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THE "MIDAS" MANAGEMENT INFORMATION SYSTEM

BY

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UNDER THE

BANGLADESH ENTERPRISE DEVELOPMENT PROJECT  
(PN: 388-0066)

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT  
USAID/DHAKA

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## THE MIDAS MANAGEMENT INFORMATION SYSTEM

### EXECUTIVE SUMMARY

In July/August 1987, DIMPEX Associates were contracted to assist MIDAS develop a Management Information System (MIS) to monitor their institutional development, as well as to manage their external portfolio of assisted enterprises.

MIS management concepts were explained and demonstrated, and a preliminary design partially completed and tested.

Two parallel systems -- a semi-automated performance management information system, and a computerized accounting system -- were designed; the former in a collaborative "Action-Training" hands-on mode with three MIDAS professional staff. This is the minimum number of personnel required to handle this function on a continuing basis.

Implementation of the MIS will require some organizational restructuring to create a new separate and distinct "MIS Monitoring and Evaluation" Unit within MIDAS, as well as immediate recruitment, as the three individuals mentioned above may not be ultimately responsible for implementing and institutionalizing the system.

The data base system -- earlier anticipated by MIDAS for general information collection and dissemination -- has been deferred; also identification of base-line data for entrepreneurial profile analysis and operational program evaluation has only been superficially addressed during this consultancy. Hence, further follow-up action is still required for these two aspects to become realities.

The accounts system design has been completed and is currently being programmed for testing and demonstration early next month. The accounting system should be installed separately in the accounts division, and two additional computer-literate accountants should be hired (or new accountants trained) to operate the system.

Procurement of IBM-compatible computer hardware and software by MIDAS will also be required -- both for accounting and program/project MIS functions.

Core MIDAS MIS personnel should receive immediate intensive short course, hands-on computer training in appropriate software utilization -- particularly LOTUS, TIMELINE, and a wordprocessing program such as WORD -- and later in other data base analytical programs such as REFLEX, and R-Base. In addition, general MIS orientation and computer literacy is required for other MIDAS staff members. MIDAS core MIS-designated personnel should be able to provide this initial MIS conceptual overview, while the local computer consultant is in the best position to furnish additional assistance, training and advice in computer procurement, software utilization and trouble-shooting during the initial phases of MIS design, analysis and report preparation.

## FOREWORD

The Micro Industries Development Assistance Society (MIDAS) is a non-profit, non-government organization (NGO) which was established in Dhaka in 1982 at the initiative of -- and with financial support from -- the U.S. Agency for International Development (USAID). MIDAS's primary objective<sup>1</sup> is to promote the development of small (micro) and cottage industries with the ultimate goal of creating off-farm (i.e. non-cultivation) employment opportunities -- to ease the unemployment situation in Bangladesh.

MIDAS envisages promoting and developing the small industry sector by identifying small business opportunities, and providing assistance to private entrepreneurs to establish viable business organizations through the following means:-

1. Sector Analysis Studies (Client requested)
2. Action Research (MIDAS-sponsored, experimental, innovative projects)
3. Feasibility Studies for MIDAS-assisted Project funding, monitoring and follow-on Technical Assistance (Entrepreneurial-initiated)
4. General Management Consultancy Services (MIDAS-sought targets of opportunity, as well as Client-requested)
5. Micro-industry Information Dissemination (MIDAS-developed promotionals, and Client-requested)

An evaluation in April 1986 recommended that MIDAS strengthen its in-house institutional management capabilities. In July/August 1987, DIMPEX Associates were contracted to provide short-term technical assistance to MIDAS in several areas. The specific objective of my consultancy was to assist MIDAS in the conceptualization, design and development of a Management Information System (MIS) which would improve their capability to monitor their own performance in terms of program growth and development, as well as to manage their project portfolio, and provide a data base for subsequent evaluation.

To these ends, two parallel systems -- a semi-automated performance monitoring information system, and a semi-computerized accounting system -- were outlined, as further discussed and described in this report. I concentrated on the program monitoring aspects, and Mr. S. Mansur Ahmed of Mansur & Co., a Chartered Accountant developed the accounting system. We were assisted in this task by Mr. Shahab Sattar of Computerland, a Computer Systems Analyst; as well as inputs from my team-mates from DIMPEX -- Drs. Ray Kelley and Henry Schumacher, and Mr. Wayne Frost -- who were simultaneously working on related aspects of MIDAS's institutional development planning. Three MIDAS project officers -- Messrs. B. R. Khan, Naba Krishna Muni and Nazmul H. Khan -- also underwent a "deep immersion" OJT crash course in MIS development and were my primary day-to-day working contacts and counterparts.

The entire staff of MIDAS -- from the Executive Director M. Mobassar Husain on down, especially Deputy Directors Mr. Alam Mia and Ms. Taheera Haq, and their immediate senior project officers Messrs. B. R. Khan, A. Azim Syed and M.N. Huda -- gave unstintingly of their time in an intensive effort to share their knowledge, perceptions and perspectives, and work collaboratively with us. The USAID Project Officer -- Mr. Gary Vanderhoof -- also did an outstanding job of ensuring that the Team's logistical and technical needs were supported

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<sup>1</sup>i.e. "Purpose" -- in log-frame terms

to facilitate our work during a crisis-ridden and disruptive period of hartals (strikes), floods and Eid-ul-Azha holy days.

While "information" *per se* is essential for management, and systematic approaches have wide application as well as strong emotional appeal to "rationality" -- particularly in the sophisticated developed country business environment -- the failure rate for Management Information Systems in Third World development programs is very high. Unrealistic expectations are all too often created by short-term consultants who fail to take local constraints into consideration, and design overly-complex systems (without paying attention to prevailing penchants for administrative effectiveness, efficiency, and other environmental norms) for inadequately trained and equipped staff to implement. Neglect of these aspects during design (in the name of expediency) is self-defeating however, for they are inevitably encountered during implementation, and initial enthusiasm quickly turns into frustration, leading to disaffection by management, and subsequent system disuse.

The Action-Training approach which we adopted -- of familiarizing a core MIDAS operational staff with the basic concepts of MIS for them to apply as appropriate -- has attempted to minimize this problem. While elementary familiarization with Management Information Systems design has been attained, and appropriateness and feasibility of obtaining data for some indicators adjudged, the time available for transference of technical skills and MIS institutionalization has been all too short. The USAID project officer should therefore monitor MIDAS's MIS development and implementation during its early stages to provide further support and encouragement, and (to the extent possible) ameliorate discomfort during inevitable birthing pains over the next few months.

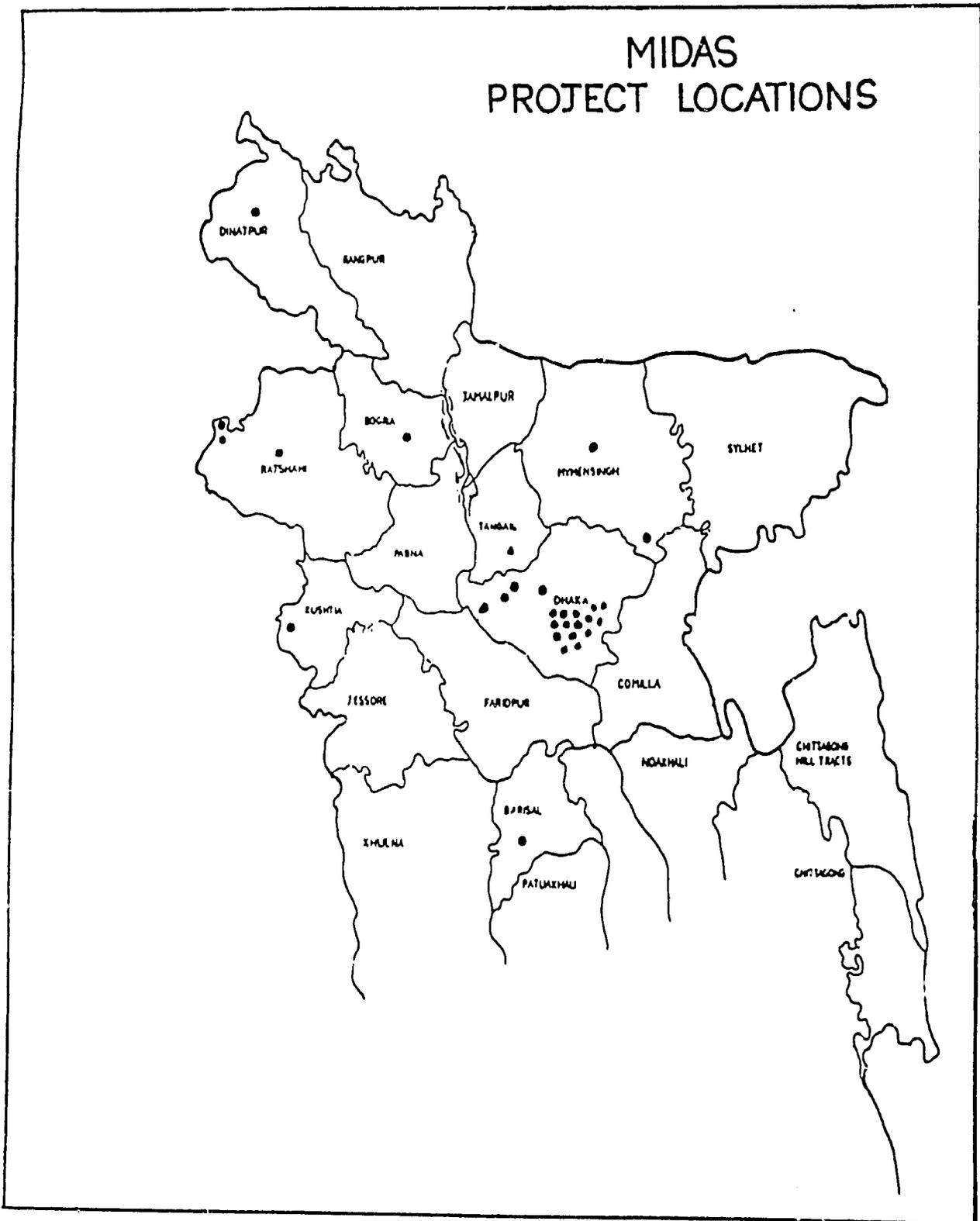
The conceptual design and structure of the MIS -- as outlined in this report -- has been completed, programmed, demonstrated and tested. MIDAS management is now aware of the potentials (and some of the pitfalls) of MIS development and operation, and is ready to proceed with implementation. This will entail the formulation of additional indicators the acquisition of actual -- rather than illustrative -- data, and the adoption of systematic procedures for gathering and maintaining that data base. Institutionalization will require some organizational restructuring within MIDAS. A new separate and distinct "MIS Monitoring and Evaluation" Unit is required, initially staffed by three fully-trained personnel who can devote full time to the MIS's operation -- i.e. developing forms and procedures for internal gathering of data from other MIDAS officers; data processing, analysis and display of historical information and trends; preparation, maintenance, presentation, interpretation, and dissemination of reports to management; and arrangements for conducting follow-up evaluations.

