

**WATER AND SANITATION
FOR HEALTH PROJECT**



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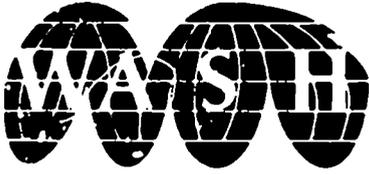
**A WORKSHOP FOR THE
NATIONAL WATER SUPPLY
AND DRAINAGE BOARD OF
SRI LANKA
JUNE 6 - 10, 1983**

WASH FIELD REPORT NO. 94

AUGUST 1983

Prepared for:
**USAID Mission to the Democratic Socialist
Republic of Sri Lanka
Order of Technical Direction No. 138**

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August 8, 1983

Ms. Sarah J. Littlefield, Director
USAID Mission
Colombo, Sri Lanka

Attention: Mr. Robert Chamberlain

Dear Ms. Littlefield:

On behalf of the WASH Project I am pleased to provide you with 40 (forty) copies of a report on a Workshop for the National Water Supply and Drainage Board of Sri Lanka, June 6-10, 1983.

This is the final report by Daniel Edwards and is based on his trip to Sri Lanka from May 25 to June 11, 1983.

This assistance is the result of a request by the Mission on January 27, 1983. The work was undertaken by the WASH Project on February 22, 1983 by means of Order of Technical Direction No. 138, authorized by the USAID Office of Health in Washington.

If you have any questions or comments regarding the findings or recommendations contained in this report we will be happy to discuss them.

Sincerely,

David Donaldson
Acting Director
WASH Project

cc. Mr. Victor W.R. Wehman, Jr., P.E., R.S.
AID WASH Project Manager
S&T/H/WS

DBW:cdej

WASH FIELD REPORT NO. 94

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JUNE 6 - 10, 1983

Prepared for the USAID Mission
to the Democratic Socialist Republic of Sri Lanka
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Prepared by:

Daniel B. Edwards

August 1983

Water and Sanitation for Health Project
Contract No. AID/DSPE-C-0080, Project No. 931-1176
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TERMS USED

NWSDB	National Water Supply and Drainage Board.
Chairman	Chief Officer of NWSDB.
GM	General Manager; second in command of the NWSDB, reports to the Chairman.
DGM (Sr)	Deputy General Manager (Senior); third in command in NWSDB.
AGM (O&M)	Associate General Manager for Operations and Maintenance; chief technical officer in the O&M branch.
RM	Regional Operations Manager (O&M); in charge of all activities at the regional level relating to the operation and maintenance of water plants and distribution systems.
ARM	Assistant Regional Manager (there is an ARM for maintenance and an ARM for operations).
OIC	Officer in Charge, responsible for the operation of a water treatment plant.
Scheme	Water supply system consisting of water source, treatment system, and distribution network; also used to denote a system, an idea, or a plan of action.
Stores	Warehousing process as well as supplies, spare parts, etc.
Tender	An offer to bid in the procurement process.
Technical Officer	Technician, paraprofessional; i.e. a non-engineer carrying out technical work and including OICs, technical assistants, and engineering assistants.
Cadre	Staffing pattern, Staffing Request
Lakh	100,000 Rupees or \$4,348.

Note: US\$1.00 = 23 Rupees

EXECUTIVE SUMMARY

A five-day problem-solving and team-building workshop designed to improve management in operations and maintenance was held for 25 top and mid-level managers of the National Water Supply and Drainage Board (NWSDB) of Sri Lanka June 6-10, 1983. The problem oriented workshop activities consisted of team building between central and regional staff in operations and maintenance and centered on eight specific problem areas which were identified through interviews with 32 staff members and the analysis of a written needs assessment instrument.

Detailed discussions, specific recommendations, and action plans were developed for specific problem areas. These problem areas were the following:

- o Job Descriptions: Job descriptions are not available for most positions on the Board. Uniform job descriptions by category are not used to hire or orient employees or hold them accountable for duties. Two consequences are inconsistent standards of performance and difficulty in supervision.
- o Staff Selection: Staff are often selected without consistent experience and skills criteria to do the job. People are promoted without the requisite skills. Managers who supervise these employees feel they are not sufficiently consulted in this process. A related problem exists in staff rotation; a written, consistent policy for assignment and rotation does not exist. The consequence is some staff are rotated frequently (in order to remove a problem) and some staff who need to be assigned to positions commensurate with program needs and their own skills are not.
- o Decision Making and Delegation: Managers are unsure of which decisions they can and cannot make. Often decisions which could be made at lower levels are pushed up the system or taken at levels higher than necessary. Delegation practices are not operationally common.
- o Communications: It is often difficult for managers to locate the information they need to do a job. Information is widely dispersed and not used for proper decision making. Examples include lack of record keeping on preventive maintenance and breakdowns, unavailability of water quality data, unavailability of detailed information on distribution systems, lack of construction drawings for older plants, and lack of water production statistics because of broken meters.
- o Reorganizational Issues: The recent decision to separate operations and maintenance from construction as a responsibility of one regional manager and to do away with the range management system (several regions were under one range manager), has resulted in confusion at the field level. Roles need to be further sorted out with respect to which Board officer is responsible in a number of areas, how resources and facilities are shared, and who represents the Board to the public.
- o Supplies and Spare Parts Logistics: There is a need to develop planning, ordering, and distribution systems for supplies and spare parts to ensure that plants operate continuously and do not shut down because of lack of supplies or spare parts.

- o Maintenance Management: Systems need to be developed for preventive and routine maintenance and repair. The development of a pilot system in one region has produced encouraging results. This system needs to be expanded, and training should be done in all regions. The problems which this may cause need to be identified and addressed.
- o Community Relations and Participation: The Board needs to examine its community relations and the current procedures for involving the consumer in its activities. Ways need to be identified to better involve the community and to communicate to staff their responsibilities in the community relations/participation area.

Workshop Outcomes

The workshop outcomes were achieved by involving all participants in a series of team-building and small group problem-solving exercises which required that detailed recommendations and agreements were made and presented for full group consideration and adoption. Very specific follow-up action plans were developed for all agreements and recommendations. These action plans will be carried out under a series of task forces which operate under the supervision of senior NWSDB officials. The following outcomes are significant:

- o Team Building: Forty-nine separate items were agreed upon between the central office managers and regional staff to improve understanding, change procedures, and clarify roles and expectations.
- o Job Descriptions: Eleven job descriptions were produced in first draft form and 23 additional job descriptions were identified for follow-up work.
- o Staff Selection: A system was agreed upon for determining staff needs, and selection procedures were developed which involve regional representation. A staff rotation policy was developed and recommended.
- o Decision Making: A decision making matrix was developed detailing which decisions should be made at the various levels and how responsibilities should be delegated.
- o Communications and Information System: A detailed plan was developed for the storage, retrieval, and dissemination of information relating to operations and maintenance.
- o Issues of Reorganization: Roles, responsibilities, and division of resources in the field between operations and maintenance and construction were clarified and written into a detailed action follow-up plan.
- o Maintenance Management: The pilot tested maintenance management system developed for one region was communicated, modified, and adopted for extension into all regions. Detailed reporting forms and a communications flow chart were developed.
- o Supplies and Spare Logistics: Fifteen separate procedures were specified to improve the flow of supplies and spare parts.

- o Community Relations/Participation: Nine recommendations were made to clarify responsibilities and take action to improve public involvement. Four recommendations were adopted to improve community relations and awareness.

In addition to the work-specific outcomes, the workshop also contributed to future USAID activities in two significant ways:

- o Future USAID Project: The workshop provided a great deal of data which will assist an institutional development project. The workshop data were used to complete a project identification document produced after the workshop.
- o Model Testing: This second test of the team-building problem-solving workshop firmly establishes that this is a useful and viable approach to project development.

Workshop Evaluation

The participants rated the workshop very highly in the written survey conducted at the end of the workshop. Overall goal attainment rated an 8.6 on a ten-point scale. The most positive comments related to the workshop's participative nature and the equal involvement of everyone and equal treatment of their ideas. The most significant negative comments (of which there were only three statements among the 25 participants) related to the fact that three of the facilitators were either associated with the Board or employed by the Board.

Recommendations

Follow-up by the Board: In order to ensure that this workshop completes its intended mission, the leadership of the Board will need to hold the action task forces accountable for results. It is suggested that a follow-up conference be held in six months. It is also recommended that problem-solving workshops be carried out on a regional and office basis in the future by the training department after a model is developed by the department.

Follow-up by USAID: It is recommended that the USAID Mission continue the positive results of this workshop by developing both a short and long range approach to continued institutional development. The short range program should include an immediate action program (detailed in Chapter 6) to follow up on areas of important need. The long range program should comprise a complete institutional development project.

ACKNOWLEDGEMENTS

The success of this workshop was due to the efforts and contributions of many people. The workshop would not have been requested nor as well received had not the ground been previously prepared by top policy makers of the management and members of the Board of NWSDB. For these efforts due credit should be given to Mr. P.H.P. Fernando (Senior Assistant Secretary, Ministry of Local Government, Housing and Construction), Mr. N.P. Peiris (Chairman, NWSDB), and Mr. D.E.F. Jayasuriya (Deputy General Manager-Senior-NWSDB).

A great deal of work was done to lay the foundation for the work accomplished in this consultancy. For this Mr. D. Konchady, WHO Advisor to NWSDB, should be thanked. Very special thanks should be given to Mr. Skanda de Saram, WHO consultant for O&M, for his daily support in arranging field visits, providing key insights to workshop preparations and tireless support to the consultants, as well as serving an important role in carrying out the workshop as a facilitator.

The prime promoter of the workshop from USAID was Dr. John H. Austin of the AID Office of Health in Washington who promoted the idea, prepared the action plan, and conceptualized the workshop as a first step in developing a long-term USAID strategy for institutional development for NWSDB. Indispensable and efficient support for the workshop was provided by Eric Loken (Energy & Environmental Project Officer, USAID, Colombo).

