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Turkey, INDUSTRIAL TRAINING AND DEVELOPMENT CENTRE (ITDC)

Project Number DP/TUR/77/024

FINAL REPORT
Prepared by
A.H. POWER
SENIOR TECHNICAL ADVISER

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1. Project Groups and Provisional Course Titles for 1983
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4. " " - Senior Training Officer
5. " " - Project Group Leader
6. " " - Training Services and Staff Development Officer
7. " " - Audio-Visual Services Officer
I. INTRODUCTION

Further to the submission of a preliminary report in April 1982 and a mid term report in October 1982 this short final report covers the work done by Andrew Power - Senior Technical Adviser with the Industrial Training and Development Centre, Ankara (ITDC - DP/TUR/77/024) over the period from January 25th 1982 - December 23rd 1982.

An evaluation of project performance has been fully made both in the preliminary and mid term reports, and in the project evaluation exercise in August 1982 (summarised in the mid term report). Further to this evaluation a series of recommendations were made in the mid term report. These were submitted to the managing board in mid November 1982 and were, with some minor qualifications, accepted.

The purpose of this report therefore is

- to present these recommendations and some further recommendations made since November

- to analyse the progress in implementing these recommendations

- to identify the further actions required to achieve full implementation.

This is done under the following headings

Programmes
Organisation
Internal Staff Development
Facilities
Manning and Future Recruitment

The report concludes with a proposed Action Plan for 1983 which sets out the key stages in implementing the agreed recommendations.

The purpose of all the proposals made throughout the Adviser's work with ITDC has been to strengthen ITDC as an institution in terms of training capability. As emphasised by Mr. Dee at the Tripartite Review in December 1982, the fundamental role of UNIDO is to build ITDC as a training institution. This should be the priority for 1983, and it is felt that a sound framework for doing this has been given in the proposals examined in this report.
2. PROGRAMMES

2.1. Recommendations

As fully stated in both previous reports the range of ITDC's programmes had grown too large (section 3.2. - Preliminary report) in an honourable but mistaken attempt to be all things to all men. New guidelines for governing the selection of subject areas/course titles were therefore submitted in the mid term report. These covered

- average repetition factor on course subjects within a year (at least 3)
- proportion of field/in plant courses (at least two thirds in the Ankara base, less if a move to the Gebze facility is achieved).
- average number of trainers giving each course (at least two, preferably more with at least one from ITDC).
- level I training (at least one course/annum for each of the new project groups).
- target levels for man months of training to be given by trainers each year according to their grades (senior training officer or training officer) and the type of course (new, modified or repeat) and also target levels for their degree of participation in giving these courses themselves. These targets were refined by the Adviser, the National Project Co-ordinator and the Training Manager in November/December 1982 into an indicative work load planning chart.

The key objective in selecting course titles was given in the mid term report. This is that subjects chosen should be heavily demanded, cover a wide industrial spectrum and be capable of continuous development so that, with modifications, they can be repeated several times a year in different parts of the country over a number of years.

A number of priority areas for training development in terms both of national needs and ITDC capability were also listed, and commented on in the mid term report. The main areas were

General Management
Manufacturing Systems
Energy
Industrial Environment Protection
Industrial Process Technology
Training Consultancy/Training Trainers
Food Technology
Foundry/Steel Making Technology
Industrial Safety Systems
Industrial Heating/Ventilating/Cooling
Corrosion Technology
Language Training
In terms of demand as assessed on field visits or through analysis of course evaluations/follow ups and mailed questionnaires, the first two in the above listing, General Management and Manufacturing Systems account for at least 40% of identified industrial training needs. In terms of training personnel or programmes given they only represent a little over 10% of ITDC's current activity. It is, therefore, a fundamental recommendation, both on future programmes and manning, that these two areas should be substantially expanded.

It has also been strongly emphasised by the Adviser that ITDC, to be a truly national training centre, must be in the position to offer consultancy advice in training, and also be able to train trainers (section 4.9 Mid Term Report). This should also therefore be a key area of ITDC's development, and the Adviser's recommendations on organisation, manning and programmes are designed with this in view.

Finally the crucial need in planning future programmes is to reduce the range of subject areas/course titles given, and concentrate development work on priority/high demand areas.

2.2. Action Taken

From October 1982 onwards a series of programme planning meetings were held by the National Project Co-ordinator and Training Manager with heads of department and trainers. The majority of these meetings were attended by the Adviser. At each of these meetings a historical analysis was made of past courses given in terms of titles, numbers and effectiveness. Summaries of industrial training needs, prepared by the planning department from course evaluations, follow ups and mailed questionnaires were also analysed. Using the Adviser's guidelines/recommendations on course planning provisional lists of course titles were drawn up for 1983. At the same time project group training areas, which are a key element in the Adviser's proposals on organisation, were identified.

The results so far of this planning exercise in determining the new project groups and provisional course titles for 1983 are given in the table in Appendix I.

It must be emphasised that this is a provisional listing which will be progressively refined through further planning meetings.

2.3. Further Action Required

The Adviser's comments, which have been made at the planning meetings, are as follows

2.3.1. Project Groups

Identification of the 17 project areas is a valuable first step in planning future course development. All but one of the project areas selected are important logical groupings which meet real market needs for industrial training services. The range of project groups at 17 is still however too wide for the present number of trainers which is 35 giving only 2 trainers per group.
It reflects the previous wide range of ITDC's course programmes. As commented on in Section 7 further recruitment should now be carried out with particular emphasis on the priority areas of General Management and Manufacturing Systems, to build project group teams into a viable size. One group, 7, Machines Design, which is an ad hoc grouping together of work in weaving, agricultural mechanisation and chemical plant design should, in the Adviser's view, eventually be eliminated.

