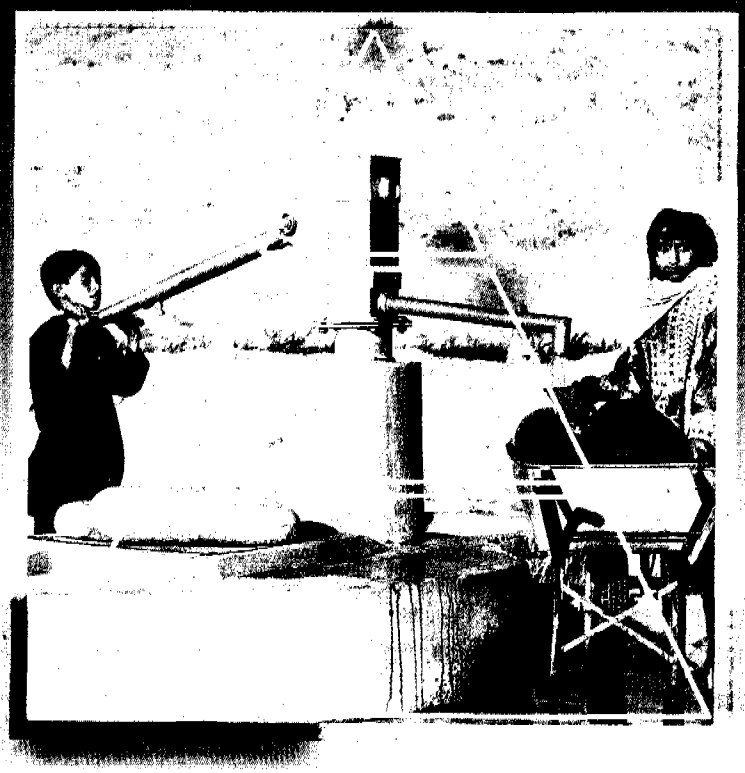
Management Information System for Water Supply and Sanitation Agencies:

The need for Strengthening



UNDP/World Bank RWSG-SA

United Nations Development Programme

Ministry of Local Government and Rural Development, Government of Pakistan

United Nations Children's F

This publication has been written and edited by Mr. Abid A. Mallick, FSU. The views expressed in the Recommendations are those of the participants and do not necessarily reflect the views of the UNDP, UNICEF, UNDP/World Bank/ RWSG-SA and MLGRD.

The seminar was hosted by the Federal Rural Water Supply and Sanitation Sector Support Unit (FSU), MLGRD, Islamabad. The facilitator of the seminar was Dr. Irene Wilson, CTA, UNDP Project PAK/88/031.

Photo Credit: UNICEF, Pakistan

Design and Layout: Systems and Resource Development Centre (SRDC), Islamabad.

Printed at: PanGraphics Private Ltd., Islamabad.

Management Information System for Water Supply and Sanitation Agencies: The Need for Strengthening

Proceedings of the Seminar
Abbottabad, November 4-5, 1992

List of Abbreviations

A/XEN	Assistant Executive Engineer
ADP	Annual Development Plan
AJK	Azad Jammu and Kashmir
CE	Chief Engineer
CESI+	Country External Support Information (system)
CTA	Chief Technical Adviser
FATA	Fedrally administered tribal area
FSU	Federal Support Unit also referred to as Rural Water Supply and Sanitation Sector Support Unit, MLGRD, Islamabad
FYP	Five Year Plan
HRD	Human Resource Development
IDA	International Development Assistance
LG&RDD	Local Government & Rural Development Department
M&E	Monitoring and Evaluation
MIS	Management Information System
MLGRD	(Federal) Ministry of Local Government and Rural Development
NGO	Non-Governmental Organization
NA	Northern Areas
NWFP	North West Frontier Province
O&M	Operation and Maintenance
P&D	Planning and Development (Department)
PHED	Public Health Engineering Department
RDD	Rural Development Department
RWS&S	Rural Water Supply and Sanitation
RWSG-SA	Regional Water & Sanitation Group - South Asia
SAP	Social Action Plan
SDO	Sub-Divisional Officer
SE	Superintending Engineer
SIP	Strategic Investment Plan
UNICEF	United Nations Children's Fund
UNDP	United Nations Development Program
XEN	Executive Engineer

Contents

Foreword

This seminar was the first of a series of activities planned by the Ministry of Local Government and Rural Development with the assistance of the Federal Support Unit to initiate the gradual process of strengthening of monitoring and evaluation, and management information system for the water supply and sanitation sector agencies in Pakistan.