The following people ably served as tireless workers facilitating the workshop and producing the written products:

Facilitators

1. Dayan Konchady - WHO advisor
2. Elmore M. Perera - Sri Lanka Institute of Development Administration
3. S. Nagaratnam - Acting AGM Special Projects, NWSDB
4. Skanda de Saram - Mechanical Engineer, WHO

Logistics

1. B.L.C. de Silva - NWSDB
2. L.G. Kulasekere - SLIDA

Chapter 1

BACKGROUND

1.1 Order of Technical Direction Number 138

The request for technical assistance to the National Water Supply and Drainage Board (NWSDB) of Sri Lanka was issued to the WASH contractor on February 22, 1983. The nature of the technical assistance requested was to: a) determine problem areas in the management of the operation and maintenance function, b) to provide a problem-solving workshop with the top and mid-level staff of key agencies to address these problems, and c) provide a plan for action and follow-up within the context of the workshop. An additional objective was the provision of data from the workshop activity which would serve as a basis for developing a future USAID/NWSDB institutional development project. Another part of the OTD requested a review of financial activities in the sector. These activities are not within the scope of the report.

1.2 Events Leading to the Request for Technical Assistance

The National Water Supply and Drainage Board (NWSDB) was constituted in 1975, incorporating the personnel of the erstwhile Department of Water Supply Drainage, who opted to serve in the NWSDB. In the process, there was an exodus of senior staff limiting the institutional capacity of the Board.

In 1979 the World Health Organisation instituted a project entitled, Institutional Support to the NWSDB. This project was staffed with a senior engineer, a manager, a design engineer, a mechanical engineer (maintenance specialist), and a trainer. The WHO group worked closely with other donors (international and bilateral) who were financing capital development efforts.

In 1980, USAID assisted the NWSDB and the Government of Sri Lanka (GSL) with the development of a Water Decade Plan for Sri Lanka. This plan addressed all aspects of the potable water and sanitation needs of the country including the institutional development.

Before and after the Decade Plan was prepared, WHO provided a series of consultants who examined the various aspects of institutional development (including training and maintenance management) and made recommendations.

In collaboration with this WHO effort, USAID Provided expertise in human resource development and, working closely with the NWSDB and WHO, developed a work plan for implementation in 1983. This work plan specified a team-building workshop for the NWSDB personnel directly and indirectly concerned with operations and maintenance (O&M). This report describes the process of development and implementation of this workshop.

Chapter 2

WORKSHOP PREPARATION AND PLANNING

2.1 Preparation Strategy

The workshop was developed using the following six steps:

- Data collection (using a survey instrument and interviews)
- Data analysis
- Problem identification
- Problem selection
- Workshop design
- Workshop preparation (logistics, staff orientation, handouts)

At each step in the process top NWSDB management was consulted to guide and enforce the process.

2.2 Data Collection

Background information on the current status of NWSDB was provided in Washington through briefing, and a review of the documents such as the WHO Decade Plan for Sri Lanka, a Study of Operations and Maintenance Activities for one region of NWSDB (November 1982), and other publications. A written needs assessment instrument was developed and distributed to persons selected to attend the workshop. These data were used to focus interview questions and indicate needs for future training. A detailed interview format was designed in advance and modified after discussions in-country with NWSDB and USAID personnel.

2.2.1 Needs Assessment Results

Most of the 25 workshop participants completed the needs assessment survey instrument (see Appendix C) to define which managerial areas were important to NWSDB decision makers in carrying out their work. The survey indicated as well which areas needed further training assistance in order of priority. These results are presented as follows:

A. Areas of Importance to Carry Out Work (Ranked 1-5)

Central Office Staff

1. Personal Needs
2. Liaison
3. Group Leader
4. Information
5. Entrepreneur

Field Staff

- Disturbance Handler
- Entrepreneur
- Group leader
- Liaison
- Information

B. Areas Needing Further Training (Ranked 1-5)

Central Office Staff

1. Entrepreneur
2. Group Leader
3. Information
4. Personal Needs
5. Figurehead

Field Staff

- Entrepreneur
Personal Needs
Disturbance Handler
Group Leader
Spokesman

Definitions:

Personal Needs: Time management, time to be alone, reflect, think, and get organized to do work.

Liaison: Making contact with other groups, coordinating.

Group Leader: Acting as a supervisor of others.

Information: Obtaining and disseminating information to carry out work.

Entrepreneur: Developing new ideas, inventing, and making changes in the organization.

Disturbance handler: coping with conflicts, work pressures, and sudden changes.

Figurehead: Public speaking, attending civic meetings.

Spokesman: Public relations, community and consumer relations.

2.2.2 Needs Assessment Analysis

The personal interviews held with participants reinforced the data which indicated that managers had felt a need for management and supervisory training. The needs assessment gives some focus on just what management and supervisor capabilities are needed and require further development. Most central office staff felt the items included in the personal category were the most important. This was verified by their statements of a typical day consisting of going from meeting to meeting, and when not meeting, trying frantically to respond to a crisis passed from above. The need for time management training is strongly indicated. This should include setting priorities for work and planning daily activities. Field staff evidently have more time for personal planning and reflection but feel a need to improve their time management skills as well.

Liaison is important in the conduct of business at the central office with its many departments and divisions. Field staff evidently have minimal problems here with a much more limited organization to contend with.

Group leader capabilities appear to be uniformly important and needed by both groups. The skills needed for group leader should be included in one of the early workshops for this management group. These include the supervisory

skills of delegation, work planning, coaching, motivating employees, leadership, and communication skills. Almost all staff interviewed stressed the difficulty in obtaining and transmitting information. This serious organizational deficiency is important to both groups.

There is a great felt need on the part of both groups to develop their entrepreneurial capabilities. This is also reflected in interview comments, when participants indicated their frustration with the lack of opportunity to provide input to the Board's day-to-day management decisions. This indicated the overall need for training in participatory management techniques such as the use of task forces, delegation training, and situational leadership particularly by top management.

Field staff feel that the handling of disturbance category activities is an important part of their job and that they need assistance with it. This area lends itself to training in conflict management techniques and negotiation skills. Central office staff do not even mention this category.

Although central office staff feel that figurehead activities do crop up and they need training to handle these occasions, they also feel it is not an important need. Field staff do not include this item at all. The interviews indicate that most staff feel this type of activity should only be handled by very senior management personnel. Likewise, central staff feel that the category of spokesman is for very senior level personnel. However, field personnel feel training in this area would be useful in their dealings with local authorities. For this need, training in public speaking and presentation would be very useful.

Although this needs assessment was done quickly, it does give some insights into management and supervisory training needs of middle managers and supervisors of the NWSDB. A more detailed needs assessment should be conducted before any training of this type is designed.

2.3 Data Analysis: Interview Process and Results

All 25 persons attending the workshop (in addition to 4 others who did not) were interviewed using the interview questions listed in Appendix D. The interviews were conducted for approximately 45 minutes each, with two interviewers (one recording, one discussing). The interviewees were advised that the interviews were confidential. A wealth of information was provided during this process and the results are provided in summary form below, organized by topic area.

2.3.1 Performance and Staffing

Staff Selection:

- o Higher standards for entry needed; people are moved up frequently without the proper skills to do the job.
- o Hiring of staff seldom includes consultation with future supervisor; hiring decisions often made due to "outside" pressures.

- o Board does not adequately screen recruits from existing technical schools.

Performance Standards:

- o Specific written quality standards for work are lacking.
- o The system tolerates work slow-down to increase overtime; this happens often in repairing breakdowns.
- o Board should consider enlarging the duties of certain technical officers to give them more responsibility and make jobs more interesting.
- o Common attitude of technical officers to keep their knowledge to themselves (not train others). Consequently, on-the-job training is not very effective.

Staff Skills:

- o Skill training is needed at all levels of O&M, particularly practical skills: chlorination training, mechanical repairing and maintenance skills, pump operation.
- o Management and supervisory skills are often lacking for planning work, getting the most out of workers, communicating with workers, delegating, coaching and holding people accountable for tasks.

Staff Motivation and Incentives:

- o Poor pay, lack of housing, and frustration with poor logistical support in supplying vehicles, tools, and other supplies serve to promote low morale and lack of responsibility.
- o Many workers do not work up to capacity because they are not rewarded for good work nor helped constructively if they perform.
- o Career potential with the Board is not clear. Overall conditions and attitude do not encourage young technical officers to want to stay with the Board. People leave if given the opportunity.
- o Punishment is often used as a means to correct behavior rather than "problem solving".
- o Positive feedback for a job well done is rare.

Staff Placement:

- o General need to put the right people in the right jobs. Sometimes larger schemes have junior people and smaller schemes senior people; need to classify schemes for skill and experience requirements and make the necessary changes.

- o General over-staffing of less skilled laborers, understaffing in areas requiring more skills such as maintenance and repair. Scarcity of skilled mechanics overall.
- o Rotations are often done for non-technical reasons (political pressures, favors, etc.). Rotation is too frequent, and people feel insecure about being able to stay in one place.

2.3.2 Roles

- o Roles at most levels are not clear.
- o Board has no clearly communicated organizational objectives.
- o Employees do not see that Board has a focus and how each of them fits into it.
- o Board commissioned a consulting firm to prepare job descriptions, but these were not shared around Board and are not being used.
- o Relationship of RM, ARM, Chemist, OIC and TA is not clear. Just who makes what decisions?
- o Board needs to carry out needs assessment so it can plan training needs. With this, must prepare job descriptions to clarify roles, responsibilities, who delegated to whom, etc., and set standards of performances.
- o The different responsibilities between mechanical, electrical and civil engineer are not clear.