2.3.1. Course Titles

Course titles number 71, which is much too large a range. This again, it must however be emphasised is a provisional listing and only 80% of the titles shown will probably be given. Even so over 80% of the titles provisionally selected are straight repeats or minor modifications of courses from previous years programmes, and this is very satisfactory. Average repetition of titles during 1983 will be approximately 2½ as opposed to 1.4 in 1982 which again is a satisfactory development. A number of titles are however suspect in that they are highly specialised new titles which will probably only be given once in 1983, and possibly never repeated subsequently. These titles are asterisked (*) in the table in Appendix I. Strenuous efforts to avoid introducing specialised one off courses, which have been a feature of past programmes, were made during the planning meetings by the National Project Co-ordinator. Further efforts should be made to reduce the range of titles, and cut out these 'specials.'

2.3.2. Internal Staff Development Programme

In planning the work load of course programmes for 1983, space should be left for planned fellowship training and also for two types of internal staff development.

These are

- formal internal staff development seminars on course planning, training methods, audio visual techniques, etc.
- on job training in planned assignments in industry. Many quite senior training staff, as well as recent recruits to ITDC, lack industrial experience in their subject areas, and a planned programme of field project training should be instituted.

It is recommended that at least 2 months of the 1983 programme should be set aside for these two types of staff training. At the moment what is planned is that January 1983 should be left clear for internal seminar inputs. This is not acceptable from two aspects

- on job training can only be planned on a continuous basis throughout the year
- if international experts on training methods and audio-visual techniques are recruited, as has been recommended, their inputs both in training counterparts and also all trainers at ITDC can only come later in 1983.

The two months for internal staff development should, it is therefore recommended, be planned for occasional periods
throughout 1983 and, however convenient this is for course planning, not for a 1 month period at the beginning of the year. This will mean a substantial reduction in the provisional figure of 180 programmes planned for 1983. This reduction should be made since, at this stage of ITDC's development, staff development is of a much higher priority than generating more and more course programmes.

2.3.3. Symposia

One final comment on future programmes should be made. This is that some of the most successful ITDC programmes presented last year were high level symposia organised by senior training staff. In these symposia, usually of 2 to 3 days duration, representatives from research organisations, manufacturers and users are brought together. Papers are presented and discussed in open forum, and a vital interaction and exchange of views takes place. A notable recent example was the symposium on 'Cold Storage' at Uludag, Bursa. More of these symposia should be planned into the 1983 programme. They should be given by senior personnel, particularly present heads of department who, as the project group leaders in the new organisation, should not be required to organise conventional 1 to 2 week seminars. This, as described in section 3 on organisation, will then release them to carry out their duties as managers of a number of project groups.

3. ORGANISATION

3.1. Recommendations

Three fundamental changes have been recommended in the mid term report. These are

3.1.1. Project Groups

Redeployment of staff from their present departments, which are largely based on engineering discipline i.e. Chemical, Electrical, Mechanical, into project groups designed to service logical groupings of industrial training needs.

3.1.2. Grade Structure

The introduction of a professional training grade structure as follows

- Assistant Training Officer (ATO)
- Training Officer (TO)
- Senior Training Officer (STO)
- Project Group Leader (PGL)

and Project Group Leader (PGL), who would be drawn from the STO grade, and would manage a number of related project groups.

Once introduced and operational these grades would then be subjected to job evaluation analysis using the points rating system. A clearly defined salary structure with wage bands for each of the four grades would then be introduced on the basis of the job evaluation exercise.
3.1.3. New Functions in Training Services and Staff Development and Audio-Visual Services

Two new functions of
- Training Methods and Staff Development Officer (TMDSO)
- Audio-Visual Services Officer (AVSO)

were recommended. Their main functions were
- to offer training and advisory services to trainers whilst planning and preparing their courses.
- to give regular internal staff development seminars to trainers in these two fields.
- to give courses as part of ITDC's external 'Training Trainers' programme
- in the longer term to form part of a project group in ITDC offering training consultancy services to industry.

It is now proposed that the title of Training Methods and Staff Development Officer (TMSDO) should be altered to Training Services and Staff Development Officer (TSSDO) since his responsibilities should, it is recommended, include A/V services. A central aim of the TSSDO function is to set up a regular and systematic process of staff development within ITDC, and improve the quality of programmes in terms of training expertise. These recommendations on organisation would result in the organisation shown below

It is important to note that the Audio-Visual Services Officer reports to the Training Services and Staff Development Officer in the above organisation. This is a modification of the original organisational proposals submitted in the mid term report.

All the original recommendations were accepted with minor reservations on Project Group Organisation by both the Project Co-ordinator in October and the managing board in mid November. Progress in their implementation is given in the following section.
3.2. Action Taken

3.2.1. Project Groups

The project groups have been identified and are listed in Appendix I. Staff have been provisionally allocated to these groups and, as also commented on in section 3.3.I., many of the groups need to be built up by further recruitment into a more viable size. The introduction of the project group concept will serve to focus training development work into a number of well defined areas and thus lead to a narrower, more highly developed and repeated range of courses.

