OCCASION

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

DISCLAIMER

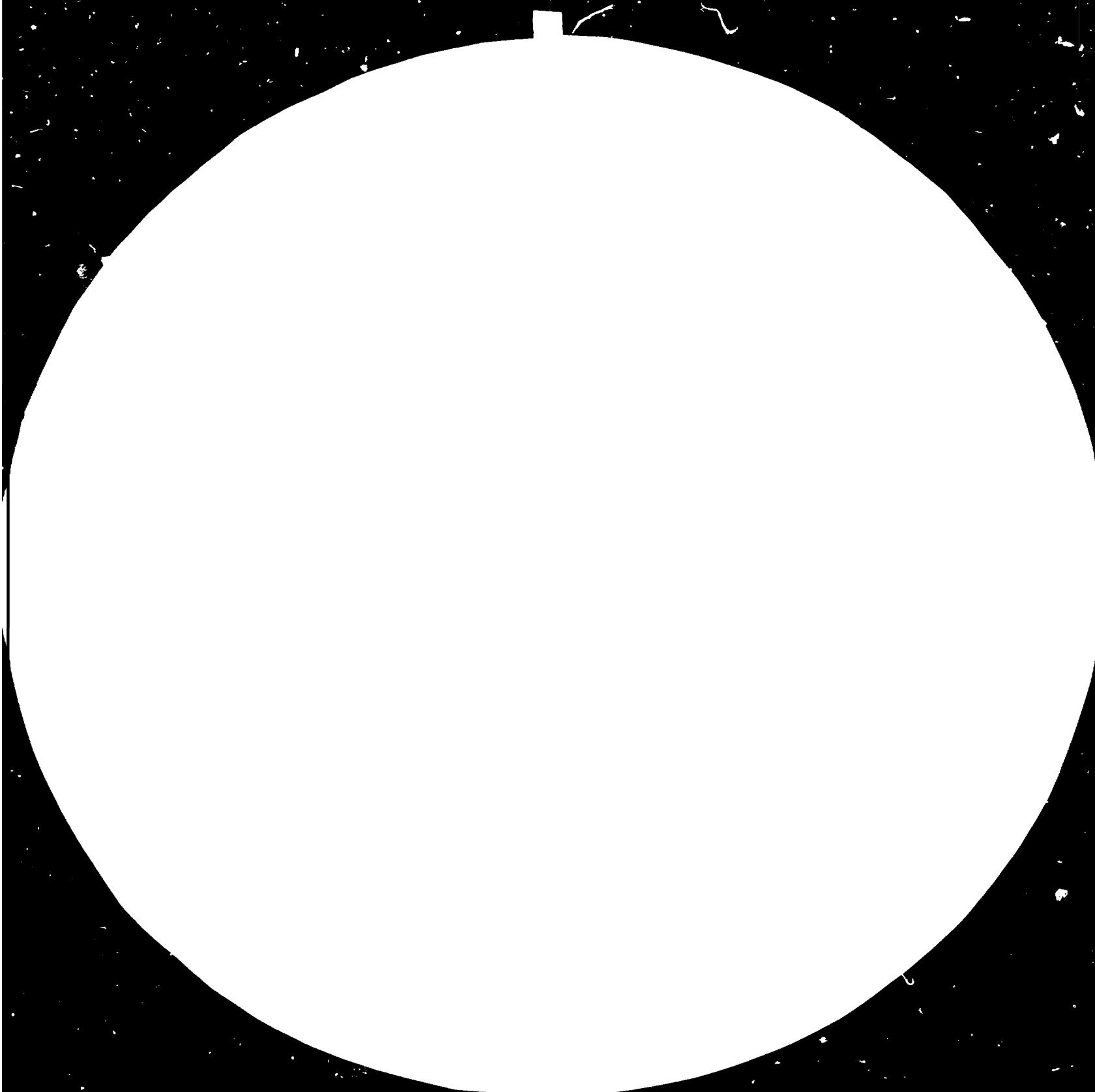
FAIR USE POLICY

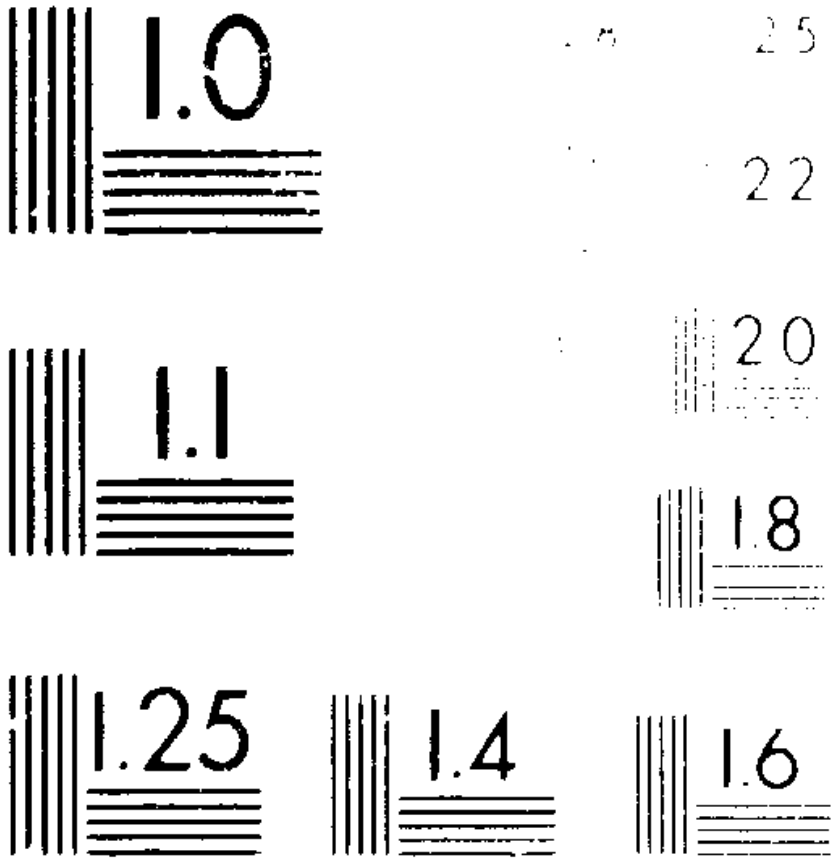
CONTACT

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

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

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
Vienna International Centre, P.O. Box 300, 1400 Vienna, Austria
Tel: (+43-1) 26026-0 · www.unido.org · unido@unido.org




1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5

14239

Egypt

INDUSTRIAL TRAINING ADVISORY SERVICES (ITAS)

TO THE

ENGINEERING & INDUSTRIAL DESIGN DEVELOPMENT CENTRE

CAIRO .

DP/EGY/81/011

FINAL REPORT

22 DECEMBER, 1983

Shirley A.Parfitt
Expert in Audio Visual Equipment
Techniques & Methodology

DP/EGY/81/011/11-02/31.5.A

United Nations Industrial Development Organization

VIENNA

CONTENTS

1. INTRODUCTION

1.1 The expert in audio-visual methodology, techniques and equipment began the two-month assignment on 23.10.83 and, after a one-day briefing in Vienna, arrived at the Engineering and Industrial Design and Development Centre, (EIDDC) Cairo. This assignment continues the work of the previous 1982 two-month assignment.

1.2 Terms of Reference

1.2.1 Assist the professional staff of EIDDC with the design and production of co-ordinated audio-visual material (as on the previous assignment) with emphasis on developing video training materials of specialized subjects for use in mobile training units.

1.2.2 Assist the professional staff of the Centre's a/v section to develop an audio-visual services function at EIDDC, including :

a) implementation and demonstration of a/v laboratory techniques;

b) a comprehensive programme of a/v equipment utilization, control and maintenance;

c) a system for training materials development including video systems techniques and mobile training unit exercises . Counterpart training will be an integral part of this activity.

1.2.3 Identify, select and requisition appropriate training films, training equipment and audio-visual material appropriate for mobile training units.

1.2.4 Design and conduct a training programme in the use of audio-visual equipment.

2. RECOMMENDATIONS

2.1 To fulfil its role as a Centre of Excellence for industrial training and as a pioneer among the proposed National Centers in Africa, the EIDDC has a pressing need for an adequate Audio-Visual Service to support its training programme.
The components necessary for the efficient functioning of an A/V unit are : equipment, a/v materials, accommodation and appropriately qualified staff.