2.3.3 Decision Making and Delegation

- o In general, decisions are made at higher level than necessary; decision making should be transferred to lowest level possible.
- o Responsibility is often assigned but no authority to carry out tasks.
- o Board is run in a crisis management mode; needs long and short term planning.
- o Board management does not make adequate use of the resources at the mid-management level in decision making, planning, etc.
- o The climate at the Board is such that mid-level management will try to transfer decisions up in the system. Taking a risk is dangerous.
- o Head Office does not seek and weigh facts and data when making decisions or judging performance. More give and take needed to explore all sides of an issue.
- o Petty cash fund for OIC should be increased to more than 100 rupee per purchase.

- o Management does little about coordinating activities among groups.
- o Need to delegate authority to maintain minimum stores at scheme sites.
- o Training should include management skills in how to delegate.
- o Too many decisions are influenced by political meddling.
- o Often chain of command not followed from top down (i.e. by-passing RM).

2.3.4 Communication and Coordination

- o Board has instituted monthly meetings.
 - Problems discussed
 - Some information exchanged
 - Information on what the Board is planning, what other groups are doing etc., is not shared enough.
 - Little follow-up and action results from meetings.
 - Information from field often ignored by head office.
- o Reports and facts supplied by field have little effect on decision-making process.
- o Where there is good communication it is because of individuals.
- o Current reporting requirements set up by Board are ineffective and hinder communications.
- o New maintenance management systems being tried in Galle should be expanded to the entire country as soon as possible. Other regional people should be informed and taught how to use it.
- o If training is given, there is no feedback to training center on quality of training or changes needed in training.
- o Not clear on what reports are required and when needed between TA's and OIC, OIC to RM, RM to Central Office.
- o Field personnel feel central office does not read reports. They get little if any feedback and reports are just filed. In general, instructions from central office are unclear and there is no follow-up.
- o Communications between the central workshop and schemes is inadequate.
- o Need to improve systems and accountability between central office and field in:
 - Supplies
 - Accounting
 - Communications
 - Reporting

- o There is a need for more team work between central office and field.
- o Training needs of individuals need to be assessed through task analysis and observation. Questionnaires are inadequate.
- o Schemes need to obtain copies of design and "as-built" drawings and specifications.

2.3.5 Conflict Areas

Existing areas of conflict and tension involve the following sets of relationships:

- o Stores vs. shop: needs for timely equipment and supplies.
- o Supply vs. field: need for better planning and more responsiveness in supplies; e.g., chlorine.
- o RM for O&M vs. Construction Manager: recent organizational change has not specified who represents the region for what activity. Who gets the vehicle, office space, secretarial, etc.
- o Regional management vs. Local authorities: local authorities do not pay up, do not maintain their schemes but the Board is expected to be accountable for their production of safe water.

2.3.6 Organizational Change

What impact has the recent separation of O&M and construction activities in the regions had on the Board's services to the public?

- o It has allowed more attention to be paid to the schemes and should allow better O&M service to be provided.
- o Regional people were not consulted for their advice and suggestions before the change was announced, thus mistakes were made that could have been avoided.
- o Allocations of regional resources (e.g. people, equipment) has not been settled. Roles of the two regional managers are not entirely clear.

What other organizational changes or policies should receive high priority in the Board's short and long term planning process?

- o Policy on maintaining minimal inventories of supplies and spare parts.
- o Inability of regional officers to obtain funds due them from local authorities they are serving.
- o Policy and implementation plan on tariffs on water used from standposts.

- o Changing management and planning procedures so that mid-level management personnel have an input to the process.
- o Establish job descriptions and performance standards for each job in the Boards.
- o Establish minimum standards for knowledge, skill, and experience for recruitment into each post.
- o Establish a management plan and allocate resources to the handpump program recently entrusted to the Board.
- o Establish quality standards for supplies and chemicals and enforce these standards.
- o Establish and implement a data bank and retrieval system so that information is readily available to staff.
- o Develop and implement emergency and master plans for scheme.
- o Develop a systematic approach to the transfer of personnel within regions or departments and between regions or departments.
- o Develop and implement a public relations program.
- o Develop clear roles and responsibilities for Board employees in their work with local authorities.

2.3.7 Operational Problems

What are some of the major operational problems affecting the efficiency and effectiveness of the services provided to the consumers?

- o Limited transport available.
- o Limitations of workshop at central office to keep up with work.
- o Need to equip regional workshops quickly.
- o Difficulties in obtaining supplies, chemicals, and spare parts.
- o Lack of control in procurement so that a wide variety of equipment is purchased, making it difficult to maintain adequate inventories of spare parts.
- o Inefficiencies in procurement because of different procedures for different sections of Board (e.g. projects, O&M, design).
- o Lack of sufficient spares and supplies in initial tender of new plant equipment.
- o Inadequate preventive maintenance and repair keeping of records.

- o Lack of skill training for technical officers.
- o Lack of management and supervisory training for mid-level managers.
- o Limited petty cash allotments to various levels.
- o Inability to run bacteriological samples at regional labs.
- o Below standard chemicals or inadequate supplies make quality control of water difficult or impossible.

2.3.8 Workshop Outcomes

What should we try to accomplish at the workshop?

- o Improve interaction and ability to work as a team among staff of the Board.
- o Give each participant the opportunity to understand one another's problems and the constraints under which each must work.
- o Begin the steps in clarifying roles of each Board employee.
- o Develop procedures for delegating authority.
- o Develop techniques for open discussion among Board staff.
- o Reach agreement among workshop participants and Board management that action plans developed at the workshop will be implemented and that this workshop will have vigorous follow-up.

2.4 Data Analysis: Problem Statements

The above interview data were analyzed for frequency and pattern in the interview process. From this problem areas were identified and selected for the workshop process. The criteria for selection consisted of a) frequency of interview statement; b) feasibility of problem solution by workshop group process; and c) problems which were within the current resources of NWSDB to solve. Problems which would require a long range program in technical assistance or training were not selected, nor were problems requiring large amounts of capital investment. Once the problems to be treated in the workshop were selected, the proposed problems and the workshop design were reviewed by the Chairman of NWSDB and the Senior Associate General Manager (AGM--Sr.). The selected problem statements are detailed below.

2.4.1 Problem Statement: Job Description

People are oriented to their duties based upon individual and unsystematic criteria. There are written job descriptions for some jobs at some offices and some schemes but not for most of them. Uniform job descriptions by category are not yet officially written down. The consequence is confusion and difficulty in getting people to carry out duties which are not specified.

2.4.2 Problem Statement: Staff Selection

Staff are often selected who do not have the proper background to do the job or learn it. Over time, they move up in the system without the requisite skills. Hiring of staff and related decisions seldom include consultation with those who will later supervise them.

There are frequent rotations to different schemes or areas within the Board for various reasons which causes difficulty. At the same time, some staff need to be transferred in order to match the required skills with operational needs.

2.4.3 Problem Statement: Decision Making and Delegation

Managers are unsure of which decisions they can and cannot make. Often decisions which could be made at lower levels are not. Some feel decisions are either pushed up the chain of command or made at the top when they could be delegated. Sometimes outside forces get involved in decisions and are not resisted in the best interests of the Board mission.

2.4.4 Problem Statement: Communications-Information

It is often difficult to get information needed to do a job. Information is widely dispersed in the Board. Management information is not available. For example:

- o Records for preventive maintenance are not routinely kept.
- o Water quality test information may not influence chemical dosage in treatment.
- o Records on scheme distribution systems are not always available.
- o Meters are not functional. Therefore, statistics on water production are not available for management decisions.

2.4.5 Problem Statement: Reorganizational Issues

Recently O&M functions were separated from construction functions so that the Board could provide more efficient and effective service for their consumers. Regional and central office staff feel that this organizational change was a

constructive one, but that improvement could be made in several areas. They need to know, for instance who carries out which activity and how resources are allocated.

2.4.6 Problem Statement: Supplies and Spares Logistics

The ability of the Board to provide effective and efficient service so that the public has an ample quantity and a safe quality of water is in part dependent on adequate supplies and spares to keep equipment operating and on chemicals for treatment. Recent experience in the Board indicates that some changes might be in order to improve the flow of supplies, chemicals, and spares to where they are needed.

2.4.7 Problem Statement: Maintenance Management Systems

If the Board is to provide efficient and effective service to its public, it must maintain its equipment in good working order. Not only must equipment which is used frequently be kept in good order, but stand-by equipment must be ready to use. The preventive maintenance programs of the Board are in need of improvement.

2.4.8 Problem Statement: Community Relations and Participation

Since the major purpose of the Board is to supply its consumers with an adequate supply of potable water, it behooves the Board to be concerned about the image it creates. Also, it is important that the community be involved in the decisions made about their water supply since they are the ones paying for the water service. As the Board expands its service into the handpump area, there will have to be a greater need for its employees to have community participation skills.

2.5 Workshop Design Elements

The above information was analyzed and organized into a workshop design. It was structured to allow maximum participation in the solution of the selected problem areas (the detailed process is described below in Chapter 3). A set of workshop goals was defined at the level of expected outcomes. A list of workshop norms* was written, and a schedule was developed. These items were reproduced and inserted in the workshop handout packet for distribution at the workshop. These design elements follow.

2.5.1 Workshop Goals

- o To review present status of NWSDB as seen by senior management personnel.

*Norms were defined as the expectations for individual and group behavior in order to get the work done.

- o To review present hopes and expectations of senior management personnel.
- o To explore major problem areas as identified by senior management personnel.
- o To introduce and implement various techniques for analyzing problems and synthesizing solutions.
- o To develop alternative solutions to the above problems.
- o To develop recommendations, set priorities, and lay out action plans for NWSDB.
- o To provide opportunity for team building within NWSDB senior management.