In addition, MIS orientation should be provided to other MIDAS staff as soon as possible. Such orientation is essential to ensure that both the purpose and process of the MIS is properly understood so that it will serve its intended purpose rather than becoming a mysterious "black art" which is feared and shunned, or else an additional administrative burden which lapses into disuse with the passage of time and lack of impetus when the consultant departs the scene.

If major difficulties are encountered during MIS implementation and/or if further assistance in systems development is desired; or when subsequent evaluation of either the MIS, or MIDAS program is envisaged, I would welcome the opportunity for a follow-up visit.

## GLOSSARY OF ACRONYMS AND ABBREVIATIONS

- AID -- U.S. Agency for International Development
- GANTT -- A Bar Chart "Status" MIS for managing simple projects
- LOG-FRAME -- "The Logical Framework" -- a methodology used by AID for clarifying program and project design elements and issues
- "LOTUS 1-2-3" -- a "SPREAD SHEET" computer software program -- used by the MIS primarily for "rank-order" data analysis and preparation of tables and graphics
- MIDAS -- Micro Industry Development Assistance Society
- MILESTONE -- A more sophisticated version of the Gantt "Status" MIS with checkpoints for monitoring projects of intermediate complexity
- MIS -- Management Information System
- NGO -- Non-Government Organization
- PERT/CPM -- Program Evaluation & Review Technique/Critical Path Method -- a "Status" MIS for monitoring complex projects
- PROGRAM -- A comprehensive collection of projects, tasks and associated support activities organized on a permanent -- or indefinite, open-ended -- basis to achieve broadly defined objectives [such as MIDAS's program to stimulate opportunities for employment and income generation]
- PROJECT -- A series of tasks and associated activities organized on a temporary basis to achieve a specific purpose with a limited amount of resources within a particular time-frame [such as MIDAS's project which assisted an entrepreneur establish a factory in Chittagong to manufacture and export towels; providing employment to over 100 people and earning \$xxx,000 in foreign exchange]
- "PROJECT" -- A computer software package for "PROJECT MANAGEMENT" analysis and graphics [similar to TIMELINE]
- "R-Base" -- A computer software package for data base management
- "REFLEX" -- A computer software package for "DATA BASE" analysis and reports presentation
- "TIMELINE" -- A computer software package for "PROJECT MANAGEMENT" analysis and graphics [similar to PROJECT]
- USAID -- U.S. Agency for International Development, Dhaka, Bangladesh
- "WORD" -- A computer software package for "WORD PROCESSING"



## METHODOLOGY

The MIS outlined herein for MIDAS was conceptualized, designed, developed and tested as part of an intensive four week consultancy -- primarily at the MIDAS head office in Dhaka -- during July and August 1987.

Initially, the DIMPEX team leader and I met with the USAID Project Officer and several members of the USAID staff who were familiar with the background of the Bangladesh Development Enterprise Project, in order to obtain an update on the project, and to review the scope of work, clarify expectations, and develop a tentative schedule.<sup>2</sup> During this session, we were also supplied with copies of pertinent reports such as the most recent Project Evaluation, the new Project Paper and current Cooperative Agreement. We then visited the MIDAS offices where we received an overview from the Executive Director and his top management staff of the development of MIDAS and their aspirations, as well as their expectations for the immediate future. MIDAS also furnished some supplemental documentation for review.

While each member of the team was to focus on a different aspect of MIDAS's institutional development plan, we all worked together with MIDAS's top management staff in an intensive three day seminar, to develop a common understanding of the issues and to insure that we did not work at cross purposes. Following the seminar, we each worked individually in the hotel for four days<sup>3</sup> -- with periodic feedback discussion and interaction -- and developed a tentative skeletal model and *modus operandi* for our respective areas. We also prepared a briefing for the MIDAS Board Members as well as MIDAS and AID Management staff.

An initial briefing was given to the MIDAS staff in the morning, and feedback elicited. Subsequently, a modified overview was presented to the MIDAS Board Members and AID personnel in the afternoon, after which further discussion ensued.

I next provided a day-long orientation on Management Information Systems concepts and methodologies to a number of MIDAS personnel, after which three individuals from MIDAS's Commercial and Development Divisions -- were assigned to work with me temporarily on a full time basis in an "Action Training" mode<sup>4</sup> -- to review MIDAS's work functions

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<sup>2</sup>The arrival of other DIMPEX members was staggered during the period of my consultancy.

<sup>3</sup>This period coincided with the four day Muslim holiday Eid-ul-Azha.

<sup>4</sup>In Action Training, the consultant acts as both an instructor and a facilitator to guide the participants in an intensive on-the-job training approach -- using the actual task at hand as a case study for incremental development. In Action Training, the participant is only superficially exposed to the theory, and is not faced with all the ramifications and contingencies which might arise and how to cope with them -- only those in the immediate situation. Nevertheless, this intensive "hands on" experiential approach is extremely useful in transferring technical skills and developing fundamental working level competence in a short period of time, while simultaneously accomplishing some real work -- rather than merely simulating with a hypothetical case problem. Action Training has its drawbacks however. It is dependent upon the actual working environment and usual bureaucratic constraints to access the data and resources. Thus it usually takes longer than formal classroom instruction to cover any particular subject, and requires considerable flexibility as both the

and information flows. [Concurrently, from time to time an accountant consultant and a computer systems consultant interacted with me in the design and automation of the MIDAS accounting system, while the computer consultant also assisted me in computerizing and demonstrating some of the MIS concepts to the MIDAS staff.]

During this period, the DIMPEX Team visited several business enterprises which were receiving financial aid from MIDAS (accompanied by MIDAS personnel) in order to obtain a better understanding of the types of problems faced, data that could be obtained from them for MIDAS's project monitoring,<sup>3</sup> and the nature of any follow-up technical assistance support desired and/or expected by the entrepreneurs. We also visited MIDAS's recently-opened field office in Chittagong to review their activities and plans. In addition, we met and discussed start-up problems in small business with about 25 MIDAS-assisted businessmen/women in a special seminar arranged by MIDAS at the Dhaka Aga Khan Foundation.

From these all-too brief observations, (relying primarily on my counterparts experience and judgement as to what was most appropriate in the Bangladeshi context) we were able to formulate a semi-automated information system with some real -- and some hypothetical -- data to illustrate the workings of an MIS for MIDAS Program and Project Management. The "mechanics" of this system -- with sample worksheets, reports, tables, charts and graphs were presented by my trainees and myself to both MIDAS and AID senior management personnel in a series of briefings prior to my departure.

The rest of this paper outlines some general MIS concepts and principles, and highlights the MIDAS MIS at this stage -- with some recommendations for further development.

scope and amount of work covered, as well as the actual quality of the deliverables are somewhat uncertain. Often, to ensure that each aspect of the system is covered during the Action Training consultancy, only illustrative samples of each aspect can be demonstrated.

## MANAGEMENT INFORMATION SYSTEMS

### AN OVERVIEW

Wherever anything is measured numerically, wherever there is an attempt, however rough, to assess anything in the form of numbers, even by the simple process of counting, then there begins to arise the necessity for making judgements as to the significance of the data and the necessity for traffic rules by which the flow of information may proceed smoothly and purposefully.

M.J. Moroney  
Facts from Figures

A Management Information System -- or MIS -- is the modern development of a familiar, unglamorous, bureaucratic process of reporting. However, an MIS is more than simply a cosmetic name change to seduce the uninitiated. We are all aware of the toxin of traditional reporting -- where volumes of data are requested, gathered and compiled because it is "nice-to-know" or readily available, but which in effect are largely unread, or under-utilized because the critical information contained therein is not readily apparent. A well-designed management information system, by contrast, seeks to avoid this by obtaining and processing only a few specifically pre-designated elements of data -- usually statistical or amenable to aggregation and manipulation -- representing major aspects of the program. By tracking progress on these indicators and highlighting exceptions (both over- and under-achievements) attention is drawn to those aspects where corrective action is required, thus enabling managers to focus their time and effort where it is most needed.

Generally, meaningful evaluation of performance is not possible without analysis of performance against some pre-determined criteria or "bench-mark" reference points.<sup>4</sup> Thus an MIS is designed with the end use of the data in mind. The data is gathered from several sources and organized for integrated analysis at a centralized point. Each step in gathering, recording, transmitting, analyzing, presenting and reporting the data must be carefully considered at the outset with considerations of efficiency for restructuring some existing data, and combining it with other readily available data elements. An important consideration is to minimize the reporting burden upon all concerned, so that the prime productive work of the organization may proceed with a minimum of hindrance. Through this "rifle shot" approach, comprehension and analysis of the data and program/project trends can be significantly improved over traditional methods of data gathering/reporting. After analysis, the data is disseminated to appropriate managers and staff levels for their information, decision-making, and action.