2.2 The Equipment.So far aquired is now sufficient as a basis for the a/v unit. (Two additional items of equipment, a video control/edit unit and a PMT unit would increase effectiveness of existing facilities if/when funds become availalbe.
Details : Annexe 4.4

2.3 Materials. The instructional films, videos and manuals, previously requisitioned are now arriving. However, lack of space and staff hinders the proper use, cataloguing, previewing & distribution of these materials. As a temporary measure, (or permanent if this is satisfactory to everyone) these films & manuals may be dealt with by the ITAP reference library.

2.4 Accommodation. The large stock of a/v equipment now requires space for its proper deployment,usage & access.
The present situation of the a/v manager is like that of a man living out of a suitcase, or a carpenter without a workshop. The resulting effort in unpacking & setting up ad hoc operations tends to be greater than the effort of the work itself.
The conversion of the former print room or other suitable room to a video studio would make possible the production of video training films, photography of objects and would relieve pressure on the a/v storeroom which can then afford space for transparency production, book binding etc and make access to the slide cabinet possible.
Details : Annexe 4.5 Accommodation plans. Video studio layout.

2.5 Staff . The minimum staff of an audio-visual unit comprises :

A/V Services Manager
A/V Technician
Two graphic designers
Typist/assistant
Printer
General assistant

Details : Annexe 4.6 sets out the organization and job descriptions of an a/v unit, plus an assessment guide for the recruitment of the graphic designers.

The expert particularly recommends that these job descriptions and recruitment guides are considered when advertising for new staff.

2.6 Staff Training : The present A/V Services Manager would benefit from a short video technician's course, and a short course or visits to study the organization of other similar units.

The A/V Technician is the lynch-pin of an a/v unit, on whom the efficient operation depends. He must understand a wide range of technologies and equipment and be capable of organization. For this a good training in an "Educational Technician's Course" lasting not less than 12 weeks is desirable.

The graphic designers should be already qualified as graduates from a Graphics Department of a School of Applied Art.

Details : Annexe 4.7

2.7 Future a/v expert role : The continuing problems of staffing and accommodation for the A/V Services Unit determine the nature of future assignments.
When accommodation and staff are obtained for the unit, an a/v expert could make a valuable contribution, and help the unit in all aspects of a/v & video production, design, organization and maintenance.
Meanwhile, it may be more constructive for an expert to help the EIDDC in its progress towards a fully staffed and adequately housed service, by co-operating in an advertising goal-setting role, with more frequent, shorter visits.
The phases and timing could be determined in collaboration with the National Project Manager. The items to be phased are detailed in Annexe 4.3, "Future a/v expert input", paragraph 4.3.3.

3. BODY OF REPORT

3.1 Activities

The expert reviewed the newly-arrived films and manuals which had been requisitioned during the previous assignment. Missing items were reported for following up.

Lists were compiled of all films & videos and divided into broad subject categories, and proposals made for regular viewing sessions to which the divisional lecturing staff concerned would be invited.

A schedule was proposed of individual consultations in conjunctions with the Chief Training Officer with the divisional heads on the subject of planning their a/v requirements. This was later modified to five areas : Welding, Deisel, Industrial Design, Mechanical Measurements and Tools and Dies.

The expert responded to requests from the National Project Manager for two projects :

a) "The Activities of EIDDC", a slide/tape programme, and
b) "How to Negotiate", a set of vu-foils to illustrate a seminar.

For the former a storyboard was prepared, art work for titles, captions and maps were requested from the two designers in the Industrial Design Division, following the procedure established previously. The A/V manager commenced photography.

For the second project "How to Negotiate", the expert prepared an analysis of visuals to cover the complete manuscript and estimated production time.

The expert began work on a "location" video and a "montage" video, pending preparation/availability of studio space. The location Video on the newly-installed test rig in the Deisel workshop was commenced : "Test procedures, part I - start-up checks" with the a/v technician, thereby introducing him to camera work and storyboard planning. Art work for titles was requested from the designers."A montage"was planned from existing videos on the Nasco Automotive Company testing techniques.