2.5.2 Workshop Norms

It was evident from the interviews and other information that the success of the workshop would depend upon the participant's willingness to adopt some new roles, alter their modes of interaction from the business-as-usual processes, and try out new ways to solve problems. Consequently, the following expectations were suggestions to guide participant behavior. Each participant would be expected to:

- o Participate in all activities by their attendance and active communication with their fellow participants.
- o Leave behind their NWSDB titles and consider one another as equals in pursuing the workshop goals.
- o Consider this time spent together as time out from their daily work concerns and problems.
- o Draw upon experience in his/her position but not interact at the workshop in this position.
- o Consider this time together as a means of seeking new ways of communicating, analyzing, and synthesizing data; of exploring ideas and new approaches to solutions that will aid NWSDB to accomplish its goals.
- o Create an atmosphere of openness in which ideas can be shared; foster creativity; clarify misunderstandings and misconceptions; and seek solutions that will move NWSDB ahead.
- o Contribute toward the development of solutions and recommendations, setting priorities and laying out of action plans based upon the discussions taking place at the workshop.

2.5.3 Workshop Schedule

Monday, June 6, 1983

- 8:30 am. Opening ceremony
- 9:30 am. Workshop goals
Workshop expectations for participants
The communication theme: expanding information
The results of the needs assessment and interviews
- 10:30 am. Break
- 10:40 am. The problems selected for the workshop
Assignments to problem solving groups
The schedule of activities for the workshop
- 12:30 pm. Lunch
- 1:30 pm. Central office/Field expectations, and inter-group exercise and negotiation
- 3:00 pm. Break (15 minutes)
- 4:30 pm. End

Tuesday, June 7, 1983

- 8:30 am. Central office/field expectations - Continued
- 10:30 am. Break
- 12:30 pm. Lunch
- 1:30 pm. Problem-solving groups:
- Job descriptions
- Staff selection
- Decision making and delegation
- Communications and information
- 4:30 pm. End

Wednesday, June 8, 1983

- 8:30 am. Presentation of problem-solving groups and discussions
- 10:30 am. Break
- 12:30 pm. Lunch

1:30 pm. Problem-solving groups:
- Dealing with re-organizational issues
- Supplies and spares logistics
- Maintenance management systems
- Community relations and participation

4:30 pm. End

Thursday, June 9, 1983

8:30 am. Presentation of problem-solving groups and discussions

10:30 am. Break

12:30 pm. Lunch

1:30 pm. Action-follow-up planning

4:30 pm. End

Friday, June 10, 1983

8:30 am. Follow-up action plan agreements

10:30 am. Break

10:45 am. Workshop evaluation

11:30 am. Closing comments

12:30 pm. End

Chapter 3

THE WORKSHOP PROCESS

3.1 Organization

The workshop was designed as a four and one-half day problem-solving exercise. The staff consisted of two workshop leader/facilitators, four small group facilitators cum resource people, two full-time typists/clerks, and two logistics coordinators. The workshop was held in a facility with a conference room large enough to allow the group to sit in a circle or square, to use flip charts, and to post written newsprint around the room for ready reference. Three additional smaller rooms were available for use when the group worked in small problem-solving groups of seven or eight.

3.2 The Participants

The participants consisted of all eight regional managers from operations and maintenance (representing all of the management which supervises water production throughout the country), the four chief engineers and the head of the O&M division in the central office (AGM, O&M) which support and oversee the regional operations and maintenance, three technical officers involved with daily plant operations and maintenance in the field, and representatives from the central office divisions which interact in direct ways with the field: training (2); the chief chemist, stores and supplies (1); workshop (1); and design (1). In sum, the participants were the core of middle and top level management which could define and solve problems relating to operations and maintenance. There were two key actors which would have enhanced the proceedings had they been in attendance for the entire workshop: the number one and number two top executives of the agency (the Chairman and the General Manager). The Deputy General Manager Senior (third from the top), however, was in attendance and an active member of the group. (For a detailed list of participants and their job titles, see Appendix B.)

3.3 Description of the Process

The process can be divided into four overall phases:

- I - Start-up and information sharing
- II - A full-group problem-solving exercise
- III - Small group problem solving
- IV - Action planning

3.3.1 Information Sharing - Phase I

Phase I took the first half-day of the workshop. It consisted of the opening ceremony, making clear what the goals, norms, expectations and procedures were to be, and clearing the agenda with the participants. It is important in a workshop of this nature to broaden the base of common information so that all actors work from a pool of common knowledge. An essential ingredient of both

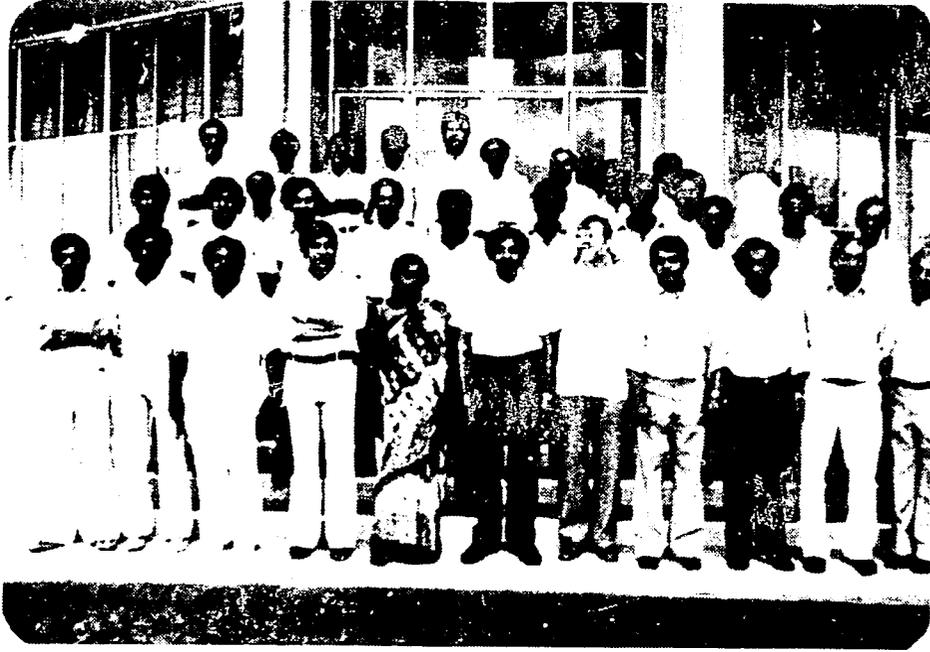
the team building and the problem solving is to "get all of the cards out on the table". Therefore, the first substantive activity of the workshop was to present to the participants a composite picture of all of the information which had been collected in individual interviews and through the needs assessment instrument. This process "sets up" an atmosphere of openness, frankness, and problem solving. Since the information is presented by a neutral outsider, it is not attached to any one individual or faction. This was done on the first morning of the workshop. All of the interview data were summarized in written form and handed out. It was then presented and explained by the lead trainers. Following this process, the problem statements which would serve as the focus of the workshop were distributed, read and explained. The problem statements were checked for accuracy. In addition, the group was asked if the problems selected were the most important issues which the group could reasonably work with, given the available time. They agreed that they were. The participants were then asked to select the two problems they wanted to work on individually and to assign themselves to two problem-solving groups. In order to ensure a proper distribution they were asked to give their first, second, and third priorities for each set of problem areas (four problems per set). The facilitators were thus able to organize the problem-solving groups, giving everyone his/her first choice one time and the second choice the other time.

3.3.2 Full Group Problem-Solving Exercise - Phase II

The above-described morning activities were followed by a six hour exercise given in two parts (on days one and two). In order to deal with a number of problems which can be categorized as poor communication and uncertainty about roles, the exercise was designed to involve the full group in an expectations-negotiation process. It consisted of dividing the central office management into one group and all of the field staff into another. Each group (before dividing) was given the goals of the exercise and the rationale with a set of instructions. The goals were:

- o To clarify what specific expectations the central office staff have of the field staff and vice versa.
- o To negotiate areas of difference into positive agreements and action plans for follow-up.
- o To provide opportunity for team building.

Each group was instructed to list those things they expected of the other group which they were not doing at present. They were to appoint a reporter and two negotiators to represent their group. After the lists were generated by each group separately, they were read to the full group and clarified. Each group then discussed the other's list (again in separate groups) deciding whether they agreed, disagreed, or wished to propose a modification to the expectation. They then sent two representatives to discuss and negotiate each expectation in front of the full group. This discussions was carried out in an arrangement called a "fishbowl with open chair". The fishbowl is a circle within a circle consisting of the four negotiators, one facilitator, and an



WORKSHOP PARTICIPANTS AND FACILITATORS

open chair which could be used by any member of the observing group if they wished to take part in the discussion. The rule for the open chair was that anyone could use it but they had to make their comments and return to the observation group, leaving space for others to use the chair. This fishbowl device allowed participation and served to focus discussion so that all the items could be discussed within the allowable time. Once this device was demonstrated, it was used in subsequent exercises for reports from work groups. As the fishbowl group reached agreement on each item of expectation, the facilitator required the group to agree upon the follow-up action necessary to implement the agreement. These action items were recorded (along with the agreements) and later typed and given to each participant (see Item 1 in Field Report Supplement for the agreements and action items which were made in this session).

This exercise achieved its objectives exceedingly well. Additionally, it served to open the workshop with an interactive, problem-centered and participative process. Both field and central office staff were able to air differences and then work towards positive results.

3.3.3 The Problem-Solving Groups - Phase III

The next phase of the workshop could be considered the main thrust of the problem solving in the workshop. Eight separate problem areas were addressed in two full working days. Four problems were first dealt with in round one; then another four were addressed in round two. The process followed a systematic program. Each problem was assigned to a small group. The small group was required to follow the instruction sheet which accompanied each problem statement (see Items 2 through 9 of Field Report Supplement). The groups were each assigned to work with a facilitator and given approximately three and one half hours to complete the task of working with the problem; detailing recommendations and/or programs or policies to solve the problem. Each group was instructed to appoint a spokesman and to organize a presentation of its findings in a visual on flipcharts.

