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**MONITORING AND EVALUATION
WORKSHOP FOR THE FAMILY PLANNING
ASSOCIATION OF KENYA (FPAK)**

NOVEMBER 1991

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FAMILY PLANNING MANAGEMENT DEVELOPMENT

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INTRODUCTION:

As part of ongoing support to the Family Planning Association of Kenya (FPAK), the Family Planning Management Development Project (FPMD) is providing technical assistance in several areas of management development. This report focuses on the Monitoring and Evaluation Workshop for senior level managers held in Nairobi in November 1991. This workshop is part of the ongoing management information systems (MIS) development work at FPAK.

The ultimate objective of the focus on monitoring and evaluation and MIS development is to enable managers at all levels to better manage project activities by providing them with more useful information. During a previous consultancy trip to FPAK in September 1991, FPMD proposed that FPAK develop a computerized activity monitoring system in collaboration with FPMD. Senior level FPAK managers recognized the need to improve the existing monitoring system for the many project activities. It was also recognized that FPAK needed to improve the utilization of financial data, service statistics and project implementation information in order to improve program management. This was very timely as FPAK is in the process of installing a new accounting software package and developing a new clinic and mobile clinic based MIS.

BACKGROUND:

Project implementation progress reports are submitted to FPAK headquarters quarterly, semi-annually and annually. Currently, only the annual reports provide sufficient information on the status of project implementation. The activity reports compiled by the area managers do not allow either the area managers or the FPAK program manager to effectively monitor each area project. It is also difficult to analyze how the reported activities are related to the workplans, budgets, and expenditures. Therefore, it is seldom possible to institute any corrective or remedial measures to improve performance or to be pro-active in the management of the projects.

One of the objectives of the current MIS development efforts is to implement a more coherent and useful activities reporting system. To accomplish this, FPAK needs to integrate the three major information systems (finance, service statistics and activity monitoring). FPMD recommends that the integration of the three systems take place at the point of reporting and utilization. Although these information systems should be compatible, they do not need to be integrated as a single software package. It is also important that the proposed activity monitoring system simplifies and does not duplicate the data reporting. Therefore the activity monitoring system should not report financial information or service statistics. For example; money used to purchase a vehicle should be reported through the accounting system. The activity of purchasing the vehicle should be reported through the activity monitoring system.

The structure of the monitoring and evaluation system for FPAK is comprised of the following:

1. A quarterly activity monitoring system that facilitates a comparison between the activities planned at the beginning of a year and the activities actually carried out during the year, by area and project. To maintain consistency and uniformity, a list of the standard project activities (line items) has been developed and coded. This list was developed for the new accounting system as part of the chart of accounts (Appendix III). When the same coding system is applied to the activity monitoring system, it will greatly facilitate a comparison between activities and expenditures. [The activity monitoring system will be developed in collaboration with FPMD]
2. The new accounting system will generate financial reports on expenditure by project-area and activity. Although the new accounting system will be able to produce monthly reports, it is suggested that additional quarterly reports be produced which show expenditure by area, project and activity. These reports should also facilitate the comparison between budgeted and actual expenditure. [This system is a commercial accounting system which is being installed by Deloitte Haskins & Sells and SAL Ltd.]
3. A service statistics report which shows, on a quarterly basis, the FP services that have been provided in the area by type of delivery system (clinic, CBD, mobile-clinic). [The clinic and mobile-clinic system is currently being developed by Thunder Kenya Ltd.]

MONITORING AND EVALUATION WORKSHOP

As part of the strategy to institutionalize the development process within FPAK, FPMD held a two-day workshop for 45 senior level managers from the different areas and headquarters in early November. A list of participants is given in Appendix I. (Because of the number of participants, two similar two day workshops were held). The objectives of these workshops are outlined as follows:

- Sensitize area managers, project officers and senior FPAK staff to the process of designing, developing, implementing and maintaining management information systems. The focus of attention will be on the development of MIS that accents the utilization of information for decision making and management;
- Introduce the concept of developing an activity monitoring system to track the implementation of individual projects in different areas;
- Describe the flow of information and reporting requirements (budget control, monitoring of expenditure, etc.) in the new accounting system, the service statistics systems (both the clinic and the CBD systems) and the proposed activity monitoring system;

- Discuss the key issues in reporting, feedback and use of information with the current systems and what improvements are envisaged with the new systems; and
- Demonstrate a model computer based activity monitoring system and identify the adaptation changes.

Workshop Agenda:

At the beginning of this consultancy, senior FPAK managers at headquarters and FPMD consultant Peter Savosnick developed an agenda for the workshop. (see Appendix I, Workshop Material).

Workshop Output:

One of the major objectives of the monitoring and evaluation workshop was to discuss the key issues in reporting, feedback and use of information. It was important to critically review these issues in the context of improving the reporting systems and realize any potential benefits of developing and computerizing new management information systems. Although FPAK managers recognize the validity of improving external reporting, they also realize that greater importance must be attached to the use of these systems in the management of the FP projects and activities. The workshop discussions focused on the current systems, reporting, feedback and use of information. The major points have been summarized and are presented below.

1. Reporting

Any change in the management information systems will have implications for reporting from the field. One expected change will be a change in the quarterly reporting format. This will be necessary to avoid duplication in the reporting systems. Several components or data elements of information currently found in the quarterly reports will be reported through different subsystems. For example, service statistics from the CBD program, clinics, and outreach services will be reported through their own systems. Several observations were made by the participants about the state of the current reporting system. These have been summarized below:

- There are several aspects of the current reporting that are not accurate. According to the participants, this lack of accuracy is in part due to the lack of information. There was also acknowledgment that some of the reported data was invented.

- The information available on finances is usually more detailed than activity information. This was partly attributed to the fact that there were more incentives, checks, controls and more accountability in reporting financial information and that there has not been a systematic collection of activity information.
- It is difficult to make comparisons between areas, and it is difficult to compile the annual reports because although reporting formats exist, the same format is not followed by all areas. [The quarterly reports were not designed to facilitate comparative analysis].
- Not all reportable information is being documented in the reports. For example, there has been a lack of information about the commodities, and not all project activities are included in the reports.
- Reports are seldom checked and very little supervision is done on the quality-validity of the area reports. There is also little feedback given on the reports and the feedback systems are considered poor. Roles and responsibilities for reporting are also not clearly defined
- There is a lack of guidelines that clearly defines the reporting requirements.
- Report preparation is very time consuming. Part of this problem could be due to the lack of planning in the reporting. Additionally, staff are engaged in other activities when they should be preparing reports, and there is often not enough manpower to prepare the reports.
- Reports are not shared between managers or areas.
- Reports are not submitted punctually. This is often because one section of the report is not ready. Some of the delays in reporting emanate below the area office level. Some of the delays are also due to the slow postal system.
- Reports are not being received from the CBD workers.
- There is a lack of reporting forms.
- There are delays in getting any feedback from the computer.
- The reports lack a summary which would give an overview of the projects.
- The flow of information is felt to be unnecessarily complex and the process is lengthy.

- Reports sometimes get lost within the system.

Many of the participants made the observation that these problems resulted in a "lack of commitment" to reporting. Another major problem with the existing reporting system was that the information was rarely used, especially at the level at which the reports are generated. The reports and the information contained therein are seen as an end in themselves and not as particularly useful management tools. Most agree that the problem lies with the collected data not being analyzed with the program targets. Subsequently, the collected data is not part of an information cycle and is not being used to set the next years targets. The participants agreed that the development of the new MIS (financial, service statistics & activity monitoring) should focus on the interpretation of data and the use of information. Several participants mentioned that instilling a new and greater sense of professionalism in the work would improve reporting and use of information.

2. Feedback:

Several significant observations were made about the state of the current feedback system. The perception amongst the majority of participants was that feedback is more frequently negative than positive. It is also given very late and therefore is of little use. (This is especially true when relating to the activities.) Feedback needs to become more constructive and positive, if it is to reinforce the positive management practices of the association and increase motivation of the individual employees. It should also give the recipient some assistance in solving problems.

There was a general feeling that there was too much focus on accomplishing targets and that the targets were often unrealistic. Targets were not always too high or too low, but they were seldom set with the programs and individuals capabilities in mind. Without using some normative standard or reviewing the capabilities of the program when setting targets, it is exceedingly difficult to interpret the data being collected through the monitoring and evaluation system. The comparison between the target and accomplishment is the starting point for the interpretation of the data.

Workshop participants agreed that while FPAK's target setting had moved beyond the general mathematical division of expected program outputs by the number of areas and number of sites, more can be done to set realistic targets. Although this form of normative¹ target setting is more complex and time consuming, it would allow managers at the different levels of FPAK to make better use of the data collected through the different subsystems.

One of the major issues raised during the workshop by the participants was how do we ensure that positive feedback will come not only from headquarters but also from area offices and from all supervisory levels? This will only happen through a well-planned strategy based

¹ Monitoring and Evaluation, Appendix I.

on positive reinforcement. Each level must work actively to provide positive feedback to the level below.

3. Use of Information

Very little information collected from the current information system is being used by areas outside of headquarters. For example, the finance office collects financial information and reports to the donors, however, very little of this information is put to use at the area and clinic level. Very little comparative analysis is done between service statistics and financial information and the paucity of the activity information makes useful comparisons nearly impossible.

Changes have been made to the bookkeeping aspects of the financial system at the area office level.² It is therefore important that area and project managers put this information to use in the daily management of the projects. The proposed activity monitoring system (described below), will facilitate the monitoring of project activities by comparing planned activities with accomplished activities at the end of each quarter. However activity information should be analyzed on an ongoing basis, not only at the end of the quarter. When a planned activity is not carried out during the quarter, the area manager should ensure that this is commented on, documented and filed in a project file. This makes the process of writing the quarterly activity report, a matter of easy retrieval of data from the project file.

4. Flow of Information

As mentioned earlier the new information systems will cause a change in the flow of information. The logical flow of information with the new MIS will be for the MIS unit at headquarters to process all financial, service and activity monitoring data and provide printed reports to the area offices, based on this information.

Feedback from headquarters to the areas should do more than simply return data to the field. They should provide the first level of analysis with tabulations and comparisons between areas, and show the trends in the information. Where targets exist, comparisons should be made between accomplishments and targets. These reports should become part of the quarterly reports. The focus of the quarterly reports will then be on the analysis of this information.

There are several issues in the flow of information that still need to be determined before the reporting and activity monitoring system can be implemented. These issues are discussed at the end of this report as part of the recommendations and next steps.

² A new general ledger format has been developed by FPAK HQ for the area offices which will facilitate the ability to keep track of the expenditure for the area office and each individual project.

ACTIVITY MONITORING

Based on discussions with the program manager and other senior FPAK managers, a conceptual framework for a computerized activity monitoring system has been developed. This proposed activity monitoring system was presented and discussed by the workshop participants. It is outlined below.

Preparing the Activity Monitoring Forms

Using a pre-printed activity list, the area managers should specify area-specific project activities and record when these activities will take place. (An example of a pre-printed preparation form is shown in Appendix II.) In order to monitor individual projects by area, a separate list must be prepared for each project in each area the project is being implemented. This should be performed at the beginning of the year by the officer in-charge of the project. The project officer will specify how many times an activity will take place during each quarter. For example; if the project calls for CBD Training of Trainers workshops, the list would indicate the number of workshops held during the quarter. In addition, the total number of participants that are expected to attend the workshop and the total number of days that the workshops will encompass should be recorded for the quarter.

It is important that the list includes all major activities that fall under each individual project in the area. Many of the area offices activities do not specifically belong to any given project. These activities should be listed as "Area Office General Management" and reported on like any other project.

A computerized system would allow project and area specific activities to be entered into the activity monitoring system at the beginning of each year. Area managers would report to the head office on these activities on a regular basis (monthly or quarterly) and receive feedback from the program manager and project officers on their performance. An example of a standard set of reports is shown below:

- Area and project specific reports showing planned, completed and ongoing activities by reporting period to-date;
- Project specific reports showing planned, completed and ongoing activities by reporting period to-date;
- Area specific reports showing planned, completed and ongoing activities by area and reporting period to-date; and
- Annual reports for area and project showing planned and completed activities.

In addition to a straight forward report on activities that have been completed (or are on-going at the time of reporting), area managers would be expected to comment on the activities that were planned but not carried out during the quarter.

Suggested Flow of Information

When a report is received by the FPAK program manager, there will be an initial review to ensure that the reporting forms have been completed correctly before they are input into the computer. The program manager will receive one copy of the report which will show planned activities, on-going activities (at the time of reporting) and planned activities which were not carried out during the quarter. The program manager will analyze the reports and make any necessary additional comments, which will be stored in the computer. After the report and comments have been entered into the computer, copies of the report would be generated for the area managers, project officers, other senior FPAK managers, and for reporting and filing purposes. Each area manager should review these quarterly activity reports and make an assessment as to the progress that is being made in implementing the project. The project manager should know to what extent the area manager is able to carry out the planned activities. The area managers will use the reports to see whether or not the projects are being implemented at the pace that was originally envisioned and make an evaluation of project performance.

The system will produce a standard set of reports, the most important of which is the report which compares planned activities with those that have been carried out (completed and not completed) and those that are ongoing at the time of reporting.

Both the activities and the expected expenditures will be budgeted and reported upon separately for each project in each area on a monthly (or quarterly) basis. The activity data will be reported through the activity monitoring system and the financial information will be tracked through the newly computerized accounting system. Each project being implemented in a given area will be considered a separate project as far as that area is concerned, i.e. each area will monitor and report on each individual project separately.

Recommended Level of Analysis

The first level of analysis will be for the area managers to understand whether or not projects are occurring as planned, and if not, why. Variations between budgeted and reported

activities are anticipated, however, area managers will be expected to know when these variations occur and to understand why they happen.

The role of the area manager in monitoring the area specific budgets should start early on in the budget development phase. Each area manager will have several projects, each with annual budgets that are funded by one or more donors. Area managers and project officers in charge of a project will be expected to familiarize themselves with the early draft versions of the budgets. One reason for this early involvement will be to provide assistance to the program manager in finalizing the annual program, including providing advice on the development of workplans and budgets. All annual budgets should be broken down into quarterly budgets so that a comparison between the financial budget and activity budget is possible.

It is important to emphasize the strong links that must exist between the monitoring of activities and the monitoring of expenditure. Each area manager and project officer responsible for monitoring a project must be conversant with all aspects of the project. This involves several distinct steps which start with a clear understanding of the objectives of the project, the activities that are planned and the resources required to accomplish those objectives.