In order to continue with video production, a temporary studio was set up at the Dar-ei-Salaam Institute, and a video training programme, "Mechanical Measurement, Part I - Verniers and Micrometers" was filmed and art work for titles requested from the designers. The expert worked with the A/V Manager on overcoming the technical problems posed in ad hoc situations, and the presenter, who was a staff member, ably adapted his style to the medium of TV. Further titles were planned for "Mechanical Measurements" and "Tools and Dies"..

A report was prepared on Mobile Training Units, from information researched by the expert, various types and combination of equipment and functions were examined (mobile a/v presentation/ demonstration workshop/practical workshop/video production unit).

Specifications were prepared and quotations obtained, from which five options were presented for discussion with the National Project Manager and the Head of Training Division.

The five different versions and their possibilities of extending EIDDC capabilities generated a great deal of interest.

The report on Mobile Training Units is submitted under a separate cover, which includes brochures, correspondence and specifications from suppliers.

A seminar was given by the expert on the use of visual aids in training workshops and for conference presentations. The subject was on FAO project "FARMAP", for which the expert is the consultant on visual aids.

Participating in the seminar were the EDDIC President and staff and the UNDP programme officers for industry and agriculture. Other interested parties from the Ministries and FAO were also invited by UNDP. The seminar generated interest in the potential of a/v techniques for training in abstruse subjects, as a discussion tool and for persuasion and attitude changing, and hence a renewed interest in the potential services of the A/V unit.

Incidentally, the subject of the seminar generated interest within UNDP in gaining FAO's "FARMAP" service of data collection and computer processing for rural development policy makers.

The expert drew up job descriptions and a recruitment guide to "qualities and qualifications" of applicants for posts in the A/V unit. These formed the basis of a press advert for a replacement for the A/V assistant who will soon leave.

3.2 Problems encountered

3.2.1 The expanded training programme of EIDDC has increased the work/load of the staff with the result that the counterparts, (A/V Manager and Assistant) were fully engaged most of the time and were not able to co-operate sufficiently with the expert, resulting in the following typical problems :

- Two seminars which were planned on a/v techniques were not organized or carried out.
- Video cameras were inaccessible to the expert for checking technical characteristics before shooting sessions.
- Little opportunity to extract and check equipment for setting up temporary studio (Lighting, caption, camera tripods, back projection etc.)
- Duplication of videos not carried out.
- Slide programme photography began, but stalled by delays in mounting the film as slides.
- Delays in production of video programmes because of difficulties in assembling all of the team at any one time.

3.2.2 Shortage of space results in video editing and viewing all takes place in the storeroom, with resulting lack of access and utilization of other equipment, e.g. Thesmal transparency maker, bookbinder, slide cabinet, light box.

3.2.3 Temporary video studio posed the problems of :

- Unsuitable portable spotlights, causing glare; reflections and hard shadows.
- Extraneous noise and sunlight.
- Interruptions from staff needing access to room.
- Colour and tone of surfaces unsuitable.
- Accumulative set-backs cause stress on staff, and performance was affected.

A permanent studio would facilitate a more professional standard with the existing equipment, and encourage production and co-operation from professional staff.

3.2.4 The design staff in the Industrial Design Division were designated during the last assignment as producers of visual aids for the A/V section. However, this arrangement has not functioned. It is now apparent that their background is not suitable for graphics. They do not tackle mechanical subjects, hand-written Arabic captions or scaling up maps and diagrams.
Their position in a different division poses administrative problems of finance and materials supply.
The recruitment of suitable qualified staff to the A/V section should overcome these problems.

3.3 Results compared with objectives

To summarize, the objective of producing satisfactory video programmes was largely unattainable.
Sufficient equipment was in the store-room, space for a studio was designated, but not accessible because of administrative problems, and counterparts were willing but under-staffed and too overcommitted to their daily duties.
The expert contributed in discussions aimed at solving these problems, and a consensus of agreement was ~~needed~~ reached upon solutions.

However, one video programme, of a series which were planned, was produced and another programme was begun and is being continued by the A/V Manager. Although this is a small amount, the experience gained covered the main lessons to be learnt, and the a/v Manager can now plan a storyboard, decide lighting positions, camera positions and movement and operate the camera and related equipment satisfactory. He can also advise the lecturer appearing in the film on how to adapt demonstration techniques to video requirements.

The Kodak twin slide projector dissolve unit was unpacked, adjustments made & utilized. A letrasetter machine was unpacked, de-bugged and utilized.