No two programs or projects are ever exactly alike, and neither is their management. Despite the aura engendered by the application of quantitative management science approaches, management is an art and there are few absolutes. At one end of the spectrum, managers can be highly analytical and place great reliance upon systematically obtained, quantitatively analyzed, "hard" data. At the other extreme, some managers exhibit highly intuitive behavior patterns and tend to ignore (or discount) numerate, or even subjective, data in written

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<sup>4</sup>An exception to this general rule is where similar activities are being carried out simultaneously by different groups. In such cases, even though there may be no predetermined standards established, comparisons of performance against selected indicators can be made across the groups, and operational "norms" derived during implementation.

form, preferring to rely instead upon information gleaned from personal experience and/or word-of-mouth transmission. Most fall somewhere in-between. Consequently constructing a management information system is a unique affair, and in the final analysis, although an MIS analyst can use standardized guidelines to develop objective indicators -- applying rules of "common sense" -- many of the system's "critical indicators" will be a function of a particular management team's style, and some key indicators may not be articulated. Furthermore, program environments change and different emphases emerge over time. Hence, with the passage of time as well as changes in organizational leadership, particular management indicators may be rendered obsolescent. Eventually even systems which were once carefully crafted may come to serve little or no real current need, and fall into disuse (or worse remain as ineffective bureaucratic artifacts) unless periodically maintained, evaluated and upgraded.

There are three basic categories of Management Information System for program and project performance monitoring, namely

- "Status"
- "Control", and
- "Comprehensive".

This sequence also roughly indicates the complexity level of the MIS -- from relatively simple, to highly complex -- without regard for the complexity of the program or project.

The Status MIS summarizes the program or project status in terms of one or two indicators -- "Time" and/or "Cost", expressed as

- |   |                   |        |               |
|---|-------------------|--------|---------------|
| + | AHEAD OF SCHEDULE | and/or | COST UNDERRUN |
| 0 | ON SCHEDULE       | and/or | AS BUDGETED   |
| - | BEHIND SCHEDULE   | and/or | COST OVERRUN  |

Several more-or-less standardized Management Information Systems have been developed for one-of-a-kind projects -- GANTT and MILESTONE Charting for relatively simple projects, and PERT/CPM Networking for more complex ones. Although useful for monitoring project status, these systems do not provide any substantive technical information other than to identify which aspect of the project has deviated from its pre-determined budget plan or work schedule and is "critical", requiring closer managerial attention. To determine precisely what the problem is, however, management must follow-up on an exception basis. This division of attention between technical detail and managerial oversight responsibility is usually sufficient -- indeed is often essential -- for monitoring and managing programs which consist of several separate projects.

A Control MIS monitors the technical performance of a program and/or project over a given period of time in terms of several pre-determined technical characteristics, or "key indicators". These indicators are usually not directly measurable, but are statistically-derived variables -- measures or levels of accomplishment, expressed as percentages, rates and ratios, compared against pre-planned targets. When monitoring multiple project activities, the indicators are usually reported in comparative rank-ordered tabular form for a single point in time, but they are most dramatic when aggregate information is plotted in graphic form over an extended time period. Frequently, a range of upper and lower limits is pre-established by management and as long as performance is within these bounds, management does not interfere. When performance exceeds these limits, however -- for better or worse -- management investigates and attempts to take corrective action.

A Comprehensive MIS is developed more for subsequent analysis and evaluation than on-going performance monitoring and management. With few (if any) pre-determined "key indicators", the comprehensive

approach attempts to establish a "data base" by gathering a myriad of data elements on practically every aspect -- i.e. descriptive environmental, personnel and logistical data as well as technical performance data -- all of which may be pertinent for future analysis, even if its value is not currently apparent. Some operational management use is made of comprehensive MIS data to search for particular known characteristics or "profiles"; and statistical probing -- i.e. nominal group classification, and correlation analysis -- is also employed in an attempt to "discover" patterns of relationships which may not otherwise be apparent.

## THE MIDAS MANAGEMENT INFORMATION SYSTEM

In effect, the MIDAS MIS -- for monitoring and managing its internal program and external project portfolio -- is a combination of each of the foregoing systems. The MIDAS MIS has four distinct aspects for monitoring and evaluating program performance, in a continuum as follows:-

1. MONITORING DONOR (i.e. USAID) PERFORMANCE IN SUPPORT OF MIDAS-ASSISTED PROJECTS
2. MONITORING AND EVALUATION OF INTERNAL MIDAS PROGRAM PERFORMANCE
3. MONITORING AND EVALUATION OF PROJECT PERFORMANCE BY MIDAS-ASSISTED ENTERPRISES
4. MONITORING AND EVALUATING THE IMPACT OF MIDAS'S PROGRAM ON TARGET BENEFICIARIES

Each of the above will be reviewed in turn.

### I. DONOR (USAID) PERFORMANCE IN SUPPORT OF MIDAS-ASSISTED PROJECTS

This aspect can be most readily reviewed by the employment of two simply-derived, technical performance indicators:-

INDICATOR: 1. USAID LOAN APPROVAL RATE

TARGET: All requests for loan approvals from MIDAS reviewed and approved or rejected by USAID within 30 days.

RATIONALE: Per mutual agreement between USAID and MIDAS.

DATA REQUIRED: a. Date of request by MIDAS.  
b. Date of response by USAID.

INDICATOR: 2. USAID DISBURSEMENT RATE

TARGET: All disbursements from USAID made within 15 days of request by MIDAS

RATIONALE: Per the Cooperative Agreement between USAID and MIDAS

MIDAS will not request an advance of funds for extending credit to a business or purchasing an equity position in a business until disbursement of advanced funds is imminent. (Generally, this will mean that disbursement is expected within 15 days, or less.)<sup>7</sup> Also . . .

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<sup>7</sup>AID Cooperative Agreement No. 388-0066-A-00-6063-00 with MIDAS, August 31, 1986, p. 3, para IV. B.2.

Disbursement of funds for the capital fund will be provided to MIDAS as each loan is approved by MIDAS and/or AID. As MIDAS does not currently have the resources to disburse "capital" funds and then seek reimbursement from AID, the funds will be disbursed to MIDAS at the time MIDAS disbursement to entrepreneurs is imminent.<sup>a</sup>

DATA REQUIRED:

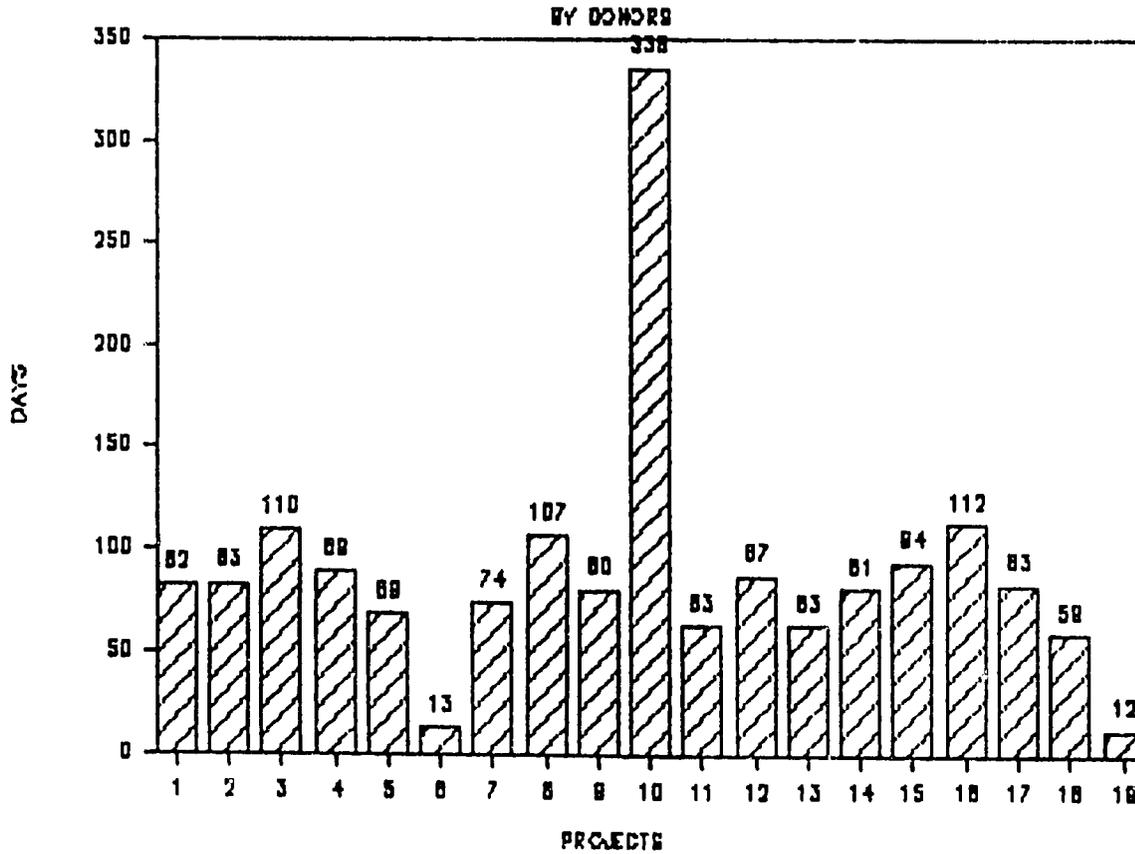
- a. Number of Reimbursements by AID to MIDAS during the period.
- b. Number of Reimbursements with 0 < 16 days elapsed time from request by MIDAS to receipt by MIDAS
- c. Number of Reimbursements with 15 < days elapsed time from request by MIDAS to receipt by MIDAS

DERIVATION OF INDEX 1:

Loan Review rate       $LRR = \frac{c}{a} \times 100$

WORKSHEET: The date of request for loan approval and reply to each request should be obtained by the MIS analyst from the MIDAS Administrative Officer and recorded. It can then be analyzed on the computer -- using the LOTUS spreadsheet software -- and presented in both tabular rank order, and graphic form as indicated on the following page