Subsequent to this activity each problem area was first dealt with in the full group through a summary presentation by the spokesman. The recommendations were then discussed in the fishbowl by one representative from each of the other three groups and two representatives from the presenting group. The fishbowl discussion was facilitated by a trainer. The objective of the fishbowl discussion was to come to consensus on the recommendations or proposed solutions by accepting the recommendations, modifying them, or rejecting them. Once the recommendations reached a resolution, they were considered to be accepted as the recommendation of the full group. Given the time limitations of the workshop, each problem was allowed one hour of presentation and discussion. While time extension was occasionally necessary when a problem area was particularly essential and warranted more time, some problem discussions used less than their allotted time. After the first round a second round of four problems was similarly dealt with. In the second round, new groups were formed according to the group sign-up procedure previously described.

3.3.4 Action Planning - Phase IV

Aproximately six hours of the workshop were dedicated to action planning and reporting on the action plans during the last day and a half of the workshop. The group was given the instruction to develop a follow-up plan from each separate recommendation or set of recommendations, detailing what should be done, who should be responsible for accomplishing the task, and when the task should be accomplished. Each action plan (representing a problem area) was to be carried out under the guidance of a task force which would meet regularly. The task force was responsible to a senior official of NWSDB. (For the action plans produced by this process see Items 2 through 9 fo Field Report Supplement). The original problem solving groups for each problem area were reconvened with their facilitators and given this task. This was also done in two rounds. At the end of this work process, all of the action plans were handed in to be typed and circulated on the last morning of the workshop, when they would be reviewed by the full workshop body and adopted as the workshop outcomes and report.

On the final morning of the workshop, each participant had a completed typed workshop report to review, which consisted of a) a set of problem statements; b) a set of recommendations which had been reviewed and accepted by consensus; and c) an action plan which assigned responsibilities for follow-up for each problem area. That same morning the action plans were reviewed and discussed. Discussion centered on feasibility, clarity, and acceptability of the action plans. At this session, all top decision makers in the agency were present to hear the final recommendations and comment, if necessary, on the final workshop outcomes.

Chapter 4

WORKSHOP OUTCOMES AND RESULTS

4.1 Overview

The workshop was an extremely productive event. The workshop outcomes are discussed below in three overall areas: a) the problems dealt with in the NWSDB at the workshop, b) the outcomes related to future USAID activities and projects, and c) the testing of a workshop model which can be replicated for future project development within the water sector. In general, the workshop produced 42 separate team-building agreements between the central office and field staff personnel involved in operations and maintenance. These agreements relate to improved team function, understandings for specific procedures, and communications. In addition, eight major problem areas were dealt with in great detail. These problem areas range from very specific technical operations and maintenance systems improvements to overall management and policy areas such as staff selection, reorganizational issues and public and community relations. In all problem and team-building areas, each agreement or recommendation was assigned a follow-up action plan and individuals were assigned specific follow-up responsibilities working with a follow-up task force. For a detailed description of outcomes see supplement to this report.

4.2 NWSDB Specific Outcomes Achieved at the Workshop

These outcomes relate to the eight problem areas and the team-building goals.

4.2.1 Central Office/Regional Operations (Item 1, see Field Report Supplement)

Outcomes: The regional staff detailed 17 separate items which they wanted the central office staff to respond to. The central office staff reviewed these requests and (with modifications and clarifications) agreed to them. Follow-up actions were detailed and agreed upon for all 17 items. These items of agreement were characterized by more involvement of regional staff in important areas affecting their work such as including of regional staff in tendering and contract award procedures, waterworks design and staff selection; quicker response from the central office in provision of supplies and equipment repair; improved information dissemination to the field through both better information systems and separate meetings with top agency staff for the O&M staff. Agreements were made to increase the decision making authority of regional staff regarding local purchases, and billing and collection.

The Central Office detailed 25 separate items for field staff response. The regional staff reviewed these items and (with modifications and clarifications) agreed to them. Follow-up actions were detailed and agreed upon for all 25 items. These agreement areas were characterized as improved reporting procedures, improved communications, improved cost control, improved monitoring of water quality control, detailing training needs, better planning and more timely requests for supplies and materials, improved maintenance of plants, and improved staff relations.

4.2.2 Problem Area Outcomes: Job Descriptions (Item 1, Field Report Supplement)

Eleven job descriptions were produced in first draft form and an action follow-up plan was produced to draft 23 additional job descriptions and see them through official adoption by the Board.

4.2.3. Problem Area Outcomes: Staff Selection (Item 3, Field Report Supplement)

A system was developed for determining staffing needs on an annual basis. Staff selection procedures were agreed upon which included the relevant regional representation on the selection committee. A plan and policy for staff rotation was developed. Follow-up action plans were made for all of the above.

4.2.4 Problem Area Outcomes: Decision Making (Item 4, Field Report Supplement)

A decision making plan was developed detailing which decisions should be made, who should make them and who should be consulted. The areas of decision making included technical decisions for O&M, supplies and stores, financial, administration, transport, public relations and emergencies. A follow-up action plan was developed to implement this recommended decision making system.

4.2.5 Problem Area Outcomes: Communications and Information Flow (Item 5, Field Report Supplement)

A detailed plan was developed for the storage, retrieval, and dissemination of information relating to O&M within the Board. The plan detailed what information should be kept, where it should be stored, and who was responsible for generating and maintaining it. The plan detailed responsibilities in the following areas: investigations, designs, personnel records, O&M reporting, Board meetings and plans, cross regional information, field-central office communications, and training. A task force was set up to implement the follow-up activities in this problem area.

4.2.6 Problem Area Outcomes: Reorganizational Issues (Item 6, Field Report Supplement)

Roles and responsibilities were defined at the regional level between the O&M staff and the construction staff. The following areas were dealt with: regional policy, regional organization, staffing, shared facilities (infrastructure), and transportation. An action plan was developed to implement the above agreements.

4.2.7 Problem Area Outcomes: Maintenance Management Systems (Item 7, Field Report Supplement)

A list of recommendations and a complete set of forms and procedures (with a flow diagram) for preventive and routine maintenance was developed. This system was based upon work previously piloted in one region. Two task forces were set up to oversee the installation of the maintenance procedures in all regions.

4.2.8 Problem Area Outcomes: Supplies and Spares Logistics (Item 8, Field Report Supplement)

Fifteen separate items were detailed as recommendations to improve procedures for providing supplies and spares. These items ranged from the recommended minimum supplies to keep at the plant level to a system for tracking the ordering and distribution system from the central stores to the regional offices. A task force was set up to oversee the implementation of the agreed upon recommendations.

4.2.9 Problem Area Outcomes: Community Relations and Participation (Item 9, Field Report Supplement)

Nine separate items were specified as community/Board participation activities with the responsibilities of Board employees and community members outlined. These items dealt with community handpump programs, public standposts, water distribution, and residual chlorine testing. Four recommendations were made to improve community relations including responsibilities for establishing communication, health education, water conservation, cost consciousness, and benefit awareness. A task force was set up to oversee these recommendations and develop program details to implement them.

4.3 Workshop Outcomes Related to Future USAID Activities with NWSDB

The workshop produced a great deal of useful information which served to frame possible future project activities between the USAID Mission and NWSDB. By conducting in-depth interviews with a representative cross-section of O&M and agency leadership, the workshop team was able to gather a great deal of data and document problem areas for follow-up investigation. The reception of the workshop by the Board staff and the highly enthusiastic participation of all concerned served to demonstrate the receptivity of the Board to training activities in relation to institution building and, more importantly, to demonstrate that the staff of NWSDB are very capable of defining and solving their own problems, given the proper vehicle and support for doing so. A majority of the participants stated informally and in the evaluations that this was the first structured opportunity they had been given to work actively as a team on specific problems which affect their work. This demonstration of team strength is a very positive indicator that NWSDB would be able to benefit from an institutional development project. The USAID Mission has already begun the project identification process and produced a PID using data gathered in this workshop.

4.4 Workshop Outcomes Related to Model Testing

This workshop was the second test of the team-building problem-solving model process. The first was conducted in Thailand by the same team. In the Sri Lanka workshop more attention was given to needs assessment and workshop planning with positive results (all workshop participants were identified and interviewed in depth in Sri Lanka as contrasted with about 50 percent in Thailand). This workshop was one day longer than the one in Thailand which allowed for a great deal more attention to action planning and follow-up. The addition of follow-up task forces also enhanced the opportunity for positive change following the workshop.

By now it should be clear that using the model described in this report serves multiple purposes and is an effective way to address both organizational development, and specific technical work issues and set the stage for future project development. The model is replicable and highly useful and has been successful to date.

Chapter 5

EVALUATION

5.1 Overall Results

The participants evaluated the workshop very highly with an overall goal achievement rate of 8.6 cm on a 1 to 10 scale. All participants completed the evaluation questionnaire anonymously. The participants all responded to the question "What have been the most positive things about the workshop?" Only three had negative comments. More than half stated in one form or other that the most positive things about the workshop were that "...everyone was allowed to participate as equals" and "...those carrying out the work and dealing with the problems were those solving them." When asked what one thing stood out as important to him/her in the workshop, an overwhelming majority stated that team work and team building demonstrate that people can solve problems. A detailed list of comments and ratings follows.

5.2 Specific Evaluation Results Summarized

What have been the most positive things about the workshop?

- o Everyone allowed to participate, everyone given an equal change and a hearing (9 respondents)
- o Those carrying out the work and dealing with the problems were the ones solving them (5 respondents)
- o The team work in the workshop and team building (5 respondents)
- o The problem-solving focus of the workshop (4 respondents)
- o I learned a lot without knowing I was learning (2 respondents)
- o Making everyone aware of the problems and knowing what others were doing (2 respondents)

What have been the most negative things about the workshop?

- o Time was too short sometimes, wanted more time to deal with the problems, wanted to deal with more problems (3 respondents)
- o All the facilitators should have been selected outside of the Board (2 respondents)

What one thing stands out as important to you in this workshop?