ANNEX 4.1
COUNTERPARTS

Mr. Ezz el Sharkawy
Director
Training Division

Ismail Ibrahim Ismail Raqab
Audio-Visual Assistant
Training Division

Yusef Abbas
Training Manager

Violette Wadie Rizkalla
Chief Training Officer

Mrs Dalal Mohamed Nuur el Din
Graphic Designer
Industrial Design Division

Mrs Mahwash Reiad Ibrahim
Grapgic Designer
Industrial Design Division

Eng.Mohamed Kamal
Chief of Industrial
Design Division

Mr. Eng. Sherif
Engineer and lecturer with
Deisel Workshop

Mrs Mahwash Reiad Ibrahim
Graphic Designer
Industrial Design Division

Mrs Eng. Sondos
Chief of Deisel Engineering Workshop.

4.3 FUTURE AUDIO-VISUAL EXPERT INPUT

An expert's contribution can be on three levels :

a) transfer of skills to staff.
b) production of a/v materials.
c) advisory, goal-setting role.

1. The first function is impracticable, because the a/v staff's time is taken up with their commitments of the centre. Furthermore, the process of teaching and follow - through into everyday practice requires a longer assignment than is envisaged. Therefore, overseas training fellowships must fulfil this function.

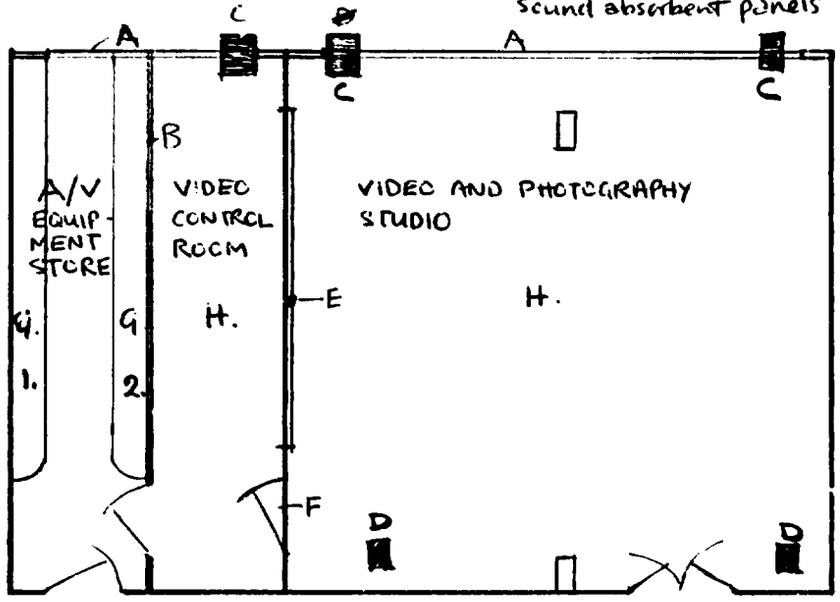
2. The second function, the production of a/v materials is quite possible by the expert using the center's equipment single-handed, but of short-term benefit.
If, however, there are counterparts, adequately qualified and not distracted by other duties to work closely with the expert, then this could be valuable.
A programme of a/v production could be launched, a useful block of work accomplished and an efficient and productive modus operandi established.
Timing: ideally this would require a minimum of three months in order to initiate, design, produce materials and integrate into divisional training programmes.
The project document provides for only 1.5 m/m per annum. If it is thought desirable, this might be converted to a longer period, e.g. 6 months, at a different level of UN personnel, e.g. UN volunteer or associate expert.