FINANCIAL MONITORING

The Accounts Department should provide each area manager and project officer with regular feedback on a monthly basis, and with a financial report for their area for each quarter and year-to-date. In turn, the area managers should review the quarterly financial reports line item by line item and activity by activity. In the same way that the area managers are expected to know why planned activities were not carried out, they are also expected to know the reasons for significant variations between budgeted and reported expenditures.

Quarterly financial reports should be combined with the activity report which will consist of a summary of the activities that were planned during the quarter, the activities that have been carried out during the quarter, and the activities that are ongoing at the time of reporting. These two reports will then be used by the Area manager to monitor the performance and achievement of project activities.

Suggested Flow of Information

The financial information will be reported through the accounts department. After auditing the financial reports (prepared by the areas), the transactions should be entered into the computer. Any discrepancy (wrong or missing data/information) should result in a memo from the accountant to the relevant area manager, calling attention to the error and requesting that the area manager take the necessary action to resolve the issue. The area manager should complete the memo with comments on when and how the "problem" was resolved. The memo should be filed by the area manager. The accountant will be responsible for following up on the memo and the area manager will be responsible for ensuring that the outstanding issues are resolved. When the area transactions have been entered into the computer, the summary report on the status of each project by area and by line item should be printed with one copy to the Head of Finance and Administration, Executive Director, Program Manager, Project Officer in-charge of project and one copy as initial feedback to the area manager.

Recommended Level of Analysis

The area manager will first analyze the report on underspending/overspending by line item and then review the expenditures for the project in relation to the level of project activity. This will entail a review of the quarterly activity report and a comparison between the activities and the expenditure report. The financial reporting system will also be used by the accountant and senior managers to fill in the different donor claim forms and fulfill other government, donor and agency reporting requirements.

The overall objectives of the monitoring and evaluation process are to encourage good project planning and improve overall project management and a better utilization of resources. This includes improving the ability to clearly identify critical project elements and objectives at an early stage of the project cycle. The long term objectives are also to improve the institutional capacity of FPAK to develop and manage family planning and population projects.

It is critical that all area managers maintain a record of what action needs to be taken and has been taken on the basis of information that the MIS is providing. It is recommended that all actions taken are well documented and maintained in the project files. Periodically the individual project files should be reviewed and approved by the area manager's supervisor, and or head of department and executive director.

NEXT STEPS

The last session of the workshop was the discussion and agreement on what the next steps in the development process should be. These are outlined and discussed below:

1. The participants' inputs from the workshop will be taken into consideration in the design of the formats and information flows in the activity monitoring system.
2. FPMD recommends that a review of the analysis codes be carried out by FPAK's MIS unit and senior managers to determine if additional activity codes should be added. A brief review of the existing codes suggests that a series of activity codes should be added for the recruitment of staff. In addition, the analysis codes 403 (Research) and 404 (Evaluation) should be broken down into more specific activities. This will require changing some of the proposed activity codes to permit the addition of codes in sequential order. It is important to list the specific activities which take place under each heading. For example, what are the research activities? (e.g. develop research proposals, develop surveys tools and questionnaires, conduct surveys and write final report etc.,) These and other activities could all be the indicators that you want to keep track of and should therefore be added to the activity code list. It will be easier to develop new activity codes prior to the full implementation of the new accounting system.
3. The MIS unit will determine the format and method for distributing activity preparation forms to area managers and officers in-charge of projects. FPMD recommends that the preparation forms are sent either as a list of activities with explanations and some examples and a blank form to be completed by the person in-charge of the project, or a prepared form with pre-printed activity codes and a separate list describing the activity codes. Examples should also be included in the material that is sent out. This could include several "what if" scenarios.
4. FPMD recommends that the deadline for sending these forms should be before the end of December.
5. FPMD also recommends that area managers and officers in-charge of the projects review the activity preparation forms and provide feedback to the MIS-unit on issues, problems, difficulties etc. in completing the forms. This feedback and the completed forms should be returned to the FPAK headquarters by early February so that they can be reviewed by the FPMD consultant during the next visit in mid-February 1992.
6. The feedback and activity preparation forms will be reviewed during the three year plan review meeting in March 1992.
7. Inputs and feedback from the three year plan review meeting in March 1992 will be used together with the feedback from the field to finalize the preparation and

reporting formats by end of April 1992.

8. The revised formats will be sent out by the end of April 1992. These formats will be used by the areas to report on all project activities.

9. FPAK and the FPMD consultant will review the activity monitoring system after a period of 6 months, in October-November 1992.

10. A computerized activity monitoring system will be ready for testing by FPAK's MIS-unit in late February 1992. It is expected that debugging and modifications will be an ongoing activity between February-November 1992.

There are still some outstanding questions and issues that need to be answered and resolved:

- What is the deadline for reporting on the quarterly reports? FPMD recommends that everyone reporting have precise closing dates that must be adhered to.
- What is the current time-lag between reporting and feedback?
- When should the MIS-unit receive the service statistics reports from the clinics and the CBD program?
- Submission of a report should not be delayed by small amounts of missing information. On those occasions when information is not complete, the report to the headquarters should include comments indicating that information is missing. This missing information should be submitted as soon as it is received. The area manager will be made responsible for ensuring that she/he keeps a record of all late reports and subsequent missing data. It is important that all data be correctly allocated to its proper area and time period.
- All quarterly reports should go out as preliminary reports and include a proviso that the current quarterly figures will possibly be adjusted in the next quarter.
- When should the area offices receive the feedback from the MIS-unit?

These issues and the feedback from the areas will be reviewed during the February 1992 visit by the FPMD consultant.

APPENDIX I

**FAMILY PLANNING ASSOCIATION OF
KENYA**

**Workshop on
Monitoring and Evaluation**

November 1991

**WORKSHOP AGENDA:
DAY 1**

1. Opening by Mrs. K. Mworira (8:30-8:45)
 - 1a. Introduction of Participants (8:30-8:45)
2. Introduction and Objectives of workshop (8:45-9:00)
TEA BREAK.....(9:00-9:15)
3. MIS Definitions (9:15-9:45)
4. An Overview of FPAK's Management Information Systems (9:45-10:30) Mr. G. Magiri
5. Management Cycle and Management Information Systems and Sketch of an MIS Development Plan (10:30-12:30)
LUNCH.....(12:30-14:00)
6. An Eight Step Model to Monitoring and Evaluation (14:00-15:30)
TEA BREAK.....(15:30-15:45)
7. An Overview of FPAK's Accounting System (15:45-17:45)

DAY 2

8. Key Learning Points from the Previous Day (8:30-9:00)
TEA BREAK.....(9:00-9:15)
9. Review of Existing Activity Monitoring System (9:15-12:30) Mrs. J. Mukolwe.
Key Issues in:
Reporting
Feedback
Use of Information
LUNCH.....(12:30-14:00)
10. An Approach to Activity Monitoring (14:00-15:00)
TEA BREAK.....(15:00-15:15)
11. Demonstration of Computer Model (15:15-16:30) Peter Kibunga
12. Closing of Workshop. Mrs. K. Mworira (16:30-16:40)

WORKSHOP OBJECTIVES:

The objective of this workshop will be to:

- sensitize area managers, project officers and senior FPAK staff to the process of designing, developing, implementing and maintaining management information systems. The focus of attention will be on the development of MIS that accents the utilization of information for decision making and management.
- introduce the concept of developing an activity monitoring system to track the implementation of individual projects in different areas.
- describe the flow of information and reporting requirements (budget control, monitoring of expenditure, etc.) in the new accounting system, the service statistics systems (both the clinic and the CBD systems) and the proposed activity monitoring system.
- discuss the key issues in reporting, feedback and use of information with the current systems and what improvements are envisaged with the new systems.
- demonstration of a model computer based activity monitoring system and identify the adaptation changes.

FPAK Monitoring and Evaluation Workshop

November 18 - 23, 1991

Participants List

Session 1:

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2. Millicent W. Kabugi
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3. Daniel G. Karagu
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Area Manager
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5. Mary W. Nyaga
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6. Andrea K. Kituku
Assistant Accountant
P.O. Box 30581, Nairobi
7. Charles Onoka
Data Analyst - Hdq.
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Area Manager
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10. Peter A. Mbaabu
District CBD Coordinator
P.O. Box 768, Meru
11. Francis Cheruiyot
Area CBD Supervisor South Rift
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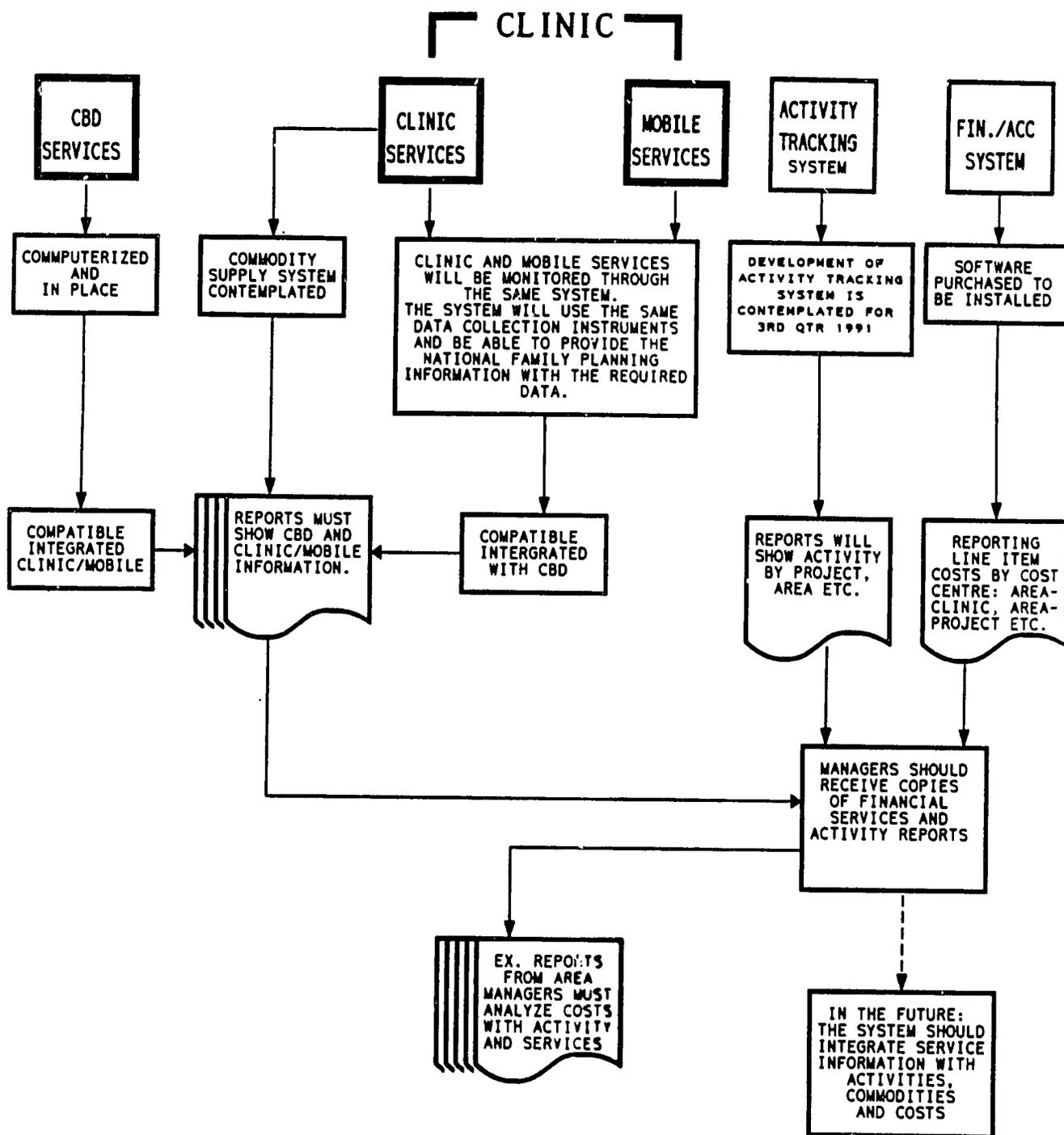
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20. Abishai Oyoo
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22. Rikka Trangsrud
Programme Officer
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23. Kalimi Mworia
Executive Director - Hdq.
24. G.M. Magiri
Senior Program Officer (R&E) - Hdq.

Session 2:

1. Gilbert Magiri
Senior Program Officer (R&E) - Hdq.
2. Rikka Trangsrud
Program Officer (R&E) - Hdq.
3. Tom Chuma
Assistant Accountant - Hdq.
4. Samuel Mwiberi Godfrey
Senior Supplies Officer - Hdq.
5. Charles Onoka
Data Analyst - Hdq.
6. Grace M. Awiti
Ag. Area Manager, South Rift
7. John Langat
District Coordinator (CBD), Kericho
8. Mary Nyangira
Area Manager, South Rift
9. Samuel T. Gachukia
Ag. PO (CBD) - Hdq.
10. Tabitha A. Osiany
Assistant Programme Officer
Service Delivery, Kisii
11. Rose N. Ngahu
Assistant Programme Officer
Service Delivery - Hdq.
12. M.A. Kithae
CBD Supervisor, Machakos
13. Peters Wairimu
CBD Supervisor - Hdq.
14. Grace Mbote
A.P.O. Coast Area
15. G.S. Amurle
Financial Accountant - Hdq.

16. James M. Kortok
CBD Supervisor, North Rift
17. Sara Chilumo
Area Manager, Coast
18. Z. Nthiga
Programme Officer, Administration - Hdq.
19. Jennifer Mukolwe
Program Manger - Hdq.
20. I. Kamau
Assistant Administrative Officer
21. Riwollo Njanga
Personnel Officer, Administrationo - Hdq.

Family Planning Association of Kenya Information Flowchart:



The Management Cycle and Management Information Systems

Organizations historically have been divided into divisions along several dimensions such as functional departments, services, geographic units. The need to effectively coordinate manage the many activities of individual, organizational subunits has increased rapidly in the last five years as better resource utilization has become a management priority. The development of effective management information systems (MIS) is now recognized as an important tool in this undertaking.

What is a **management information system**? First, to better understand management information systems it is useful to consider each of the three elements separately.

System: A system is a group of elements that interact and function together as a whole. It is a set of components with specific and preferably explicit) relationships which link them together for a common purpose.

