

BIBLIOGRAPHIC DATA SHEET

1. CONTROL NUMBER

PN-AAH-617

2. SUBJECT CLASSIFICATION (695)

JM00-0000-G140

3. TITLE AND SUBTITLE (240)

Installation of audiovisual equipment in the Health Education Division/Nairobi

4. PERSONAL AUTHORS (100)

Qureshi, Iqbal

5. CORPORATE AUTHORS (101)

Am. Public Health Assn.

6. DOCUMENT DATE (110)

1979

7. NUMBER OF PAGES (120)

21p.

8. ARC NUMBER (170)

KE371.33.Q1

9. REFERENCE ORGANIZATION (130)

APHA

10. SUPPLEMENTARY NOTES (500)

11. ABSTRACT (950)

12. DESCRIPTORS (920)

Educational technology

Kenya

Equipment

Communications technology

Visual aids

13. PROJECT NUMBER (150)

932087700

14. CONTRACT NO.(140)

AID/pha-C-1100

15. CONTRACT
TYPE (140)

16. TYPE OF DOCUMENT (160)

PN-APH-617



AMERICAN PUBLIC HEALTH ASSOCIATION
International Health Programs
1015 Fifteenth Street, N.W.
Washington, D.C. 20005

INSTALLATION OF AUDIOVISUAL EQUIPMENT
IN THE HEALTH EDUCATION DIVISION/NAIROBI

A Report Prepared By
IQBAL QURESHI

During The Period
SEPTEMBER 1979 TO DECEMBER 1979

Under The Auspices Of
THE AMERICAN PUBLIC HEALTH ASSOCIATION

Supported By
THE U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT
AID/pha-C-1100

AUTHORIZATION
Ltr. POP 7/26/79
Assgn. No. 1100-169

Agency for International Development
Library
Room 105 SA-18
Washington, D.C. 20523

TABLE OF CONTENTS

Preface	i
Executive Summary	ii
I. Introduction	1
II. Observations	3
III. Recommendations	6
Appendix A: Installation Plan for Audiovisual Production Unit	12
B: List of Agencies Contacted	15
C: Work Schedule	16
D: List of Persons Contacted	17

PREFACE

This report briefly describes the project to install audiovisual equipment supplied by the U.S. Agency for International Development (USAID), in the Audiovisual Unit (AVU) of the Ministry of Health (MOH) of the Government of Kenya (GOK).

Throughout the duration of the project, from September 1, 1979 to November 30, 1979, the consultant received the cooperation of all those who were either directly or indirectly affiliated with the Audiovisual Unit. Through the medium of this report, the consultant would, therefore, like to express his appreciation to the following persons for their continued guidance and support: Dr. S. Kanani, Director, National Family Welfare Centre (NFWC); Dr. J.M. Miano, Deputy Director, NFWC; and Mr. D. Mbai, Officer of the Health Education Division.

The consultant would also like to acknowledge the assistance provided by USAID personnel in Nairobi: Mr. S. Liberstein, Population Officer; Mr. L. Gardella, former Population Officer; Ms. N. Nuinde, Program Operation Assistant; and Ms. M. Margarete, Office of the Secretary of Population, Nutrition, and Health Division.

Iqbal Qureshi

EXECUTIVE SUMMARY

Under the sponsorship of the American Public Health Association, the consultant assisted the Ministry of Health, Government of Kenya, in supervising the installation of audiovisual equipment in the newly constructed facility for the Health Education Division, and in training the staff in the use and maintenance of the equipment. The consultancy was of three month's duration, from September 1, 1979 to November 30, 1979.

At the time of the consultant's departure from Nairobi, almost all of the equipment received by the Health Education Division had been installed and test-run. Following installation of the audiovisual equipment, the consultant also conducted demonstrations for selected personnel concerning the proper use and maintenance of the newly acquired equipment supplied by the U.S. Agency for International Development.

To provide some assurance that the new facility and equipment are utilized to their full capacities, it is important that a number of remaining tasks, including repairs and modifications of the facility and equipment, be initiated. The following tasks, however, are critical to the successful operation of the Audiovisual Production Unit:

- hiring of specialists to fill technical positions;
- training and/or re-orientation of some of the existing staff members; and
- developing a planning, evaluation, and distribution sub-unit within the Health Education Division.

For a full discussion of the "Recommendations", see Chapter III of this report.