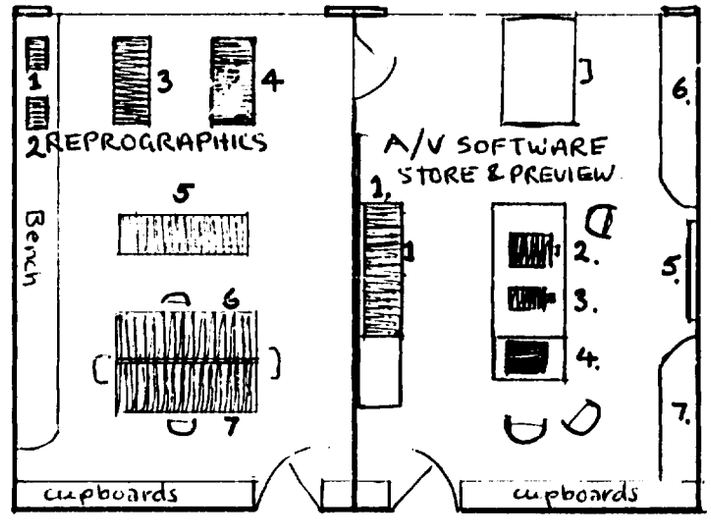
3. The third function, advisory & goal-setting, may help to develop the A/V unit in conjunction with EIDDC inputs. The A/V Expert would make shorter, more frequent visits to advise and monitor a phased programme of development.
Timing: three visits annually of two weeks each in 1984 and 1985.
Phases: Preparation of video/photography studio.
Recruitment of a/v designers a/v technician & typist.
Overseas training fellowship for a/v technician.
Monitoring maintenance schedules.
Video production programme (ongoing)
Production of vu-foil/lecture note packs (ongoing)
Re-production of course hand-outs.
Training officer's regular seminars to lecture staff on methodology etc.

AUDIO-VISUAL SERVICE UNIT. PROPOSED LAYOUT

SCHEDULE OF NEW REQUIREMENTS

A. Double-glazed windows
B. New partition with door
C. Air-conditioners
D. Spirit units
E. Sound-proof window
F. New door.
G. Strip lights built in to shelving units.
H. Carpet/curtains + sound absorbent panels





ANNEX 4.4 Accommodation Plan

CONTENTS
A/V EQUIPMENT STORE

1.] Shelves
2.] (with new built-in strip lighting)