Information: Information consists of facts or data which are organized in a form which allows conclusions to be drawn or knowledge to be gain. Inherent in the concept information is that it be represented in way that is useful for a specific purpose.

Management: Management is the planning and control of the uses of resources (physical, fiscal, human, etc.) toward accomplishing specific organizational objectives. Management involves proactive and reactive decisions which plan for new actions and evaluate past actions.

An MIS, then, consists of an integrated set of interrelated elements of data and facts which are organized in a form that facilitate decision making with respect to the planning and evaluation of actions directed toward specific organizational objectives.

Managers rely on both informal and formal ways of obtaining the information they need to make decisions.¹ Informal information includes rumors and unofficial discussion with colleagues. Personal experience education, common sense, intuition, and knowledge of the political and social environment are also part of the informal means of gathering information. In contrast, formal information usually reaches managers in the form of routine statistical and management reports.

These reports, which are generally standardized in format and produced on a regular basis, constitute the most visible part of what is called the management information system (MIS). Unfortunately the MIS is not as effective as it could be in many organizations, both big and small.

Information, intelligently used, and information systems, carefully planned, can be great assets to the managers, supervisors and workers within the health system. In general, management information should be used at all levels within an organization for both operational and strategic planning and for the daily monitoring of the organization's operational activities. At the services level, information on the quantity and quality of services rendered are essential to an effective process of quality assessment and improvement.

Perhaps the most pressing problem of health/family planning organizations today is the control of costs. Relevant, and reliable financial information is therefore a necessary ingredient in the management system of any health and/or FP services organization. Organizations must also continually monitor and evaluate their performance, both for internal purposes and often to satisfy donors and government reporting requirements (such as the Ministry of Health etc.) Up-to-date management information is an essential part of this process of evaluation and performance monitoring.

Many health care programs and organizations have come to realize that effective management is a priority in rational resource utilization. Managing effectively requires relevant and reliable information on which to base management decisions. It is therefore not surprising that the development of MIS has become a high priority for Family Planning and Health Care programs the world over.

¹. Adapted from "Information Systems for Health Service Administration" Third Edition, by Charles J. Austin, Health Administration Press.

The quandary is that the development of MIS's is often seen as the solution to all financial woes, to poor or non-existent management structures, the lack of management capabilities and cumbersome organizational structures.

When we are thinking about developing and designing a Management Information System, we have to first analyze and understand the management system and management processes. We have to study the management system, get a sense of its strengths and weaknesses and form a clear picture of its information requirements. We must know who needs information, what type of information is needed, and how frequently it is needed. The question is how do we analyze the management system so that we can understand it sufficiently well to develop and design an MIS to support it.

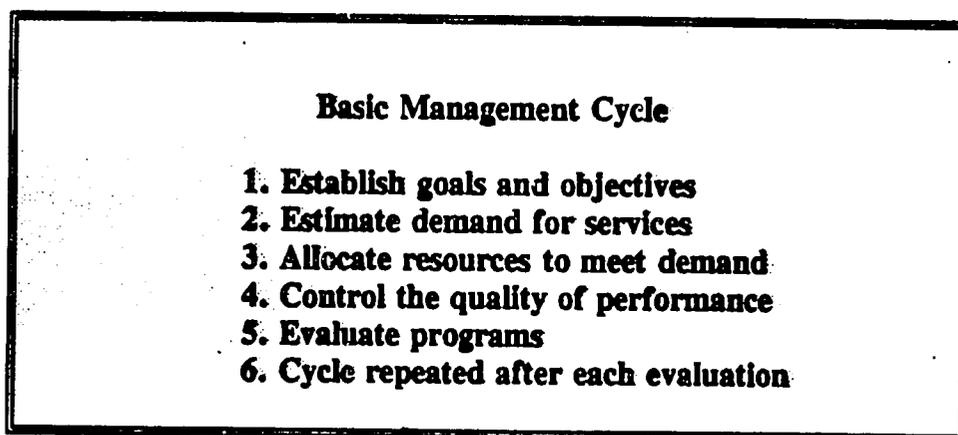
Systems methods would suggest two alternatives:

1. Analyze the management system by looking at its structure.
2. Analyze the management system by looking at its processes, i.e. look at what management does.

In this course, we suggest that the most appropriate approach is to analyze the management system in terms of its process. By looking at what management and other information users do, we are able to come up with a list of decisions and activities that require information and, therefore, MIS support. We can then begin to design an MIS to support these management needs.

Management Cycle

Within a health services organization, the basic management process can be described in cyclical terms:



Major policy decisions follow this cycle in roughly sequential fashion. Policy decisions must first be made with regard to the establishment of institutional goals and objectives. Once goals have been established, those responsible for implementing the goals must estimate the demand for specific services to be rendered. Demand can only be met through efficient allocation of limited resources, which is the third element of the management decision cycle. Allocation of resources in response to demand for services results in the establishment of operational procedures for providing services. The quality of performance in the rendering of services must be constantly watched and improved. In health and population programs, it is also important to measure the effects of those services upon the target (client) population through evaluation of program impact. Impact analysis usually results in re-evaluation and modification of organizational goals; hence, the cycle is completed and repeated once again.

Management information systems should not be viewed as something divorced or separate from the management processes and management cycle. Timely, reliable, and adequate information, plays an important role in each element of this basic management cycle. (Figure 1. below, shows examples of some of the logical links between the management cycle, information needs and the MIS).

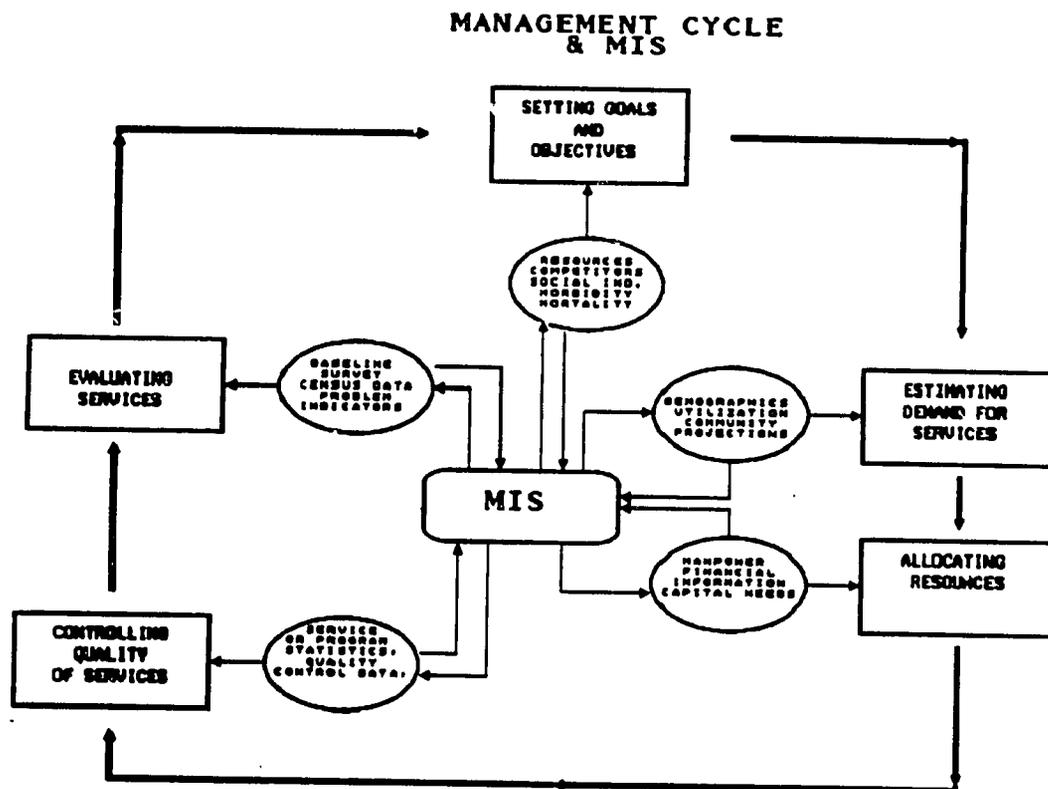


Figure 1

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Shown below are examples of some of the kinds of information that, used appropriately, can help to improve decision making in each category. For example, problem indicators are an important element in setting goals and objectives. What are the major health and reproductive health problems of the population to be served? How can these be measured? Direct indicators include health status measures, but certain indirect measures can be useful as well, particularly demographic characteristics of the population and past utilization patterns. Realistic goal setting also requires information on resources available, including manpower, income to be generated, and capital requirements. Goal setting also requires information about what others are doing in the community to meet the need for improved health care, and it cannot be done solely in an institutional context. Hence, community profile and resource data are important.

Demand estimation and forecasting require additional information, including historical data on population characteristics and previous utilization of services by type of service available.

MANAGEMENT DECISIONS AND RELATED INFORMATION REQUIREMENTS

1. Establishment of institutional goals and objectives

- Problem indicators, direct and indirect (morbidity and mortality data, social indicators, economic data on the community, data on personal health habits of members of the community)
- Data on services being delivered by other community health organizations
- Resources available

2. Demand estimation

- Historical data on utilization of health services
- Demographic data
- Community projections

3. Resource allocation

- Work force data
- Financial information
- Capital requirements
- Short-term demand forecasts

4. Performance and quality control

- Output measures (program statistics)
- Quality control data
- Work sampling and measurement
- Medical audit

5. Evaluation of program impact

- Changes in problem indicators, direct and indirect
- Cost-benefit analysis
- Change in community capability to provide services
- Baseline survey
- DHS to determine prevalence rates and/or status of health

Demographic projections must also be made for the planning period. In addition, forecasters must take into account social and cultural determinants of demand and attempt to develop demographic indicators that will aid in predicting how these determinants may change during the period of the forecast. Hence, information is an essential part of the demand estimation process.

Managers spend a considerable amount of time deciding how to allocate limited resources to meet seemingly unlimited demand. Information is useful to this activity as well. Supplies and commodity information becomes increasingly important to collect and record as programs grow and distribution becomes more complex. Data are needed on manpower presently available and on projected requirements for the planning period. Financial information and projections are an essential element, as are estimates of capital requirements. Short-term demand forecasting is important to the immediate process of resource allocation. Managers must frequently evaluate their institutional performance, both in order to improve the delivery of services, to meet the threats of the competitors and to meet the demands of external funders and external regulators. Program statistics are commonly used to aid in performance monitoring and evaluation. These include output measures such as inpatient days of care rendered, patient encounters in the outpatient department, and counts of procedures carried out in the service departments of the organizations. Quality control systems are in use in most health systems, and these are data-dependent for their functioning. Work sampling and measurement along with medical audit procedures are often used to generate

information for quality control purposes. In completion of the management cycle, health services organizations need to gather data to support studies of program impact. The same kinds of data used in the initial establishment of goals and objectives--problem indicators (before and after), costs incurred, and so on--assist management in the process of evaluation and usually lead to modifications in program goals for the future.

It is not uncommon for many health organizations to have vertical health programs. However, in the development and design of an MIS, it is important to ensure that the MIS does not become a series of vertical data collection systems, each supplying the same data to different users. In addition, the demands on the organization to supply data for external consumption should not result in aberrations to a consistently designed MIS.

Information required for effective organizational management can be broken down into five major areas:

1. Information about the environment (including data on population served and competitors, services and fee for services policies and practices, and demographic changes) for planning and policy-making.
2. Internal financial information, particularly on costs incurred and revenue generated.
3. Information on productivity and performance measured against the budget.
4. Information on the services the organization is providing (service statistics).
5. Information on program activities measured against the budget.

Periodic and Nonperiodic Management Decisions

Management decisions generally fall into two categories: (1) one-time decisions or decisions that arise infrequently at irregular time intervals; and (2) periodic decisions that occur regularly. The proper approach to information system design is obviously influenced by the periodicity or nonperiodicity of the decision.

Two general approaches are possible in obtaining management information to support one-time or infrequent management decisions. The first approach is to conduct a special study to obtain the necessary information to aid the decision process. This usually involves assignment of a consultant or staff analyst to organize the study, obtain the data, process the data, and prepare an analysis based upon the results. Such studies can, but need not always involve considerable time and effort. Careful consideration must therefore be given to costs and benefits before embarking on the special study. A second alternative is available only if the organization has in operation a generalized management information system. If such a system is in existence and if the relevant data have been collected and stored in master data files, then the process becomes a simple one of retrieval and analysis of pertinent facts from the general data base. The initial investment of time and funds in the development of generalized systems is substantial and is not recommended for organizations who do not already have a well functioning MIS. The idea that these costs can be offset by eliminating the need for special studies each time a major planning or policy decision must be faced is more often than not unrealistic. Experience has shown that the further away a decision is from the source of data collection, the smaller the incentive to collect accurate, reliable and timely data. This results in a need for more (effective) supervision with resulting costs. If in addition the decision point is also further removed in time (some time in the future) the incentive and accountability is further reduced.

The third alternative in dealing with periodic decisions is to program the decision itself into an ongoing information system. This can be done through the development of a set of generalized decision rules, which becomes part of the system itself. For example, in the accounts receivable situation a decision rule might be developed in which the information system automatically generates a detailed statement of overdue accounts to be sent to a third-party payer whenever the aged accounts receivable total from that payer exceeds a certain maximum threshold figure. Automatic reordering systems for inventory control and purchasing are another example of the programmed decision approach. Obviously not all management decisions lend themselves to the development of generalized decision rules, but the designers of information systems could go much further in the creative use of information in this way.

Information System Objectives

Managers, and staff members in health and family planning, look to information systems to provide support in the following areas: (1) quality of service assurance, (2) cost control and productivity enhancement, (3) utilization analysis and demand estimation, (4) program planning and

evaluation, (5) simplification of external reporting. Some organizations also need information systems to provide support in (6) clinical research, and (7) education.

1. Quality of Services Assurance. Services information abstracted from client records provides the basic material utilized by health professionals in peer review systems to assess diagnostic and treatment practices. One goal of an information system is to make such data readily accessible and retrievable. Both manual and computerized systems can be used for this purpose. When the volume of information is large, a computerized central client data file will significantly speed up the processing and retrieval of information for purposes of quality assessment and initiation of necessary corrective action.

2. Cost Control and Productivity Enhancement. Health services organizations are under increasing pressure to contain increases in the cost of services. Accounting systems must be in place or developed to track expenditures and incomes so that they can be allocated to cost centers. The MIS requires the ability to integrate services and financial information systems. When the volume and complexity of these activities increase, it is often cost-effective to computerize these MIS's.