I. INTRODUCTION

In response to an official request from the Ministry of Health (MOH), Government of Kenya (GOK), the U.S. Agency for International Development agreed to provide technical assistance in carrying out the installation of audiovisual equipment (supplied by USAID) in the newly constructed facility for the Health Education Division (HED). As stipulated in the contract, the purpose of the assignment was to provide technical assistance to the National Family Welfare Centre (NFWC) in Nairobi by:

- supervising the installation of equipment, and
- training the staff in the use and maintenance of the audio-visual equipment.

Construction of the new building, financed by the World Bank, was completed around mid-1978. The new facility has two main wings. One is used for audio-visual production and the other includes staff offices, an auditorium and a library-cum-reading/display room. The audiovisual production wing includes the following sub-units: printing, photo studio, electronic media (sound studio and TV studio), and a workshop.

Towards the end of 1978, the audiovisual equipment began arriving in the country. By the time of the consultant's arrival in Nairobi on September 3, 1979, most of the equipment and related materials were in place. Although the equipment inventory was complete and well maintained, the storage of equipment was unacceptable. In most cases, the crates had been opened without care and, in some instances, the equipment was covered with dust. Most of the equipment and related materials had been stored in the printing press room along with medical supplies intended for distribution in the Maternal and Child Health/Family Planning (MCH/FP) Clinics in the rural areas.

Initially, the consultant conducted a thorough inventory of the audiovisual equipment with the help of selected personnel. Following this, the equipment was sorted, distributed, and stored in appropriate places to ensure longevity. Unfortunately, two full weeks were required to complete this activity. The unnecessary delay resulted from the following factors. First, there was neither a room nor a department in which to house the medical supplies and clinical instruments stored in the printing room and television studio. Second, the fork lift and other tools essential for moving heavy equipment and materials had to be borrowed from the Ministry of Works (MOW). However, the delay in carrying out the installation work was primarily caused by the non-availability of necessary manpower such as electricians, plumbers, carpenters, mechanics, and professional movers.

Earlier, it was anticipated that the contractors who had completed the construction work would provide these technical services. However, when the contractors were approached, it was learned that the contract, under which such services were rendered, had, in fact, expired. Moreover, discussions with the contractors also revealed the fact that they lacked the necessary expertise to

provide most, if not all, of the services required to carry out the installation of the equipment.

The Ministry of Works (MOW) is the main agency providing technical assistance for construction, repairs, and installation services. As such, this Ministry was formally requested to assist in the assembly and installation of the equipment. The installation plan also included other tasks such as minor alterations and repairs in the building, repairing of fixtures and the demolition of building*, etc. The plan is shown at Appendix A.

After the installation guidelines were given to the appropriate personnel within the Ministry, there was every indication that the MOW would provide the much-needed assistance. However, due to manpower shortages and previous commitments, the Ministry was unable to comply with the request for services.

Hence, during subsequent conversations with the appropriate authorities, the consultant suggested the work be contracted out to private agencies. This suggestion was readily agreed upon by the authorities, and the consultant was asked to contact appropriate agencies and to make the necessary arrangements for carrying out the installation of audiovisual equipment.

With assistance provided by various officials of HED, the consultant succeeded in securing quotations from two agencies that agreed to do the installation work. (See Appendix B for list of contacts.) The agencies include: Spicers of East Africa Limited, specialists in printing equipment and materials, and International Aeradio (East Africa) Limited, audio equipment specialists. When the quotations from both companies were submitted to Ministry of Health officials, the authorities expedited their processing.

As a result, the actual installation was initiated during the final week of October, 1979. (See Appendix C for schedule of work.) At the time of the consultant's departure from Nairobi, the installation of all equipment in the printing room, sound studio, and mechanical/carpentry workshop had been completed. Following installation, demonstrations concerning the proper use and maintenance of equipment were held with selected personnel, and all audiovisual equipment was tested.

* See page 7, point 11 for explanation.

II. OBSERVATIONS

After meeting with the staff of the Ministry of Health and the USAID Mission, it became apparent that confusion existed with respect to the specific functions of the consultant. For example, there was a common misunderstanding that the consultant was to complete the installation of audiovisual equipment without assistance. Hence, no preparations for support services were undertaken. As a result of these misconceptions, the consultant would like to suggest that the confusion could have been avoided if USAID/APHA had provided the Ministry of Health with detailed information regarding the scope of work, as well as the specific qualifications and professional experience of the consultant. Moreover, all project documentation should have been given to the consultant prior to the assignment.