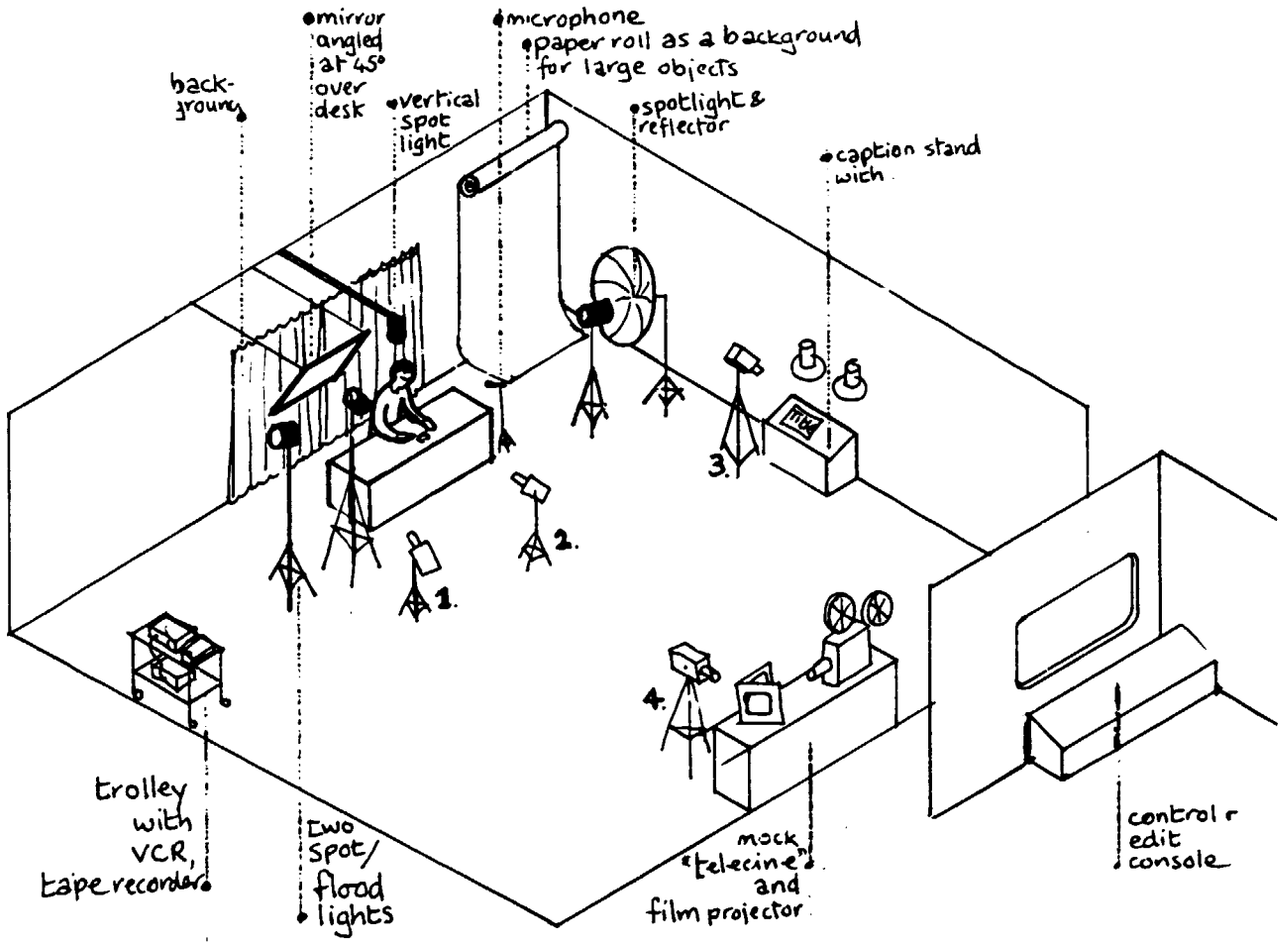
CONTENTS
REPROGRAPHICS ROOM

1. Thermofax copier
2. Spiral binder
3. Graphic designer 1.
4. Graphic designer 2.
5. Photocopier
6. A/V managers' desk
7. A/V technician

CONTENTS
A/V SOFTWARE STORE & PREVIEW ROOM

1. Slide cabinet and light table
2. 16mm film projector
3. 35mm slide projector
4. Video monitor + recorder
5. Screen
6. Shelf storage for films
7. Shelf storage for video.

ANNEX 4.5 Video Studio Layout



Camera positions (either 4 cameras in permanent positions, or 1/2 cameras moved around))

1. Directed at mirror over desk, to photograph demonstrations, objects, books etc.
2. Directed at the presenter.
3. Caption camera.
4 Telecine camera.

Schedule of studio contents

Background, e.g. a curtain.
Mirror, approx 100 x 60cms, angled at 45° and suspended over desk.
Lights: one vertical spotlight over presenter
one spotlight and one floodlight, a presenter.
one reflected spotlight on the presenter's other side
lighting for captions ~~camera~~
Microphone, on stand, or attached to presenter.
large paper roll as background to large objects.
Caption stand.
Trolley with VCR, adapter, tape recorder or record player.
Telecine and projector on Table.
carpeted floor (industrial felt type) for sound proofing), over tiles or concrete screed.
Camera dollies and stands.
Control + edit console.

This diagram is schematic, not literal. The objects are represented as symbols, and not as any specific type, make etc.

Annexe 4.6

Job descriptions for A/V staff

4.6.1 Audio-Visual Services Manager

1. Organisation of the workflow of the unit, with priorities defined, and raw materials obtained.
2. Delegation of tasks to be carried out by the A/V services section for the training programme.
3. Quality control of all work assigned and produced, and timely delivery ensured.
4. Ensure proper care, maintenance, storage and use of equipment.
5. Photography & video producer/cameraman.

4.6.2 Audio-Visual Designer/s

Responsibilities & duties

1. To seek out and advise on training materials requirements of the divisions.

2. To plan the media for the divisions' training schedule:

   a) Video : detailed storyboards with camera positions, lighting, sound effects, etc.

   b) Vu-foils : complete vu-foil-plus-lecture-note sets for each of the EIDDC courses.

   c) Slide-Tape programmes

3. To produce the following :

   a) Video titles, captions and diagrams, with appropriate colour, tunes, size, scale, and to a high standard of design & calligraphy in Arabic & English.

   b) Vu-foils of technical & mechanical subjects, with effective use of OHProjector techniques.

   c) Lecture notes, edited from spoken & written briefings, and integrated with the vu-foils as a complete package.

   d) Slide/tape programmes; preparing storyboards as a guide to the a/v technician (who will dub them). Producing titles, captions & illustrations to a high standard of design, and with due regard to appropriate colours, scale etc.