### TIME TAKEN TO REVIEW LOANS



#### USAID RESPONSIVENESS TO MIDAS REQUESTS FOR LOAN APPROVALS

11% PERCENT ON TIME

AS OF: 11-Aug-87  
 2 : NUMBER ON TIME  
 19 : TOTAL REQUESTS

RANK ORDER	PROJECT ACTIVITY	PROJECT MANAGER	PROJECT AMOUNT	DISPATCH DATE	DATE RECEIVED	TIME VAR	
ACTUAL							
1	ELECTR CAPACITOR	KHAN	3,500,000	12-May-86	13-Apr-87	336	-306 COMPLETED LATE
2	RUBBER ERASER	ZAMAN	1,700,000	21-Apr-87		112	-97 PENDING *****
3	WIRE HEALD	ALAM	2,203,800	04-Dec-85	24-Mar-86	110	-80 COMPLETED LATE
4	TOWEL MANUFACTURE	ALAM	3,500,000	05-May-86	20-Aug-86	107	-77 COMPLETED LATE
5	BASKET	SYED	1,137,450	06-Nov-85	28-Jan-86	83	-68 COMPLETED LATE
6	FAST FOOD	HUDA	1,124,491	06-Nov-85	27-Jan-86	82	-67 COMPLETED LATE
7	PVC HAND GLOVES	KHAN	2,000,000	16-Apr-87	19-Jul-87	94	-64 COMPLETED LATE
8	MALLEABLE CASTING	HUDA	3,500,000	10-Dec-85	09-Mar-86	89	-59 COMPLETED LATE
9	LEATHER GLOVES	ZAMAN	2,223,440	08-Sep-86	04-Dec-86	87	-57 COMPLETED LATE
10	INDUSTRIAL CHEM	ZAMAN	1,940,000	13-May-87	04-Aug-87	83	-53 COMPLETED LATE
11	RUBBER THREAD	ZAMAN	2,500,000	06-Nov-86	26-Jan-87	81	-51 COMPLETED LATE
12	JEWELLERY	KHAN	3,500,000	08-May-86	27-Jul-86	80	-50 COMPLETED LATE
13	TOY MANUFACTURE	ALAM	2,500,000	13-Feb-86	28-Apr-86	74	-44 COMPLETED LATE
14	SANITARY NAPKIN	ZAMAN	2,289,265	13-Jan-86	23-Mar-86	69	-39 COMPLETED LATE
15	HHT WIRE	HUDA	2,355,000	17-Jun-86	19-Aug-86	63	-33 COMPLETED LATE
16	SHOE UPPER	ZAMAN	2,500,000	23-Sep-86	25-Nov-86	63	-33 COMPLETED LATE
17	DOM ELECTRIC IRON	SODRUL	2,171,750	21-May-87	19-Jul-87	59	-29 COMPLETED LATE
18	CHADAM HANDGLOVES	HANZLOOR	922,152	15-Jan-86	28-Jan-86	13	2 OK
19	PLASTIC SHUTTLE	SODRUL	735,000	30-Jul-87		12	3 PENDING *****

DERIVATION OF INDEX 2:

Similarly, a loan reimbursement rate can be derived as follows:-

$$\text{Loan Reimbursement rate LRIMBR} = \frac{c}{a} \times 100$$

WORKSHEET: The date of request for loan approval and reply to each request should be obtained by the MIS analyst from the MIDAS Accounts Department, as a photo-copy of the request and response.

PROCEDURE: This data is processed manually and by computer.

The computer is programmed to compute elapsed times vs target times and generate rank-ordered tables and graphs -- bar, line and "control" -- sorting the transactions by elapsed time, or in any other order as desired by management.

If the disbursement has not yet been received, the end of the month date will be used for computational purposes.

Comments can be added for transactions as follows:-

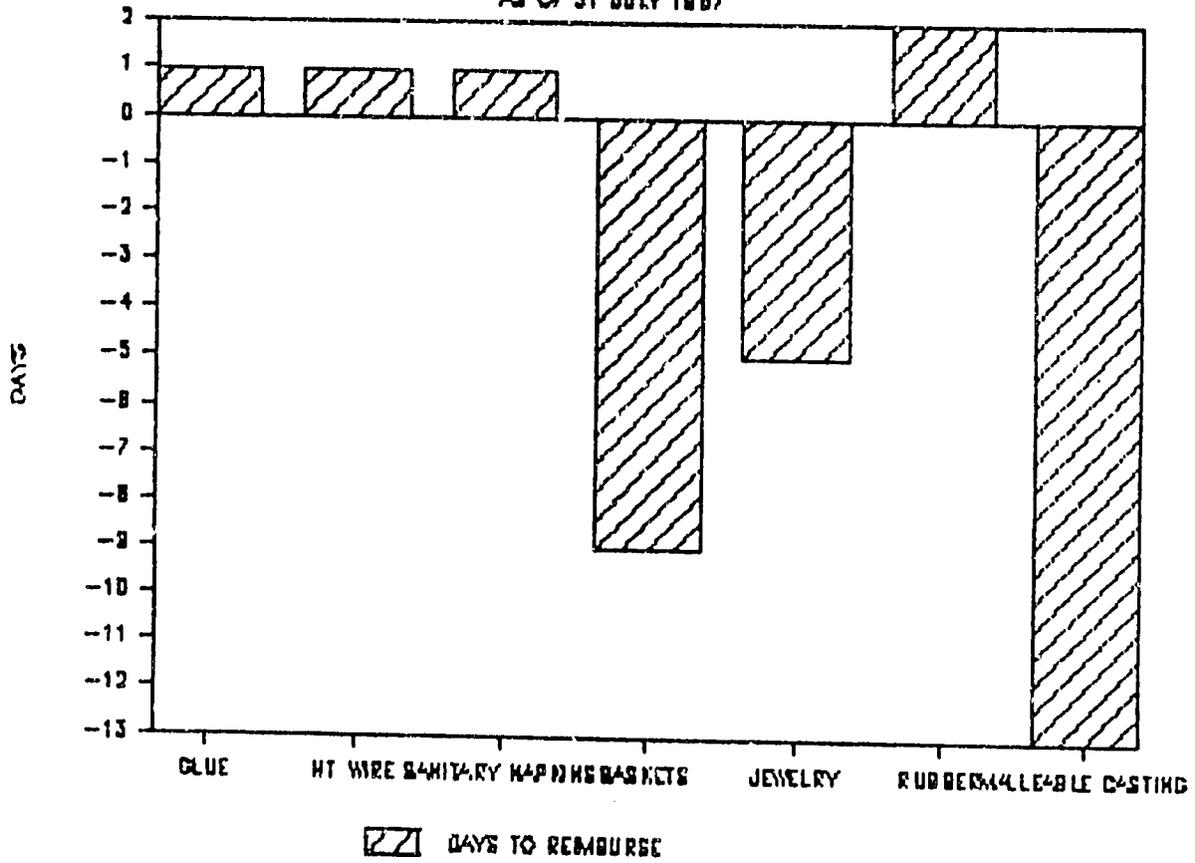
- (1) Those which took 16 or more days to complete -- "Completed Late"
- (2) Those which are carried forward (C/F) and 16 or more days have elapsed -- "Late -- Need Follow-up" or "Pending"

Draw Graph -- Graphs can be plotted showing the percentage disbursement rate for the month, or over time, updating prior month reports.

See the samples on the following page:-

## USAID REIMBURSEMENT RESPONSE TIMES

AS OF 31 JULY 1987



### USAID RESPONSIVENESS TO MIDAS REQUESTS FOR REIMBURSEMENT

AS OF: 31-Jul-87

30 TARGET TIME DAYS

RANK PROJECT ACTIVITY ACCOUNT PROJECT AS OF DATE DATE DATE  
 ORDER NUMBER MANAGER REQUESTED RECEIVED TIME VAR  
 4 : ON TIME  
 7 : REQUESTS

*****							
#	ACTUAL						
1	MALLEABLE CASTING	159.29	MUDA	2,566,000	21-Apr-87	03-Jun-87	43 -13 COMPLETED LATE
2	BASKETS	159.28	SYED	537,450	13-Mar-87	23-Apr-87	39 -9 COMPLETED LATE
3	JEWELRY	159.30	KHAN	2,651,000	19-Mar-87	23-Apr-87	35 -5 COMPLETED LATE
4	GLUE	159.23	KHAN	2,121,700	20-Jan-87	18-Feb-87	29 1 OK
5	HT WIRE	159.24	MUDA	1,355,000	20-Jan-87	18-Feb-87	29 1 OK
6	SANITARY MAPKINS	159.27	ZAMAN	2,098,800	20-Jan-87	18-Feb-87	29 1 OK
7	RUBBER	159.26	ZAMAN	1,838,000	02-Apr-87	30-Apr-87	28 2 OK

PERCENTAGE ON TIME

57%

REPORT FORM: In order to operationalize the foregoing indicator, reporting is required between the MIDAS accountant and the MIS Analyst. If the above data elements are incorporated into the computerized accounting system, then a simple summary can be produced as a by-product of that system. In the meantime, a separate manually prepared report should be made in connection with each transaction --

- a. Notification of Request for Disbursement, and for which project [I recommend that a photocopy of the letter requesting disbursement be annotated with the additional information (i.e. Project Number and Officer's name, and sent to the MIS unit]
- b. Advice of Receipt of Disbursement, date received, and for which project

The MIS analyst should

- a. File the Notification of Request on the left side of the Report File
- b. Pull that Notification when the Advice of Disbursement is received and File them on the right side of the Report File
- c. Before preparing the End-of-the-Month Status Report, the MIS analyst should verify the status of outstanding Disbursement Requests in his file with the Accounts Department to ensure it is current

## II. MONITORING OF INTERNAL MIDAS PROGRAM PERFORMANCE

### A. COMMERCIAL DEPARTMENT

The initial proxy for monitoring performance in the Commercial Department is the total time taken in the approval process for new project proposals.

Initially, a "Normal" elapsed time was established in consultation with MIDAS Commercial Department personnel, and a Planning & Tracking Check-sheet developed. A sample of this format is shown on the following page.

MIDAS PROJECT PROPOSAL APPROVAL PROCESS  
PLANNING & TRACKING CHECK-SHEET

PROJECT TITLE:

PROJECT OFFICER:

The following major steps in reviewing a new project proposal for loan financing, and the "normal" time for processing should be prepared for each project, placed in the project file and maintained by the assigned project officer. Information from this form will be requested periodically by the Monitoring & Evaluation unit.

