choice type questions, followed by a space for additional comments, rather than to ask for comments overall.

If the continuous evaluation of Level 1 has been carried out, then Level 2 results will usually confirm any trends shown, and the interpretation of the analysis of the questionnaires must be made by the PD with this in mind.

Thus some results could show the difference between the levels of attainment or knowledge between group members, and some would be affected by cultural differences. These are the points which would be usefully discussed with the appropriate UNIDO official when Level 3 assessment is reached. Unless there is overwhelming evidence for massive change, beware of the urge to make major modifications to future programmes on the basis of one assessment. Almost certainly, even if the programme remains unchanged, the assessment of the next programme in the series will present quite a different picture, although suspected faults will be made clearer. This is where the experience of UNIDO can be drawn upon to identify possible reasons for particular reactions to subjects.

#### 4. Level 3 Evaluation (UNIDO):

Level 3 assessment is carried out in the last weeks of the programme, using UNIDO prepared questionnaires, and usually supervised by a UNIDO official. (An example of the questionnaire is attached as Appendix VI-C). The participants are informed of the objectives of the evaluation form, and they are required to

put their names to their assessments. The results of the analysis of the forms are not directly revealed to the participants, although they may form the basis of discussion with the UNIDO official. UNIDO, assisted in many instances by organizations and PD's who have been responsible for previous programmes, are constantly attempting to improve the effectiveness of their assessment form. Discussions on the programmes between UNIDO and the participants are normally carried out without the presence of the Directing Staff. There may be later joint sessions, and certainly a discussion between the UNIDO official and the PD on the results, where Level 1 and 2 evaluations can be taken into account in the final summary.

It is obvious that the summary of participants' views does not amount to a true evaluation; as suggested above, it is only part of it.

One may question the willingness and even ability of a programme participant to express overtly his true feelings about the programme. However, in general, the answers will confirm information that has already been received during the programme on a more personal basis. Thus the various pieces of information supplement each other.

Participants are usually quite willing to exchange views openly as long as the programme is going on and they feel they can still affect it, to their benefit. At the end of the programme they are often less inclined to state directly any negative views; an opportunity to do so in writing tends to facilitate the expression of true criticism.

5. Level 4 - Assessment of Impact of Programme on Participants' Environment:

The effectiveness of any programme can only come from the final effects of the programme on the participants' progress, organization and country.

This is more difficult to establish than the simple evaluation techniques referred to above. One might say that levels 1 to 3 validate the appropriateness of the programme for a particular group of people in a specific technology, and that the knowledge imparted was adequate and at the right level. But only when we can assess what use the participants have made of the information gained, can real evaluation begin. And even ~~this can be a function~~ both of ~~the~~ capabilities of the participant, and the opportunities he seizes, or is afforded. This is being carried out by UNIDO some 2 or 3 years after the return of the participants to their home countries.

Such evaluation will have to focus on various levels: the former participant's achievements, his or her value to the organization to which they belong, and to their country. Information has to be obtained from the participants themselves, from their supervisor, and the appropriate government officials concerned. This can only be effectively done through personal visits to the related countries. These visits should ideally be carried out jointly by UNIDO and the PDs of the programmes concerned, but if the presence of the PD is not possible, as much information as can be gained should be fed back to him, through UNIDO.

SECTION VII - After the Programme

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1. Programme Director's Final Report:

There is a specific UNIDO requirement for a final Director's Report on any programme. Many host countries and organizations prepare an extended report for a wider distribution. In some cases there may be a sponsoring organization to be informed in detail of the programme and its participants. The report can range from a few typewritten pages to a comprehensive, fully printed and illustrated booklet. In the latter case, care should be taken to see that the language used is one that can be commonly understood by all those to whom it is distributed; however lavish, it is of little use to send a report written in a minority language to other PDs. Director's reports can be of considerable help to others engaged on similar or related programmes.

2. Cost Accounting:

If UNIDO funds are involved in the financing of the programme, final accounting has to be made in accordance with their rules at the conclusion of the programme. In any event, PDs should make a reconciliation between the original budget estimates and the actual costs incurred; if there is a sponsoring agency or government department involved, this may be required. The whole question of detailed accounting depends very much on the way in which individual programmes are sponsored in each country, the PDs will have to make their own decisions in the light of local knowledge and requirements.

