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Trip Report on the Training Program:
Management Information Systems
and
Microcomputers in Family Planning Programs
Rio de Janeiro, Brazil
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INTRODUCTION

This report is to describe the Management Information Systems Training Program undertaken in Rio de Janeiro as part of the Family Planning Management Training (FPMT) project strategy. These activities of development and strengthening of local expertise in the areas of Management and Management Information Systems have been undertaken with the overall objective of creating a pool of resources. These resources will later be used in systems development activities aiming at improving the Family Planning organizations performance in the priority areas outlined by the FPMT needs assesment team in its report of August 1986. A preliminary planning visit for the training program was made to Brazil in January 1987. For information on that visit, please refer to my report "Trip Report: Planning of the Microcomputer and MIS Training program for Brazil Family Planning Organizations" (February 3, 1987).

Program Description

Activity 1:

Workshop: Overview of Management Information Systems for
Family Planning Executives.

Dates : June 1-5, 1987

Language: Portuguese

Material distributed to participants: Complete binder with
session guides, session notes, exercises and additional
readings.

Objectives of this workshop:

- To make the executives of ABEPPF, BEMFAM and CPAIMC aware of the management and information systems issues and problems that are preventing their organizations from reaching their full potential.
- To provide a forum where the top executives from the three major Brazilian family planning organizations can work together in analyzing these issues and in identifying common problem areas.

- To identify areas where the experience acquired by one of the organizations could be useful to the others.

- To present an overview of what an information system is (or should be) and what its impact can be on the organization.

- To facilitate the dialogue between the executives and the technicians: What to ask? What to expect? What to demand?

- To introduce a suggested method for the development of any information system, be it manual or computerized.

- To demystify the microcomputer and to understand it as being a useful tool for improving management and services delivery. What can it do or cannot do, what is its potential and can the organization afford it?

- To introduce the concepts of database management, electronic spreadsheets and word processing with actual hands-on experience.

- To help identify in the organizations involved, the management and/or service areas where the introduction of simple and well planned information systems would improve management and the organization's overall performance.

Curriculum:

This workshop was divided in four sessions, each with clearly defined session plans and objectives.

Session 1: The role of modern information technology in developing country health and family planning programs management.

- Technology 20 years ago
- Technology Today
- Implications and impact of the technological development.
- Difficulties encountered in Information Systems design caused by the inherent characteristics of Health and Family Planning programs.
- How can these difficulties be circumvented?

Session 2: Management Information Systems: Issues

- The most common misconceptions and mistakes in the planning of an information system and how to avoid them.
- What is an Information System?
- The typical and the ideal system.
- The difference between data and information.
- The important attributes of information.
- The selection of indicators and reports design.
- The use of information for decision and action.

Session 3: Management Information System: Design

- The importance of planning the Information System effort.
- Analyzing the management system.
- Identifying the management priority sub-systems.
- Planning a new system or modifying an existing one.
- Implementing, operating and updating a system.

Session 4: Microcomputers for Executives

- What is the microcomputer, its components and peripherals?
- Word Processing for improved productivity and quality.
- The use of electronic spreadsheets.
- The use of relational database management technology.

Note: Using structured exercises, this session provided the participants with the opportunity to have real hands-on experience in the use of microcomputers in the solving of management problems. One fully equipped microcomputer station was provided to each participant.

Participants List:

- Evandro Gomes Silva: BEMFAM- Coordinator of the Financial Control and Accounting Department.
- Lucimar Rodrigues Ferreira: CPAIMC - Manager of the Support Services Section.
- Maria Estela Franco Goncalves: CPAIMC - Manager of the Planning Unit.
- Renata de Leon Peres: ABEPF - Coordinator of the Planning and Programming Unit.
- Marcio Ruiz Schiavo: BEMFAM - Executive Secretary.
- Katalin Gabriella Maria Cser: BEMFAM - Coordinator of the Family Planning Programs Department.
- Ann Mary Machado Tinoco Feitosa: CPAIMC - Manager of the Primary Health Care Section.
- Elizabeth Aguiar: ABEPF - Planning and Programming Unit.
- Lia A. Junqueira Kropsch: CPAIMC - General Coordinator.
- Jose Maria Arruda: BEMFAM - Deputy Executive Secretary.
- Sergio Luiz de Oliveira Lins: BEMFAM - Coordinator of the Evaluation Unit.
- Conceicao Rocha Pinto: ABEPF - Manager of the Training Unit.
- Carmen Calheiros Gomes: BEMFAM - Coordinator of Planning Unit.
- Jose Eugenio Mexas: CPAIMC - Coordinator of the Medical Training Unit.
- Denise Chagas Leite: ABEPF - General Coordinator.
- Ney Francisco Pinto Costa: BEMFAM - Coordinator of the Medical Department.
- Romero Esteves Siqueira: ABEPF - Financial Director

Summary of Workshop and Trainer's Evaluations.