STEP	ACTIVITY	"NORMAL" ELAPSED DAYS	PLANNED DATE TO COMPLETE	ACTUAL DATE COMPLETED
0	START	0	////////	-----
1	PRELIMINARY CLIENT CONTACT	1	-----	-----
2	PREPARE BRIEF PROJECT DESCRIPTION	7	-----	-----
3	PRESENT TO PROJECT COMMITTEE	1	-----	-----
4	OBTAIN EXECUTIVE DIRECTOR'S APPROVAL	0	-----	-----
5	ASSIGN TO PROJECT OFFICER	0	-----	-----
6	GET MARKET INFORMATION	21	-----	-----
7	CONDUCT SITE INSPECTION	2	-----	-----
8A	TECHNICAL INVESTIGATION	30	-----	-----
8B	MANAGEMENT & ORGANIZATION INFO	(2)	-----	-----
9	FINANCIAL ANALYSIS	7	-----	-----
10	DRAFT REPORT	14	-----	-----
11	PRESENT TO PROJECT MANAGEMENT COMMITTEE	7	-----	-----
12	PRESENT TO PROJECT COMMITTEE	7	-----	-----
13	PRESENT TO BOARD	7	-----	-----
14	PRESENT TO USAID	1	-----	-----
15	WAIT FOR AID APPROVAL	30	-----	-----
16	AID APPROVAL RECEIVED	0	-----	-----
TOTAL TIME:		135	-----	-----

A separate sheet should be prepared by the initial contact officer in consultation with his/her supervisor, for each new project under consideration -- identifying target completion dates for each step. Periodically, the project officer assigned the project portfolio should report the status of the case to the MIS unit, using the following report format:

MIDAS PROJECT PROPOSAL APPROVAL PROCESS

PROJECT OFFICER'S PERIODIC REPORT TO MIS UNIT

AS OF: \_\_\_\_\_

PROJECT TITLE:

PROJECT OFFICER:

THE ABOVE PROJECT PROPOSAL HAS BEEN PROCESSED THROUGH (AND INCLUDING) STEP NUMBER \_\_\_\_\_.

IT HAS CURRENTLY BEEN IN STEP NUMBER \_\_\_\_ FOR \_\_\_\_ DAYS.

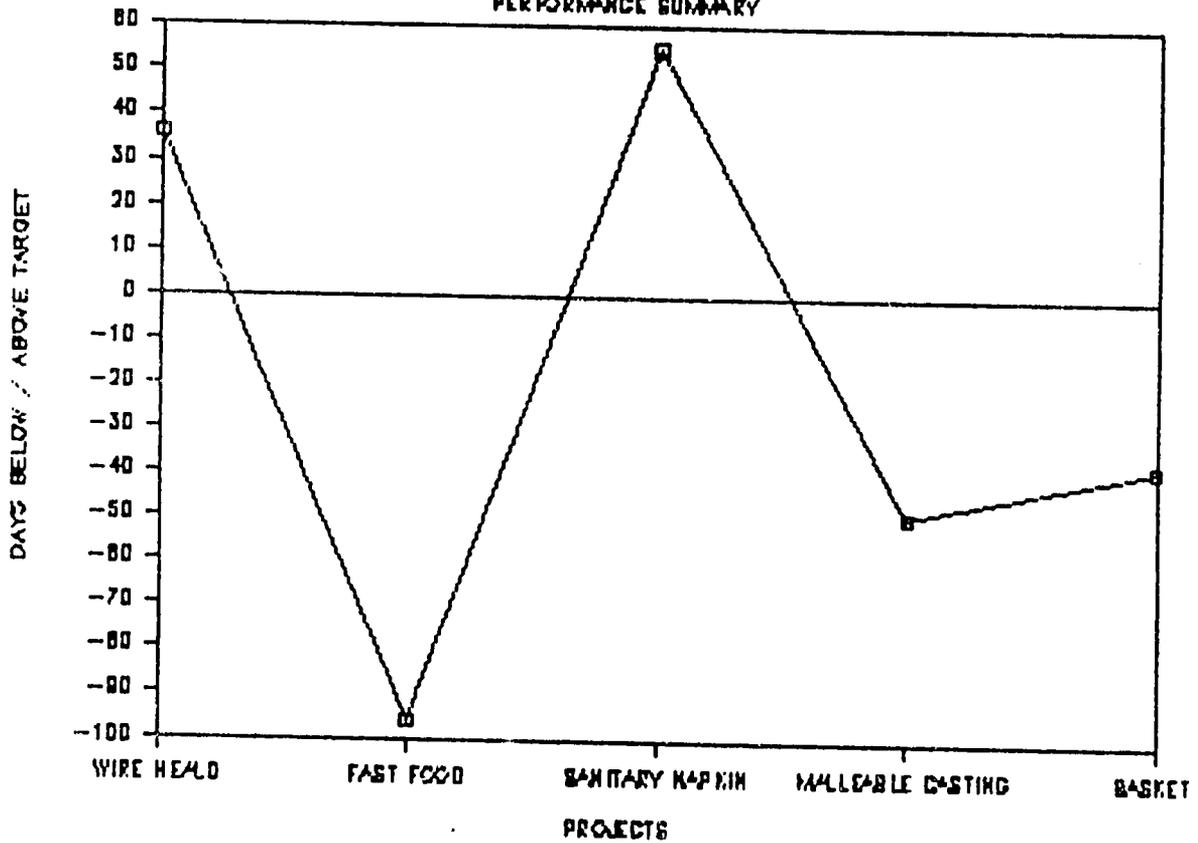
Another useful indicator for monitoring Commercial Department performance is the Approval Rate of loan proposals vs the total proposals submitted. [If a significant percentage of proposals are not being funded, it indicates a problem with either the selection and screening criteria, or the packaging of the feasibility study and proposal. In either case, it represents internal system inefficiencies which should be brought to the attention of MIDAS management.]

Both the Taka amount, as well as the number of loans funded (vs the amount available, and number planned for funding) are yet other meaningful indicators to track in monitoring this department's performance, and for initiating managerial corrective action.

The data for all of these indicators can be processed and analyzed in a similar manner to other indicators -- i.e. rank order tabulation and control graphing -- as illustrated on the following page.

## MIDAS PROCESSING OF LOAN REQUESTS

### PERFORMANCE SUMMARY



MIDAS PROCESSING OF LOAN REQUESTS		TARGET TIME		135			
		AS OF: 11-Aug-87				2 : NUMBER ON TIME	
RANK	PROJECT ACTIVITY	PROJECT DATE	TARGET	ESTIMATED	VAR	5 : TOTAL REQUESTS	
ORDER		OFFICER	STARTED	COMPLETION	COMPLETION	40%: PERCENT ON TIME	
*****							
* HYPOTHETICAL							
1	FAST FOOD	HUDA	06-May-87	18-Sep-87	24-Dec-87	-97	RUNNING LATE
2	MALLEABLE CASTING	HUDA	14-Jun-87	27-Oct-87	23-Dec-87	-57	RUNNING LATE
3	BASKET	SYED	25-Jun-87	07-Nov-87	16-Dec-87	-39	RUNNING LATE
4	WIRE HEALD	ALAM	04-May-87	16-Sep-87	11-Aug-87	36	OK
5	SANITARY NAPKIN	ZAMAN	23-May-87	05-Oct-87	11-Aug-87	55	OK

## B. DEVELOPMENT DEPARTMENT

Most of the indicators in the Development Department have yet to be identified. Indicators suggested so far are the Number of Activities (i.e. studies, demonstration activities, etc.) undertaken, vs. the number planned, and the Amount of Money actually expended vs the budget. While these indicators may provide some guide to program performance, more useful indicators would be expressed in terms of anticipated results, rather than merely monitoring the level of effort which is essentially "throughput".

Some interest has been expressed by MIDAS to establish an information data bank which could provide information about small enterprise opportunities in Bangladesh. Again, more work needs to be done in developing meaningful results-oriented indicators to monitor this aspect. Level of effort indicators could be:-

- Number of Inquiries for information
- Number of Publications and periodical issues distributed
- Income generated by the sale of documents and other information

### C. INSTITUTIONAL PROGRAM MANAGEMENT

While MIDAS is a "not for profit" Society, it nevertheless must operate in a business-like manner if it is to grow and eventually become a self-sustaining entity. Thus many of the indicators for overall institutional program management have their basis in the financial arena.

Internally, the MIDAS Executive Director needs to monitor and manage the cost of doing business. To this end, a new computerized accounting system is being installed which will for the first time establish Cost Centers to identify and track such costs. From the data produced by the accounts system, the MIS unit should be able to analyze a wide variety of internal program managerial indicators such as:-

- Average Cost per Feasibility Study
- Average Level of Effort expended per Project Proposal
- Average Cost per Inquiry Serviced
- Average Cost per Loan Serviced
- Average Loan Amount
- Loan Repayment Rate
- Timeliness of Loan Repayments
- Loan Loss (i.e. Bad Debt) Rate
- Refinancing Rate
- Income Generated per external Consulting job undertaken
- Overhead Costs
- Break/Even Analysis
- Personnel Staffing and Training Needs
- Personnel Turnover and Projected Vacancy Rates

A key aspect of financial management is the establishment of a program budget for various program operations (or "Cost Centers") against which actual costs can be monitored, compared. In addition to mere expenditures, however, planned and actual units of work must also be tracked. From such analyses, managerial studies can be initiated to improve efficiency where indicated.

### III. PROJECT PERFORMANCE BY MIDAS-ASSISTED ENTERPRISES

Despite careful and extensive forethought and the rigors of feasibility studies, rarely do projects unfold exactly as planned -- even in the best of situations. Almost invariably, unforeseen circumstances arise to frustrate and delay implementation. In an environment such as Bangladesh endures, "Murphy" has additional scope as even routine, anticipated, bureaucratic and business processes are beyond the control of the entrepreneur; while the underdeveloped infrastructure presents a formidable obstacle; and ultimately the impact of Mother Nature's unpredictable rages is overriding.