3. Utilization Analysis and Demand Estimation. A complete information system should provide current and historical data on utilization of health services. Such data systems serve to assist in current analysis of the efficiency of utilization of resources and also provide a basis for predicting future demand for services.

4. Program Planning and Evaluation. Information obtained for the above purposes quality assurance, cost control, utilization analysis, and demand estimation--serves as the basic input for management decisions related to evaluation of present programs and services. When combined with projections about future changes in the demographic characteristics of the service population, the information system can provide an important resource for planning future programs and services.

5. Simplification of Internal and External Reporting. Data collection and information processing expends a substantial portion of employees time and therefore of the budget of a health services organization. Every service rendered requires concurrent recording of accurate medical and financial information. External reporting requirements are growing exponentially, with a multiplicity of reports needed to satisfy donors, ministries and governmental agencies, and implementing agencies. An important goal for an information

system is to simplify the preparation of these various reports, making sure that there is no duplication of data collection, etc. This is not a simple task of reducing the amount of information that is being collected, but of relating the collection of every data element to the specific utilization of the resulting information. (i.e. if you are not going to use the information, do not collect it in the first place).

FINAL WORD

In summary, the MIS must be seen as working within the management processes and not divorced from them. There is no doubt that the advent of computer technology is playing an increasingly important part in the management of health and family planning organizations. However, the technology must never be allowed to overshadow the management processes which ultimately determine the quality and quantity of the output.

Therefore, remember that the development of an MIS should not be confused with the development of one or more computer applications. The MIS is often comprised of one or more applications that need to work together to reach management objectives. Emphasising close links between the MIS and the management systems requires a broader approach to MIS development than individual application development, whether manual or computerized. This approach optimizes the chances of successful implementation, and increases the impact of the MIS on the organization.

Sketch of an MIS Development Plan

The MSH Approach¹

The development of an management information system (MIS) is often a relatively complex and very expensive activity that requires the coordination and close collaboration of several areas of expertise. Although a successful system is not guaranteed by having a clear strategy and a well thought out workplan, their absence would almost certainly guarantee failure.

One of the criticisms frequently leveled at management information systems is that "there is no theory of MIS." In the strict academic sense of the word, there is, of course, no "theory" of MIS. There are, however, conceptual frameworks or models that developers and designers use to structure and guide both their thinking and their activities. Notwithstanding the absence of a true theory, the use of a conceptual framework has proven to be a valuable approach to successful development, design and implementation of management information systems.

The appropriate approach will often depend on several factors such as; the resources available, the level of training of the eventual users and the general environment in which the system is being designed. The following is a summary of a strategy that we have found to be successful on several occasions.

The approach taken by Management Sciences for Health (MSH) when working with any group or organization in the development of management information systems has always been to early in the development process, institutionalize the concepts and skills required to develop, implement and maintain the MIS. This strategy encourages a highly participatory design environment and usually results in the use of subsystem design teams comprising of the key decisions makers, managers, users of the subsystem and systems analysts. Doing this will also require:

- active participation of the information systems users in the development and implementation of the systems

¹ *Management Sciences for Health, Boston, Massachusetts, USA*

- providing the users with the appropriate training that could allow them to become effective team members in the development process
- emphasis on the use of information for decision making and to place the emphasis on improving the management of scarce resources
- the development of information systems that take into consideration the long term goals of the organization

We have found that paying careful attention to these considerations has resulted in the development of subsystems that are seldom complex or difficult to develop operate or maintain.

STEPS IN THE DEVELOPMENT PROCESS

The following is a sequence of steps that Management Sciences for Health has used successfully in the field when working with health and family planning non-governmental organizations (NGOs), private voluntary organizations (PVOs), and Ministry programs.

1. Determination of the area or the subsystems to be considered for the information system design.

Any attempt to develop a global information system for a health or a family planning program is unrealistic when we consider the large number of management (planning and control) and operational (actions as a result of decision) subsystems to be considered.

When developing the MIS, it is absolutely necessary to analyze the functions and subfunctions of planning, execution, and control at all levels. This will allow the grouping of related activities into subsystems that can be more easily studied.

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Once the subsystems are identified, the management working with the systems analyst(s) will need to consider the organization's resource, targets and priorities to identify subsystems that realistically can be developed.

An organization or a program cannot have AN information system, but a group of interrelated management information subsystems. Their interdependence should be carefully considered, however, to ensure coherence and coordination of the different activities of the Program.

MIS refers to the entire spectrum of information used by management (at all levels) in organizing, planning, directing, and controlling an organization's activities. This ranges from accounting systems, and financial systems to procurement and personnel systems. It is common practice to consider all management information systems as comprising of subsystems such as the accounting subsystem, procurement subsystem, service statistics subsystem, etc. When these subsystems are related to each other they are considered to be part of the MIS. Subsystems should not be considered belonging to any one department or division within an organization. Although, the finance department may be responsible for the financial accounting system, the output from the system is used by all departments of the organization. Therefore, the users of the financial information from the other departments should also participate in the development of the finance and accounting subsystem.

2. Identification of key decision makers and counterparts.

It is too often forgotten that the ultimate goal of any information system is to support management (people) in the decision making associated with monitoring a particular process. The important issue is not or should not be the elegance or complexity of the system developed but the extent to which it helps managers to carry out their responsibilities.

At the beginning of the design process, it is important to identify at all levels, the eventual users (or group of users), all those who will be affected on way

or another by the system's implementation, and finally all the officials without who support the system will not be implemented or used. In cases where the system will have a large number of users, a small group of representatives can be chosen to represent each category or group of users.

This activity will help to:

- ensure that all the areas or departments concerned are involved in the design activities;
- provide a more precise and realistic definition and understanding of the management process;
- reduce the probability of repeating mistakes that have already been made in the past;
- get valuable input from users, create a sense of ownership and increase the probability that the system will be accepted and successfully implemented;
- assess training needs and organize programs that will allow team members to learn the techniques and skills needed to be effective team members in the MIS design.

In an effort to develop internal capabilities and institutionalize the systems, it is sometimes useful at this stage to identify a few key individuals who can be trained to be systems administrators. Their training would include training of trainers, or in system design, etc.

"Resistance to change' is often overcome by getting the people involved in the change to participate in making it". Despite this, many MIS are developed without including the key players and information users in the process. In addition, many MIS are developed by external consultants, programmers and systems analysts who exclude the "users" in the development and design process. Although, this may lead to a faster development cycle, these systems seldom "belong" to the organizations for whom they were developed. They are also dependant upon the external consultants for maintenance and future development.

1. "How to deal with resistance to change" Paul R. Lawrence, Harvard Business Review.

3. Subsystem description and workplan

It is not uncommon for the planning and design of the information system to be started without a clear understanding of the situation at hand or the problems to be solved.

Before the actual design phase begins, all the parties involved must agree on a simple, specific and irreducible definition of the subsystem to be considered.

This step in the system's development strategy should result in the preparation of a report which documents the boundaries or limits of the system being considered, the player, the environment, the problems with their consequences and possible cause. this report should also clearly define the objective(s) of the

MIS to be designed. A clear workplan with the schedule and assignment of responsibilities should be completed.

Before proceeding, this document must be reviewed by all parties involved (including representatives of lower levels or field staff) and appropriate approvals must be obtained and documented.

Understanding where you want to go before you start out is a critical step in the development process. How else will you know where you are going? This is especially important if you want to avoid problems with the deliverables at the end of the project. The more vague we are about the objectives of the subsystem development, the more liable they are to change over time. Statements like "this is not what we wanted in the first place", "I thought that the mobile clinics were included in the system", etc., are all too familiar when there is a lack of a common understanding of the boundaries and objectives of the system.

4. Management analysis (situational analysis)

Before defining information requirements, it is important that the system being considered be carefully studied. This will help avoid mistakes made in the past and will ensure a better view of the different aspects or issues to consider. This study must include all the management processes, structures, roles and responsibilities, etc.

Some questions to be asked: Why is this system part of the organization? What are its objectives, targets, activities? What is the management process in reality? What type of supervision and feedback systems are in place? Flowcharting techniques can be very useful at this stage, especially for complex situations.

It is at this stage that deficiencies and problems in the management systems per se will be identified. These often include:

- unclear definition of divisions' (departments) roles and functions

- inconsistencies between organization structure and management processes
- unspecified or misunderstood program objectives
- nonexistent or inadequate strategic plan
- inadequate supervision and feedback systems
- unclear assignment of responsibility/authority
- lack of guidelines for field staff
- mismatch between management needs and information or data flow
- communication channels unclear or complicated
- delegation of responsibility without matching authority
- unclear priorities and focus
- low staff moral and lack of motivation
- lack of qualified staff
- lack of trained staff

More often than not, it will be necessary to organize training sessions, seminars and workshops to:

- review or clarify the program's or division's objectives, activities and targets
- clarify reporting lines (authority and responsibility issues)
- review management policies and processes

Unclear roles and responsibilities make it difficult to address the issue of accountability. Responsibility is the obligation to perform assigned activities. Accountability requires that a person answer for the results achieved or not achieved in the performance of assigned duties. Accountability is the point at which authority and responsibility meet. When individuals within an organization are unclear about their roles and responsibilities, they are likely to require more information than they would actually use, just to be on the safe side. There is also likely to be a tremendous duplication of information requirements, several people needing the same information because they "need to know" and because they feel responsible.

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5. Defining information needs

The objective of the MIS is to monitor a system which was implemented to produce results. Therefore, it is only from understanding the desired results that we can identify the information needs and later the data to be collected at different levels. This is one of the most important and difficult steps: what information is required, by whom, when, why and how.

Since most of the time the new system is to replace an old one, it is important not only to identify the information which is necessary (given the objectives, priorities, as identified before), but also to identify that information which is not necessary. Remember that condensation and filtration must be considered. One important component of defining the information needs is to consider the often many different users of the information who are located at different points within the management system. You want to avoid a vertical program approach to the design of information systems and we want to avoid collecting the same data twice.

It is also at this point that report formats are designed and tested and that constraints and training needs are identified.

When determining what information to collect we are faced with the choice of analyzing the management system on the basis of its structure or by looking at its processes. As we have already suggested, we feel that the most appropriate approach is to analyze the management system in terms of its processes. We need to answer the question "What do you do?" and from that, determine what information do you need to do what you are doing more efficiently and more effectively.

6. Data requirements

Once it is clear what information is needed, it should not be too difficult to define the data required. At this point, the data collecting instruments are designed and tested: what form or questionnaire will be used, by whom, when and how. We should remember that all data sources are not necessarily in the organization in question.

If you are successful in determining the information that you require from the system, for example, you have already designed the output report forms, the design of the data collection instrument is relatively easy. However, if you reverse the process by trying to design the data collection instrument first, you will inevitably want to collect as much information as possible, "just to be on the safe side". You will also be faced with the impossible task of trying to decide how the output should be presented and used. If the data that you are collecting is not being processed and used as an output report, you should discontinue the collection. If you are not prepared to use the data/information you are collecting, discontinue the collection.

7. Adaption of the ideal system design to the environment

After reports and data collecting forms are designed, the environment's constraints must be considered to adapt the ideal design to the practical situation. Even though this may not result in a perfect system, it reduces resistance to change, training time and cost of implementation.

It is important to note that when developing a system, it is not advisable to start working directly from the old or existing system, but from an ideal perfect system. The ideal system is based on the analysis of the existing system and on the objectives, priorities, etc. of the organization/program. It is ideal in the sense that it depicts an optimal situation, towards which the organization should strive as a long term organizational objective. That ideal system is then reviewed to account for real world constraints identified during the situational analysis.

8. System flow and documentation

Once the information (reports and the data forms, communications, etc.) are specified, the next step is to define the flow or sequence to be used for the data to be collected, processed and used. Flowcharting techniques are extremely useful here. At this stage, it should also be decided what components of the system should be manual, computerized or a combination of both. Drafts of systems documentation and training material are developed.

Flowcharts: There are numerous types of flowcharts and diagrams, the most common are the data flow diagrams and system flowcharts. The systems flowchart shows the relationships between input, processing, and output, in terms of the system as a whole. A data flow diagram shows the flow of data through the system, from the point of collection to its final destination. "The data flow diagrams have in recent years replaced the system flowcharts as the preferred method of communication between the systems analyst and the system users and system developers and programmers."¹

¹. "Handbook of MIS Management" Robert E. Umbaugh.

9. Field test

Even though individual components of the system have been tested previously, the integrated system should be fully tested and reviewed before documentation, training plans and implementation strategy are finalized.

Testing should not be confused with the regular monitoring of the development of the systems which takes place on a regular basis throughout the whole development process. New ideas, processes, and program components must be tested regularly during the development cycle. However, only when the component parts come together as the MIS, can proper field testing take place. Never underestimate the amount of work required to adjust, modify and put the finishing touches to a system, especially if it is computerized. Field testing also refers to the testing of any computerized system with real data. Only when the actual flow of information (as opposed to a supervised situation or simulation) takes place and real data (as opposed to dummy data) is input, can the real debugging take place.

10. Training

Before full implementation, training must take place. This does not only include how to fill out forms at the data collection level and how to send and process the data but also how to use the information, Never assume that the manager or decision maker will know how to interpret a report.

The work with preparing a training program for any new system development (change) should start at the early planning stages of system development. It is highly recommended that the training programs focus on the objectives of the MIS development. In other words, it is often not enough to limit the training activities to teaching the data collectors how to fill in the forms, and the computer operators to input the data and print the reports. The training must focus on the utilization of information that the system is expected to provide.

11. Implementation, operation and maintenance

An MIS is designed on the basis or very specific conditions, policies and management processes. Management is a dynamic process, the MIS will therefore rapidly become obsolete and useless if not periodically modified to reflect changes that occur at the political level, in the management systems or in the environment in which the system operates.

A locus of responsibility must be identified for the system. We cannot implement a system and assume the work to be completed. We should include in the system's documentation a description of the mechanism to be used for the system's maintenance.

A common error in the planning of computerized systems is to underestimate the cost of maintenance of the systems. "Statistics indicate that maintenance may represent up to 80% of resource time and cost during the lifetime of a software system"¹

¹ "Handbook of MIS Management", Robert E. Umbaugh.