It is also significant to note that another important aspect of the assignment was not clearly defined. This related to the dismantling, moving and reinstalling of the old equipment. There was confusion as to whether USAID/APHA would provide assistance for these tasks or whether the MOH would assume the responsibility. As a result of the poorly defined assignments, the consultant was, of necessity, involved in time-consuming chores a good deal of the time.

Despite the foregoing inconvenience, the list entitled "Planning for the Audiovisual Equipment and Commodity Needs", prepared by Bjorn E. Berndtson for the American Public Health Association, was extremely useful. This list reflects a well-designed plan for the Audiovisual Production Unit. Even so, a number of problems had to be dealt with in order to complete the installation of the equipment. The most common problem was concerned with the electrical fittings of the equipment. Most of the equipment was designed for 110 volts, 60 cycles, while the electric supply in Kenya is 220 volts, 50 cycles. For this reason, electrical parts like transformers, sockets, cables, and fuses had to be procured.

Some of the parts/equipment were missing; others were damaged. The most serious problem, however, resulted from the incompatibility of the equipment, e.g., sound mixer, 3-M paper plate-making machines and ATF offset printing machine, which were found to be the first and the only equipment of their kind and specifications in Kenya. In particular, the offset printing machine (an ATF 25 Chief) was and will be problematic because of slight variations in certain specifications. The most common and very popular offset printing machine, doing the same job as the ATF 25 Chief, found in Kenya is Solna 125 Chief (made in Sweden). Some of the differences in the specifications of these machines are:

	<u>Solna 125 Chief</u>	<u>ATF 25 Chief</u>
Paper Size	$18\frac{1}{2}" \times 25\frac{3}{16}"$	$19" \times 25\frac{1}{4}"$
Printing Area	$17\frac{1}{2}" \times 25"$	$18" \times 25"$
Plate Size	$20\frac{1}{16}" \times 25\frac{3}{8}"$	$21" \times 25\frac{3}{8}"$

Although these differences appear to be only slight, they will affect both the maintenance and the operation of the machine. Not only will the spare parts be difficult to purchase locally, but accessory parts such as printing plates, rubber blankets, and other items which continue to wear and tear and need replacement regularly are not available from local suppliers.

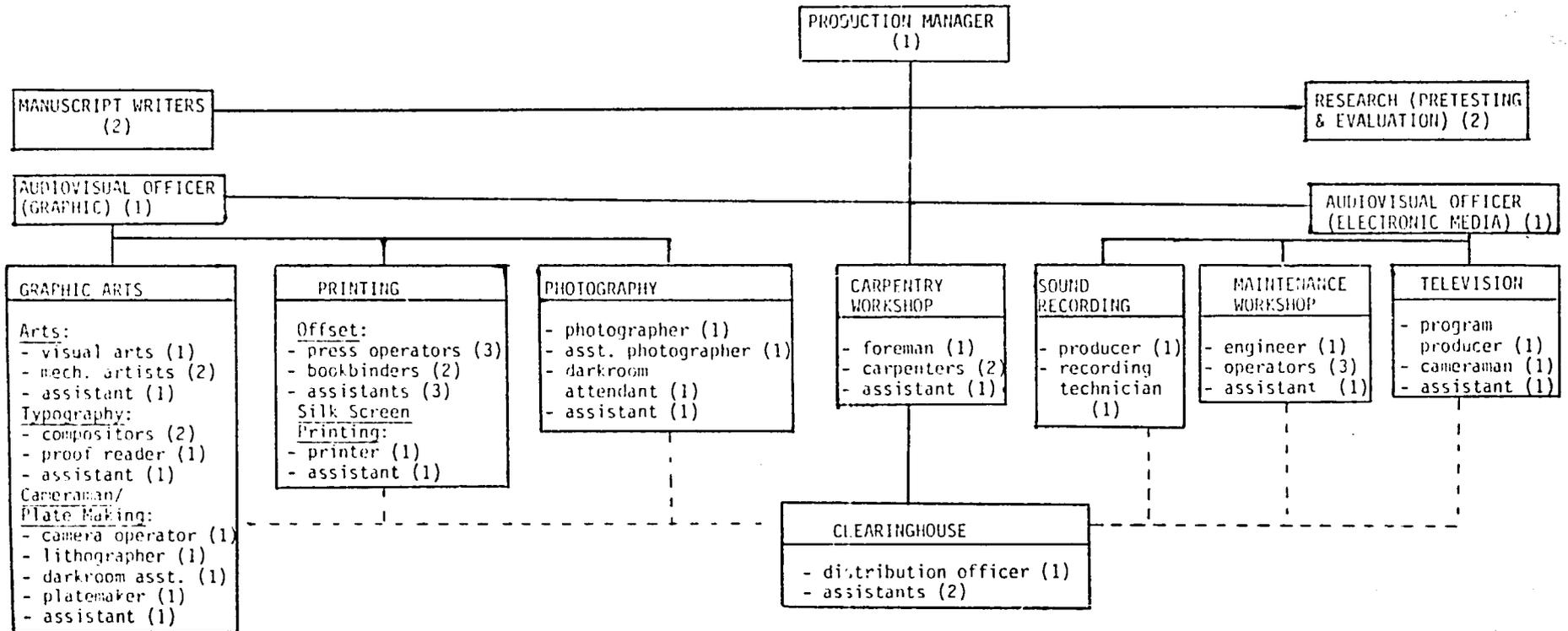
Operation of the equipment is further complicated by the lack of properly trained personnel. Most of the staff members require re-orientation and basic training in technical skills. Due to the constraints of time, however, it was difficult to conduct a systematic training program. The most essential areas of training were identified and suitable personnel were recommended. A discussion of these recommendations is included in Chapter III.