The PHED, LG&RD and the P&D departments from the provinces and Azad Jammu and Kashmir participated in the seminar. Brief presentations on the status of MIS in the PHED and LG&RDD were made by the provinces and AJK. An MIS developed for P&D department of AJK was presented and a conceptual framework for development of MIS in water and sanitation agencies was discussed. A working group session outlined a strategy for strengthening of MIS in the PHED and LG&RD departments.

This publication attempts to capture the conclusion of the seminar. It draws upon the contents of presentations made in the seminar and the discussions that transpired. Original text of the presentations and papers read in the seminar are reproduced separately as Annexure.

We hope that this report will serve as a useful reference document for the sector agencies and will facilitate in strengthening their institutions through improvement of the information systems.

Federal Support Unit
UNDP/World Bank/UNICEF/Project PAK/90/013
Ministry of Local Government & Rural Development
Islamabad.

EXECUTIVE SUMMARY

1. Increase in workload was identified as a trend common to all the PHED and the LG&RD departments. Although investments in rural water supply and sanitation sector have increased substantially during the last 10-15 years leading to increase in the number and volume of activities, the manpower resources available to the executing departments (PHED and LG&RDD) have not been proportionately augmented.
2. The trend of increasing workload is likely to continue as investments in RWSS sector of upto US$ 1.22 billion and Rs 15 billion for implementation of the Strategic Investment Plans and the Social Action Programme respectively are envisaged in the next 5-10 years. It is expected that after the implementation of these two major programmes the coverage of rural water supply will increase to nearly 75% and of sanitation to 40% - consequently there will be more schemes to manage and increasing level of data to handle.
3. Improvement in planning, management and monitoring of RWSS projects and in the activities of these departments was identified as a priority issue to be addressed.
4. The present system of information management in the PHED and LG&RD departments is at an elemental stage and relies primarily on manual data storage, processing and reporting.
5. At present, each of the chief engineers' offices of PHED, and the Director Generals' offices of LG&RDD in the provinces and Azad Jammu and Kashmir have on an average about 3-5 micro-computers. At the district level very few offices have any computer equipment.
6. Where computers are available, they are generally used for word processing by these departments. The PHEDs in Sindh and NWFP are using computers for designing water supply schemes.
7. Along with some hardware facilities, a small pool of manpower trained in basic computer skills exists in each one of the PHEDs and LG&RDDs. Focusing these resources as the nucleus of MIS in these institutions, the existing manpower and hardware resources should be developed, gradually, and the process of strengthening management information system initiated.
8. The participants strongly endorsed the need for institutional capacity building in the area of information management as a prerequisite for efficiently coping with the increasing level of investment activities to be undertaken.
9. There was a strong request from the departments for technical support in accomplishing the task of strengthening MIS.
10. The participants agreed on phasing the activities, starting in small steps in specific areas, with components of MIS developed progressively but linked together.
11. Standardization of data collection and reporting formats is important in order to prepare national summary and to share information with each other.
12. Two main recommendations proposed in the seminar were, a) establishment of M&E cum MIS units in the PHED and the LG&RDDs in the four provinces and AJK; and b) organizing workshops by the units in each province/state on developing a plan for strengthening MIS in their respective departments.

1. Introduction

Water supply and sanitation activities in Pakistan have increased substantially during the last 10-15 years. It can be readily gauged from the two-fold increase in coverage of rural water supply between 1980 and 1990. This escalation of activities generated a corresponding increase in the volume of data handling. However due to resource constraints and agency priorities, the information processing system in the sectoral agencies was not properly addressed in the past. Lack of efficient management oriented, computer-based information system had severely constrained the efficiency and effectiveness of the agencies. The following were identified as major factors responsible for keeping the MIS in sector agencies at an elemental stage.

- Lack of awareness of the need and advantages of modern management information system
- Absence of institutional support within the agencies to initiate strengthening of information management
- Inadequate allocation of resources for improvement in management information system

In view of the increasing importance which must and, indeed, is being given to rural water supply and sanitation, and the start of major water and sanitation projects in Sindh, Balochistan and AJK, this is a crucial time to be addressing these factors and probing into the use and purpose of a modern management information system in the departments concerned particularly the Public Health Engineering Department and Local Government and Rural Development Department.

It was in this context that the Abbottabad seminar was called. The overall objective of this seminar was to:

1. Sensitize water and sanitation sector agencies on the need for introducing and strengthening management information systems.
2. Present a conceptual framework for development of MIS for water supply and sanitation agencies.
3. Build consensus among the sector agencies - PHEDs and LG&RDDs in establishing monitoring and evaluation units as the first step towards initiating the process of improving management information system in their respective departments.
4. Arrive at a decision in forming MIS committees in the provinces to facilitate the initiation, development and progress reviewing of projects on strengthening MIS in the PHED, LG&RD and P&D departments.