MONITORING AND EVALUATION OF CHILD SURVIVAL PROGRAMS

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ABSTRACT: The authors present a plan for the development of a monitoring and evaluation system including a set of standard indicators which have been developed for use in child survival programs. Managers can choose those indicators appropriate to their own projects, forming a program data base for use in program decision makers. Methodologies for data collection and implementation of this system are discussed.

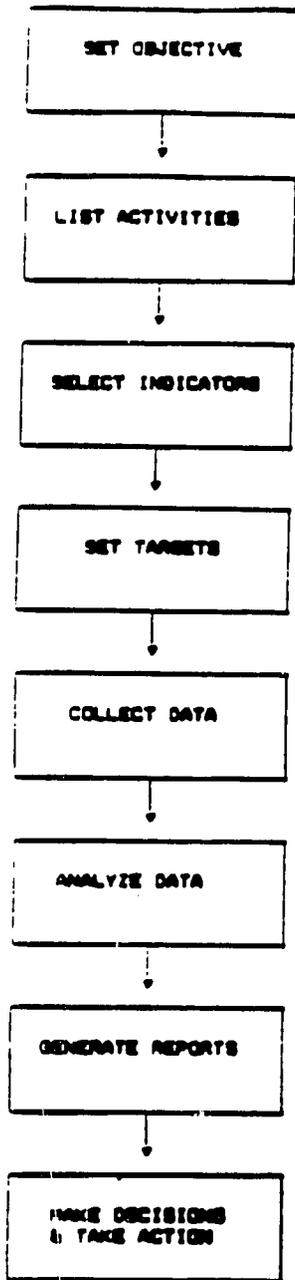
I. INTRODUCTION

A monitoring and evaluation system is the link between planning and reality; it is the way that managers know whether programs which were designed to meet specified targets are likely to accomplish these objectives, or whether some type of mid-course correction is needed to accommodate unforeseen problems or changes in the operating environment. Because of this central role in child survival programs, considerable time and effort must be given to the design and use of a monitoring and evaluation system so that accurate, relevant, and timely information will be produced. This paper presents a step by step process for the development of a monitoring and evaluation system for child survival programs.

A set of standard indicators is recommended for monitoring the various programs within child survival programs. These indicators, which have been chosen based on their simplicity, ease of collection, ability to predict effectiveness and impact, and usefulness to program managers, form a master set from which managers will choose a smaller number of indicators appropriate to their own needs based on the types of interventions they have chosen and the size and complexity of their program. Many managers will wish to augment these standard indicators with additional indicators specific to their organizational needs. We believe, however, that despite the heterogeneity of the programs, there is a need to form a uniform data base of child survival programs. It is only through the use of standard definitions and indicators that meaningful comparisons across programs and countries can be made which will allow country managers, UNICEF, WHO, and other donors to make sound decisions regarding the progress and impact of child survival programs. In addition, the use of standard indicators which have been thoroughly tested and documented will help program planners and managers to develop a workable monitoring system without duplicating the efforts and mistakes of those that have gone before them.

II. DESIGN OF A MONITORING AND EVALUATION SYSTEM

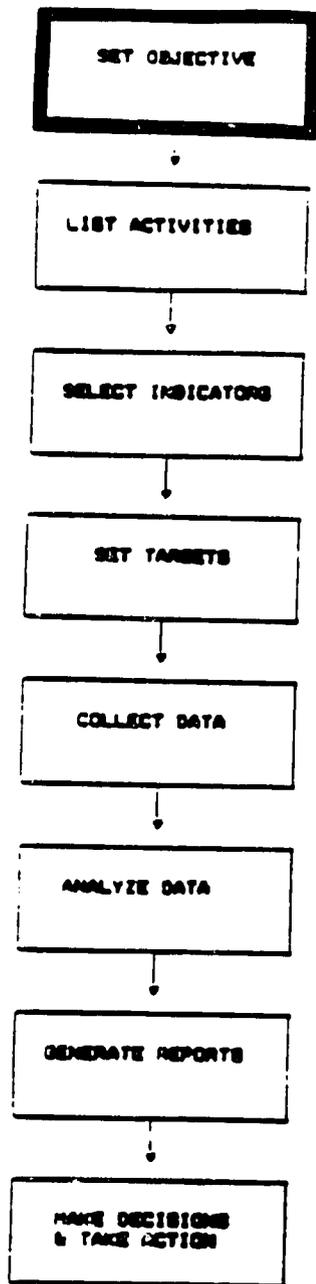
The design of a monitoring and evaluation system is an 8 step process summarized by the flow chart on the left. The process starts at the top (SET OBJECTIVES) and goes down the chart one step at a time until the monitoring and evaluation system is complete, and plans for its use (MAKE DECISIONS & TAKE ACTION) are in place. Each step will be discussed in turn and will be highlighted on the chart for easy reference. It is important at each step to remember where you are headed since the outputs of each step become the inputs of the following step.



While it may seem tedious to go through the steps presented in this section it should be remembered that monitoring and evaluation are fundamental management tools, and often mean the difference between a program which is well planned and accomplishes its objectives and one which is never quite able to impact on the health of its target population. A doctor relies on information about a patient to make decisions about treatment plans and then carefully monitors the patient's status to see if the treatment is successful or if changes are needed. The manager of a child survival program who is responsible for the lives of many thousands of patients should be equally careful to monitor initial program plans and ensure that any unforeseen changes in the operating environment that impact on a child survival program will not go unnoticed and that appropriate changes to the program can be made.

This system provides a model to be used by managers to begin the development of a monitoring and evaluation system. However, because every country and program are different, and will have different resources available to them, the system will necessarily need to be customized for each program. Therefore, an important part of the development process will be a periodic review of the monitoring system itself for necessary revisions and "debugging." Indeed, the most successful monitoring systems are those that are developed iteratively with the system users so that a practical, easy to use system is finally developed.

SET OBJECTIVE



We can see from the flow chart on the left that the first step in the process is to set objectives. You must first know where you are going before you decide how to measure your progress along the way. An objective should be measurable and sufficiently limited in scope so that one could logically expect it to be reached within the stated time period. A program will typically have many objectives, and it is these objectives against which the success of the program should be ultimately judged.

An example of an objective for an ORT program might be: "Within our target group, 30% of all mothers of children under 5 years old will correctly use oral rehydration solution for each episode of childhood diarrhea by the end of the third year of the program." Note that this objective is both measurable and time-limited; at the end of three years one could test whether the objective has actually been met.

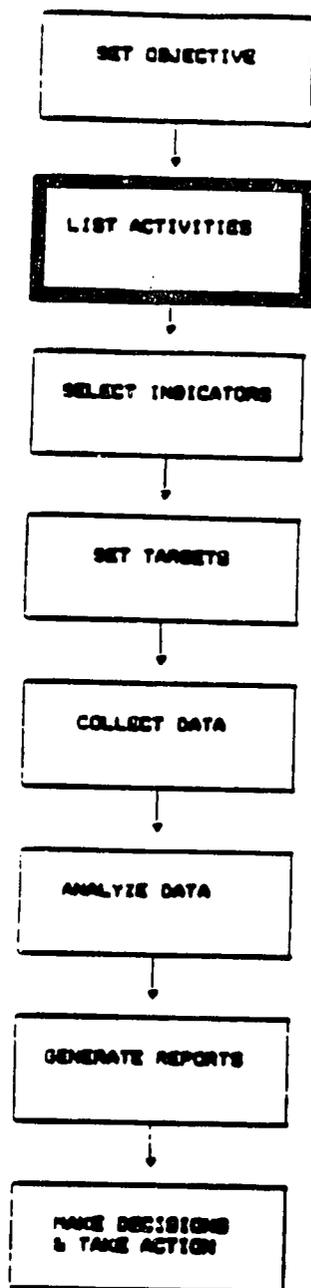
It is important to remember that each program will have multiple objectives. The objective above about ORT use might be combined with another about immunizations or nutrition, and yet another about the training of VHW's. Each program manager will need to decide for him or herself how many and which objectives are appropriate for a particular program.

The mechanics of choosing appropriate objectives are:

- o First, decide what it is that one hopes to accomplish in a specific program. In the example above, we are trying to teach mothers to use ORS correctly, so a logical outcome is correct use of ORS by mothers.
- o Second, ask how much can realistically be done in a given time period. Constraints such as available personnel, cost ceilings, and infrastructure requirements will all limit the possible impact of a program. Again using the above example, 30% was chosen as a target based on current levels of use, past experience in other areas, budget, staff available, and other relevant information.
- o Finally, choose how you will measure the outcome. Again, using the above example, we might use a survey method which asked mothers of children who had diarrhea in the past 2 weeks whether they used ORS for that episode, and if so, to ask them to demonstrate how it was mixed.

Obviously, it is a lot harder in reality to set objectives since often the data on past experience, or the target population is impossible to obtain. This is precisely the reason that a monitoring and evaluation system is important; to enable managers to know when original estimates are inaccurate and must be corrected.

LIST ACTIVITIES



The second step in the process of developing a monitoring and evaluation system is listing activities. This step represents the programming of activities and is often referred to as an implementation plan. While the selection and listing of activities will obviously vary considerably depending on the type of program which is being implemented, there are a few guidelines which may be helpful in stating those activities for the monitoring and evaluation system.

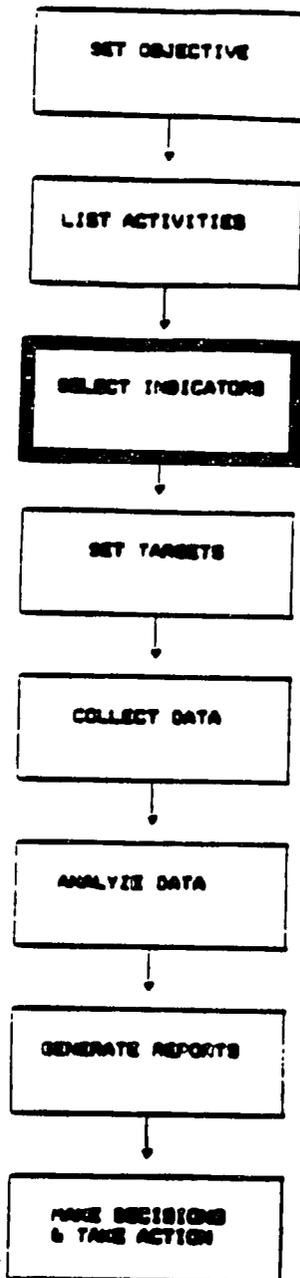
- o Each objective will normally have many activities associated with it which need to be successfully completed before the objective will be reached.
- o An activities list should include all the activities necessary to accomplish a given objective. If important activities are left out, and not monitored, we might think we are progressing satisfactorily towards achieving an objective when, in fact, we are not. For example, if we do not include an activity such as "Provide adequate supplies of vaccine for an expanded vaccination program" we may find that after many months of work to develop an immunization program we do not have sufficient doses of vaccine available.
- o Activities, like objectives, should be measurable so that one is able to know at any point in time whether a stated activity has been successfully completed. Since activities represent the operationalizing of the objective which we are measuring in our monitoring and evaluation system, it is critical that we understand how we will actually measure our activities. While the next step SELECT INDICATORS will define the milestones we will use along the way, it is also necessary to have a clear statement of when we have finished an activity. This means that each activity must be measurable.
- o Each objective should have a separate activities list. While some activities may overlap among several objectives (such as recruit VHW's for both ORT and immunization objectives) all activities should be included for each objective to avoid confusion.

An example of one activity for the objective which was stated on the previous page might be: "Train village health workers to teach mothers the appropriate and correct use of oral rehydration solution such that 90% of VHW's are able to pass a competency based performance test 6 months after they have completed their training course."

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SELECT INDICATORS

The third step in this process, the selection of indicators, is seen by many as the core of designing a monitoring and evaluation system, since it is the process of defining what it is that will actually be measured during the course of a program. Indicators will have certain characteristics which include:



- o It must be representative; it must tell us something about the status of a program which will allow better decision making or suggest corrective actions. For example, the indicator: "Number of health workers trained" tells us something about the direct outputs of our training program. If we find we are training inadequate numbers of health workers for our program needs, an expansion of the training program may be required.
- o It must be measurable; since we will use an indicator to measure our status with regard to achieving an objective, it must be possible to know whether we have made any progress since the last time we collected the information. In many cases this may mean that an indicator should be quantifiable, but some indicators may need to be qualitative rather than quantitative. "Number of health workers trained" is easily quantified, while a measure of the effectiveness of the training may be more appropriately qualitative.
- o It must be economical; every indicator takes resources of time and money to collect. It is important that we balance the cost of collecting an indicator with the value that we will get out of the information. "Number of health workers trained" should be easy and cheap to collect and give us important information; "Number of children never weighed" will be very difficult and expensive to collect and will probably not provide any useful information.
- o It has a time dimension; indicators typically fall into one of 4 types related to the sequencing of activities in a program's life:
 - **BASELINE INDICATORS** define the status at the baseline period at the beginning of programs before which changes due to the current plans take place.
 - **LEADING INDICATORS** measure changes that occur early in the program when internal systems are changing but when services to people have not yet changed significantly. These indicators describe the resources allocated or scheduled for allocation which are necessary before changes in outputs or

behavior can occur. It is important for managers to pay careful attention to these leading indicators as they will be the earliest indication of the likely success of the program.

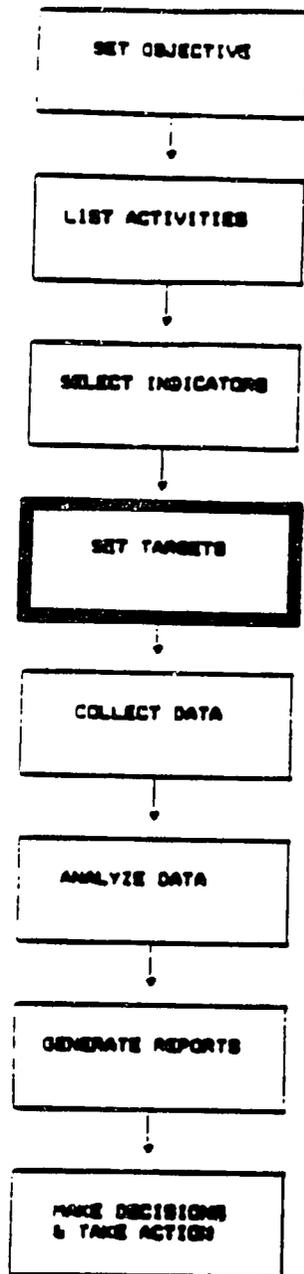
- **COINCIDENT INDICATORS** measure changes that occur in services to people and take place in the middle years of a program when it is increasing its size and effectiveness. For example, more growth monitoring services occur after the workers are trained (**LEADING INDICATOR**) and growth cards are in place.
- **LAGGING INDICATORS** measure changes in the impact period which occurs late in a program after the services have been in place for some reasonable time. These indicators measure the long-term results which the program has had on the target population. Most effectiveness and impact indicators are in this category as are most indicators used for final evaluations of program performance. Note however, that because these indicators often do not change until late in a program they are less useful for guiding decision making during program implementation than for planning subsequent programs which are being considered.