With the expansion of the Audiovisual Production Unit, it became necessary to develop job descriptions for the various staff members. Therefore, the consultant proposed an organizational structure for the Audiovisual Production Unit which appears on the following page.

It was observed that the AV Unit was lacking production planning skills as well as resources. In order to effectively utilize the new production facilities, both long-term and short-term production planning are critically needed. Although some efforts have been made to prepare "Information and Education on Maternal and Child Health/Family Planning -- Five Year Programme (1979-1983)" for publication, not much attention has been paid to creating a section responsible for data collection, production planning, identifying and utilizing the distribution channels and personnel, and carrying out the evaluation of the materials and messages produced by the Unit.

The new production facility was found to have some construction defects as well as unsuitable layout designs which will continue to present problems that might affect the efficient use of production equipment and facilities. For a fuller discussion of these faults, see Chapter III.

AUDIOVISUAL PRODUCTION UNIT
Organizational Chart



III. RECOMMENDATIONS

To ensure that the equipment and the materials provided under a technical cooperation program are fully and effectively utilized, it is critical that the donor(s) undertake the responsibility for: 1) training the staff, 2) ordering and receiving the equipment and materials, and 3) installing and operating the equipment until there is a cadre of trained personnel who can efficiently operate it. On the basis of his experience, the consultant strongly recommends that the foregoing points be given ample consideration prior to the future implementation of similar activities.

Adequate planning during the project design stage is critical to the successful implementation of a project. It is strongly recommended that every effort be made to involve all appropriate personnel, not only in the planning stage, but also during the implementation of a project. Experience indicates that this continued involvement enhances the likelihood of successful project completion.

The consultant strongly recommends that the contractual arrangements for servicing, repairing and supplying spare parts and essential materials be worked out with local firms. The firms which were involved in the installation of the equipment appear to be competent and they have indicated that they are interested in entering into some kind of contractual arrangement for maintaining and servicing the equipment. These firms include: Spicers East Africa, Ltd.; International Aeradio (East Africa), Ltd.; IBM (East Africa), Ltd.; and 3M (East Africa), Ltd. Of course, detailed discussions with regard to the scope and costs of the contracts need to be undertaken.

At the time of the consultant's departure from Nairobi, the most essential aspects of the job, i.e., the installation and test running of the equipment, had been completed; however, there were quite a few tasks remaining which could not be accomplished for one reason or another. In the following pages of this report, a list of the remaining tasks is provided. This list includes those activities which must be initiated in order that the Production Unit may become fully operational. The list is divided into three sections: building, equipment and material, and staffing.

A. Building

1) The ventilation and air conditioning is inadequate in the auditorium, sound studio, and the process camera and photographic darkrooms. Adequate ventilation and air conditioning are essential not only to good health, but also to the efficient utilization of the facilities. In particular, the sound studio requires a thorough examination by competent engineers prior to use. Both sound studio and auditorium are equipped with ordinary air blowers which were mistaken for air conditioning units. These blowers do not serve any useful purpose.