3.2.2. Grade Structure

Job descriptions have been developed for the four new training grades and discussed and agreed with the Project Coordinator and Training Manager. These are given in Appendices 2 to 5. Staff have been provisionally allocated to these grades in their new project groups.

3.2.3. New Functions of Training Services and Staff Development Officer and Audio-Visual Services Officer

Job descriptions for both these posts have been prepared and are given in Appendices 6 and 7. In the case of audio-visual services the main elements of equipment, graphics, expert print facilities /operators already exist in ITDC. The purpose of the new function is to gather these elements together into a more coherent and professional A-V service.

3.3. Further Action Required

Further action proposed to implement these three recommendations is as follows

3.3.1. Project Groups/New Grade Structure

Finalise the provisional allocation of staff to the new project groups. Appoint Project Group Leaders to lead the following combinations of groups

1. General Management
2. Manufacturing Systems
3. Quality Control
4. Metal Working and Welding (including Hydraulics & Lubrication)
   Machine Design
   Heating, Ventilating, Refrigeration, Air Conditioning and Energy
5. Environmental Engineering
   Food Technology
6. Corrosion

(continued overleaf)
7. Electrical Protection Systems
   Industrial Electronics
   Automatic Control
8. Foundry Technology
   Steel Technology
   Heat Treatment

Most, but not all, project group leaders will be existing heads of department. Staff in the groups have already provisionally been allocated to the new grades of ATO, TO and STO. This process of allocation to grades should be finalised. Staff can then be put through a planned programme of
- on job training in industry
- internal staff development seminars, progressively through 1983 so that they may be fully equipped to perform their new roles. This type of staff development training should, as recommended in section I on Programmes, take precedence over the external training programme.

From around March onwards a job evaluation exercise using the points rating system should be carried out to define the relative points worth of the grades, and the salary bands for each.

3.3.2. New Functions of Training Services and Staff Development Officer and Audio-Visual Services Officer

It is recommended that job descriptions for two international expert inputs in training methods and audio-visual services should be drafted immediately. UNIDO Vienna should then be asked to provide CVs of suitable experts as soon as possible. Two experts should then be selected and recruited for simultaneous 3 month assignments as early as possible in 1983. The expert inputs should, in the Adviser's opinion, take precedence over all the other international expert inputs planned for 1983.

3.4. Planning and Control Department

The terms of reference/objectives of the present planning and control department require redefinition after organisational analysis of its role within ITDC. This was a task scheduled for the Adviser's programme had his work with ITDC continued into 1983. It should still be done, and some comments are given below to assist in this process.

The title of the department is in itself a misnomer since planning and control of programmes should essentially be the responsibility of the Training Manager and his senior staff. The essential role of such a section is to provide control information on industrial training needs, national training facilities, government plans for industry and past and present courses run by ITDC which can be used to help in planning programmes and formulating future policy. A subsidiary but important function should be basic O&M work in analysing and improving planning and control procedures and documentation.
3.5. Language Training

Section 4.II. of the mid term report commented on the vigorous growth of language training within ITDC, and recommended that a separate language training department should be established. In the Adviser's view this should be done in the near future.

4. INTERNAL STAFF DEVELOPMENT

The Adviser presented a series of internal staff development seminars on the following topics.

Preparation of Job Descriptions
Report Writing
Industrial Training Needs Analysis
Course Planning
Training Methods

A central need however to create an in house function to plan, implement and monitor staff development programmes was identified in both the mid term and preliminary reports. This is to be achieved through the new function of Training Services and Staff Development Officer, and to a lesser extent, that of Audio-Visual Services Officer. These two roles have been examined in the two preceding sections of this report on programmes and organisation. Only one further comment is appropriate in this section. Internal staff development is basically achieved in 6 ways

- on job training inside ITDC in helping to plan, prepare and give programmes
- on job training in industry through well designed projects with clients
- attachment to international experts
- formal internal staff development seminars within ITDC
- attending seminars/symposia run by other organisations in Turkey
- overseas fellowship training

The weakest element in the above spectrum of techniques to promote staff development has been on the job training in industry, which has been almost totally neglected by ITDC. This should be corrected, and one of the key tasks of the new function of Training Services and Staff Development Officer will be to help the Training Manager and Project Group Leaders plan and implement such programmes.

5. FACILITIES

As fully commented on in the preliminary report one of the major handicaps experienced by ITDC has been the lack of proper purpose built facilities/buildings for industrial training. This situation has been improved to some extent by the recent acquisition and renovation of an apartment block adjacent to the present headquarters building. This has provided two spacious seminar rooms with their own rest room, support facilities and some further offices. The Adviser assisted in planning the restructuring and
equipping of these new premises which became operational over the last day of his work with ITDC on December 22nd 1982. The work has been well done, and the facilities will provide an invaluable extension to the previous very limited seminar rooms.

The full solution to ITDC’s problems of location and facilities will, however, only be achieved in the near future through the long awaited acquisition of the Gebze centre. This, with the active support of Mr Akin Gakmagi, the recently appointed first undersecretary for the Ministry of Industry and Technology, now appears not just a possibility but a probability for the first half of 1983. If, therefore, as seems likely, this enormous and well designed facility is to be handed over to ITDC shortly it will become a major project in itself to progressively transfer operations to Gebze. As emphasised by the substantive officer, whilst with ITDC during the Tripartite Review, it is essential that preliminary planning be done now concerning the redeployment of staff, equipment and programmes in this event. A provisional organisation covering a nucleus of trainers, administrative and support staff at Gebze should also be drawn up.