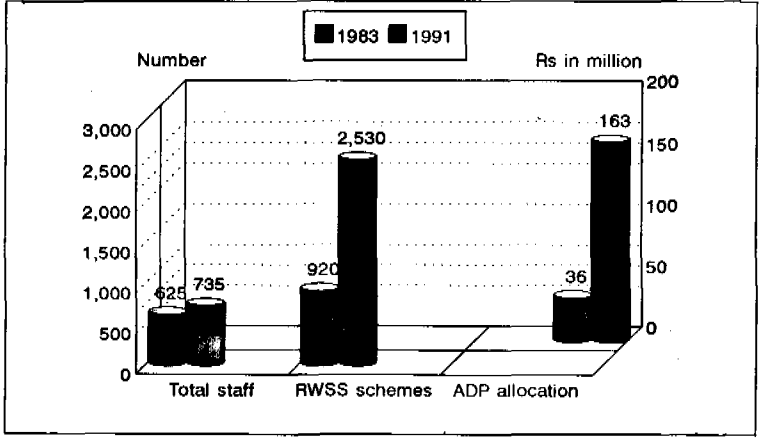
2. Need for strengthening MIS in water supply and sanitation agencies

Current level of activities in the agencies

The level of activity in the sector, or to be more specific, the number of rural water supply and sanitation schemes to be implemented and managed was relatively much less till the early 1980s. The executing agencies had lesser workload and consequently a lower volume of data to handle. Hence the need for an efficient management information system to facilitate the agencies in planning, executing and managing schemes was never considered sufficiently important or urgent. This situation transformed progressively during the later years as the number of schemes increased.

The Public Health Engineering department being the major executing agency of rural water supply and sanitation programs absorbed this increase in investments and activities. However the increase in workload was not supplemented by a proportionate increase in manpower resources available to the agency. The LG&RD department also had a similar experience. An example of this disparity is illustrated in Figure 1 which shows a three-fold increase in the number of RWSS schemes to be completed by LG&RD-AJK in less than a decade, with a corresponding increase of less than one-fifth in the staff strength. In the North West Frontier Province PHED is maintaining 2,347 water supply schemes including those of FATA. This, compared to only 30 schemes in 1974 and 940 in 1981 reflects a significant increase in workload. In Sindh, the number of schemes maintained by PHED increased by almost tenfold between 1981 and 1991. This trend is apparent in all the PHED and LG&RD departments in the four provinces and the AJK.

Fig 1: Increase in Staffing & Workload at LG&RDD-AJK



Future projection of activities

Towards the end of the 1980s, rural water supply and sanitation sector in Pakistan experienced a major stimulus in the form of the Strategic Investment Plans. The SIP presented new approaches in planning, implementing and managing rural water supply and sanitation projects.

The Strategic Investment Plans (SIPs) prepared in 1989 for each of the provinces, the Northern Areas and the State of AJK, envisage a nationwide investment of about 1.22 billion dollars to extend water supply and sanitation facilities to 75% and 40% of the rural population in Pakistan by the year 1998. The IDA assisted Projects for implementation of the SIP have been launched

in Sindh, Balochistan and AJK amounting to US$ 137 million. Similar projects are expected to be undertaken in Punjab, NWFP and the Northern Areas.

The number of rural water supply schemes is expected to increase several times in the next five years mainly due to implementation of the SIP. To quote an example, in Sindh this figure is expected to increase from 677 in 1991 to nearly 3,500 after the completion of the IDA assisted project by the end of 1998.

Another major initiative 'The Social Action Programme' has also been developed by the government with the assistance of the World Bank and other external support agencies to increase the coverage in rural water supply and sanitation. Nearly Rs 15 billion is expected to be invested in the sector in the next three years 1993-95. According to the operational plans of SAP, in Punjab alone, the total number of rural water supply and drainage schemes will shoot up to the figure of 4,070 and 3,830 respectively by 1998.

Higher investments in the sector primarily under the Strategic Investment Plans and the Social Action Programme will contribute to further increasing the workload of the implementing agencies, especially of the Public Health Engineering Departments and the Local Government and Rural Development Departments. These agencies are already overburdened, and manpower limitations are severely affecting their program of implementation, operation and maintenance of schemes. With limited manpower, the PHEDs and the LG&RD departments are expected to implement and manage more and more schemes each year.

Existing MIS practices in the agencies

The sector agencies have to monitor the status of on-going as well as completed schemes. The PHEDs and the LG&RDDs are required to send quarterly reports to the Planning and Development department on the physical and financial progress of each on-going scheme. For completed schemes, data on operation and maintenance has to be maintained. Planning of new schemes under ADP also requires data collection and its processing for preparation of PC-I.