2) Cracks are evident in walls, roofs, pillars and beams of the building, and the structure is progressively deteriorating. During the recent rainy

season, roof leaks were detected which damaged the audiovisual equipment. In order to assure the proper operation and longevity of equipment, needed repairs should be made as soon as possible.

3) For security purposes, all windows, particularly those at ground level in the rear of the building, must be modified by erecting either steel grills or iron bars or both. The back door to the camera room, which was left unfinished so the camera could be carried inside, must also be repaired.

4) Water supply pressure in some areas is insufficient, and supply lines should be checked. In particular, the hot water supply in the dark rooms and cold water supply in the plate-making room should be checked and rectified.

5) The supply of electricity in some areas has posed problems and the wiring diagram has not been provided. As most of the equipment is sensitive to line voltage fluctuation, the defective wiring and the electrical fittings causing fluctuations should be thoroughly checked and modified accordingly.

6) In the sound studio, the following tasks should be completed prior to use:

- modification of glass windows for acoustical purposes
- carpeting of the floor in the studio to enhance sound absorption
- modification of entrance doors to the studio, as well as all nearby doors so as to minimize noise levels
- installation of caution lights to indicate when the studio is being used

7) As a result of the inspection conducted by the consultant and an engineer, it was determined that the second floor room adjacent to the composing section was inadequate as a facility for silk screen printing. The second floor location precluded the transport of equipment, and the floor was not durable enough to support the machinery. Therefore, the decision was made to use the timber store for silk screen printing. Consequently, modifications will be required to convert the timber store into the needed silk screen printing room.

8) In some areas of the building, the sunshades need to be extended to prevent sunlight from entering work areas and offices.

9) The main entrance gate has fallen apart and it needs to be fixed.

10) A partition needs to be constructed in the office of the officer-in-charge.

11) The old building should be demolished and a proper parking lot needs to be constructed in its place.

12) Curtains need to be provided in most of the work areas and offices.

13) Intercom apparatus should be installed.

14) Since no proper storage facilities for printing papers has been provided in the building, it was suggested that the cleaning room be used to store plates and films, and the storeroom for plates and films be used as the printing paper store instead.

15) Proper ventilation should be provided and connectors for the speakers (through the wall) should be installed in the projection room of the auditorium.

16) Although the consultant did not concern himself with the television studios, it should be noted that the size and fixtures exceed the need.

B. Equipment and Materials

Unfortunately, some of the equipment and materials supplied by USAID are not compatible with that available in Kenya. But, with some extra expenditure and effort, all of the equipment has been installed. Prior to the consultant's departure from Nairobi, appropriate personnel were given the instructions for the completion of the following tasks:

1) The IBM composing machine needs to be made operational. The local IBM office was contacted and they promised to complete the tasks as soon as possible. The contact persons at IBM were Mr. Zeddy, Sales Officer, and Mr. Maina, Technical Manager.

2) The 3M copying machine needs to be made operative and the relevant personnel of the local office of 3M were expected to do it shortly.

3) The process camera (NUArc) is not operational as a few minor jobs remain to be done by Spicers. These include connecting the exposure timer to the main circuit and fixing the flash lamp.

4) The contact printing frame in the darkroom could not be installed because of missing parts. However, arrangements were made with a carpenter in the Audio-visual Unit to supply the needed parts.

5) The new light table in the lithographic sub-unit could not be installed because of the breakage of some parts. The contractors have promised to make the repairs and purchase the needed parts from local vendors.

6) Minor repairs on the small Rota print machine are to be carried out by Spicers.

7) The hydraulic system of the old paper-cutting machine was not functioning and the contractors have agreed to repair it.

8) The electric motors of the new paper-cutting, punching, folding, and collating machines were getting too hot after running for a short while. These should be checked regularly, especially during extended use.

9) An adequate supply of all materials needed to operate the equipment to its full capacity will have to be insured. This includes printing papers, inks,

printing plates, films, recording tapes, chemicals, etc. With the exception of plates for the new ATF offset printing machine, it appears that there would be no problem in purchasing these materials locally. However, special arrangements for the supply of the printing plates will have to be worked out.