- o Team work, team building (8 respondents)
- o Sharing problems with others (5 respondents)

- o Negotiated agreements between the field and the central office (respondents)
- o Management problem-solving skills (3 respondents)
- o Sharing problems with others, listening to others (2 respondents)

Goal Achievement by Problem Area (Scale of 1-10)

	<u>Number</u>	<u>Average</u>
o Job descriptions	24	7.8
o Staff selection	24	6.3
o Decision making & delegation	23	8.0
o Communication & information	23	6.9
o Reorganizational issues	23	7.3
o Supplies & spares logistics	24	7.9
o Maintenance management systems	24	8.5
o Community relations & participation	23	6.8
o Central/regional negotiations	24	8.2

What comments do you have about the way the workshop was planned and organized?

- o 95 percent - "Very well planned and organized"
- o 5 percent - "Need more advance notice, more time, better food"

How well do you feel the overall goals of the workshop have been achieved?

- o 8.6 (Scale of 1-10)

What specific things should be done as follow-up to this workshop?

- o Hold another workshop in a few months to get us together and see if the action plans are being completed.
- o Inform senior staff about the positive results and enlist their support in making sure the workshop plans are carried out.
- o Each task force should submit a report every three months on progress and circulate it to the rest of the group.

Chapter 6

CONCLUSIONS AND RECOMMENDATIONS

6.1 Recommendations

The following recommendations include both workshop-specific follow-up actions for the Board and the broader framework of institutional development activities which the USAID Mission should consider for future projects. The former are derived from evaluation comments by participants and the workshop consultants. The data for the latter are based upon both the information collected in the interviews and the demonstrated behavior of participants during the workshop.

6.2 Recommendations for Follow-up Action by the Board

In order to continue the momentum and enthusiasm generated by the workshop and build upon the results the Board should consider the following actions:

- o The top leadership of the Board should request that the action task forces send in periodic reports of their activities to be reviewed, discussed, and commented upon at the monthly O&M full staff meetings.
- o A follow-up workshop should be convened in November 1983 to review the results of the agreements made at this workshop, modify them as necessary, and continue the problem-solving process into new areas of need. This process should use outside consultants.
- o The training department should be given consultant assistance to develop and pilot test a problem-solving and team-building model which could be used to work with the regional staff and the different central office departments which were not able to participate in this workshop. This should be a part of an on-going team-building effort within the Board which is carried out as a regular function of the training department.

6.3 Recommendations for an Immediate Action Program by USAID

While it is evident that a longer term institutional development project should be carefully developed and carried out over a number of years within the Board (and USAID may be ideally suited to carry out this activity), it is important not to lose momentum and build upon the good will and enthusiasm started in this workshop. Therefore, it is recommended that an immediate action program be developed for the short run. The interview and needs assessment data indicate that the following areas could be undertaken immediately by short term consultant assistance:

- o A maintenance management program with workshops in job aids, meter repair, and chlorination maintenance.
- o Team building and an organization development program consultation over several months for top management.

- o The development of a stores and supplies management system.
- o The development of a series of management training workshops with a practical program tailored to the needs of regional, plant, and office managers. This should cover skill areas such as delegation, unit work planning, employee motivation, managerial communication skills, performance review, and problem solving.

6.4 Recommendations for a Long Range Institution Development Project

A longer-range institution development project should continue the above activities and build in the institutional capability for NWSDB to become a financially self sustaining institution with the organizational capability to solve problems. The following areas should be considered in the development of a project paper:

- o Tariff structures need to be studied and restructured.
- o A financial planning capability needs to be strengthened within the Board.
- o A corporate planning and operational planning capability needs to be developed.
- o The training function needs to be developed to provide practical, hands-on training for technical skills, as well as training programs for management and supervision. Syllabi and methods need development, as well as equipment for training. Training of local instructors in a series of practical skill areas needs to be developed as well.
- o A small village water supplies program needs expansion.
- o A comprehensive program needs to be developed for water quality control.
- o A manpower planning capability needs to be developed.
- o Comprehensive management training needs to be developed and carried out on an on-going basis for both new managers, for career advancement, and for existing managers.
- o There were no data to indicate that engineering design and feasibility planning for low cost plants and construction supervision training were needed, but these areas should be investigated.
- o A management information system needs to be developed.
- o Procurement and supplies and stores systems need strengthening.

6.5 Conclusions

This workshop was felt to be highly successful by both the participants and the leadership of NWSDB. It has been demonstrated that if participative management techniques are used to include employees in defining and solving the problems which affect them in their work, they will respond with skill, enthusiasm, and good ideas. These efforts need to be continued and followed up by both the Board and USAID. A minimum of 200 separate specific recommendations/action items were generated in this workshop. This is ample demonstration that the NWSDB is capable of generating institutional development actions given the appropriate structure and opportunity. The basis has been established for improvement in operations and maintenance activities in NWSDB as well as for future immediate and long range projects developed by NWSDB and USAID.

APPENDIX A

ITINERARY

*Bangkok to Colombo, Sri Lanka	May 25, 1983
Colombo to Galle, Sri Lanka	May 26, 1983
Galle to Ratamalana (Colombo)	May 29, 1983
Ratamalana to Colombo	June 5, 1983
Colombo to Bangkok	June 11, 1983

*Prior assignment under OTD 137 in Bangkok

APPENDIX B

- o Workshop Participants
- o Persons Interviewed and Contacted
- o Work Group Assignments

PARTICIPANTS

1. Mr. R.H.P. Fernando Senior Assistant Secretary - Ministry of Local Government, Housing and Construction.
2. Mr. D.E.F. Jayasuriya Deputy General Manager (Senior) N.W.S. & D.B.
3. Mr. V. Paramewaran Assistant General Manager (Operations & Maintenance) N.W.S. & D.B.
4. Mr. H.D.R.A. Pathirana Chief Mechanical Engineer (Operations & Maintenance)
5. Mr. W.A. Karunaratne Acting Chief Engineer (Operations & Maintenance)
6. Mr. P. Dharmabalan Acting Chief Engineer (Operations & Maintenance)
7. Mr. S.K.H. Perera Acting Chief Engineer (Research & Training)
8. Mr. P. Abhayagoonawardena Civil Engineer (Research & Training)
9. Mr. S.K. Wijetunga Mechanical Engineer N.W.S. & D.B.
10. Mrs. S. Sivabalasunderam Chief Chemist N.W.S. & D.B.
11. Mr. S.H.P.G. Karunaratne Manager (Operations & Maintenance) Kandy
12. Mr. N.E.M.S. Gunasekera Manager (Operations & Maintenance) Galle
13. Mr. K.M.S.A. Bandara Manager (Operations & Maintenance) Anuradhapura
14. Mr. N. Sridharan Manager (Operations & Maintenance) Ratnapura
15. Mr. P. Rajasemman Manager (Operations & Maintenance) Western Region
16. Mr. S. Yoganathan Manager (Operations & Maintenance) Jaffna
17. Mr. J.A. Kulatilaka Manager (Operations & Maintenance) Bandarawela
18. Mr. A. Segarajasingham Manager (Operations & Maintenance) Batticaloa
19. Mr. B.S. Chinniah Engineering Assistant - Jaffna
20. Mr. H.B. Kariyawasam Engineering Assistant - (Research & Training)
21. Mr. S.A. Ariyadasa Engineering Assistant - (Supplies)
22. Mr. K.N.P. Silva Engineering Assistant - Spl. Grades - Officer In Charge - Negombo

- | | |
|---------------------------|---|
| 23. Mr. Samarawickrama | Engineering Assistant - Officer In Charge -
Diyatalawa |
| 24. Mr. D.N.J. Ferdinando | Engineer, Design |
| 25. Mr. Sunil de Silva | Mechanical Engineer, Workshop |
| 26. Mr. W. Tillakumara | ARM Galle (ME) |

FACILITATORS

- Elmore M. Perera - Sri Lanka Institute of Development Administration.
 S. Nagaratnam - Acting AGM Special Projects, N.W.S. & D.B.
 Dayan Konchady - Sanitary Engineer, WHO.
 Skanda de Saram - Mechanical Engineer, WHO.
 Eric Loken, Energy and Environmental Project Officer, USAID.

LOGISTIC COORDINATORS

- B.L.C. de Silva, N.W.S. & D.B.
 L.G. Kulasekere, SLIDA.

CONSULTANTS

- Dan Edwards - WASH Project, AID, Washington D.C., USA.
 John H. Austin - AID, Washington D.C., USA.

SUPPORT STAFF

- | | |
|------------------------|-----------------------------|
| 1. Mrs. L. Aserappa | Typist |
| 2. Miss S. de Silva | Typist |
| 3. Mr. G.H. Tilkaratne | Photo Copier Operator |
| 4. Mr. G.R. Fernando | Asst. Photo Copier Operator |
| 5. Mr. M. Ariyadasa | Driver |
| 6. Mr. K.A.D. Niriella | Driver |

WORKSHOP ON IMPROVING MANAGEMENT AND OPERATION
N W S D B - COLOMBO

WORKSHOP SERIES 1.