MIDAS is not a bank, nor simply another credit arm. It is more than that. Thus, in developing indicators for performance monitoring, MIDAS needs to concern itself with more than loan repayment rates and the timeliness of repayments by entrepreneurs. MIDAS cannot adopt a *jaissez-faire* towards its borrowers once they have received their loans, for MIDAS's success is dependent in large part on the success of the enterprises it sponsors. Thus fostering of fledgling enterprises by MIDAS demands close project monitoring coupled with greater flexibility in expectations, occasional further technical and/or financial assistance and consequent modifications in terms and conditions for loan repayment.

The primary mode for monitoring the MIDAS portfolio of assisted enterprises is a comparative, rank-ordered analysis of the projects based on two critical variables -- Time and Cost against plan. While no absolute project performance criteria may exist, and the individual projects are also quite different in nature; time and cost are common to all. Thus a comparative analysis on these variables enables the project officer to rapidly scan the range of performances (from high to low). The extremes can then be highlighted for closer scrutiny and follow-up to identify bottlenecks constraining their timely completion, or the reasons for apparently excessive expenditures; and action initiated to resolve, or at least alleviate, the problem with appropriate additional assistance.

The most suitable MIS model for monitoring the timing of these projects is a simplified PERT/CPM "Control" network of the basic project work-plan, and a modified Milestone or Gantt Bar Chart (based on the Network logic) for depicting periodic progress/status. The initial network should be prepared manually by the MIDAS Project Officer based on discussions with the entrepreneur during the preparation of the project feasibility study. The network can then be computerized for monitoring and updating to produce periodic Milestone/Gantt/Bar and Network Charts. [Microsoft PROJECT and TIMELINE are two readily available computer software packages.]

Cost data can also be monitored with this approach, and the interaction of time and cost can be displayed as a semi-automated graphic variant described below.

**WORK-PLAN** The networking technique forms the basis for identifying each project's activities, their internal sequential interrelations, their estimated time, and, consequently the overall project's scheduled time -- the critical path.\* By identifying key milestones in the process, a life-of-project cost flow can also be derived from this plan.

**REPORTING** A standardized monthly progress report in terms of time-to-date for completion of various activities, with related costs; and estimates of time and costs to complete remaining activities should be prepared periodically by the MIDAS Project Officer after visiting

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\*Kenneth F. Smith, Training Guide for USAID Project Operating Support Systems, (Washington, D.C.: OS Agency for International Development, December 1977) pp. 35-65.

the Project Site and consulting with the Entrepreneur or his designated representative on site. While relatively simple in concept, the network monitoring approach requires constant attention to detail, and is best approached as a worksheet format for each project, as outlined below.

PROJECT MONTHLY REPORT SUMMARY  
AS OF 1 AUGUST 1987

Project Number & Title -----

Predecessor Event A	Successor Event B	ACTIVITY DESCRIPTION C	ELAPSED TIME (Weeks)			DATE COMPLETED G
			Planned Time D	Actual to date E	Remaining to complete F	
AA	AB	Purchase Aircon system for factory	4	5	0	15 June 87
AB	DT	Install Aircon	2	4	3	

-----

The data for columns A, B, C and D above comes directly from the project workplan -- network. The data for "E" -- the actual number of week to date that the activity has been in progress -- comes from previous reports on file. "F" is the single most important data element -- the estimated additional time that it will take before the activity is completed -- and should not be made without an on-site visit and review.

This is the fundamental linkage between the project's plan and its performance. With this data, the MIDAS Project Officer and/or MIS Analyst can recalculate the network to analyze the project's overall status.

In addition, a brief narrative summary should be prepared highlighting any problem situations, and action recommended/requested.

ANALYSIS The critical path analysis identifies which activities constrain others, and highlights the chain reaction when something falls behind schedule. The MIDAS MIS analyst uses this data to conduct a rank-order comparison of all the MIDAS-assisted projects. However, this only indicates current status. An important part analysis is to anticipate problems in the future. A good indicator for this purpose is "PROJECTED STATUS" -- based on overall trend experience to date, and is derived from the following worksheet.

PROJECT STATUS ANALYSIS

Total Project Planned Time (Weeks)	Actual Elapsed Time to Date	Current Status (- 0 +) Slack [D - B]	Total Planned Time for Work Completed [B + C]	Current Status Compared to last Report (- 0 +)	Percent of Work Completed [D - x 100] / A	Total Projected Status (- 0 +) [C - x A] / D	Life of Project (Weeks) [A - G]
A	B	C	D	E	F	G	H
68	20	-4	16	0	24 %	-17	85

Note: The total life of the Project is estimated algebraically by subtracting the Projected Status from the Total Planned Time

$$\text{i.e. } H = A - G$$

For example, Where A = 68, and G = -17

$$\begin{aligned} H &= 68 - (-17) \\ &= 68 + 17 \\ &= 85 \end{aligned}$$

Similarly, if A = 50, and G = 2

$$\begin{aligned} H &= 50 - (2) \\ &= 50 - 2 \\ &= 48 \end{aligned}$$

If the foregoing seems confusing, a common-sense check should be applied. If the project is running behind schedule, it will take longer to complete than planned. If it is currently ahead of schedule, it should be completed earlier than planned.

Projected Status is more of an "alarmist" than an "alarm" signal since it amplifies what has happened to date, but it also focuses management attention on the problem trend in time to possibly do something about it. Thus, if the project has accomplished only 16 weeks of planned work after 20 weeks have elapsed and it keeps falling behind at the same rate, after 68 weeks it is likely to end up closer to 17 weeks behind schedule rather than only the 4 incurred to date. Of course, it may not continue at the same rate, but in the absence of hard data there is more supporting evidence for slippage than for optimism.

As indicated earlier with other variables, a Control Chart is an effective means for highlighting the fluctuation of this trend from month to month.

Similarly, while the percentage of work planned to be completed at this point in time was

$$\frac{B}{A} \times 100 = \frac{20}{68} \times 100 = 29 \%$$

The actual percentage of work completed is only  $\frac{D}{A} \times 100$

$$\text{or} \quad = \frac{16}{68} \times 100 = 24 \%$$

The computer can then print out various tabular sortings and graphics for both general and detailed review, with a consolidated bar chart for the Executive Director -- and other staff members as required.

A comprehensive Gantt Chart -- with one bar for each project provides management with a good overview of the entire project portfolio.

IV. MONITORING AND EVALUATING THE IMPACT OF MIDAS'S PROGRAM  
ON TARGET BENEFICIARIES

Three primary areas of concern have been identified as the thrust of MIDAS's efforts:-

1. Employment Generation -- both Direct and Indirect
2. Enhancement in the Status and Employment of Women
3. Increases in Income

To this end, three indicators for monitoring program impact have been selected as follows:-

1. Percentage of Employment of assisted enterprises, vs Plan
2. Percentage of Women Employed by assisted enterprises
3. Modal Income Level of Employees vs Plan

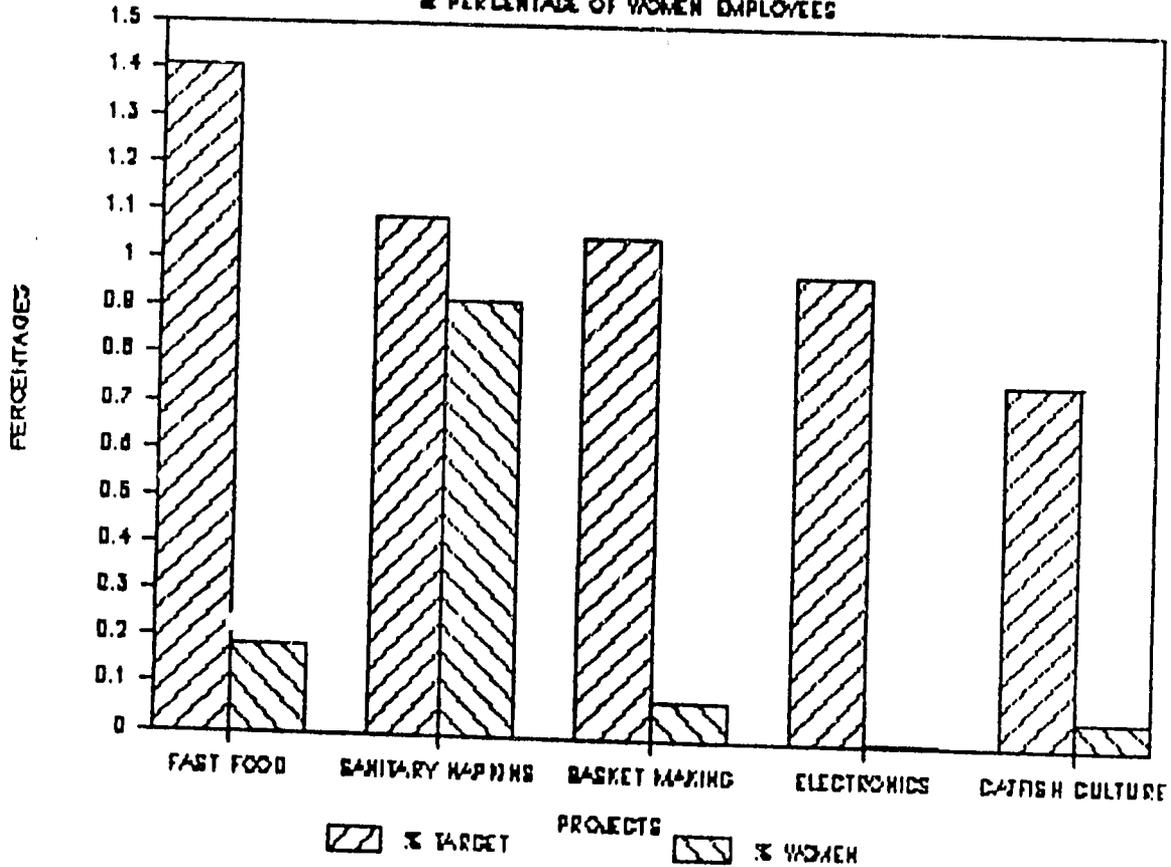
Since it is unreasonable in the Bangladesh private enterprise context for MIDAS to insist on a particular number (or percentage) of any given business's work-force to be comprised of (or reserved for) women, performance on this aspect is merely being tracked rather than pre-targetted. Nevertheless, with the passage of time, trends in this indicator should provide management guidance for initiating more positive action towards the attainment of this objective. The degree of enhancement of women's status cannot be determined from this simplistic measure, however, but must be evaluated through more sophisticated in-depth survey analysis.