10) Electrical diagrams of the building, as well as all the equipment, should be procured and filed for future use.

11) Finally, it is very important that all of the operating manuals that were received with the equipment be kept in a file to prevent loss.

The following tasks also need to be scheduled for completion:

1) Although most of the technical work in the sound studio has been completed, the following tasks remain:

- acquiring a high-quality professional cassette tape recorder -- preferably two of them. When they have been purchased, International Aeradio should be requested to make the necessary connections.
- the new mobile Ampex tape deck was received with some minor faults and broken parts, which can be replaced locally. As soon as these parts have been purchased, International Aeradio should make the necessary corrections.
- The sound mixer had two bulbs which needed to be replaced.

2) The remote control film screen and speakers need to be installed in the auditorium. This could be done with the help of the carpenter and Spicers; International Aeradio could be contacted to make the necessary electrical and audio adjustments.

C. Staffing

In order to utilize the new equipment and facilities for production audiovisual materials, it is necessary to provide further training for most members of the staff, and to create and fill new positions. The organizational chart, which appears in Chapter II, indicates the minimum number of personnel required to operate the equipment and increase the production capacity to a reasonable level. Some of the most urgent posts that need to be filled are:

1) Production Manager

A person with technical qualifications and a wide range of managerial experience working with organizations similar to the National Family Welfare Center and the Health Education Division would be a suitable candidate. It was suggested that a person with health education experience and competence in audiovisual technology be trained to fill this position.

2) Script Writer

This person's duties should include adapting drafts, provided by the subject specialists, to meet the needs of the intended audience. He or she may also be required to do original drafts which are compatible with the policies and plans of the program for which the Production Unit will be working. In the meetings with the officials of HED and NFWC, it was suggested that one of the Health Education Officers might be a suitable candidate for this position.

3) Compositor

A person who is qualified to operate the IBM composing and other related machines should be appointed as soon as possible. The local IBM office has indicated that it might be interested in training a staff member; hence, a junior staff member already working in the composing sub-unit may be appointed as Compositor.

4) Mechanical Artist

This post should be filled as early as possible. The person should have experience in the design and layout of art work for offset printing.

5) Offset Lithographer

A printer must be employed as soon as possible. Previous work experience with an offset printing shop should be considered as the most important qualification.

6) Bookbinder

Another should be appointed to work with the present bookbinder. Because of the new equipment, an additional bookbinder is urgently needed.

7) Program Producer (Audio)

A producer must be employed to take charge of the sound studio. This person should have experience as a radio (audio) program producer. It had been suggested that one of the Health Education Officers might be trained for this purpose.

Training

Some staff members need further training to improve their skills and to be able to operate the newly acquired equipment. In most cases, only a short-term training period (several weeks) would be required. Appropriate training could be carried out in Nairobi. There are a number of institutions in Nairobi which offer short courses in various skills. However, in certain cases, it may be necessary to arrange for training abroad. The following personnel are recommended for further training as soon as possible:

1) Production Manager

One of the Health Education Officers with competency in audiovisual technology should be given specialized training to enable him or her to take charge of the Production Unit of the Health Education Division.

2) Printing Machine Operator

The operator can be trained locally, as an apprentice in an offset printing shop, for multicolor printing, especially to operate the new ATF offset printing machine.

3) Camera Operator

The operator should be trained to do color separation. This person can be trained locally by serving as an apprentice in a color separation lab.

4) Sound Recording Technician

The technician should be given more training, especially to enable him to operate the newly-installed equipment in the sound studio. The sound recording technician might work as an apprentice in a local organization.

5) Training in Needs Assessment and Evaluation

Training in needs assessment and evaluation (pre-testing and post-testing) of communication materials and messages should be given to one or two staff members of the Health Education Division and/or National Family Welfare Center. The most suitable candidates for this training would be staff members with health education experience.