Unless an action plan is made now much valuable time may be lost in making Gebze operational when a decision to hand it over is finally taken. It is hoped therefore, that such an action plan will be drawn up shortly, and the substantive officer looks forward to discussing this when in Ankara on his next project monitoring visit.

6. INTERNATIONAL EXPERT RECRUITMENT AND INPUTS FOR 1983

The provisional listing of international experts inputs for 1983, which was submitted at the Tripartite Review, is as follows:

I. Planned Maintenance
II. " "
III. Heat Treatment - Iron Casting
IV. Refractories
V. Planning and Organisation of Foundries
VI. Casting of Heat Resistant Steels
VII. Gating and Feeding Systems in Steel Castings
VIII. Mini-Steel Plants
IX. Sunflower and Rape Seed Harvesting Machines
X. Sugar Beet Harvesting Machines
XI. Industrial Noise Control
XII. Metal Forming
XIII. Heating, Ventilating and Air Conditioning

This list in the Adviser's opinion requires radical revision in the following aspects:

(a) The project budget, which is subject to the overall UN country programme reductions, cannot sustain 13 inputs over 1983. From this point of view alone the total number of experts needs
to be reduced, probably to single figures.

(b) Experts in metallurgical subjects namely 3, part 4, 5, 6, 7 8 from the above list make up almost half the total number re­quested. This, when considering that metallurgical trainers or programmes only account for 15 to 20% of total ITDC activity, appears to be an imbalance. This should be corrected by redu ing to 2, or at the most 3, experts.

c) A top priority over all other inputs should, it is considered, be the experts on Training Methods and Audio Visual Services. They are not on the list, and should be included.

d) In view of the priority now being rightly given to manage- ment/management systems training at least one general management expert should be included. Suggested topics are
- factory management information systems
- management by objectives.

7. MANNING AND FUTURE RECRUITMENT

Table 2 overleaf shows
- present and projected manning levels for I983 under the existing departmental structure
- the proposed project groups and the provisional allocation of existing staff to these new groups

The total number of professional trainers is now 35. Pro­jected recruitment for I983 is 21 which, with allowance for natural turnover, should leave about 50 trainers at the end of I983. Although ambitious overall, this is a feasible and manageable target for growth. The first priority and main thrust on recruit­ment should, however, come on four groups in the following order of priority

1. Training - 2 staff should be recruited for the posts of Training Services and Staff Development Officer and Audio­Visual Services Officer, preferably from within ITDC. They would then be trained up intensively by two short term UNIDO experts.

2. Quality Control (Group I7) - The project team for Quality control should be built up as quickly as possible to 3 by the recruitment of 2 experienced practitioners. One of these should be of sufficient potential to be rapidly promoted to Project Group Leader for Quality Control. The importance of this field fully warrants such an appointment.

3. Manufacturing Systems (Group I6) - At least 5 further professionals should be recruited as soon as possible. Here again, as with quality control, experience and seniority are essential prerequisites, more so than in the more tech­nical fields. Recruits should have at least 5 years practical industrial experience, preferably more, in their specialist fields. An early priority should be Maintenance Planning. Here, a UNIDO international expert input is scheduled for early I983, and a professional should be recruited to act as counterpart.
Table 2. Present and Projected Manning

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<td>Training</td>
<td>I part time adviser &amp; 2 support staff</td>
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4. General Management - The projected seven additional staff, in addition to the previous sole training professional and head of department and two very recent recruits, will make a total of ten trainers. This, if achieved, would provide an adequate team for this important and previously neglected training area. In terms of effective induction into the group and training, recruitment should be scheduled if possible progressively throughout the year. Recruits should, as for the quality control and manufacturing systems groups, be obtained from practising industrial professionals of middle to senior management grade who have a proven industrial track record. Here, more than in any other of ITDC's training fields, trainees will themselves be middle to high level managers and they will expect their trainers to be of equivalent calibre and experience.

Overall these four groups, training, manufacturing systems, quality control and general management should make up at least 40% of total professional trainers by the end of 1983. This would mean at least 20 trainers in these four fields. This would reflect the market demands for such types of training which are well over 40% according to the Adviser's assessment and ITDC's data on industrial training needs.

In other fields the metallurgical grouping (13) Foundry Technology, (14) Steelmaking Technology, (15) Heat Treatment and the two groups drawn from the previous electrical department namely (10) Electrical Protection Systems and (11) Industrial Electronics should, it is thought, be maintained at their present level of staffing. Automatic (or Process) Control Systems is, in the Adviser's experience, an area of vital and growing importance, and here one or possibly two more trainers should be recruited.

(9) Environmental Engineering, although not widely demanded by industrial clients, is of crucial importance to Turkey at its present stage of industrial evolution. A multi-disciplinary team of 4 to 5 specialists should be progressively built up over the next few years.

Energy, part of group 6, equally is of sufficient importance to justify its early separation into a separate group of two to three specialists.

Finally (8) Food Technology and (5) Machines Design are, in the Adviser's view, two suspect areas. They are both potentially enormous fields which are covered to some extent by the universities and specialised industrial R & D organisations. If ITDC is to make an effective impact in these fields it should do so in collaboration with these other institutions. Some tentative steps have been taken in this direction in the field of Food Technology through a protocol with Egi University.