Flow of information in PHED In the Public Health Engineering Department, the ADP schemes are prepared after a lengthy process of information flow. To start with, the schemes are identified by a member of Provincial or National Assembly. The XEN at the district office is informed of the schemes. She/he then calculates their cost with crude estimates. The list of schemes and the cost estimate is sent to the Superintending Engineer, the Chief Engineer, the Secretary and the P&D department for approval in chronological order. According to the range in which the cost of the scheme falls, the concerned authorities i.e. either the Divisional Development Sub-committee, the Departmental Development sub-committee or the Provincial Development Working Party approves the scheme. The Secretary PHED receives a list of the schemes approved by the authorities. The list is submitted to P&D with the request to arrange funds from the Finance department. The P&D department approves selected schemes and issues a final list based on budget approved by the Finance department.

The list is then sent to the XEN for preparation of detailed cost estimates and PC1s of approved schemes. The PC1's after being reviewed, modified and approved at the SE, CE and Secretary

levels are sent to the P&D department for approval. After their approval by P&D, funds are released to PHED by the Finance department. The Chief Engineer distributes funds to SEs who in turn allocate them to XENs. Work on scheme is awarded to contractor through tender. The XEN prepares monthly reports on financial and physical progress of schemes and sends them to the SE's office at divisional level where data from all the districts within that division is consolidated and then sent to the chief engineers office at the provincial headquarter. The CE's office compiles data collected from all the divisions, prepares summary and reports and sends it to the Planning and Development department in the form of quarterly progress report.

In addition the district, divisional and the CE's office have to maintain information for organizational functions which include maintenance of stores and inventory, budget and accounting, and other relevant statistics. A list of reports produced by some of the sector agencies is shown in Table 1.

The present system of data collection, processing and reporting, in the PHED, LG&RD and P&D departments are mainly based on manual methods. Data at district offices are invariably compiled, processed and reported manually as computers are almost non-existent at district level. Use of computer has started, though on a very limited scale at the provincial headquarter in Chief Engineer's office of PHED, D.G's office of LG&RDD and at the P&D offices. Even where computers are available, they are mainly used for word processing purposes.

Table 1: Reports Produced by PHED and LG&RD departments

Name of the Department	Type of reports produced by the departments
I. PHED-Sindh	1.Monthly progress reports 2.Quarterly Report on PC-III 3.ADP for new schemes including review of on-going and completed schemes 4.Monitoring reports for water supply and drainage schemes based on laboratory analysis 5.Lists of completed schemes 6.Lists of schemes under operation 7.Miscellaneous reports including preparation of tender documents for consultancy work 8.Draft of 8th Five year plan
II. PHED-NWFP	1.Progress review reports (monthly and quarterly) 2.Project statistical reports 3.PC-I and Project Reports 4.Water quality reports 5.Budget reports 6.Revenue collection reports
III. LG&RDD-AJK	1.Quarterly Progress Reports 2.Annual Plan of Operations 3.Report on Annual Development Plan 4.Monthly pay bills 5.Accounts and Audit Reports 6.PC-I and PD-I

Existing hardware and computer literate manpower resources available at PHED, the LG&RDD and the P&D departments are very limited. The C.E 's office of PHED and the D.G office of LG&RDD in the provinces and AJK have on an average about 3-5 micro-computers.

Limitations of the existing MIS

Data collection, processing and reporting has become a major activity in these departments and account for a significant portion of their workload. Considering the anticipated increase in the number of schemes in the next few years, the scope and volume of information management will continue to expand. The present manual system of information management will not be able to process the large volume of data with reliability, timeliness and according to the agency requirements. Imagine, for example, the increase in the number of man hours required by PHED-Sindh, using the manual information system to process data of 3,500 schemes in 1998 as against only 677 schemes at present. It should be noted as a caution that although the number of schemes will increase by five times, the simultaneous increase in data handling will be of much larger magnitude.

Lack of timely and reliable data leads to faulty planning, sub-standard execution and poor management of schemes. The agencies are already facing these problems as reflected by the rising number of sick schemes. It is crucial for the sector agencies to strengthen Management Information Systems to ensure better planning, execution and monitoring of schemes for improved and effective decision making, and for better control of agency resources in handling the increased workload.