APPENDIX A

INSTALLATION PLAN FOR AUDIOVISUAL PRODUCTION UNIT

The following is a breakdown of the anticipated work responsibilities of various agencies in carrying out the installation of equipment and preparation for audiovisual production facilities of the Health Education Division of the Ministry of Health:

A. Ministry of Works:

- electric power connection to machinery
- transportation of old machines to new building
- assist in assembling and/or installing of different equipment

B. Spicers East Africa, Ltd.

- installation and test running of:

- ATF offset machine
- large Rotaprint
- small Rotaprint
- old camera
- new camera
- new cutter
- old cutter
- folding machine
- old silk screen printing machine
- old silk screen printing dryer

C. International Aeradio/Kenya Mass Communication Institute/
Voice of Kenya

- installation and test running of:

- sound studio equipment
- intercom system

D. Staff of the Health Education Unit

- installation and test running of:

- photo (equipment and processing)
- platemaking (equipment and processing)
- arts (equipment and processing)
- composing (equipment and processing)
- old stapling machine and new drilling and collating machines

The following is a detailed list of tasks for the Ministry of Works according to the outline given on the preceding page:

1) electric power connections

- new printing machine
- large Rotaprint
- small Rotaprint
- new cutter
- old cutter
- folding machine
- drilling machine
- new camera
- old camera
- offset platemaker
- contact frame
- sound room
- recording room
- auditorium (electrical screen)
- workshop -- saw
- workshop -- drill(s)
- old stapling machine
- old silk screen printing machine
- old silk screen dryer

2) transportation

- new camera from old building to new building
- old camera from old building to new building
- large Rotaprint from old building to new building
- small Rotaprint from old building to new building
- offset platemaker from the press room to the platemaking room
- contact frame from the press room to the platemaking room
- old silk screen printing machine
- old silk screen dryer

3) mechanical work (assist in assembly/installation/placement of various equipment other than under B and C of previous page)

- re-adjusting windows in sound studio
- new doors for sound studio
- adjusting all doors to minimize noise level
- fixing developing tanks in plate making and camera darkroom
- back door and windows (plate making/camera rooms) security lock
- ventilation in projection room of auditorium
- installation of developing sinks in plate making and camera rooms
- repair of window in plate making room
- carpets and drapes for sound studio
- warning lights for sound studio

- installation of film screen in the auditorium
- connecting sockets for speakers in the auditorium
- ventilation in the darkrooms
- checking and advising on air conditioning, especially for sound studio and auditorium
- construction defects (leaks and cracks) repaired
- construction of main entrance gate
- demolition of old building and construction of a parking lot in its place
- partition work in the office of the officer-in-charge

APPENDIX B

LIST OF LOCAL FIRMS CONTACTED

- Kenya Mass Communications Institute
- Spicers (East Africa) Ltd.
- International Aeradio (East Africa) Ltd
- Phillips (East Africa) Ltd.
- Phonogramme (East Africa) Ltd.
- M/S Express Movers
- IBM (East Africa) Ltd.
- 3M (East Africa) Ltd.
- Commercial Video System
- Information Unit of Ministry of Agriculture
- Stoane's (Plates/Inks) Supplier

APPENDIX C

WORK SCHEDULE

September 3, 1979 to November 29, 1979

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Briefing	X												
Equipment Inventory		X	X										
-do-		X	X										
Contacting Agencies for Quotations and Advice				X	X	X							
Quotations Approval and Contract Signing							X	X					
Installation Work and Testing									X	X	X	X	X

APPENDIX D

LIST OF PERSONS CONTACTED

- Mr. D.N. Mbai, Officer-in-Charge
- Mr. J.O. Tubula, Audiovisual Aids Officer
- Mr. A.A. Anyasi, Executive Assistant
- Mr. W. Muthemba, Artisan/Carpenter
- Mr. J.N. Mungai, Machine Operator
- Mr. P. Kahindi, Machine Operator
- Mr. P. Lilu, Electrician
- Mr. E. Muge, Storeman
- Dr. S. Kanani, Director, National Family Welfare Center
- Dr. J. Miano, Deputy Director, National Family Welfare Center
- Dr. B. Peterson, Research/Evaluation Advisor NFWC
- Mr. Gaku, Officer-in-Charge Construction, Ministry of Health
- Mr. Kungu, Chief Architect, Ministry of Works
- Mr. Mbugua, Chief Electrical Engineer, Ministry of Works
- Mr. Kamau, Maintenance Superintendent, Ministry of Works
- Mr. J. Balcomb, Chief, CIS, UNICEF, Nairobi
- Mr. P. Vincent, Regional PSC, UNICEF, Nairobi
- Dr. D. Radel, Population Division, IBRD, Washington
- Mr. L.D. Nguru, Principal, Kenya Mass Communication Institute
- Mr. Wanjaw, Head, Radio Section, Kenya Mass Communication Institute