The concept of Indirect Beneficiaries is also an important one but procedures for their measurement presents a more formidable obstacle, necessitates further analysis. We toyed with formulating some differential "multiplier" indices appropriate to various types of industries, but the MIDAS staff have not yet had an opportunity to research the actual data.

Hypothetical sample graphs and worksheets for monitoring indicators of employment and income are shown on the following page.

Another important aspect for MIDAS to research and monitor is the collection of entrepreneurial characteristics to develop "Profiles" which will assist in the earlier screening, identification and selection of potentially successful entrepreneurs. This can be done quite readily with a data base management system. While the REFLEX system was demonstrated, time did not permit us to explore this aspect further.

PERCENTAGE OF TARGET WORKERS EMPLOYED  
& PERCENTAGE OF WOMEN EMPLOYEES

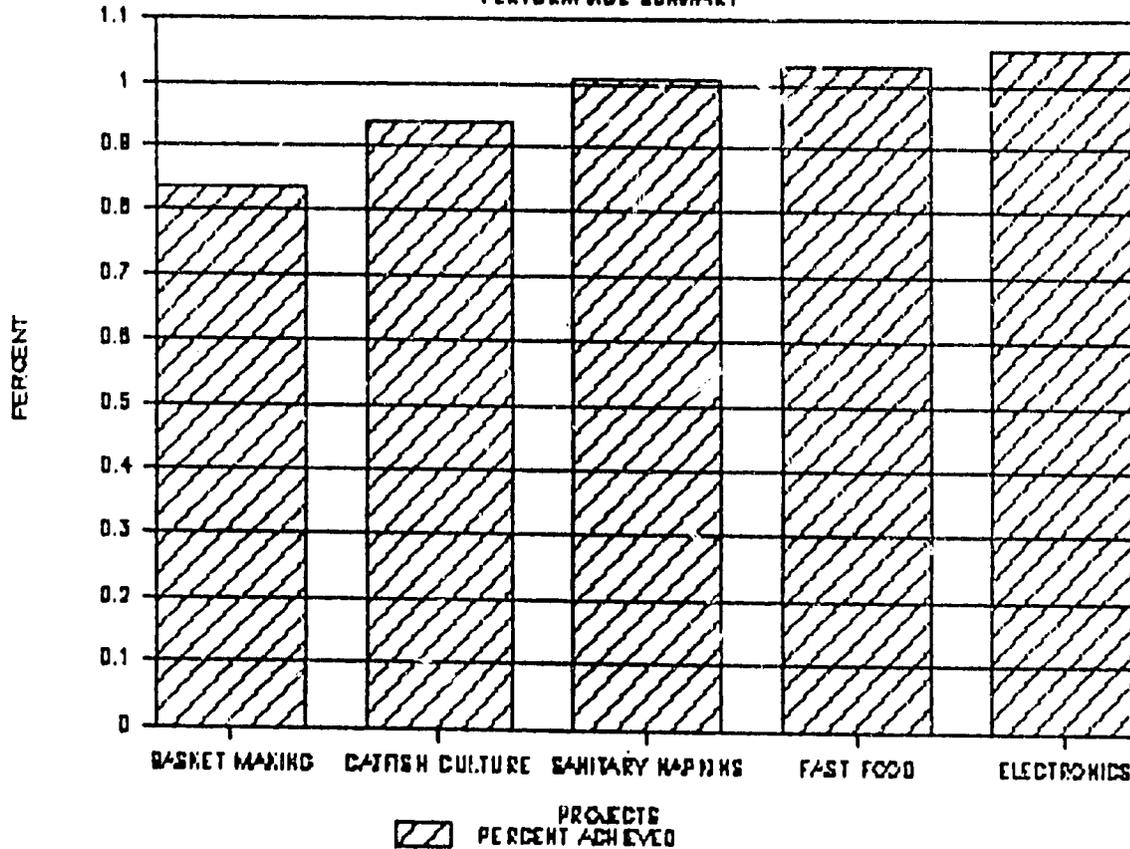


IMPACT OF MIDAS PROGRAM ON BENEFICIARIES EMPLOYMENT  
AS OF: 11-Aug-87

RANK ORDER	PROJECT/PROGRAM ACTIVITY	TARGET WORKERS	ACTUAL WORKERS	PERCENT ACHIEVED	NUMBER WOMEN	PERCENT WOMEN	COMMENT
*****							
	* HYPOTHETICAL						
1	FAST FOOD	117	165	141%	30	18%	HIRE MORE WOMEN
2	SANITARY NAPKINS	45	49	109%	45	92%	GOOD SHOW
3	BASKET MAKING	36	38	106%	3	8%	HIRE MORE WOMEN
4	ELECTRONICS	182	179	98%	1	1%	HIRE MORE WOMEN
5	CATFISH CULTURE	230	175	76%	10	6%	HIRE MORE WOMEN

## BENEFICIARY INCOME

### PERFORMANCE SUMMARY



### IMPACT OF MIDAS PROGRAM ON BENEFICIARIES INCOME AS OF: 11-Aug-87

RANK ORDER	PROJECT/PROGRAM ACTIVITY	TARGET AVERAGE MONTHLY MODAL INCOME	ACTUAL MONTHLY INCOME	PERCENT ACHIEVED	COMMENT
---------------	-----------------------------	---	-----------------------------	---------------------	---------

\* HYPOTHETICAL

1	BASKET MAKING	680	570	84%	PAY RAISE NEEDED
2	CATFISH CULTURE	800	750	94%	PAY RAISE NEEDED
3	SANITARY NAPKINS	645	650	101%	GOOD SHOW
4	FAST FOOD	700	720	103%	GOOD SHOW
5	ELECTRONICS	725	765	106%	GOOD SHOW

## PENDING ISSUES, ACTION PLAN, AND RECOMMENDATIONS

### A. PENDING ISSUES

The following eight issues require immediate action and continuing attention until satisfactorily resolved.

#### 1. ESTABLISHMENT OF AN MIS MONITORING AND EVALUATION UNIT

The MIDAS Executive Director has accepted, and the Board of Directors tentatively approved,<sup>10</sup> the establishment of a new MIS "Monitoring and Evaluation Unit" (depicted on the following page) as a technical staff unit reporting directly to the Executive Director -- initially composed of three professional personnel, who will be responsible for full-time development, implementation and operation of a program and project Management Information System for MIDAS operations. This issue is anticipated to be approved during the next meeting of the Board.

#### 2. STAFFING OF THE MIS UNIT

I recommend that the MIS Unit be staffed initially with three professionals, and expanded over the next five years as depicted in the following "Requirements" chart. This will provide for a senior officer as MIDAS's principal coordinator to assist the Executive Director, by designing the information system to meet his information management needs, maintaining the system data base and periodically briefing, displaying and disseminating current information on programs and project progress; as well as supervising the other MIS Unit staff members. He/she will also be responsible for formulating an overall MIDAS program evaluation plan. The other two individuals will be engaged full-time gathering and analyzing data from the Commercial, Development, Administration and Finance Departments, conducting follow-up research, and preparing periodic reports, as well as providing computerized statistical/analytical guidance and initially service MIDAS's Commercial, Development, Administrative Finance Divisions, until they acquire computer-literate capability within their own divisions.<sup>11</sup>

The immediate issue is that only two of the three MIDAS individuals (both Junior Project Management Officers) who worked with me in MIS familiarization and development are likely to continue with the new MIS Unit. Thus, immediate outside recruitment of a new, senior level individual -- with micro-computer experience and statistical management-oriented MIS familiarity -- is imperative. The tentative plan is to prepare job descriptions, and advertise for this position for recruitment during September.

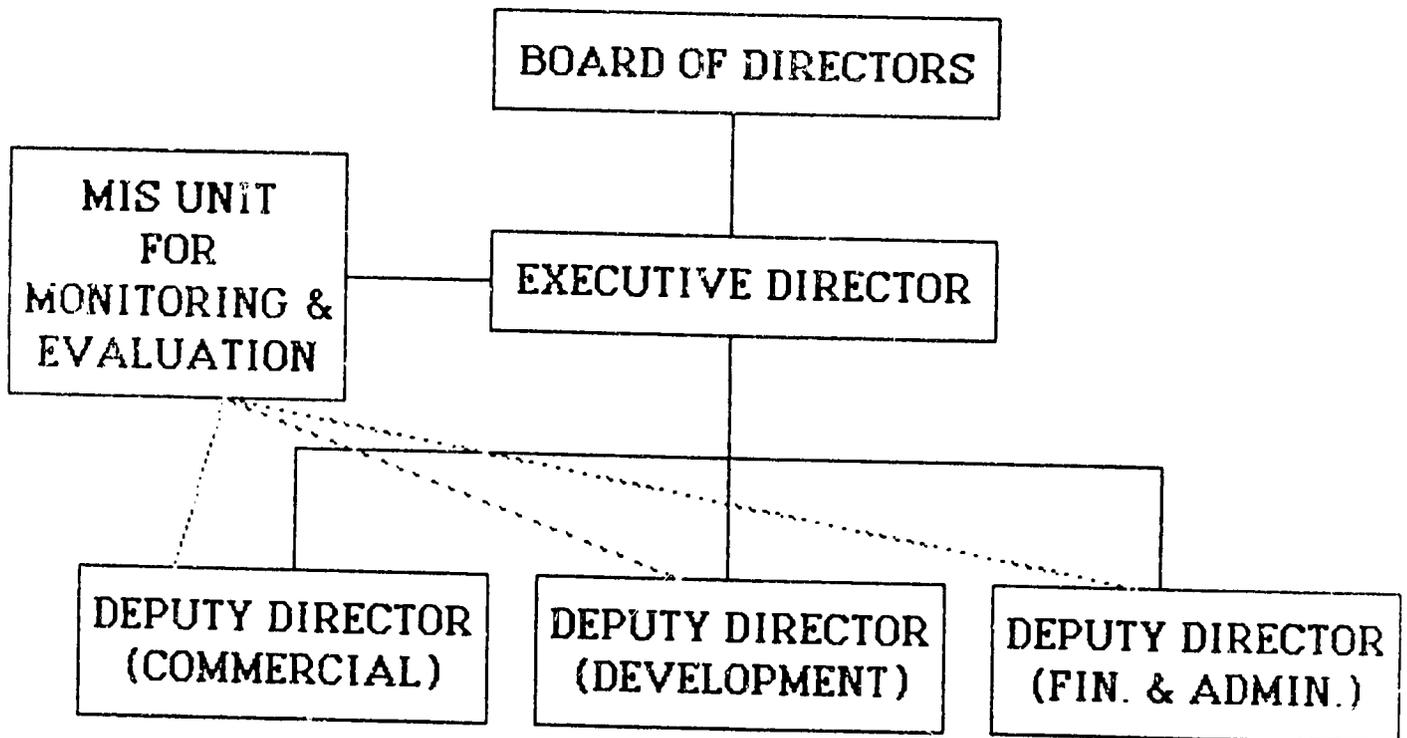
In the meantime, as a stop-gap measure, the currently designated MIS team will continue MIS development work on a temporary full-time basis, with the assistance of the local computer consultant.