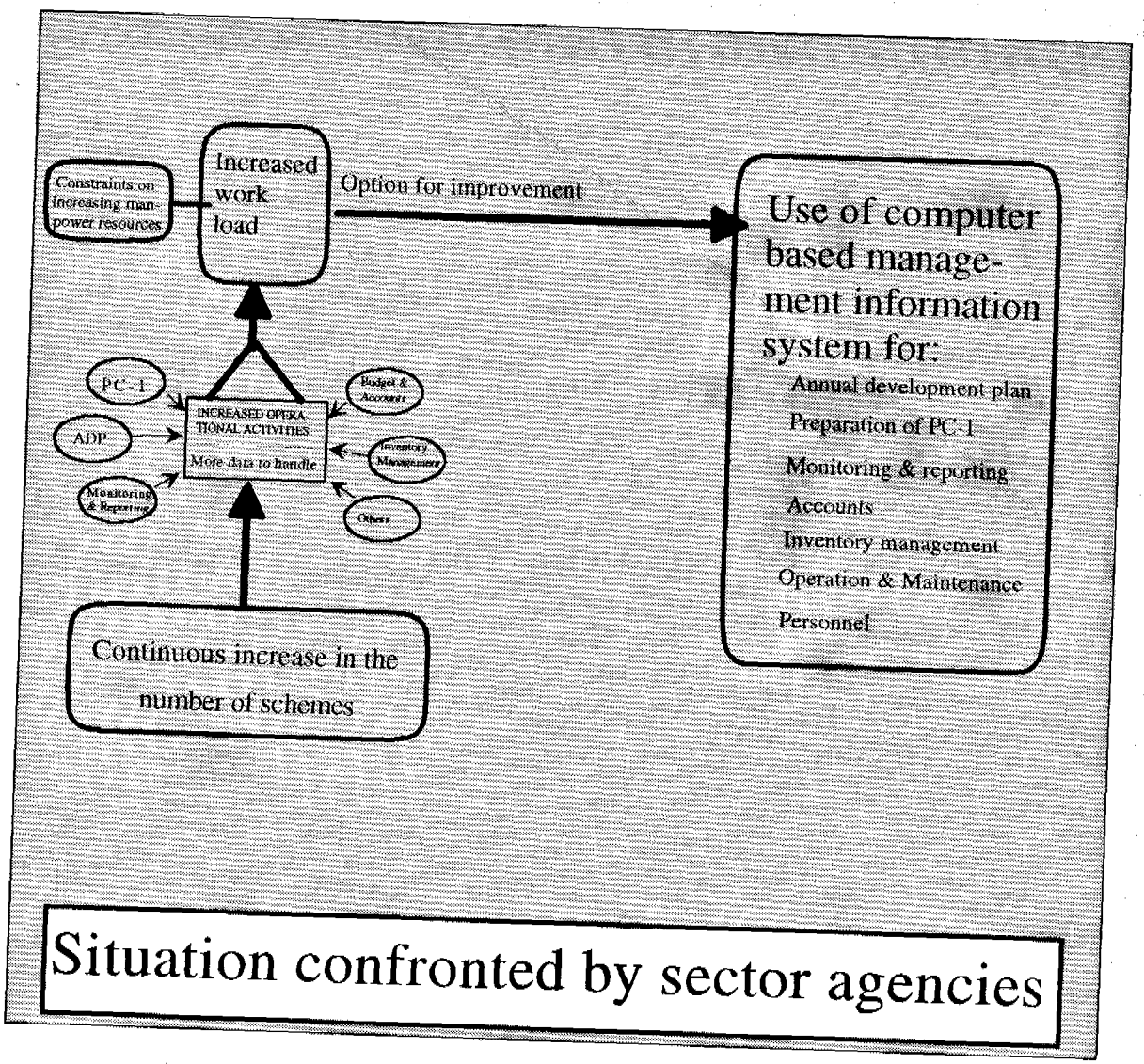
Tools for strengthening MIS: Rapid advancement in technology has provided new tools and techniques for storage, retrieval, analysis and presentation of information. Cheap and easy to operate computers and software offer practical, efficient and simple solutions to monitoring and evaluation, data analysis, and report generation. A large variety of software packages are available for database management, spreadsheet, word processing, statistical analysis and for designing water supply and drainage networks. It is essential for the agencies to be exposed to these new tools and techniques. The need is to adopt these tools for increasing management efficiency. Fortunately this need is now being increasingly felt in the water and sanitation sector agencies. The agencies therefore agree on the need for a modern computer-based Management Information System.

How can a modern MIS facilitate Water Supply & Sanitation Agencies ? Initially, to start with, objectives of a management information system in these departments has to be specified. Which activities of the PHEDs and LG&RDDs can be facilitated by using an MIS ? The department's activities require the following information processing functions:

- designing of water supply and drainage schemes
- cost estimation of schemes
- preparation of PC1s
- monthly and quarterly progress reporting on schemes
- information on operation and maintenance
- collection, processing and reporting of sector statistics

- ADP preparation
- stores and inventory requirement and status
- budget and accounts
- training and human resource development
- personnel management

These are some of the functions which if performed using a computerized information system will not only reduce the workload of the department but also improve the quality of work.