8. ACTION PLAN

A proposed outline action plan to realise the recommendations of this report is given in bar chart form overleaf.
ITDC - ACTION PLAN

I ORGANISATION/TRAINING

I.1 Project Groups/Grade Structure

I.1.1 Finalise allocation of staff to Project Groups & Grades

I.1.2 Prepare training programmes for
- in house seminars
- industrial on job training to equip staff for new roles given in job descriptions

I.1.3 Implement I.1.2. above

I.1.4 Carry out Job Evaluation on new grades

I.2 New Functions Training Services/AV Services

I.2.1 Write job descriptions for international expert inputs on Training Methods/AV Services

I.2.2 Recruit experts via UNIDO Vienna

I.2.3 Recruit ITDC trainers to fill posts of
- Training Services & Staff Development Officer (TSSDO)
- Audio-Visual Services Officer (AVSO)

I.2.4 Arrival international experts training counterparts & ITDC trainers

I.3 Planning and Control Department

I.3.1 Organisational Analysis

I.3.2 Write new job descriptions

I.3.3 Implement job descriptions

1983 JAN FEB MAR APR MAY JUNE
2. FACILITIES GEBZE MOVE

2.1. Prepare advance plans for a nucleus organisation of trainers, administrative and support staff to be set up at Gebze showing
- what Ankara staff are to be transferred
- local staff to be recruited

Also what
- equipment
- programmes
are to be transferred/purchased
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9. CONCLUSION

ITDC is now at a vital stage in its development. From a pilot project it is now emerging as a nationally recognised industrial training centre. It's essential priority should now be to reduce the range of it's programmes and to strengthen itself as a training institution rather than generating more and more programmes. The proposals on organisation, programmes and future manning and recruitment are designed to achieve this.

The Adviser wishes to record his gratitude for the high level of friendly co-operation from all staff throughout his II months work at ITDC. In this context particular mention should be made of Yilmas Ayman, Project Co-ordinator, Teoman Tumer, Training Manager, Marat Bursa, Assistant Project Co-ordinator and Mrs Serpil Cubuk.

A similar debt of gratitude should also be extended to UNDP Ankara for their effective back up services to the Adviser during the project.
### Appendix I

#### PROJECT GROUPS AND PROVISIONAL COURSE TITLES FOR 1983

<table>
<thead>
<tr>
<th>Project Group</th>
<th>Courses Provisionally Selected for 1983</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Manufacturing Systems</td>
<td>Production Planning &amp; Control&lt;br&gt;Maintenance Planning&lt;br&gt;Repair and Maintenance&lt;br&gt;Work Study&lt;br&gt;Symposium on Industrial Engineering</td>
</tr>
<tr>
<td>3. Quality Control</td>
<td>Quality Planning &amp; Control&lt;br&gt;Metallography&lt;br&gt;Quality Control in Food Industry&lt;br&gt;ND Testing of Welds</td>
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<tr>
<td>4. Metal Working</td>
<td>Metal Forming and Removal</td>
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<tr>
<td>5. Welding</td>
<td>Welding Techniques and Applications&lt;br&gt;Aluminium and Cast Iron Welding</td>
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<tr>
<td>6. Hydraulics &amp; Lubrication</td>
<td>Industrial Lubrication &amp; Hydraulics</td>
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<tr>
<td>7. Machines Design</td>
<td>* Weaving Technology and Selection of Machines&lt;br&gt;Automotive Design&lt;br&gt;Agricultural Mechanisation&lt;br&gt;Design of Chemical Engineering Units</td>
</tr>
<tr>
<td>9. Corrosion &amp; Water Treatment</td>
<td>* Cathodic Protection in Buried Metallic Structures&lt;br&gt;Cathodic Protection in Submerged Structures and in Ships&lt;br&gt;Cathodic Protection in Process Equipment and Storage Tanks&lt;br&gt;Inhibitors&lt;br&gt;Corrosion Properties of Materials&lt;br&gt;Industrial Water Treatment&lt;br&gt;Metallic Coating&lt;br&gt;Corrosion in Food Industry&lt;br&gt;Industrial Paints&lt;br&gt;Organic Coatings</td>
</tr>
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</table>

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### Project Group Courses Provisionally Selected for 1983