4. Art direction : The recruit will act as "art director" in all photographic and video sessions. He/she will prepare :

   a) Studio shots of objects, attending to background, lighting, camera view-points etc.

   b) Studio arrangements of presenter/lecturer and his demonstration materials, with attention to appropriate lighting, background, camera view-points; and to advise the presenter on appropriate TV techniques.

4.6.3 Audio-Visual Technician

1. Assist the A/V Manager in video production, by acting as second cameraman and carrying out video editing of programmes according to storyboards supplied by the design staff.

2. Set up a/v equipment in the training areas and in the preview area as required.

3. Produce thermal transparencies, photocopied transparencies and operate the book binding equipment.

4. Check a/v equipment regularly and maintain in good order.

4.6.4 Typist/Assistant

1. Circulate lists of available films, videos, slides and vu-foils to all lecturing staff.

2. Type all course handouts in either Arabic or English.

3. Assist the designers with the compilation of a/v packages (e.g. vu-foils plus lecture's notes).

4. Chief photocopier, reponsible for making print masters (paper plates).

4.6.5 Printer

1. Offset printing and of stencil duplication of course handouts etc.

4.6.6 General Assistant

1. Operation of second photocopier.

2. General assistance to A/V Manager & A/V Technician.

Annexe 4.6

ii) Organization chart of Audio-Visual unit

A/V MANAGER

1. Organisation of workflow.
2. Requisition of raw materials.
3. Distribution of a/v output.
4. Photographer/chief video cameraman.
5. Video producer.

A/V DESIGNER/S

1. Research training requirements.
2. Planning media for all training courses
3. Re-design all course hand-outs.
4. Storyboard planning for videos, tape/slide etc.
5. Art direction of video and photography.
6. Design and produce titles, diagrams, captions etc.
7. Design and produce vu-foils and integrate with lecturer's notes to form complete a/v packages for each course.

A/V TECHNICIAN

1. Second cameraman on video productions.
2. Edit/montage of videos
3. Distribution/retrieval of equipment and materials.
4. Production of thermal transparencies.
5. Maintenance of equipment.

TYPIST/ASSISTANT

1. Circulation of lists of available films, videos, etc to lecturing staff.
2. Type all course hand-outs in Arabic or English.
3. Assist designer/s with the compilation of a/v packages for courses.
4. Chief photocopier, responsible for making print masters.
5. Operation of book binding equipment.

PRINTER

1. Offset and duplicator reproduction of course hand-outs etc.

GENERAL ASSISTANT

1. Operation of photocopier.
2. General assistance to A/V manager and A/V technician

iii) Recruitment guide for graphic design staff:

Qualities

An active, dynamic temperament & willingness to take the initiative in seeking out divisional training needs.

Organisational ability and a logical mind.
This is a key requirement, because the designer must be able to deal with large amounts of information (spoken, printed, filmed) and be able to mentally accommodate it, classify it, determine priorities, divide it into sections appropriate to the media, corelate and combine verbal & visual information and organize it in logical sequence.

Technicallyminded and interested in the activities & equipment of the Centre and also the a/v equipment which he/she will be dealing with.

Qualifications

Training in "Information Graphics" i.e. visuals to convey objective information, as opposed to advertising (persuasive graphic) decorative & fine art (subjective graphics).

Facility in the design of ; diagrams, cut-aways, illustrations, and in the techniques and use of graphic instruments and familiarity with modern graphic materials.

Photography; some experience of taking photographs for "information" with ability to choose the most effective angle of shot, lighting, use of focus, background etc, in both studio and location subjects.

Video & slide/tape programmes; some experience with video equipment is desirable, but at least, the applicant must show ability to organize a programme as a storyboard/scenario which comprises a) visual sequence, b) commentary, sound effects, musical backing, c) timing, d) camera positions & movements (pan, zoom etc) and e) lighting positions.

How many staff are required to fulfill these functions
Recent developments in training courses in U.K. & USA have produced courses in "Information graphics" which cover all these aspects. If such a course is available in Egypt, then one employee, a graduate of that course, might be sufficient. Otherwise, these functions could be divided between two or more employees, along the lines of a) a planner and b) a producer.