3. Requirements for planning, developing and managing MIS

Planning Requires:

- Clear outline of goals, objectives and use of the information system
- Identification of information needs
- Assessment of current institutional framework and capabilities to provide and manage data
- Preparation of Plan or Concept paper for MIS development
- Formulation of information policies based on mandate of the agency and the requirements of information users

Developing requires:

- Allocation of adequate funds
- Capable systems manager as full time staff of the agency
- Formation of a task force (an M&E or MIS unit) to facilitate the development and operationalization of the information system
- Review and identification of information requirement
- Systems study to outline the organizational structure and components of MIS
- System design

Managing Requires:

- Appropriately qualified staff with clear delegation of responsibilities to run and maintain the system. Recruitment of qualified computer staff is often a problem due to private sector competition and perception of computer posts as low grade posts in government agencies. Professionals in this field have to be accorded due respect and status and clear responsibilities
- a programme of training and orientation for personnel operating the system, for staff members who are recipient of information from the MIS and for other staff members of the organization
- procedures in use of equipment have to be laid down and practices established
- Allocation of adequate resources in the yearly budget of the agency for collection of data and maintenance and possible upgrading of equipment
- Institutionalization of MIS in the department. This requires formal acknowledgement of the need or a demand for MIS, establishment of MIS or M&E unit within the department and clear delegation of responsibilities for managing the system. Based on intrinsic demand the MIS should be used by the department to improve its planning, managing and monitoring activities. The operators and users of MIS should understand the scope, utility and limitations of the system.

MIS in Planning and Development Department, AJK

The need for MIS which is essentially a Project Monitoring System (PMS) for the Planning and Development Department, AJK stemmed from the following facts:

- insufficient information for monitoring physical implementation of projects
- need for more information on financial monitoring to ensure that expenditure was actually being made for items in the PC1 allocations
- difficulty in analysis of information because all information was only in departmental files
- too much time was being spent on repetitive tasks such as preparation of ADP and PC 111s
- need to link monitoring into the planning process

The MIS developed for the P&D, AJK under a UNDP funded project consists of a series of linked databases, some of which deal specifically with monitoring. Others can be used for cross-checking of monitoring information. The immediate objective of establishing the system was to enable the Government to exert greater control over development expenditure through monitoring and evaluation. During the three year project a team of P&D staff has also been trained to use, manage and further streamline the system. The MIS of P&D, AJK is being successfully used by the department for monitoring of projects. Currently it is the only P&D in Pakistan which is implementing a computerized project monitoring system. It is expected that with the assistance of the Dutch government, NWFP and Balochistan will also be introducing such a system in the near future.

4. Conceptual Framework for Development of MIS for Water Supply and Sanitation Agencies[1]

Strengthening of information system for water sector agencies requires careful development of an information gathering and information processing system using currently available techniques. The adoption of computer technology will greatly facilitate the development and utilization of this system. However it must always be borne in mind that computer technology is not the system itself, nor a substitute for it, rather the provider of the tools for the system to run efficiently.

The first step to initiate the process of MIS strengthening is the formation of a Task Force or Steering Committee within the agency to facilitate the development and operationalization of the system. Preferably an M&E unit or an MIS unit should be established and the task force should comprise of members of the Unit as well as key management personnel from the agency. The task force should review the existing information flow and information requirements and prepare a feasible phased implementation programme of a comprehensive MIS. Agency should engage services of experts (systems consultants) to facilitate the task force in preparing the phased plan

[1] This section is based on the paper presented by Mr. K. M. Minnatullah, RWSG-SA. The paper is reproduced in Annex I.

of MIS. The experts should develop computer software for MIS. The agency should also have on its payroll capable systems manager who will coordinate and monitor the activities of the consultants. The consultants should work full time with the agency, involve the M&E/MIS unit in the planning, development and operationalization phases, and train their personnel in managing the system.

The term management information system evokes different definitions and images in our mind. Generally, it is perceived as a computerized system of data storage and processing, though it encompasses more. MIS is an integrated system of manpower, method, and equipment for providing information to support operations, management, analysis and decision making functions in an organization.

A common perception is that organizations in the country especially the public sector agencies do not have management information system. In reality however, every agency has its own MIS. It may be a manual system of information collection, storage and reporting - rudimentary, slow and inefficient. The issue is therefore not introducing MIS as something new, rather how to upgrade the existing system so that routine work like M&E, reporting, budgeting etc. can be performed quickly and systematically with reliability, timeliness and responding to the growing nature of the agency functions.