<table>
<thead>
<tr>
<th>Project Group</th>
<th>Courses</th>
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<tbody>
<tr>
<td>I0. Environmental Engineering</td>
<td>Industrial Dust Elimination</td>
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<td></td>
<td>Industrial Noise Control</td>
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<td></td>
<td>Sea Pollution and Sea Disposal</td>
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<td></td>
<td>Industrial Air Pollution</td>
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<tr>
<td>II. Food Technology</td>
<td>* Sanitation in various Food Industries</td>
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<td></td>
<td>* Wheat Milling and Baking</td>
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<td></td>
<td>Cold Storage of Food</td>
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<tr>
<td>I2. Electrical Protection Systems</td>
<td>HV &amp; LV Systems Protection</td>
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<td></td>
<td>Safety Relays</td>
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<td></td>
<td>Explosion Protected Electrical Equipment</td>
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<tr>
<td>I3. Industrial Electronics</td>
<td>Power Electronics</td>
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<td></td>
<td>Speed Control of AC &amp; DC Motors</td>
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<tr>
<td></td>
<td>Applications of Thristors, Diacs &amp; Triacs</td>
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<tr>
<td></td>
<td>* Medical Electronic Equipment</td>
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<tr>
<td>I4. Automatic Control</td>
<td>NC Machine Tools</td>
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<td></td>
<td>Process Control Systems and Instrumentation</td>
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<td></td>
<td>Automatic Control</td>
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<tr>
<td>I5. Foundry Technology</td>
<td>General Casting Technology</td>
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<tr>
<td></td>
<td>Casting Defects &amp; Elimination</td>
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<td></td>
<td>Mould and Core Materials</td>
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<td></td>
<td>Foundry Planning &amp; Organisation</td>
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<td></td>
<td>Mini-Steel Plants</td>
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<td>Roll Pass Design</td>
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<td></td>
<td>Heat Resistant Steel Castings</td>
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<tr>
<td></td>
<td>Aluminium Castings</td>
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<tr>
<td></td>
<td>* Refractories</td>
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<td></td>
<td>Standards and Selection of Steels</td>
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<tr>
<td></td>
<td>Heat Treatment of Tool Steels</td>
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<tr>
<td></td>
<td>Heat Treatment of Iron Castings &amp; Furnaces &amp; Equipment</td>
</tr>
</tbody>
</table>
I. TITLE - ASSISTANT TRAINING OFFICER (ATO)

2. ORGANISATIONAL RELATIONSHIPS

2.1. Reporting to Project Group Leader on all administrative aspects and on training aspects either to the Project Group Leader or to a supervisory senior training officer assigned by the Project Leader

3. DUTIES

3.1. Under the supervision of a senior to study/develop a specialised training subject assigned by his Project Group Leader.

3.2. To receive training within ITDC on training techniques and procedures by

- attending internal staff development seminars
- administrative and support work in the planning and preparation of the group's course programmes

3.3. Carry out industrial training projects assigned and supervised by the Project Leader, so as to gain further industrial experience in his subject. A minimum of 3 months training in industrial establishments outside ITDC should be undertaken whilst training as an ATO.

3.4. Within 6 months to 1 year, on the basis of proficiency gained in 3.1., 3.2. and 3.3. above, and under the supervision of a senior to plan, prepare and give a limited number of professional training modules within a training programme. These should include the use of a variety of training methods and audiovisual techniques, and the preparation of full back up training materials.

3.5. If required to assist a senior in the planning, preparation and execution of missions by international experts assigned to ITDC.

4. QUALIFICATIONS AND EXPERIENCE

4.1. B.Sc. Degree minimum

4.2. Preferably at least 1 year's industrial experience.

4.3. Reasonable proficiency in a foreign language, preferably English. Further training within the ITDC's language training programme will be given if necessary.

N.B. The appointment is provisional for the first six months. Progress will be reviewed at the end of this period and, if this is satisfactory, confirmation will be made. Promotion to Training Officer will be made after 6 months to 1 year's service as an ATO. Such promotion will depend on satisfactory development both of the specialised subject and training skills as demonstrated by a proven ability to plan, prepare and give a number of training modules.
Appendix 3

I. TITLE - TRAINING OFFICER (TO)

2. ORGANISATIONAL/WORKING RELATIONSHIPS

2.1. Reports to the Project Group Leader on all administrative and training aspects

2.2. Collaborates closely with other members of the project team in developing subjects within the group's training field.

2.3. If required, and where the TO's knowledge and experience are relevant, to collaborate with members of other project groups in providing inputs to courses organised by them.

2.4. Works closely with both the Training Services and Staff Development Manager and the Audio-Visual Services Officer in improving the quality of the group's training programmes in terms of professional training expertise.

3. DUTIES

3.1. To study and develop a specialised subject assigned by the Project Group Leader.

3.2. To assist the Project Group Leader in

   - industrial training needs analysis and the identification of suitable subjects/course titles within the group's training field
   - planning and development of the group's course programmes

3.3. To receive further internal and external training to improve both technical subject knowledge and training skills. The planning of this further training will be carried out by the Project Group Leader and the Training Services and Staff Development Officer in consultation with the Training Manager and the Training Officer himself.

3.4. To plan, prepare and implement training programmes in his subject area, and to take an active part as a trainer in giving modules himself within these programmes. To this end the TO will be expected to meet performance targets on

   - man/months of training courses to be given
   - man/weeks of personal participation, which will be established by the Project Group Leader in consultation with the TO.

This will involve

   - the preparation of detailed course objectives
   - a clear specification of the type and level of course participants
   - development of outline course syllabi to meet course objectives
   - preparation of course job descriptions and, after approval by the Project Group Leader, their submission to the Training Manager

   ....continued/
Appendix 3 (cont.)

(TRAINING OFFICER (TO))

- selection of trainers
- choice of venue
- detailed planning with the trainers selected of the full course programmes and close and detailed supervision of all inputs by trainers into the planned programmes. Course modules within programmes should include the use of a variety of training methods and audio-visual techniques and the preparation of full background training materials/handouts. Full use should be made of the expertise/advice and services available from the Training Services and Staff Development Officer and Audio-Visual Services Officer in planning and developing all course programmes.

The Training Officer may be asked to provide inputs on other courses not organised by himself where, through his subject knowledge and his experience, he can make a valuable contribution. These inputs will usually be within courses given by other members of his project group, but occasionally will be made for courses given by other project groups.