Job Descriptions:

1. P. Abhayagoonawardhena
2. J.A. Kulatilaka
3. H.D.R.A. Pathirana
4. P. Rajasimman
5. A. Segarajasinghan
6. W. Tilakumara

Facilitator: Skanda de Saram

Staff Selection:

1. Sunil de Silva.
2. D.E.F. Jayasuriya
3. H.I. Kariyawasam
4. S. Samarawickrama
5. S.K. Wijetunga
6. S. Yogananthan

Facilitator: S. Nagaratnam

Decision Making and Delegation:

1. K.M.S.A. Bandara
2. P. Dharmablan
3. W.A. Karunaratne
4. S.H.P.G. Karunaratne
5. V. Parameswaran
6. S.K.H. Perera
7. N. Sridharan

Facilitator: Dayan Konchady

Communications and Information:

1. S.A. Ariyadasa
2. B.S. Chinniah
3. D.N.J. Ferdinando
4. N.E.M.S. Gunasekera
5. K.N.P. Silva
6. J. Sivabalasunderam

Facilitator: Elmore M. Perera

**WORKSHOP ON IMPROVING MANAGEMENT AND OPERATION
N W S D B - COLOMBO**

WORKGROUP SERIES 2

Reorganizational Issues:

1. S.A. Ariyadasa
2. D.N.S. Ferdinando
3. S.H.P.G. Karunaratne
4. W.A. Karunaratne
5. S.K.H. Perera
6. A. Segarajasinghan

Facilitator: Dayan Konchady

Supplies and Spares Logistics:

1. N.E.M.S. Gunasekera
2. H.I. Kariyawasam
3. V. Paraneswaran
4. H.D.R.A. Pathirana
5. K.N. P. Silva
6. W. Tilakumara

Facilitator: S.Nagaratnam

Maintenance Management Systems:

1. K.M.S.A. Bandara
2. B.S. Chinniah
3. P. Dharmablan
4. S.Samarawickrama
5. Sunil de Silva
6. S.K. Wijetunga
7. S. Yoganathan

Facilitator: Skanda de Saram

Community Relations and Participation:

1. P. Abhayagoonawardhena
2. D.E.F. Jayasuriya
3. J.A. Kulatilaka
4. P. Rajasimman
5. J. Sivabalasunderam
6. N. Sridharan

Facilitator: Elmore Perera

APPENDIX C

NEEDS ASSESSMENT INSTRUMENT
AND
DATA ANALYSIS

May 1983

NATIONAL WATER SUPPLY AND DRAINAGE BOARD
TRAINING SECTION
NEEDS ASSESSMENT - SUPERVISORY PERSONNEL

This form is based on a detailed study of Supervisors results of the study showed that there were ten major roles that Supervisors had to play in the course of their jobs. In order to assist us in the planning of your training, we would like you to examine these supervisory roles and see how far your job uses the skills involved. The following roles (add more if you need to) are a good basis to identify where you feel the need to further extend your skill.

Using the following scale, please mark the appropriate places.

<u>Level of Importance</u>	<u>Development Required</u>
A. Very important to my job	3 Need to develop my ability to perform this role
B. A normal part of my job	2 Experienced at playing this role, but need to keep up to date with current approaches
C. A minor part of my job	1 No need to spend more time at present to further develop my ability to play this role

To what extent does my job demand that I take on the following roles?

	<u>Level of Importance</u>	<u>Development required</u>
1. Figurehead - Ceremonial duties such as giving awards or public speaking and representing organisations at civic occasions		
2. Group Leader - being the person accountable for managing a group of people to resolve problems and agree on lines of action.		

Level of Importance

Development required

3. Liaison - making contact with other groups on behalf of your own group to resolve problems and get work done.
4. Information - acquisition and dissemination of information both in own group and throughout the organisation.
5. Spokesman - representing the organisation to the "outside world" in proclaiming its message through public relations, or similar activities.
6. Entrepreneur - engaging in activity to develop new ideas, innovate and make changes that are designed to develop the organisation from its present operation to a new form.
7. Resource Allocator - deciding who gets what work, rewards, budgets and other resources.
8. Disturbance Handler - responding to, withstanding and coping with unexpected changes, conflicts and pressures in the work situation.
9. Negotiator - bargaining as an integral part of getting the job done, whether it be with staff, colleagues or people outside the organisation.
10. Personal - being by oneself to think, write, compute, plan or do other work which demands individual managerial skill.

11. _____

12. _____

NEEDS ASSESSMENT RESULTS

RANK	RANKING BY					
	CENTRAL		FIELD		COMBINED	
	IMPORTANT	NEED	IMPORTANT	NEED	IMPORTANT	NEED
1	Personal	Entrepreneur	Disturb.Hand.	Entrepreneur	Liason	Entrepreneur
2	Liason	Group Leader	Entrepreneur	Personal	Entrepreneur	Personal
3	Group Leader	Information	Group Leader	Disturb.Hand.	Group Leader	Group Leader
4	Information	Personal	Liason	Group Leader	Personal	Information
5	Entrepreneur	Figure-Head	Information	Spokesman	Information	Spokesman

SUMMARY

Needs Assessment - Supervisory Personnel
Regional Water Supply and Drainage Board
Sri Lanka

QUESTION	Central Office						Regional						Total					
	Importance			Development			Importance			Development			Importance			Development		
	A	B	C	3	2	1	A	B	C	3	2	1	A	B	C	3	2	1
1. Figurehead	1	3	7	3	2	6		2	5	1	1	5	1	5	12	4	3	11
2. Group Leader	4	6	1	3	7	1	4	3		3	4		8	9	1	6	11	1
3. Liason	5	6		1	9	1	4	3		2	5		9	9		3	13	1
4. Information	3	6	1	3	7	1	3	4		2	4	1	7	10	1	5	11	2
5. Spokesman	1	4	6	2	6	3	1	2	4	3	2	2	2	6	10	5	8	5
6. Entrepreneur	4	5	2	7	3	1	5	1	1	5	2		9	6	3	13	4	1
7. Resource Allocator	1	3	7	2	6	3	1	3	3	2	3	2	2	6	10	4	9	5
8. Disturbance Handler		4	7		3	6	6	1	2	4	1	2	4	3	10	5	6	8
9. Negotiator	3	6	2	2	6	3	2	4	1	2	5		5	8	5	4	9	5
10. Personal	6	4	1	3	5	3	2	4	1	4	3		8	7	3	7	7	4

APPENDIX D

INTERVIEW FORMAT

QUESTIONS - Format

NAME:

POSITION:

LENGTH OF TIME WITH THE BOARD:

1. Performance: What are people doing well that you work with - (under you) - what could they do to improve?
2. Role : What are the areas of responsibility assigned to you that you are clear about (are sure you are expected to do)? What areas are you unsure about? What makes your job different from those above you? below?
3. Staffing: Do you have enough staff to get the job done? How are they trained and selected?
4. Decision Making: Think of the last time a decision was made affecting your work here. Who made it, How? In general how are decisions made in the Board as it affects you (i.e. do people on top do it alone; include others?).
5. Communications: How do you get information from below, above? How do you pass it on above, below?
6. Delegation: Do those above you delegate the means to carry out work (i.e. funds, procurement, tools etc.), when was the last time you gave some of the things you are in charge of over to a subordinate to do?
7. Conflict Management: How do managers and supervisors deal with differences and conflict in the Board? How did a manager deal with the last conflict you can recall?
8. Organizational Change: What changes have taken place in the last year? What changes should take place now?

If you could make anything better in the way the Board does its business, what would you do? How would you do it?

9. Suggestions for Workshop: Explain the Workshop

What is the best we can hope to accomplish in the Workshop?

What would you like us to do?

APPENDIX E

EVALUATION FORM

Circle the number of your choice

A. Job descriptions 1 2 3 4 5 6 7 8 9 10

B. Staff Selection 1 2 3 4 5 6 7 8 9 10

C. Decision making and delegation 1 2 3 4 5 6 7 8 9 10

D. Communication and information 1 2 3 4 5 6 7 8 9 10

E. Reorganizational issues 1 2 3 4 5 6 7 8 9 10

F. Supplies and spares logistics 1 2 3 4 5 6 7 8 9 10

G. Maintenance management systems 1 2 3 4 5 6 7 8 9 10

H. Community relations and participation 1 2 3 4 5 6 7 8 9 10

I. Central/Regional and Regional/
Central Negotiations 1 2 3 4 5 6 7 8 9 10

6. What comments do you have about the way the workshop was planned and organized?

7. What can be done in the future to improve a workshop like this?

Contd. Page 3

8. How well do you feel the overall goals of the workshop have been achieved?

1 2 3 4 5 6 7 8 9 10

Comments:

9. In addition to the action plans developed in the workshop, what specific things should be done as Follow-up to the workshop?

10. What will you do personally to apply the things you learned in the workshop to your daily work?

APPENDIX F

WORKSHOP ANNOUNCEMENT
AND
SCHEDULE

PURPOSE

This Workshop is just the beginning of a process which if continued and applied after the Workshop will develop management skills for mid and upper-level personnel in the National Water Supply and Drainage Board. This Workshop will be composed of those persons most likely to be responsible for decision making and follow-up in improving operations and maintenance in the Board.

This Workshop will allow the participants to utilize various techniques used in experiential learning to analyse certain problems identified by Workshop participants themselves. Alternative solutions to these problems will be developed by those participating. The procedures used in the Workshop will be those used in team building and action planning. This will give the participant the opportunity to learn about and practise techniques that are expected to be a part of their everyday work.

OVERALL TRAINING APPROACH

The experiential learning or participant centred approach to be used in this Workshop is one widely used by management training institutions. The basic premise is that experience and learning are closely linked. Thus during the Workshop, learning takes place not only on a cognitive level but also through integrative and highly experiential activities. This process emphasizes the acquisition of practical skills and knowledge needed by managers in the day to day operation of their work. This will take place in the process of working on real problems experienced by managers.

The trainers assisting with the Workshop will assist the participants in this process and provide appropriate instructions based upon their experience working with similar groups in water supply in other countries. +

+ The model to be used in this Workshop has been on recent work by Dan Edwards, and John Austin in work with organisations similar to the NWS&DS in Thailand, Indonesia and Guyana.

Each of the activities in the Workshop is designed so that each participant will be actively involved in the problem solving process. This means that the responsibility for results depends upon the participant's effort. The trainer is responsible for creating and implementing a thoughtful, systematic training design, based on experiential learning principles, and for creating the conditions for an appropriate learning environment. Participants are responsible for actively taking advantage of the design to maximize their learning and to achieve the Workshop results.