Workshop's evaluation:

1. Participant's objectives in attending the workshop: Most of the participants objectives coincided with the objectives with which the workshop was designed.
2. How useful was the workshop: On a scale of 1 (useless) to 5 (very useful): 5 (69%), 4 (25%), 3 (6%).
3. Which session was most useful: 50% of the participants thought that all the sessions were useful, 19% found the introduction to computers more useful and 31% found the discussions on MIS problems and development to be the most useful sessions of the course.
4. Which session was the least useful: 69% thought that no session could be identified as the least useful, 6% found the session on information characteristics most useful, 6% chose the introduction of database technology and the answer of the remaining 6% (one person) was not clear.
5. Session where more time should have been spent: The introduction to microcomputers (31%), Planning the information system (44%), actual time was enough (25%)

6. Session where less time should have been spent: No session could have been made shorter (75%), the session on the evolution of technology and its impact could have used less time (13%), the MIS sessions (6%), the database technology session should have been shorter (6%).

7. How effective were the teaching methods used: In a scale of 1 (ineffective) to 5 (very effective): 5 (44%), 4 (50%), 3 (6%).

8. Would you recommend that one of your colleagues attend this workshop: Yes (100%)

Trainer's evaluation:

MSH trainer and course director: Paul Auxila

Note: The following scores are based on a scale of 1 (poor) to 5 (excellent).

1. Organization: 5 (88%), 4 (12%)
2. Knowledge: 5 (100%)
3. Ability to explain subject: 5 (81%), 4 (19%)
4. Ability to answer questions: 5 (75%), 4 (25%)

- 5. Encouragement for participation: 5 (75%), 4 (25%)

- 6. Enthusiasm, interest: 5 (94%), 4 (6%)

- 7. Ability to make subject relevant: 5 (81%), 4 (19%)

- 8. Ability to establish comfortable environment: 5 (94%), 4 (6%)

- 9. Acceptance of other points of view: 5 (94%), 4 (6%)

Activity 2:

Course: MIS and Microcomputers in Family Planning Programs.

Dates: June 8-30, 1987

Language: Portuguese

Material distributed: Complete binder with sessions guides, sessions notes, exercises and readings. A reference book on Disk Operating Systems, a reference book on Electronic spreadsheets (Lotus 1-2-3), a reference book on database management (dBASE III), and data disks.

Objectives of this course:

- To develop the organizations' (ABEPP, BEMFAM, CPAIMC) capabilities in the planning and the actual execution of MIS and microcomputer courses for their staff and/or affiliates.

- To make all courses material available in Portuguese so that they can eventually be used by our counterparts in future courses that they will themselves undertake for other levels of their organizations or for their affiliates.

- To provide the key management staff with some practical and useful systems development tools that will enable them to participate in their organizations' systems development efforts.

- To train the same staff in the use of microcomputers hardware and software (word processing, electronic spreadsheets and relational database technology) to improve productivity and efficiency in both the organization's planning and control functions.

- To identify with the participants the priority management sub-systems where the techniques learned can immediately be applied and where further assistance will be required.

Curriculum:

This workshop was divided in sixteen sessions, each with clearly defined sessions plans and objectives.

Session 1: The role of modern information technology in developing country health program management.

- Technology 20 years ago
- Technology Today
- Implications and impact of the technological development
- Difficulties encountered in Information Systems design caused by the inherent characteristics of Health and Family Planning programs.
- How can these difficulties be circumvented.

Session 2: Health Management Information Systems: Issues

- The most common misconceptions and mistakes in the planning of an information system and how to avoid them.
- What is an Information System?
- The typical and the ideal system.
- The difference between data and information.
- The important attributes of information.
- The selection of indicators and reports design.
- The use of information for decision and action.

Session 3: Management Information System: Design

- The importance of planning the Information system effort.
 - Analyzing the management system. (The structural or the process approach.)
 - Identifying management priority sub-systems.
 - Planning and designing a new system or modifying an existing one.
 - Implementing, operating and updating a system.
- The first three sessions are similar to those of the first workshop. However, the design methodology was emphasized and the time allowed for the discussions and practical exercises were substantially increased given the different objectives of this course.

Session 4: Introduction to the MIS Technology

- Hardware / Software
- Computer Peripherals
- The basics of computer operation.
- A microcomputer system from the user's point of view.
- Do you need a microcomputer and if so, can you maintain one?

Session 5: Using Word Processing to Increase Productivity.

- The participants learned all the basics of word processing using the Multimate software.

Sessions 6 - 10: Using the Electronic Spreadsheets

- In these sessions, participants learned the use of electronic spreadsheets from the very basic functions like moving around a spreadsheet and entering data to the relatively complex tasks of preparing models for decision making in financial applications, personnel systems, pharmaceuticals supply, and inventory simulation. The participants also learned how to present and use complex data using computerized graphs.

Session 11: Operating Systems and DOS.

- What is a Disk Operating system?
- File management using DOS.
- Disk Management using DOS.
- Tips for emergency situations.