The adoption of a new or advanced system and technology requires that the process of MIS development should go through the following three stages:

i. The potential user groups have to first agree that they are going to accept the new system and the accompanying technology. This is the acceptance stage.

ii. The potential user groups will then have to agree that they are going to move away from the existing system. This is the adaptation stage.

iii. The potential user groups will then have to become first acclimatized at using the new system and then they will have to achieve confidence in and mastery over the system. This is the acclimatization stage.

Each of the above stages has to run for a certain time period in their natural course in order to be successfully completed. Thus it is suggested that any MIS should be developed in three phases briefly discussed below.

First phase of development of MIS In this stage computer facilities will be provided at the Divisional and Headquarter (Chief Engineer's office) levels. A computer cum MIS/M&E section will be located at the Headquarter. Field level reports will continue to be sent to the respective divisional offices in a computerized format. The divisional offices will do the first level of data processing on a computer based system and will send the information output to the MIS section at the headquarter. The information output will consist of a mix of printed reports and disk data. The MIS section will do the secondary and other level processing to produce reports which the management may require. The section will consolidate the data, develop a historical database, and provide feedback to field level personnel. This phase should be implemented in two stages:

a pilot stage covering a period of two years, and an expansion stage covering a period of three years.

The system study, reporting format development, and computer program development should be undertaken in Phase I. However instead of covering all the circles and divisions at one go, a representative operative circle, a division, and a territorial circle may be taken for system study and system development in the pilot stage. The system developed and the experience gained in this circle and division should then be used in the expansion stage to extend and further develop the system in the rest of the circles and divisions.

Second phase of MIS development This is the phase of moving towards greater centralization. Once the personnel in the functional divisions and in the MIS department have gained sufficient experience in using the system, and as information flow becomes more streamlined, the processing of data and control of the system should be moved to a more centralized location.

In the second phase the field level personnel will send in their data directly to the zonal project offices or the existing circles. An autonomous and independent information collection and processing system, constructed along the lines of a centralized MIS, can be set up in each of the zonal offices/circles. The zonal offices/circles will send consolidated and fully processed data to the MIS department at the headquarters. This will relieve the department of the responsibility of collecting data from the field level, verifying it, and then doing the first and second stages of processing on that data. The department will be free to design and use flexible reporting formats for customized processing of the available information. That would fulfill the requirements of reporting at the ministerial level and on a country wide basis.

The third phase MIS In the third phase a networking of the system with centralized mode for information management system is propose. It should be equipped with multi-processor based computers at the zonal level and minicomputers at the headquarters. At this stage it is envisaged that the field level personnel themselves will be using computer terminals, which will be connected through the telecommunication system to the zonal/circle and headquarters' computers. Field level personnel will send in data from their terminals, and they will also receive feedback from the zonal/circle offices and the MIS department through those terminals. The management personnel will also receive most of their reports through their terminals, hardcopies being used mostly for the information to be sent outside the system and for record keeping.

Some considerations in developing MIS A number of factors need to be considered by the PHEDs, the LG&RDDS and other water and sanitation agencies, before embarking on phased development of MIS. They should outline at the very start, the time frame, logistic requirement, the advisory consultancy needed, institutional framework, and the kind of personnel support the agency can provide itself during development of the MIS. Mechanism for training, feedback and orientation must be devised to ensure sustainability and effective use of the system.

5. Recommendations on Strengthening MIS of PHED & LG&RD Departments

Development of MIS is a long term process. It may spread over several years. To facilitate a smooth progression of this process, the agencies need to establish institutional framework. This may include formation of focal unit and definition of role of the unit. It should be noted that success of the process of strengthening MIS is largely dependent on the institutional framework which exists to support the process.

The seminar discussed the suggestions of establishing M&E cum MIS unit in the PHED and the LG&RD departments and formation of provincial MIS committees. A working group session was organized at the end of the seminar to outline the role and structure of M&E units and provincial MIS committees. Five groups representing the four provinces and the AJK were formed. Each group had a member from PHED, LG&RDD and P&D department of the province/state. A five point agenda was circulated among the groups for discussion. Each group presented its views and recommendations at the end of the session. These are summarized in Table 2.

The seminar concluded with the following recommendations:

1. Each of the PHED and the LG&RD department in the four provinces and AJK should establish a M&E cum MIS unit initially located at the Chief Engineer-PHED and Director General-LG&RD offices. The unit should be responsible for MIS activities in its department. It should identify information requirements of the department, prepare a phased plan for developing management information system. It should also suggest institutional arrangements to ensure the continued operation and sustainability of the MIS. The unit should engage the services of consultants for developing MIS and supervise their work.

2. To start with, in the development of MIS, a pilot approach should be followed in which one district office, one divisional office and the Chief Engineer's office may be selected. Suitable hardware and software should be installed at the CE's office and at the respective district and divisional offices. The experience gained in developing the pilot system should be used to refine, extend and further expand MIS into the remaining districts and divisions.