3.5. As required to act as counterpart to international experts on mission with ITDC, a.d., under the supervision of the Project Group Leader, to be responsible for the planning, preparation and implementation of international experts' missions.

3.6. To carry out any other duties as assigned by the Project Group Leader.

4. QUALIFICATIONS AND EXPERIENCE

4.1. B.Sc. Degree minimum

4.2. Preferably 3 years industrial experience (service with ITDC as an Assistant Training Officer to be included).

4.3. Previous direct experience as a trainer with a good basic knowledge of training techniques highly desirable. This can be gained either as an ATO with ITDC, or through experience as a trainer outside ITDC.

4.4. Good proficiency in a foreign language, preferably English.

N.B. If through age and experience direct recruitment from outside ITDC is made into the TO grade, then the appointment will be provisional over the first six months. Progress will then be reviewed and, if satisfactory, confirmation made. Such direct recruits into the TO grade will be required to attend internal staff development courses on training techniques. The extent of this training will depend on their previous training experience.

Appointment to Training Officer grade confers eligibility for foreign fellowship training. This should normally be completed within 2 years from appointment.
I. TITLE - SENIOR TRAINING OFFICER

2. ORGANISATIONAL/WORKING RELATIONSHIPS

2.1. Reports to the Project Group Leader on all administrative and training aspects.

2.2. Collaborates closely with other members of the project team in developing subjects within the group's training field.

2.3. If required, and where the STO's knowledge and experience are relevant, to collaborate with members of other project groups in providing inputs to courses organised by them.

2.4. Works closely with both the Training Services and Staff Development Officer and the Audio-Visual Services Officer in improving the quality of the group's training programmes in terms of professional training expertise.

2.5. To supervise, as required, Assistant Training Officers under training.

3. DUTIES

3.1. To study and develop a specialised subject assigned by the Project Group Leader.

3.2. To assist the Project Group Leader in
   - industrial training needs analysis and the identification of suitable subjects/course titles within the group's training field
   - planning and development of the group's course programmes

3.3. To receive further internal and external training to improve both technical subject knowledge and training skills. The planning of this further training will be carried out by the Project Group Leader and the Training Services and Staff Development Officer in consultation with the Training Manager and the Senior Training Officer himself.

3.4. To plan, prepare and implement training programmes in his subject area, and to take a highly active part as a trainer in giving modules himself within these programmes. To this end the STO will be expected to meet performance targets on
   - man/months of training courses to be given
   - man/weeks of personal participation, which will be established by the Project Group Leader in consultation with the Senior Training Officer.

This will involve

- the preparation of detailed course objectives
- a clear specification of the type and level of course participants
- development of outline course syllabi to meet course objectives

...........continued/
(SENIOR TRAINING OFFICER (STO))

- preparation of course job descriptions and, after approval by the Project Group Leader, their submission to the Training Manager
- selection of trainers
- choice of venue
- detailed planning with the trainers selected of the full course programmes and close and detailed supervision of all inputs by trainers into the planned programmes. Course modules within programmes should include the use of a variety of training methods and audio-visual techniques and the preparation of full background training materials/handouts. Full use should be made of the expertise/advice and services available from the Training Services and Staff Development Officer and Audio-Visual Services Officer in planning and developing all course programmes.

The Senior Training Officer may be asked to provide inputs on other courses not organised by himself where, through his subject knowledge and his experience, he can make a valuable contribution. These inputs will usually be within courses given by other members of his project group, but occasionally will be made for courses given by other project groups.

3.5. As required to act as counterpart to international experts on mission with ITDC, and, under the supervision of the Project Group Leader, to be responsible for the planning, preparation and implementation of international experts missions.

3.6. To supervise, as required by the Project Group Leader, the training of assistant training officers within ITDC or on industrial projects outside ITDC.

3.7. To carry out any other duties as assigned by the Project Group Leader.

4. QUALIFICATIONS AND EXPERIENCE

4.1. B.Sc. Degree minimum.

4.2. Preferably 4 years industrial experience including service with ITDC.

4.3. At least 2 years full time training experience essential. This would normally be obtained through service with ITDC, but, in exceptional cases, could come from direct training work outside ITDC.

4.4. Excellent proficiency in a foreign language, preferably English

N.B. If possible all STOs should be recruited from the TO grade.
I. TITLE - PROJECT GROUP LEADER (PGL)

2. ORGANISATIONAL/WORKING RELATIONSHIPS

The Project Group Leader, who will be drawn from the STO grade, reports directly to the Training Manager. He collaborates closely with

- other PGLs on programmes where inter-project work is required
- the Training Services and Staff Development Officer and Audio-Visual Services Officer on training officer training and improvements in the quality of course programmes
- the Planning and Control Department on improving planning and control systems/procedures and in providing statistics from course evaluations and field visits
- the Public Relations Officer on promotional activities for the group's programmes.

The PGL supervises all STOs TOs and ATOs within the Project Groups assigned to him by the Training Manager

3. DUTIES

Responsibility as Group Leader for

3.1. Industrial Training Needs Analysis and the identification of subject areas/course titles within the group's training field.