The process for selecting indicators is difficult since there are many considerations which must be kept in mind for each indicator. The first step in the process is to answer the following questions for each activity:

1. What are the questions we need to answer to know whether we will accomplish our activity?
2. What information do we need to answer these questions? (indicators)

Answering these questions is not a simple task since it requires an understanding of the relationships between the activity we hope to accomplish, the information collection system, and the feasibility of collecting certain kinds of information. To simplify the process, a standard set of indicators has been developed for each of the four GOBI interventions of child survival programs: Growth Monitoring, Oral Rehydration, Breast Feeding, and Immunization. (see figures 1-4) These indicators are grouped first by intervention, and then by levels which correspond to increasingly difficult data collection methodologies since in most cases, the data collection requirements will dictate the set of possible indicators for a particular program. While many program managers will find that they require additional indicators to monitor activities unique to their program, it is anticipated that the recommended indicator set will satisfy most of the information needs for most child survival program managers.

SET TARGETS



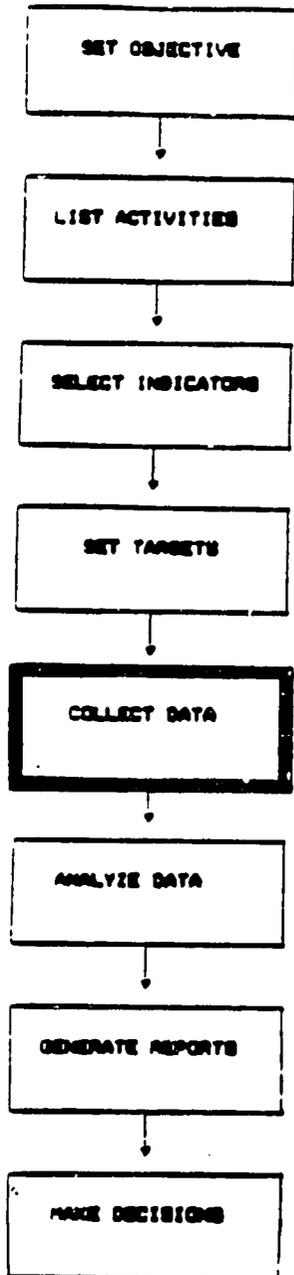
The process of setting targets is one of the most important and yet least often performed steps in program planning. This is often because many managers have difficulty setting realistic targets. Without good baseline data on which to set appropriate targets, managers often prefer to use vague descriptive targets rather than quantitative ones so they can not be held accountable for interim results. While this may make sense from the managers point of view, it may make it impossible to tell when a program is getting off track until it is too late to correct it. This lack of explicit targets also makes it difficult to set priorities and coordinate the efforts of different groups working on the same program since mixed and sometimes contradictory messages may be given about where to focus resources.

Three methods are commonly used for setting targets.

- o The first is to divide the expected program outputs by the number of years in the program to come up with an estimate of annual outputs. Thus if an immunization program has as an objective the vaccination of 30,000 children with measles vaccine during the next 3 years, a target of 10,000 children per year is set. This method, while mathematically correct is not usually accurate since a new program should expect to immunize fewer children in the first year when logistics have to be arranged than the third year when the vaccination program is running smoothly. Since the targets are unrealistic, we do not know after one year whether we are in fact on schedule for meeting our final objective or not.
- o The second method is to take the previous years result and add 10% for this year's estimate. If a program has been performing well in the past, this method may give us a sensible target, but we never really know whether a program is performing well; only if it is performing as well as last year. If there are correctible problems which occur year after year, we will not know about them since our targets are based on comparative performance, rather than absolute standards.
- o The third method, which is the most difficult, but also the most useful, is to set targets according to some normative standard or from a review of program capabilities. An example of this type of target is the standards used in growth monitoring cards where average weight-for-age values are used to compare a child's actual growth with expected growth. While this may be a difficult and time consuming activity, it allows us to make better use of the data collected through the monitoring and evaluation system to make decisions.

COLLECT DATA

The issue of HOW, WHEN, and FROM WHOM to collect data is a difficult one for the program planner and manager since one is constantly forced to balance the desire for more and better data with the cost in time, and money of collecting that data.

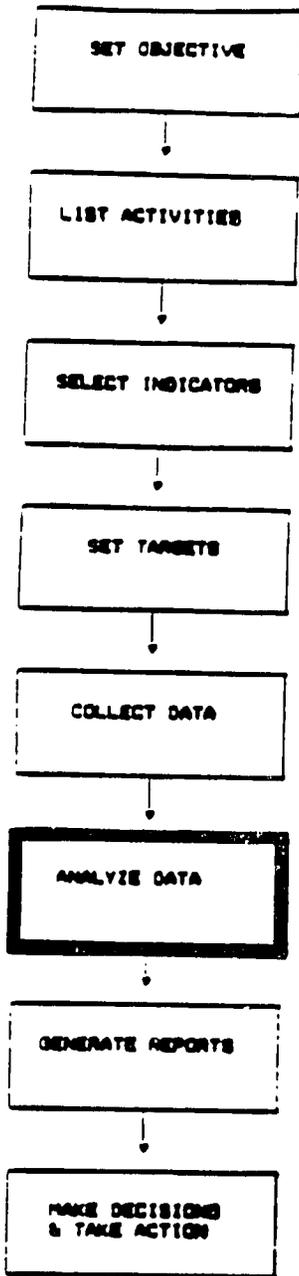


Because of the complexity of decisions regarding data collection, the discussion of this topic is presented in more detail in the following section. While the discussion of data collection is somewhat lengthy in order to include the wide spectrum of methodologies and issues which the decision maker will face, for most indicators, the choice of data collection methodology will be apparent and will consist of either system surveys (collection of routine service statistics) or population based surveys. On the other hand, since each child survival program has different program designs and different data needs, a more complete description of alternate methodologies is presented.

There are several key issues which should be considered in selecting a data collection method.

- o Value vs. cost: All data costs time and money to collect, and some data collection methods, especially surveys are very expensive. It is important to balance the cost of data collection with the value of the information it will provide. Obviously we do not want to collect anything which will cost a program more than it is worth.
- o Health worker workload: Almost all data will be provided by health workers who are already busy providing services for their populations. It is essential that systems be designed which do not overload these workers with the filling out of forms and other reporting requirements. We are all familiar with MCH clinics where the nurse spends more of her time filling out records than seeing mothers and children.
- o Data Quality: It is easy to collect data; it is not so easy to collect data which is representative and accurate. Biases are often inherent in data collection systems and must be considered in designing what data to collect and how to collect it. If health workers are rewarded for treating patients, we can expect an upward bias in the reported numbers of cases treated. Some method of independently assessing the accuracy of reported data must be built into the system to insure data quality.

ANALYZE DATA



Data analysis is the process of transforming raw data collected from the field into information which can be used by the planner or manager for understanding program status or making better decisions. Data analysis is often broken into two distinct stages. The first is data processing, in which data collected from multiple sources and at different times are combined into one general data base. Often data are grouped into differing levels of aggregation for use by different levels of program managers. Thus, for example, information on the number of ORS packets distributed at each distribution point might be presented as individual tallies for the health center manager, regional totals for the regional managers, and national totals for the national director. A second type of data processing is statistical analysis, whereby data are organized according to various statistical methodologies. Examples of this might be the average number of ORS packets distributed at each distribution point during the past month, or the percentage of users of homemade ORS solutions who are mixing it correctly. This sort of statistical analysis may be helpful in allowing the manager to understand and use large quantities of information.

The second stage of data analysis is data interpretation in which data that have been processed are presented to planners and managers in an easily-understandable format. The choice of presentation is an important factor in the accurate interpretation of data; different presentations can make the difference between useful information and uninterpretable data. An example of this is a national immunization manager trying to predict what types of vaccine to order for the coming year. He is presented with the daily logs from each immunization center of all the immunizations given in the past year. This data, which is 30 pages long is not very helpful to a busy manager. On the other hand, the following table provides him with the information he needs.

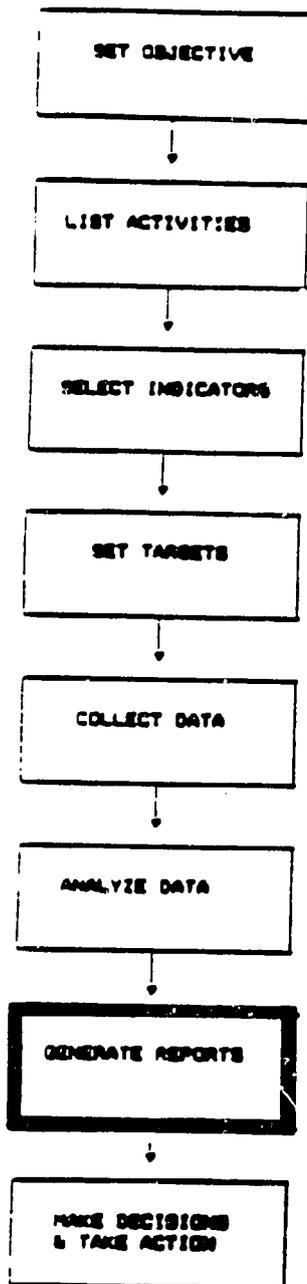
IMMUNIZATION SUMMARY-ALL REGIONS: PAST 12 MONTHS

TYPE	TOTAL	BY REGION:		
		A	B	C
DPT	3186	773	955	632
POLIO	2538	807	649	498
MEASLES	1000	278	310	180
TETANUS TOX.	480	112	196	75
BCG	1359	431	335	214

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GENERATE REPORTS

Every manager is familiar with the problem of having stacks of reports on his or her desk which took hours for staff to fill out and required hours to read only to find out that they do not really report on the information which is needed. It is very important that indicators be displayed in a format which facilitates their use for decision making and gives the reader an immediate picture of the program status. There are several considerations in designing such a format.

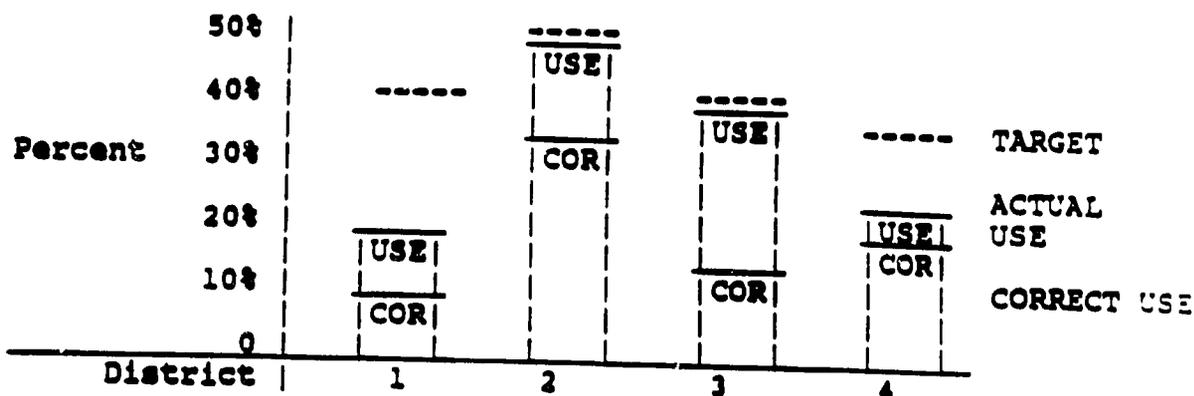


- o The problem most managers have is not too little information but too much. Faced with a 20-page document from each of 15 regions, few managers will have the time or energy to go through and pick out relevant information. Reports should be designed to present a manager what he or she needs to know rather than every piece of data which has been collected.
- o Whenever possible, information collected on indicators should be presented side by side with the targets for those indicators, so a manager can see at a glance whether a program is on schedule with its plans.
- o Data should be combined with other indicators before being presented, so that the picture makes sense to someone scanning a report. For example, information about families using ORS for an episode of diarrhea might be grouped with information about the proportion of these families who used it correctly. In the same way, trend lines which show present performance compared to past performance, or data comparing different regions at the same time, may clearly point to where the problem areas lie.
- o A picture is worth a thousand words; nowhere is this more true than in reporting data. Information which is reported graphically is faster to read, easier to understand, and often shows relationships not readily apparent in tables or written reports. Field staff can and should be taught to graph trend lines and comparative data for their own use and for reporting purposes; microcomputers can assist in this task where they are available.

Reports should contain narrative sections, tables, and graphs. Usually, reports are difficult to understand because they contain narrative sections which are often verbose and descriptive rather than succinct and analytical, tables which contain raw or minimally processed data which are difficult to interpret and no graphs at all. A key area for improving decision-making is to improve the quality of reports so that they communicate much more clearly to their readers. This requires much better analysis and display of information through tables and graphs.

Two forms of analysis are crucial-- TREND ANALYSIS and COMPARATIVE ANALYSIS. TREND ANALYSIS presents a graphic representation of events during several time periods and is useful for following the progress of one location or indicator over time. COMPARATIVE ANALYSIS compares two or more locations or interventions and facilitates analysis of relative success between two areas. Examples of these types of analysis are presented below.