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<sup>10</sup>Although all the Board members present endorsed the concept, the lack of a quorum forced deferment of this item when it was presented on 19 August.

<sup>11</sup>It should be emphasized that while the MIS analytical and reporting function is being centralized, the ultimate objective is not to control all analysis here, but to disperse computers and computer-based analytical capability throughout MIDAS. In the short run, however, the MIS unit will be the priority area to receive computer training and attention, and serve as the lead for assisting and training other staff. In this regard, once the MIS Unit is operational, it would be highly desirable for additional JPMOs to be temporarily rotated (one at a time) to the MIS Unit for on-the-job training, for a full month's reporting cycle.

## MIS IN MIDAS ORGANOGRAM



**MIDAS MIS DEPARTMENT  
PROFESSIONAL STAFF REQUIREMENT**

POSITION	YR 1	YR 2	YR 3	YR 4	YR 5	TOTAL
DEPUTY DIRECTOR				1		1
PMO	1					1
APMO	1			1		2
JPMO	1		1			2
TOTAL :	3		1	2		6

### 3. TRAINING

The MIS analytical process and reports preparation is computer-oriented, but the staff assigned to this function are not currently computer-literate. Thus, there is an immediate requirement for intensive, short course, hands-on computer orientation, followed training with appropriate software -- i.e. LOTUS, TIMELINE/PROJECT and word processing, such as WORD.

This is tentatively planned as a series of two week, part-time (half day) courses during September and October. Further training in other programs (such as REFLEX) for MIS Unit personnel, and basic computer orientation and training for other staff members has yet to be decided upon.

### 4. PHYSICAL LOCATION AND REFURBISHING OF MIS UNIT

The physical location of the MIS Unit has yet to be decided upon. Since the Unit will require additional power outlet installations (multiple, grounded, electrical connections) for the computer equipment -- which must be contracted out -- the location should be selected as soon as possible, so that appropriate rehabilitation work can be undertaken and completed within the next month.

### 5. COMPUTER EQUIPMENT PROCUREMENT

Procurement action should be undertaken immediately for four IBM-compatible desk-top computers -- two for the MIS Unit, one for the Accounts Department, and one for general administrative and operational program departmental use. These four machines will meet the needs of MIDAS for the immediate future. Additional equipment should be phased in as the demand (and need) becomes apparent. The MIS Unit should have one dual floppy PC, and one hard disk AT equivalent computer; the Accounts Department should be equipped with an XT equivalent unit, with replaceable hard disk packages; and in the present computer room the Administrative Department should have a dual floppy PC for general word processing as well as for analytical usage -- to be shared with the other departments. Peripherals for these computers should be three printers -- wide-carriage dot-matrix, near letter quality printers for both the accounts and MIS unit. A laser printer for producing high quality documents for the Administrative unit would also be highly desirable as it could considerably reduce the time and cost to MIDAS for preparing printed-quality publications -- reports, newsletters, etc., -- instead of having to contract them out.<sup>12</sup>

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<sup>12</sup>Presently MIDAS has an Apple Macintosh computer and an AMSTRAD word processor. While these are both currently adequate as stand-alone computers, they cannot be integrated into MIDAS's overall MIS and systems network, and the data will not be interchangeable between the different systems. The software available for IBM-compatibles is extensive and I therefore recommend that MIDAS standardize on IBM-compatible equipment. It may be possible to trade-in, or resell the existing equipment.

A very rough estimate of costs for computer equipment and training (landed cost including duties, etc.) is as follows:

Computer Hardware

IBM/AT Compatible Computer	\$4,500
IBM/XT Compatible Computer	\$3,200
IBM/PC Compatible Computer	\$2,000
Wide Carriage, Dot Matrix Printer	\$1,000
Laser Printer	\$4,800
Bernoulli Box (removable hard disk)	\$5,200
Voltage Stabilizer	\$100

Computer Software\* (Does not include duty, etc)

Spreadsheet Analysis - LOTUS 1-2-3	\$500
Project Management - TIMELINE	\$700
- PROJECT	\$400
Word Processing - WORD	\$500
Data Base - R:Base System 5	\$600
Accounting - IUS	\$700 (per module)
Modules: General Ledger	
Accounts Receivable	
Client Time Billing	
Payroll	
Inventory Control	

\* These (or equivalent) are basic software packages required

Computer Training (Half Day, for Two Weeks)

Introductory course (per person costs)	\$40
Spread Sheet analysis	} each \$80
Project Management	
Data Base	
Word Processing	

6. INDICATORS, TARGETS, AND FORMATS FOR REAL DATA

Although we demonstrated the process of MIS design and development, for the most part, we only used illustrative indicators and targets, with hypothetical data. What remains is the intensive and arduous task of identifying real data requirements and procedures for processing them. This will begin immediately, but will probably take the next two months to complete.

7. DATA BANK INFORMATION SYSTEM

Establishing a data bank of pertinent small enterprise business references and statistics about Bangladesh is considered important by MIDAS but work on this activity has been deferred until the MIS and the Accounts system have been installed. Data bank development is anticipated to be an extension of the existing MIDAS library. This is a complex, detailed, time-consuming effort, and in this regard, MIDAS may benefit from an additional short-term consultancy from AID's Center for Development Information (CDIE) in Washington. [As initial contacts I suggest Ms. Jean Tiffet and Ms. Ardith Betts] both of whom have had considerable experience in establishing reference libraries and data base information systems for AID missions around the world.

8. COMPUTERIZED ACCOUNTING & FINANCE SYSTEM

As indicated earlier, the accounting system has been developed concurrently with the MIS, and is nearing completion. The consultants estimate that they will have a model ready for demonstration (with hypothetical data) and testing in about two weeks.

As outlined above, the accounts area will also require a computer, printer and two computer-literate accountants to operate the system.

MIS ACTION PLAN

Who	Status	87												88									
		Aug		Sep			Oct			Nov			Dec		Jan								
		24	31	8	14	21	28	5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18
AA AA MIS GO-AHEAD D	D M																						
AC BA REQ QUOTE & EV	=====																						
AA AB ASSIGN STAFF T	C +++++																						
AA AE WRITE MIS JOB	=====																						
AA AD ALLOCATE MIS S	=====																						
AA AC IDENTIFY COMPU	-----																						
AE BC ADVERTISE MIS	=====																						
AD EA ELECT REWIRE M	=====																						
AD DF BUY FURNITURE	-----																						
AB BB TRAIN EXISTING	C   =====																						
BA CA RENT OR BUY CO	=====																						
CA DA INSTALL COMPUT	=====																						
EA FA DUMMY ACTIVITY	M-----																						
BC BD INTERVIEW MIS	=====																						
DC DZ RECRUIT/HIRING	=====																						
DA FA TEST EQUIPMENT	=====																						
DF FA DUMMY ACTIVITY	M-----																						
BB FA DEVELOP INDICA	C   =====																						
DZ FA DUMMY ACTIVITY	M-----																						
DZ ZZ TRAIN NEW EMPL	=====																						
FA ZZ COMPLETE DIVIS	C   =====																						
ZZ ZZ PRODUCE FIRST	C   =====																						

-----

D Done                    === Task                   - Slack time (==---), or  
C Critical                 +++ Started task           Resource delay (---==)  
R Resource conflict        M Milestone                > Conflict  
p Partial dependency

Scale: Each character equals 1 day

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### PERSONS CONTACTED

The following were the primary individuals contacted during my consultancy:-

#### USAID/Dhaka

Priscilla Boughton -- Mission Director  
Donald Reese -- Office of Enterprise Development  
Michael Calavan -- Office of Enterprise Development  
Gary Vanderhoof -- Project Officer  
Kay Calavan -- Mission Evaluation Officer

#### MIDAS

Roshanally M.H. Hirji - Board of Directors  
Harry Jayasingha - Board of Directors  
Mrs. Rokia A. Rahman - Board of Directors  
Mr. Sekander Miah - Board of Directors  
M. Mobassar Husain -- Executive Director  
M.S. Alam Mia -- Deputy Director (Commercial)  
Ms. Taheera Haq -- Deputy Director (Development, Finance & Admin)  
B. R. Khan - Commercial (MIS Action Training)  
Jamaluddin Afgani - Chittagong Office  
A. Azim Syed - Development  
M.N. Huda - Development  
Naba Krishna Muni - Commercial - (MIS Action Training)  
Nazmul H. Khan - Development - (MIS Action Training)  
Fazlul Hoque Khan - Chittagong Office

#### Others

Shahab Sattar - Computer Consultant, Computerland  
S. Mansur Ahmed - Accounting Consultant, Consortium Three  
M.A. Satter, Manager - Bangladesh Exports Limited  
Amin Hassan Ali - Managing Director, Bangladesh Towel Ind. Ltd  
Khaled Salahuddin Ahmed - Managing Director, Silicon Village Ltd  
Mamun Ur Rahman - Managing Director, Superior Footwear Co. Ltd