Sessions 12 - 16: The use of Database Management Software.

- The concepts and use of relational database management were taught using the most popular database package for microcomputer dBASE III Plus.
- The participants were introduced to the concepts of relational database technology and learned how to use a database software for the conversion of data into information for managerial decision making. A cash disbursement system and a family planning service delivery information system were used as cases for teaching and practice purposes.

Project: The last two days of the course were used for participants to work on a system that would be useful in their own work environment. This exercise proved to be very beneficial as it provided for some of the participants a real tangible output that they actually started to use the week after the course ended.

Methodology:

- Both the workshop and the course were characterized by a highly participative and dynamic environment. Presentations, case studies, group discussions and individual computer practice were used. During the computer sessions, a fully equipped microcomputer station was provided to each participant.

Training of trainers activities:

Four technicians from the organizations worked as training assistants during the whole training program. A different schedule was established for us to work on issues like curriculum development, planning of each session and the methodology to be used for teaching. These training assistants were assigned some teaching responsibilities throughout the course. This strategy worked very well, but another practical experience (with the course director playing a lesser role) will be necessary before they be able to take full responsibility for the planning and actual realization of a similar program.

The counterparts who participated in the training of trainers activities are:

- Messias Fernandes Santos: ABEFF - Chief of the Computer Room.
- Rodney Baptista Lacerde: BEMFAM - Chief of Data Processing.
- Rafael Laranjeiro: BEMFAM - Analyst/Programmer
- Luis Claudio Benguigui: CPAIMC - Dir. of Information Center.

Participants list:

- Maria Lucia Franco Bello Esperon: BEMFAM - Accounting Tech.
- Eliane Maria Silva de Sousa: BEMFAM - Planning Assistant
- Jonas Gouveia Figueiredo: BEMFAM - Administrative Asst.
- Nelson Virla Gomes: CPAIMC - Nursing Education Supervisor
- Silvio Luiz Alves do Carro: BEMFAM - Personnel Asst.
- Luiz Antonio Vaz: ABEPF - Financial Asst.
- Rosele C. Paschoalick: ABEPF - Projects Coordinator
- Doris de Oliveira Araujo: CPAIMC - Nursing Superviscr
- Teresa C. Trindade: CPAIMC - Statistician
- Vania de Lims Alvarez: ABEPF - Secretary
- Cristina de Amorim Machado: ABEPF - Programmer
- Paulo Roberto Coutinho Pinto: BEMFAM - Statistician
- Eliane Ferreira Bezerra: CPAIMC - Administrative Assistant
- Beatriz B. Hanff: CPAIMC - Project Coordinator
- Moacir : CPAIMC - Personnel Assistant

Summary of overall workshop and trainer's evaluations:

Workshop's evaluation

1. Participant's objectives in attending the workshop: The participants objectives generally coincided with the objectives for which the course was designed.
2. How useful was the workshop: On a scale of 1 (useless) to 5 (very useful): 5 (73%), 4 (20%), 3 (7%).
3. Which session was most useful: all sessions were useful (47%), the sessions on management and information systems planning (13%), dBASE (13%), Lotus (13%), All the sessions on computers and software (20%).
4. Which session was the least useful: None can be identified as least useful (53%), Problems related to Information and Planning and MIS (20%), Word Processing (20%), Evolution of Technology (7%).
5. Session where more time should have been spent: No more time was necessary (7%), All the computer sessions needed more time (7%), dBASE (53%), DOS (7%), Lotus (33%).

6. Session where less time should have been spent: No session could have been made shorter (67%), DOS was too long (13%), Word Processing did not require that much time (7%), the non-computer related sessions were too long (13%).

7. How effective were the teaching methods used: In a scale of 1 (ineffective) to 5 (very effective): 5 (60%), 4 (40%).

8. Would you recommend that one of your colleagues attend this course: Yes (100%).

Trainer's evaluation:

MSH trainer and course director: Paul Auxila

Note: The following scores are on a scale of 1 (poor) to 5 (excellent).

1. Organization: 5 (100%)
2. Knowledge: 5 (100%)
3. Ability to explain the subject: 5 (93%), 4 (7%)
4. Ability to answer questions: 5 (100%)
5. Encouragement of participation: 5 (80%), 4 (13%), 3 (7%)
6. Enthusiasm, interest: 5 (87%), 4 (13%)
7. Ability to make subject relevant: 5 (87%), 4 (13%)
8. Ability to establish comfortable environment: 5 (73%), 4 (27%)
9. Acceptance of other points of view: 5 (93%), 4 (7%)

Follow-up:

After the training program ended, several meetings were held with the three organizations separately to identify needs and priorities for follow-up, several areas have been identified. There is a considerable amount of work to be done and all three organizations are very interested in having MSH assistance in the implementation phase of the new system. My findings and recommendations for future work in Brazil are outlined in another report: "Recommendations for Follow up Work on Management and Management Information Systems with Brazil's Family Planning Organizations".