   Immediate action recommended for M&E units

   As a first step, each M&E unit should organize an in-house workshop to prepare a focussed plan of action for strengthening management information system of the department. The plan should include expected outputs, specific activities, and a schedule for MIS development.

Table-2: Recommendations of the working groups

Agenda of working groups	Recommendations
1. Structure and role of M&E cum MIS units of PHED and LG&RDD	1.Role The Unit should be responsible for strengthening MIS of the agency particularly for improving M&E of activities and projects implemented by the dept. The Unit should initiate the process of MIS strengthening, should undertake designing and developing the system with the assistance of consultants and should be responsible for managing and expanding the system. Structure At the start, M&E unit should be established at the CE's office of PHED & DG office of LG&RDD. The Unit should be headed by atleast a grade 18 officer and should include a system analyst and a computer operator.
2. Outline of terms of reference of the units	1.Identify information requirements of the department 2.Identify sub-systems of MIS 3.Prepare a phased plan for developing a modern management information system for the department 4.Secure institutional arrangements for operating and sustaining MIS 5.Start by developing one sub-system preferably M&E system for monitoring water supply & sanitation schemes 6.Design and develop proformas for collection of information on schemes from the field offices 7.With the assistance of consultants design and develop database to store the data 8.Regularly update the database 9.Monitor the progress of proposed, on-going and completed schemes 10.Prepare and provide progress reports to management 11.Design other sub-systems (inventory, budget, personnel etc) of the MIS for the department 12.Establish M&E units in the district and circle offices and train their staff in M&E and MIS development 13.Train management & field level staff in using & managing the system
3. Role and structure of provincial MIS committee.	1.Structure Each province should have an MIS committee. The committee should consist of the heads and system analysts of M&E units of PHED and LG&RDD, and chief of either PP&H, MIS or water section of P&D department. One of the proposal was that instead of creating separate MIS committees, the role of provincial steering committees should be expanded to include the overall review and coordination of MIS strengthening activities of PHED and LG&RDD. Role i.Review the progress of MIS strengthening in PHED and LG&RDD ii.Coordination of MIS strengthening activities of PHED, LG&RDD and P&D departments of the province iii.Ensure development of compatible systems in the four provinces and AJK iv.Facilitate the PHED and the LG&RDD in getting financial approval from the provincial govt. for procuring hardware, software, staff, equipment etc. v.Arrange intra-provincial workshops and seminars on MIS strengthening to enable sharing of experiences
4. Possible targets and milestones of M&E units	1.Establishment of M&E units in PHED and LG&RDD in the four provinces and AJK by August - September 1993 2.Initiate development of MIS after establishing M&E units
5. Role of P&D department in MIS strengthening of PHED and LG&RDD	1.Support the objective and efforts made in this regard 2.Facilitate allocation and release of funds for MIS strengthening 3.Will head the provincial MIS committee and assume the role of overall monitoring of MIS strengthening in PHED and LG&RDD 4.P&D department also stressed on the need for strengthening the MIS section and the drinking water section of their department

Participants

Ministry of Local Government and Rural Development	
1.Commander A. A. Neseem,	Secretary
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5.Ali Gohar Khan	Deputy Director
6.Abid A. Mallick	M&E Adviser
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7.Tehmina Kazmi	Assistant Director
8.Zakia Khanum	System Analyst
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10.Shams-uz-Zuha	Project Coordinator, PHED
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12.Gulfam Khan	Director Design, PHED
13.A. Karim Khan	Superintending Engineer, PHED
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14.Abdul Hamid Rajput	Director (Tech), Rural Development Department
15.Hakim Din Tunio	Chief of PPH, P&D department
16.Hassan Ali Talpur	Superintending Engineer, PHED
Government of Punjab	
17.Chaudry Naseer Ahmed Khan	Superintending Engineer, PHED
18.Iftikhar Ali Toor	Joint Director, LG&RDD
19. A. A. Sajid	Assistant Chief, P&D Department
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21.Mirza Mohammad Akram	Director, LG&RD.
22.Ghulam Murtaza Khan	Assistant Director, LG&RDD
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25.Dr. Irene Wilson	CTA, UNDP Project
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27.Mr. K.M. Minnatullah	UNDP/World Bank, RWSG-SA
28.Qazi Azmat Isa	Project Adviser, World Bank
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31.Mir Naeemullah	Consultant, GTZ/PHED, NWFP
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33. Ijaz H. Khawaja	Director, Pakistan Computer Bureau
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36. Jacques Marchand	Project Manager, Wardrop-Acres