3. Communication with Former Participants:

There is no formal requirement for the host country to remain in contact with former participants, though many do so. UNIDO has an information service which attempts to keep participants in touch with advances in particular fields, and some PDs supplement this by forwarding items of interest of this kind from their own countries' journals, etc.

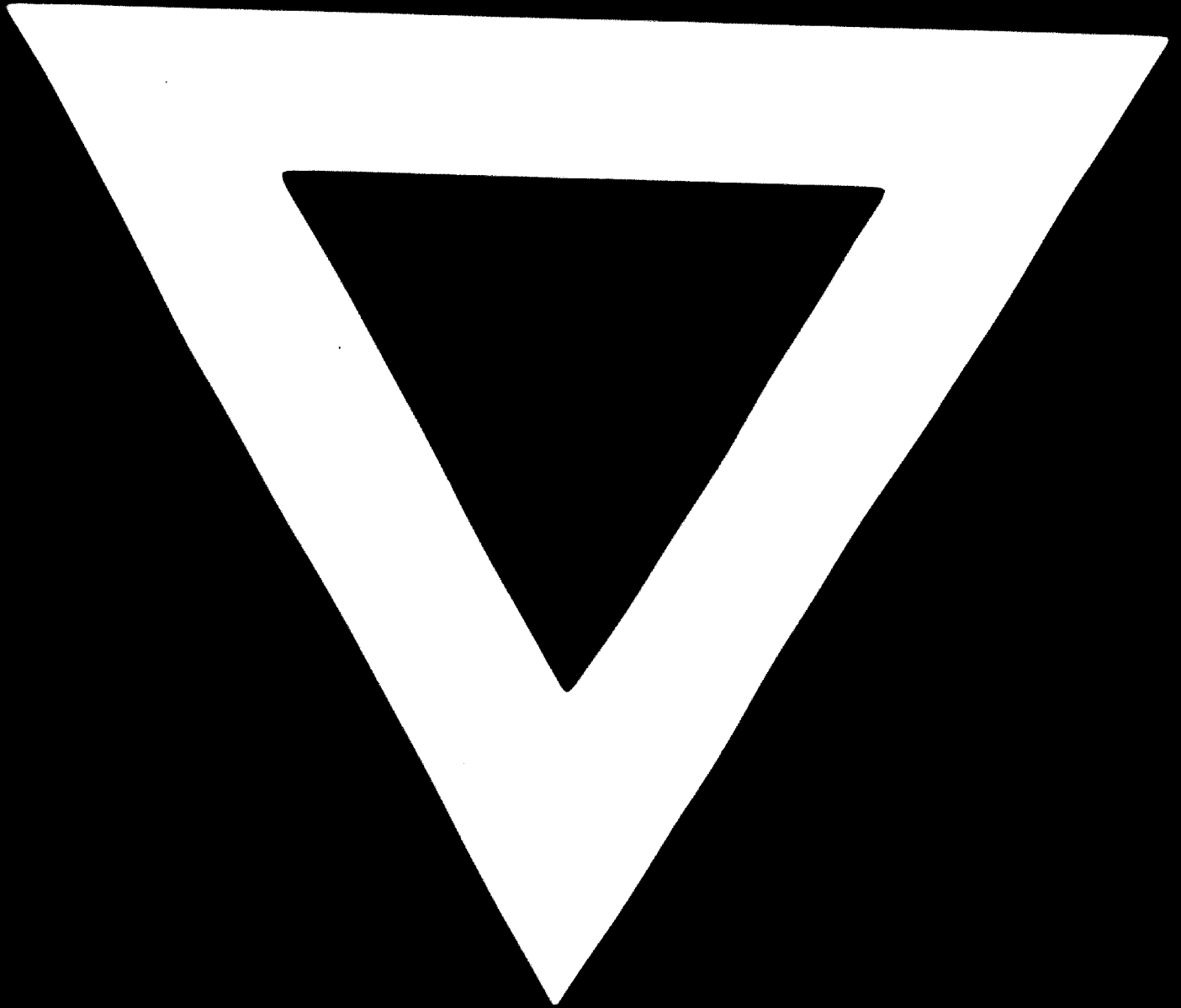


Many PDs send information about future programmes to former participants; not only is this of interest to them, but many help in the recruitment of suitable candidates. Some PDs also send information about other relevant courses running in their country from time to time.

On an informal basis, an occasional letter to all former participants of a programme from the PD's staff can be sent, telling them of any events or information received from other participants on the same programme.



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