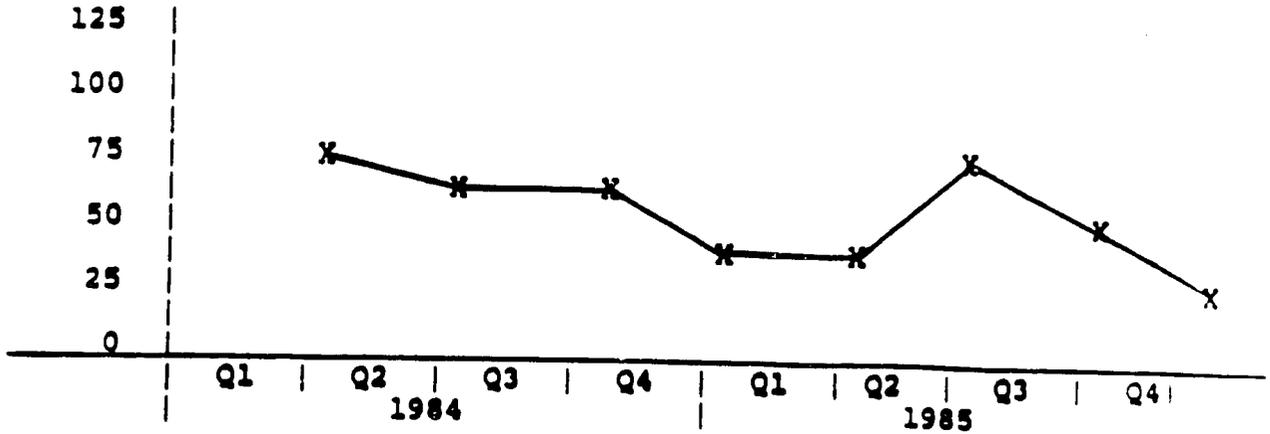
**ORT USE VERSUS CORRECT USE
BY DISTRICT
1985**



DISCUSSION: This is a COMPARATIVE ANALYSIS showing different districts at one time period. It is helpful in judging the performance of each district unit and for seeing whether problems encountered in a program are present in all service units or only in a few locations. This report shows the proportion of children who have ever been given ORT, the proportion of families who can effectively use it, and the ratio of effective use to use in a sample of the population which was surveyed. It also shows this in relation to a target for each district. The target is both for children ever given ORS and for correct use since we would like all families using ORS to use it correctly. This report shows the variations between districts and highlights those areas where mothers are using ORS incorrectly. We see that in District 2 they have reached their target for "ever used" and 2/3 used it correctly. In District 4 most (3/4) mothers used it correctly but they are still a long way from reaching their target. In District 3 they have reached their target, but over half use it incorrectly; perhaps they were too concerned about use rates without taking the time to teach how to use ORT correctly. However, it is District 1 where we need to focus most attention since District 1 has both low use rates and most people use it incorrectly.

This type of analysis dramatically presents information which might have been lost in a long table of figures.

NUMBER OF DISTRIBUTION POINTS WITH ORS STOCKOUT BY QUARTER



NO. DISTRIBUTION POINTS REPORTING	
1984 Q1	110
1984 Q2	128
1984 Q3	131
1984 Q4	130
1985 Q1	129
1985 Q2	138
1985 Q3	136
1985 Q4	121

DISCUSSION: This graph shows a TREND ANALYSIS representing the trend of data over time for one location. In this case, the report shows the number of distribution points (village health workers, clinics, womens groups, etc.) in the country experiencing stockouts for each quarter. It is primarily used by the program manager for monitoring the adequacy of the ORS distribution channels. One would like the number of stockouts to decrease as the program matures and the supply channels to become less erratic. However, as the program matures, it also grows and the maintenance of an adequate distribution network becomes more complex.

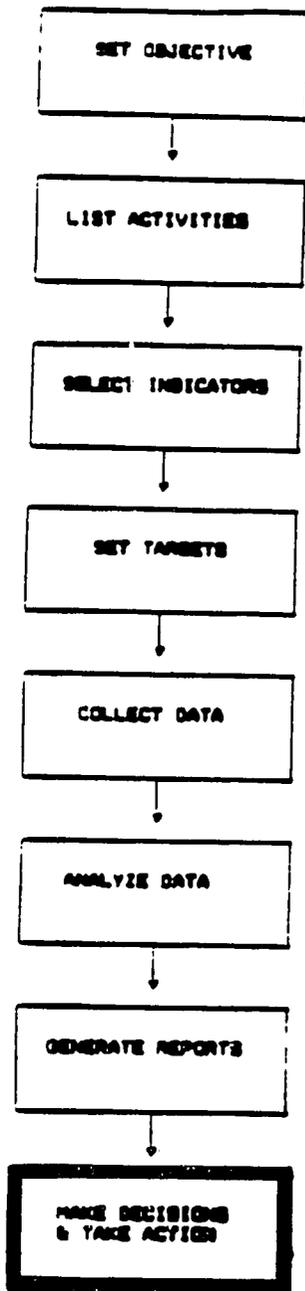
Note that in the report above, the distribution was generally improving until the second quarter of 1985 when the program expanded and the number of distribution points experiencing stockouts increased. After that quarter, the number of stockouts went down, but so did the number of centers reporting. The manager would need to find out if the centers who are not reporting are in fact experiencing stockouts (which may be why they do not bother to report) or simply not reporting. The system will need to both increase the number of points reporting and decrease the number of stockouts.

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MAKE DECISIONS & TAKE ACTIONS

A monitoring and evaluation system is of little use if it does not result in appropriate action being taken. Most often, the success of a child survival program is based on the ability of program managers to use new and unexpected information to ensure the achievement of program objectives and targets. While each manager will necessarily develop his or her own way of responding to information, certain underlying principles are helpful:

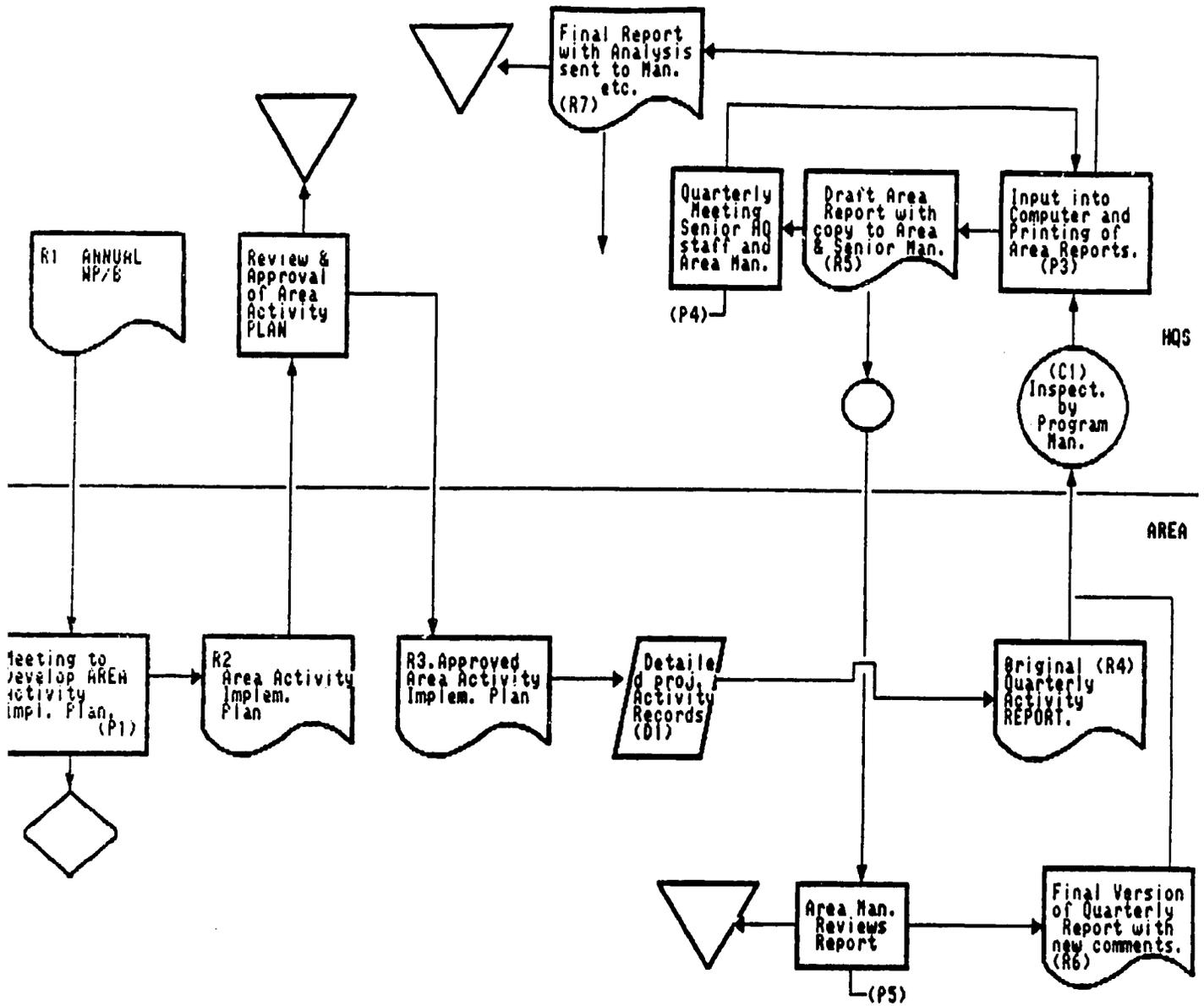
- o Timely and well-thought-out action supported by appropriate information is a necessary part of any successful child survival program. Taking corrective actions, while sometimes difficult, is a responsibility of the various program managers, and each manager should be expected to fulfill this task.
- o Corrective actions should be taken by the lowest-level manager with the information and authority necessary to make the appropriate decision. In other words, decision-making should be as decentralized as possible.
- o Actions taken should be well documented, so that one can evaluate in the future whether the best course was taken or whether some alternative might have been better. Each new action or program should be built on the foundations of experience to date and lessons learned.



The investment in a Child Survival monitoring and evaluation system will come to naught if the information generated is not used. However, managers are often reluctant to take decisive action in highly visible large-scale national programs unless they are certain of the success of their actions. While an information system can support such decisions, it cannot push managers to take the final step and commit themselves to a course of action. One method that may help in this effort is to have managers write scenarios for possible outcomes of difficult decisions to help them choose among alternatives. They must also understand that taking no action is, itself, a choice with resultant consequences and that it must be compared to other choices as to likely outcomes.

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PROPOSED ACTIVITY REPORTING.



Appendix II

FPAK ACTIVITY MONITORING PREPARATION FORM

PROJECT NAME:

PROJECT #:

Date:

Project Officer:

CODE:	Activity Description	Annual	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4
		Total				
100	Volunteer Const. Comm.					
	Total No. of Participants					
101	Area Committees					
	Total No. of Participants					
102	Branch Committees					
	Total No. of Participants					
103	Annual Delegates Conf.					
	Total No. of Participants					
104	Finance Admin Sub-Comm.					
	Total No. of Participants					
105	Law Sub-Committee					
	Total No. of Participants					
106	Management Committee					
	Total No. of Participants					
107	National Executive Comm.					
	Total No. of Participants					
108	Program Review Comm.					
	Total No. of Participants					
109	Resource Dev. Sub-Comm.					
	Total No. of Participants					
150	Workshops					
151	Area CBD Consult. Wkshp.					
	Total No. of Participants					
152	Area Staff/Vol Wkshp.					
	Total No. of Participants					
153	National CBD Consult Wkshp.					
	Total No. of Participants					
154	CBD Training Manual Wkshp.					
	Total No. of Participants					

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Appendix III

Analysis Category From: ALL

Date of last Update From: ALL

Analysis Category	Analysis Code	Analysis Code Name	Lookup Code	Prohibit Posting
T1		NOT ANALYSED		
T1	1001	C B D SERVICES	CBD SERVIS	
T1	1201	DEMO CENTRES	DEMO	
T1	1401	OUTREACHES	OUTREACHES	
T1	1601	PAPSHEAR	PAPSHEAR	
T1	1801	STATIC CLINICS	STATICS	
T1	2001	TAITA TAVETA	TAITA	
T1	2201	VSC SERVICES	VSC SERVIC	
T1	2602	AFRICA 2000	AFRICA	
T1	2802	FAMILY LIFE	FAMILY	
T1	3002	YOUTH WELFARE	YOUTH WELP	
T1	3203	CLIENT EDUCATION	CLIENT EDU	
T1	3403	PROVIDER	PROVIDER	
T1	3604	PUBLICITY	PUBLICITY	
T1	3804	RESOURCE DEVELOPMENT	RESOURCES	
T1	4005	CONSTITUTION	CONSTITUT.	
T1	4205	MANPOWER DEV.	MANPOWER	
T1	4405	VOLUNTEER R & D	VOLUNTEER	
T1	4606	MALE INVOLVEMENT	MALE INVOL	
T1	4806	RESEARCH N' EVAL.	RESEARCH	
T1	9090	PROJECT SUPPORT	PROJECT ST	
T1	9191	ADM.& GEN. SERVICES	ADM.& G S	
T2		NOT ANALYSED		
T2	X 100	VOLUNTEER CONSTITUTIONAL COMMI	VOLUNTEER	
T2	101	AREA COMMITTEES	AREA COMMS	
T2	102	BRANCH COMMITTEES	BRANCH COM	
T2	103	ANNUAL DELEGATES CONFERENCE	ANNUAL DEL	
T2	104	FINANCE & ADMIN SUB-COMMITTEE	FINANCE AD	
T2	105	LAW SUB-COMMITTEE	LAW SUBCOM	
T2	106	MANAGEMENT COMMITTEES	MANAGEMENT	
T2	107	NATIONAL EXECUTIVE COMMITTEE	NATIONAL	
T2	108	PROGRAMME REVIEW COMMITTEE	PRO REVIEW	
T2	109	RESOURCE DEVELOP SUB-COMMITTEE	RESOURCE	
T2	150	WORKSHOPS	WORKSHOPS	
T2	151	AREA CBD CONSULTATION WORKSHOP	AREA CBDCO	
T2	152	AREA STAFF/VOLUNTEER WORKSHOP	AREA STAFF	
T2	153	NATIONAL CBD CONSULT.WORKSHOP	NCBD CONW	
T2	154	CBD TRAINING MANUAL WORKSHOPS	CBD TRAIN	
T2	155	CBD TRAINING TRAINERS WORKSHOP	CBD TRAIN	
T2	156	PROJECT PLANN & MGT WORKSHOP	PP & MGT/W	
T2	157	SENIOR STAFF PLANNING WORKSHOP	SENIORS	
T2	158	UPDATE WORKSHOPS	UPDATE WOR	
T2	160	WRITERS WORKSHOP	WRITERS WP	
T2	200	MEETINGS	MEETINGS	
T2	201	ADVISORY EDUCATIONAL B/MEETING	ADED B/MTG	
T2	202	STAFF MEETINGS	STAFF MEET	
T2	203	PREPARATORY MEETINGS	PREMEETING	
T2	250	TRAINING AND TRAINING COURSES	TRAINING	