3.2. Planning and Development of the group's programmes.

3.3. Allocation of work within the group.

3.4. Recruitment and appraisal of trainers within the group in consultation with the Training Manager.

3.5. Training/career development of trainers within the group in consultation with the Training Manager and Training Services and Staff Development Officer. This includes the identification, setting up and supervision of industrial training assignments for ATOs and the establishment with the Training Manager of performance targets for the group in terms of man/months training given and man/weeks of personal participation in courses for each trainer.

3.6. Approval of job descriptions, outline programmes and course terminal reports and their submission to the Training Manager.

3.7. Co-ordination with other Project Group Leaders of inputs on inter-project programmes.

3.8. Submission of such periodic reports as may be required to the Training Manager.

3.9. Group administrative duties covering such items as vacation, short leave, field visits, print requirements etc.

......continued/
3. IO Liaison with the Planning and Control, and Public Relations Departments.

3.II. As a trainer, planning, preparing and giving a limited number of high level symposia in Group(s) subjects each year. The PGL will not be expected to plan, prepare and give conventional seminars since his duties (3.I. to 3.IO.) as a Project Group or Groups Manager plus symposia activity will occupy him fully. He will, however, be expected to give a number of modules in programmes organised by his subordinates.

The PGL will establish, with the Training Manager, his own personal performance targets on

- symposia to be organised
- personal participation in the symposia and modules within the group's training programmes.

3.I2. To act as senior counterpart to all national and international experts assigned to the group, and to have overall responsibility for the planning, preparation and implementation of their programmes.

3.I3. To carry out any other duties as assigned by the Training Manager.

4. QUALIFICATIONS AND EXPERIENCE

4.I. B.Sc.Degree minimum

4.2. Preferably 4 years industrial experience including service with ITDC.

4.3. At least 2 years full time training experience essential. This would normally be obtained through service with ITDC but, in exceptional cases, could come from direct training work outside ITDC.

4.4. Excellent proficiency in a foreign language, preferably English.
I. TITLE - TRAINING SERVICES AND STAFF DEVELOPMENT OFFICER (TSSDO)

2. ORGANISATIONAL RELATIONSHIPS

The Training Services and Staff Development Officer (TSSDO) reports directly to the Training Manager.

The TSSDO will collaborate closely with
- Project Group Leaders and their trainers in advising on training methods and their improvement in the planning and preparation of their course programmes
- his subordinate the Audio-Visual Services Officer in coordinating advisory services to trainers, and in the joint planning, preparation and implementation of training programmes both for ITDC staff and for ITDC's external 'Training Trainers' programmes
- The Training Manager, Project Group Leaders and their trainers in planning, preparing and implementing staff development programmes.

The TSSDO supervises the Audio-Visual Services Officer.

3. DUTIES

3.1. Development of Training Methods at ITDC.

3.2. Assistance to Trainers with the planning and preparation of their courses on training methods and audio-visual aspects.

3.3. Give regular internal staff development courses on training methods.

3.4. With the Audio-Visual Services Officer and other senior training staff at ITDC, to plan, prepare and give courses on 'Training Trainers' as part of ITDC's external course programme.

Maintain a complete individual record for each trainer at ITDC showing
- qualifications
- experience received before joining ITDC
- training
- progress on subject development at ITDC
- training received at ITDC through on the job industrial assignments, internal staff development seminars, external courses, attachment to international experts as counterpart, and fellowship training abroad
- training achievement at ITDC, courses organised or participated in, modules given.

On the basis of evaluation of the above record, and in close consultation with the Training Manager, Project Group Leader and trainer himself, to advise on further training requirements for each staff member. When this is agreed, to plan, implement and monitor such further training and when this is completed, add this to the individual's training record.
4. QUALIFICATIONS AND EXPERIENCE

4.1. B.Sc. Degree minimum

4.2. Previous direct experience of at least three years in industrial training (preferably with ITDC)

4.3. Good proficiency in a foreign language, preferably English.
I. TITLE - AUDIO-VISUAL SERVICES OFFICER (AVSO)

2. ORGANISATIONAL RELATIONSHIPS

The Audio-Visual Services Officer (AVSO) reports directly to the Training Services and Staff Development Officer (TSSDO).

The AVSO will collaborate closely with
- Project Group Leaders and their trainers in advising on audio-visual techniques and their improvement in the planning and preparation of their course programmes.
- The Training Services and Staff Development Officer in co-ordinating advisory services to trainers, and in the joint planning, preparation and implementation of training programmes both for ITDC staff and for ITDC's external 'Training Trainers' programmes.
- the Public Relations Officer in providing publicity materials for the promotion of ITDC's services.

The AVSO supervises A/V technicians, drawing office/graphics staff, and print room operatives.

3. DUTIES

Under the supervision of the TSSDO

3.1. Advising training staff on the utilisation of audio-visual equipment, techniques and materials.

3.2. Preparing audio-visual materials for specified training needs of ITDC programmes.

3.3. To give regular internal staff development seminars on audio-visual techniques.

3.4. With other senior training staff at ITDC, and the TSSDO, to prepare and give courses on 'Training Trainers' as part of ITDC's external course programme.

3.5. Preparing, in close consultation with the Public Relations Officer, materials required for the Centre's publicity needs.

3.6. Ordering, installing and maintaining the Centre's audio-visual equipment.

4. QUALIFICATIONS AND EXPERIENCE

4.1. B.Sc. Degree minimum

4.2. Previous direct experience of at least two years in industrial training (preferably with ITDC)

4.3. Good proficiency in a foreign language, preferably English.