Analysis Category From: ALL

Date of last Update From: ALL

Analysis Category	Analysis Code	Analysis Code Name	Lookup Code	Prohibit Posting
T2	251	AREA ONE-DAY IBC TRAINING	AREA ONE/D	
T2	252	AV EQUIPMENT MAINT COURSE	AV EQUIPCO	
T2	253	AV EQUIPMENT TRAINING(DRIVERS)	AV EQUIPTR	
T2	254	MANAGEMENT COURSES	MANAGEMENT	
T2	255	PROJECT MANAGEMENT TRAINING	PROJECT MT	
T2	256	REGIONAL TRAINING	REGIONAL T	
T2	257	TRAINING (LOCAL)	TRAINING L	
T2	300	STUDIES AND SURVEYS	STUDIES SU	
T2	301	BASLINE SURVEY	BASLINE	
T2	302	FIELD INTERVIEWS	FIELD INTS	
T2	303	FEASIBILITY STUDIES	FEAS STUDY	
T2	304	STUDY ON FLB CLUBS	STUDY FLB	
T2	305	STUDY TOURS	STUDY TOUR	
T2	306	STRUCTURED OBSERVATION	STRUCTURE	
T2	307	COPE	STUDIES SU	
T2	330	SEMINARS	SEMINARS	
T2	331	DISSEMINATION SEMINARS	DISSEM SEM	
T2	332	MASS MEDIA SEMINARS	MASS MEDIA	
T2	350	PUBLICITY OF FPAK	PUBLICITY	
T2	351	PUBLICITY SHOWS	PUBLICITY	
T2	352	FAMILY PLANNING EXHIBITIONS	FAMILY PLB	
T2	353	CONGRATULATORY MESSAGES	CONGR MESS	
T2	354	FLAG DAY	FLAG DAY	
T2	400	MONITORING AND EVALUATION	MONITORING	
T2	401	PROJECT MANAGEMENT INFO SYSTEM	PROJECTMIS	
T2	402	PROJECT MONITORING & SUPERVIS	PROJ MONSU	
T2	403	RESEARCH	RESEARCH	
T2	404	EVALUATION	EVALUATION	
T2	405	OPERATIONS RESEARCH	OPERATIONS	
T2	406	PAP SMEAR SERVICES	PAPSMEAR	
T2	407	OUTREACH SERVICES	OUTREACH	
T2	450	DEVELOPMENT & PRINT MATERIALS	DEVELOP PM	
T2	451	ADOLESCENT POSTERS	ADO POSTER	
T2	452	ANNUAL REPORTS	ANNUAL REP	
T2	453	AUDIO VISUALS	AUDIO VISU	
T2	454	BOOKLETS ON MOST COM. QUESTIONS	BOOKLETS	
T2	455	BRANCH REGISTERS	BRANCH REG	
T2	456	CALENDERS	CALENDERS	
T2	457	CHRISTMAS CARDS	CHRISTMAS	
T2	458	COUNSELLING POSTERS	COUNSEL	
T2	459	FLIP CHARTS	FLIP CHART	
T2	460	FLYERS	FLYERS	
T2	461	GREETING CARDS	GREETINGS	
T2	462	IBC GUIDE	IBC GUIDE	
T2	463	IBC MATERIALS	IBC MATER	
T2	464	LEAFLETS ON PILLS	LEAFLETS	
T2	465	LIFE MEMBERSHIP REGISTERS	LIFE MEMR	
T2	466	M I S FORMS	MIS FORMS	
T2	467	MEMBERSHIP REGISTERS	MEMBER REG	
T2	468	NEWSLETTERS	NEWSLETTER	

Analysis Category From: ALL

Date of last Update From: ALL

Analysis Category	Analysis Code	Analysis Code Name	Lookup Code	Prohibit Posting
T2	469	DIARIES	DIARIES	
T2	470	PROCEDURE MANUALS	PROCEDURE	
T2	471	QUESTIONNAIRES	QUESTION	
T2	472	REFERENCE GUIDES	REFERENCE	
T2	473	RESEARCH & EVALUATION REPORTS	RESEARCH	
T2	474	STICKERS	STICKERS	
T2	475	TIN WRAPPERS	TINS	
T2	476	TRAINING MANUALS	TRAINING	
T2	477	VISITING CARDS	VISITING C	
T2	478	VOLUNTEER GUIDE MANUAL	VOLG MANUAL	
T2	479	YOUTH BROCHURES	YOUTH BROU	
T2	500	PREPARATION OF MATERIALS	PREP MATER	
T2	501	PRE TESTING	PRETESTING	
T2	502	CODING OF QUESTIONNAIRE	CODING QUE	
T2	503	REPORT WRITING	REPORT WRI	
T2	504	YOUTH LOGO	YOUTH LOGO	
T2	600	COUNSELLING & PPI DISSEMIN	COUN PPI D	
T2	601	CONTRACEPTIVE COUNS. & SERVICES	CONT COUNS	
T2	602	DEMO CENTRES (KIZIBE CHONYI ETC)	DEMO CENTR	
T2	603	PRODUCTION OF RADIO & TV SPOTS	RADIO TV	
T2	900	OTHER ACTIVITIES	OTHER ACT	
T2	901	FIELD ED PUB. & SUPERVISION	FIELD EDPS	
T2	902	RECRUITMENT	RECRUIT	
T2	903	FUNDRAISING ACTIVITIES (WALK)	FUNDRaise	
T2	904	INCENTIVES FOR YOUTH PROMOTERS	INCENTIVE	
T2	905	INCOME GENERATING PROJECTS	INCOME GEN	
T2	906	OPERATING COSTS	OPERATING	
T2	907	VSC OUTREACH	VSC OUTREA	
T2	908	LOCAL PURCHASE OF EQUIPMENT	PURCHASE	
T2	909	PROJECT MANAGEMENT	MANAGEMENT	
T2	910	PERSONNEL COSTS	PERSONNEL	
T2	911	LAUNCHING OF CBD SITE	CBD SITE	
T2	912	TRAINERS PLANNING WORKSHOP	TRAINERS	
T2	913	POPULATION CONCERN - MOMBASA	POP CONCERN	
T2	914	POPULATION CONCERN - NAIROBI	POP CONCERN	
T2	915	FORD FOUNDATION	FORD	
T2	916	CBD CORE TRAINING	CBD CORE T	
T2	917	TRAINING CLINIC PROVIDERS	PROVIDERS	
T2	918	FOCUS GROUP RESEARCH	FOCUS GROU	
T2	919	FGD TRAINING	FGD TRAINI	
T2	920	PROJECT ORIENTATION	PROJECT OR	
T2	921	TRAINING MODELS	MODELS	
T2	922	SITE VISITS	SITE VISIT	
T2	923	DATA PROCESSING	DATA PROCB	
T2	924	SENSITIZATION WORKSHOP	SENSITIZAT	
T2	925	CENTRE FOR POPULATION OPTIONS	OPTIONS	
T2	926	MIS	MIS	
T2	927	FIELD WORK	FIELD	
T2	928	CIVIL WORKS	CIVIL	

Analysis Category From: ALL

Date of last Update From: ALL

Analysis Category	Analysis Code	Analysis Code Name	Lookup Code	Prohibit Posting
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T3		NOT ANALYSED		
T3	CB	CENTRAL AREA	CENTRAL	
T3	CO	COAST AREA	COAST	
T3	EA	EASTERN AREA	EASTERN	
T3	HQ	PPAK HEAD QUARTERS	PPAK H/Q	
T3	NA	NAIROBI AREA	NAIROBI	
T3	NR	NORTH RIFT AREA	NORTH	
T3	NY	NYANZA AREA	NYANZA	
T3	SR	SOUTH RIFT AREA	SOUTH RIFT	
T3	WB	WESTERN AREA	WESTERN	
T4		NOT ANALYSED		
T4	#ACS	ACCOUNTS STAFF	ACCOUNTS	
T4	#APM	ASSISTANT P.O. MEDICAL	ASSIST MED	
T4	#APO	ASSISTANT P.O. (OTHER PROJECTS)	ASSIST OPR	
T4	#APS	A P O SERVICE DELIVERY	APO	
T4	#ARM	AREA MANAGERS	A MANAGERS	
T4	#ARS	AREA STAFF	AREA STAFF	
T4	#ART	ARTISTS	ARTISTS	
T4	#ASD	ASSISTANT STUDY DIRECTOR	ASD	
T4	#CBA	CBD AGENTS	CBD AGENTS	
T4	#CBP	CBD FIELD WORKERS	CBD PWORKER	
T4	#CBS	CBD SUPERVISORS	CBD SUPERV	
T4	#CBW	CBD WORKERS	CBD WORKER	
T4	#CBC	CENTRE CO-ORDINATORS	CENTRE CO	
T4	#CLA	CLINIC AIDES	CLINIC AID	
T4	#CLN	CLEANERS	CLEANERS	
T4	#CLP	CLINIC PROVIDER	CLINIC PRO	
T4	#COR	COUNSELLORS	COUNSELLOR	
T4	#CON	CONSULTANT	CONSULTANT	
T4	#COO	CO-ORDINATORS	CO-ORD	
T4	#COU	COUNSELLORS	COUNSELLOR	
T4	#DRA	DRIVERS-AREA	DRIVER	
T4	#DRH	DRIVERS-HEADQUARTERS	DRIVERS HQ	
T4	#EDT	EDITOR	EDITOR	
T4	#EXD	EXECUTIVE DIRECTOR	EXECUTIVE	
T4	#FAC	FACILITATORS	FACILITATO	
T4	#FAM	FINANCE & ADMIN.MANAGER	FAM	
T4	#FED	FIELD EDUCATORS	FIELD ED	
T4	#FGR	FGD RESEARCHER	RESEARCHER	
T4	#PPA	PPAK STAFF - AREAS	AREA STAFF	
T4	#PPH	PPAK STAFF - HEADQUARTERS	HQ STAFF	
T4	#PST	FIELD STAFF	FIELD STAF	
T4	#PSU	FIELD SUPERVISORS	FIELD SUP	
T4	#ITA	INTERNAL AUDITOR	INTERNAL	
T4	#ITW	INTERVIEWERS	INTERVIEW	
T4	#KYC	KENYA YOUTH ASS. OF CHURCHES	YOUTH	
T4	#LOC	LOCAL CO ORDINATOR	LOCAL	
T4	#MES	MESSENGERS	MESSENGERS	
T4	#MIT	MIMILAP TEAMS	MIMILAP	

Analysis Category From: ALL

Date of last Update From: ALL

Analysis Category	Analysis Code	Analysis Code Name	Lookup Code	Prohibit Posting
T4	#MPT	MATERIAL PRETESTER	MATERIAL	
T4	#NAC	NATIONAL CO ORDINATOR	NATIONAL	
T4	#NUM	NURSE MIDWIVES	NURSE MID	
T4	#PAR	PARTICIPANTS	PARTS	
T4	#PDP	PROJECT DEPUTY DIRECTOR	PROJECT DE	
T4	#PDR	PROJECT DIRECTOR	PROJ DIR	
T4	#PIV	PRINCIPLE INVESTIGATOR	PRINCE	
T4	#POM	PROGRAMME OFFICER MEDICAL	PO MEDICAL	
T4	#PRC	PROJECT CO-ORDINATOR	CO-ORDIN	
T4	#PRD	PROGRAMME DIRECTOR	P DIRECTOR	
T4	#PRM	PROGRAMME MANAGER	PROG MANAG	
T4	#PRO	PROGRAMME O.OTHER PROJECTS	PO OTHERPR	
T4	#RED	RESEARCH & EVAL. DEPT. STAFF	RE DEPT	
T4	#RSA	RESEARCH ASSISTANTS	RESEARCH	
T4	#RSC	RESEARCH CO-ORDINATORS	RESEARCHCO	
T4	#RSO	RESEARCH OFFICERS	RESEARCHOP	
T4	#RSP	RESOURCE PERSONS	RESOURCPS	
T4	#SAS	SUPPLIES & ADMINI. STAFF	SUPPLIESAD	
T4	#SCO	SEMINAR CO-ORDINATORS	SEMINARCO	
T4	#SCS	SECRETARIAL STAFF	SECRETARY	
T4	#SOW	SOCIAL WORKERS	SOCIAL WKS	
T4	#SPO	SENIOR PROGRAMME OFFICER	SENIOR PO	
T4	#SPS	SUPERVISORY STAFF	SUPERVISOR	
T4	#SPT	SUPPORT STAFF	SUPPORT	
T4	#SSD	SESSIONAL DOCTORS	SESSIONAL	
T4	#SSN	SESSIONAL NURSES	SESSIONAL	
T4	#SSP	SESSIONAL PERSONNEL	SESSIONAL	
T4	#STD	STUDY DIRECTOR	STUDY DIR	
T4	#TCH	TECHNICIAN	TECHNICIAN	
T4	#TEA	TEACHERS	TEACHERS	
T4	#TRN	TRAINERS	TRAINERS	
T4	#VLM	VOLUNTEERS	VOLUNTEERS	
T4	#WRT	WRITERS	WRITERS	
T4	#YCL	YOUTH CLUB LEADERS	YOUTH	
T4	#YCO	YOUTH CO-ORDINATORS	YOUTH	
T4	#YPR	YOUTH PROMOTERS	YOUTH	
T4	\$AA0Z	KAA 720Z TROOPER	KAA 720Z	
T4	\$AA2B	KAA 302B NISSAN	KAA 302B	
T4	\$AA2Z	KAA 722Z TROOPER	KAA 722Z	
T4	\$AA3B	KAA 653B NISSAN	KAA 653B	
T4	\$AA4Z	KAA 724Z TROOPER	KAA 724Z	
T4	\$AA5Z	KAA 725Z TROOPER	KAA 725Z	
T4	\$AA6Z	KAA 726Z TROOPER	KAA 726Z	
T4	\$AA8Z	KAA 718Z TROOPER	KAA 718Z	
T4	\$AA9Z	KAA 719Z TROOPER	KAA 719Z	
T4	\$AB4Q	KAB 924Q TOYOTA	KAB 924Q	
T4	\$AB7T	KAB 917T PEUGEOT 504	KAB 917T	
T4	\$SK32	KSK 232 LANDROVER	KSK 232	
T4	\$TZ19	KTZ 119 LANDROVER	KTZ 119	
T4	\$WL34	KWL 334 SUZUKI	KWL 334	

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