In order for the trainers to obtain a realistic appraisal of what the potential participants see as their needs, a "Needs Assessment" instrument will be administered by the Consultants and individual interviews will be conducted.

The results of this needs assessment will be shared with all participants on the first day of the Workshop. These results will also be used to develop the points of emphasis in this Workshop.

PREPARATION FOR WORKSHOP

To further ready yourself for the Workshop, in addition to the above, you might ask yourself the following questions for those problems and roles pertinent to your job.

1. a) What are your employees doing that they should not be doing ?
b) When you correct your employees for doing things wrong, what specific things do you ask them to avoid ? How do you reward employees when they do a good job ?
2. What specific things can be done to improve the way NWS&DB conducts its operation and maintenance activities on all levels (Field and Central office) ?

WORKSHOP SCHEDULE

The proposed Workshop schedule is given below :

Details of the conduct of the Workshop will be given to participants on the first session of the Workshop on Monday, June 6.

The basic approach to be used in the four work Sessions is as follows :

1. Basic data will be presented for each problem to be analyzed.
2. A set of directions will be given to each subgroup (composed of 5 or 6 people) as to the procedures to be used in the analysis of the problem.
3. The subgroup will develop one or more alternative solutions to the problem and record this on a summary sheet. The solution will include a proposed "Action Plan" for resolving the problem.
4. Each subgroup will select reporters for discussing the subgroup's findings before the entire group. In this group, agreements will be made and people will be assigned responsibilities.

On Thursday evening each group will assist in combining their individual report into a combined workshop report, for discussion on Friday morning.

WORKSHOP OUTCOMES

The following outcomes are expected to be achieved during this Workshop :

1. Introduce and implement various teambuilding techniques in analyzing problems and synthesizing solutions to problems.
2. Utilizing the above techniques, develop alternative solutions to NWS&DB problems, both in the immediate future and for

WORKSHOP SCHEDULE

Monday, June 6, 1983

<u>Time</u>	<u>Activity</u>
8:30 A.M.	Open Ceremony
9:30 A.M.	o Workshop Goals
	o Workshop Expectations for Participants
	o The Communication Theme: Expanding Information
10:30 A.M.	BREAK
10:50 A.M.	o The Results of the Needs Assessment and Interviews
	o The Problems Selected for the Workshop
	o Assignments to Problem Solving Groups
	o The Schedule of Activities for the Workshop
12:30 P.M	LUNCH
1:30 P.M.	Central Office/Field Expectations, an Inter-group Exercise and Negotiation.
3:00 P.M.	(BREAK 15 Minutes)
4:30 P.M.	END

Tuesday, June 7, 1983

<u>Time</u>	<u>Activity</u>
8:30 A.M.	Relations and Roles Between Offices and and Functions: An Analysis of Pressures and Issues.
10:30 A.M.	BREAK
12:30 P.M.	LUNCH
1:30 P.M.	Problem Solving Groups: 1. Job Descriptions 2. Staff Selection 3. Decision making and Delegation 4. Communications and Information
4:30 P.M.	END

Wednesday, June 8, 1983

<u>Time</u>	<u>Activity</u>
8:30 A.M.	Presentation of Problem Solving Groups and Discussions.
10:30 A.M.	BREAK
12:30 P.M.	LUNCH
1:30 P.M.	Problem Solving Groups: 5. Dealing with re-organizational issues 6. Supplies and spares logistics 7. Maintenance management systems 8. Community Relations and participation.
4:30 P.M.	END

Thursday, June 9, 1983

<u>Time</u>	<u>Activity</u>
8:30 A.M.	Presentation of problem solving groups and discussions
10:30 A.M.	BREAK
12:30 P.M.	LUNCH
1:30 P.M.	Action-Follow-up Planning
4:30 P.M.	END

Friday, June 10, 1983

<u>Time</u>	<u>Activity</u>
8:30 A.M.	Follow-up/Action Plan Agreements
10:30 A.M.	BREAK
10:45 A.M.	Workshop Evaluation
11:30 A.M.	Closing Comments
12:30 P.M.	END

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FOR HEALTH PROJECT**



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SUPPLEMENT

WASH FIELD REPORT NO. 94

337
1866-512

**Written Materials Resulting from the
Workshop for the National Water Supply
and Drainage Board of Sri Lanka
June 6-10, 1983**

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WORKSHOP OUTCOMES: TEAM BUILDING AGREEMENTS

Central Office / Regional Office
Expectations and Negotiated Agreement

REGIONAL OFFICE EXPECTATIONS & NEGOTIATED AGREEMENTS

1. Clear & Prompt Decisions about Regional Problems.

Agreed

Action Follow-up: Regional office will inform central office by express mail/cable about urgent matters.

2. Read Letters Clearly and Respond Pertinently (improve typing)
Prompt Communication

Agreed

Action Follow-up: AGC (O&M) will improve standards of secretarial work. All future complaints in related matters to be addressed to AGM (O&M).

3. Supply Reg. with Materials and Equipment as Specified by Region.

Agreed

Action Follow-up: Regional office agreed to specify quality standards in requests for materials/supplies from Central office. Central Office purchases should be made from approved manufacturers/suppliers to maintain high quality standards.

4. C.O should involve R.O Staff in Design Procedures.

Agreed

Action Follow-up: All parties agreed to involve regional staff in design process. Follow-up action by DGM(Sr).

5. C.O should involve R.O Staff in Tender Procedures.

Agreed

Action Follow-up: Tenders for water supply schemes, (& other relevant projects) will be evaluated by a multi-disciplinary committee including regional staff.

6. Better Co-ordination at C.O (Follow-up & Reporting Workshop Repairs, Supplies, Lab.)

Agreed

Action Follow-up: Follow-up action on workshop matters will be taken up by Chief Mech. Engineer under AGM (O&M)

Supplies, Lab and design matters will be taken up by C:E(ops)

Questions regarding the above will be brought up at the monthly meetings.

7. C.O should Attend to Following R.O Requirements

- Staff, vehicles, office space, W/shop, lab, officers-
quarters, stores space, office furniture.

Agreed - Within resource constraints

8. In Future dont ask for Same Info. Over and Over Again.

Agreed

Action Follow-up: All info. from region should be stored in statistics and co-ordination section of control office and made available to other sections of Central office and regions.

9. Improve Operations of Data Bank so that Complete Design and Investment Data can be Given to R.O.

Agreed

10. Equipment Catalogs and Manuals should be Available in the Regions

Agreed

Action Follow-up: AGM(O&M) to take responsibility.

11. Policy Procedure for Staff Rotation should be Written & Published

Agreed

Action Follow-up: DGM(A) & DGM (Sr) to submit proposals to Board and circulate when approved.

12. C.O should set an example to the Regions in Respect of the Following:

Greater efficiency, Improved Standards of Cleanliness, Equal Benefits for R.O Staff (Overtime and Holiday Payments)

Agreed

Action Follow-up: Cleanliness - DGM (Sr) has undertaken that there will be a systematic program of cleaning-up starting immediately.

Benefits - Overtime will be decided on its merits.

13. Plant Designs should include following:

-Office space

-Stores

-Toilets

-Minimal Lab.Facilities where necessary.

-Security Hut

-Rest Room for Larger Schemes.

Agreed:

Action Follow-up: AGM (R&D) will ensure this is done.

14. Have Separate Monthly Meeting for O&M with Participation of Top Management

Agreed

Action Follow-up: O&M monthly meetings of at least 1½ hours duration to be held. Presence of Chairman and GM essential at this meetings.

15. More Practical Training for Reg. Staff (Pump Operators, Foremen, Mechanics, Electricians)

Agreed

Action Follow-up: Training section to train trainers (hands-on-training from the regions).

16. Improve Staff Selection Procedures for Regions

Agreed

Action Follow-up: Await decision from problem solving workshop session.

17. Greater Regional Autonomy (Authority to order own spares and supplies, if locally available. Allow Region to Bill & Collect Revenues, settle consumer problems at Reg. level, for centrally ordered supplies (e.g. Chlorine), Prompt Response to Reg. request or immediate info.back.

Expand Authority to Purchase Regionally by Expanding Existing List

Agreed (a) DGM (Sr.) to inform regions on regional purchasing procedures.

(b) Billing and revenue collection - will be done in regions.

(c) Consumer problems will be handled regionally.

(d) De-centralized purchasing procedure will be effected.

CENTRAL OFFICE EXPECTATIONS & NEGOTIATED AGREEMENTS

1. Regular Monitoring of Water Quality - O.I.C/R.N
Agreed
Action Follow-up: Each OIC will specify equipment needs and repair needs for lab equipment. AGM(O&M) and chief chemist will see to supplying needs.
Flowmeters - implement overall program for:
 (a) diagnosis of flow meter problems (b) train people
 at each plant to repair flowmeters (c) specify
 replacement needs.
2. Record and Report O & M Problems
Agreed: - Reporting procedures which have been implemented in Calle Region will be expanded to other regions.
3. Exercise Cost Control
Agreed - Regional Managers to note items they think important. Submit list to AGM (O&M) who will be responsible for producing a cost control survey form.
4. Timely Billing and Recovery
Agreed - The new system gives the Region complete control in billing and collection.
Regional Managers will develop lists of additional requirements - staff, equipment etc. and feedback to central office.
5. Detect Waste and Control
Agreed
Action Follow-up: Regions will (a) encourage public participation and setting up of committees etc.
(b) Make their problems known at Ministerial meetings.
Central Office will examine procurement procedures to improve quality of standpost taps.
6. Send details of staff, qualifications & Training Needs
Agreed
Action Follow-up: C.E(tr.) will develop necessary forms to ascertain training needs.
7. Report on Special Works in Region
Agreed - Reg. Managers to inform Central Office of any special works in region.

8. Report on Effectiveness of Training

Agreed - Training section to prepare the following training forms
(a) pre-training (b) post-training (c) evaluation.

9. Leakout for any Environmental Pollution

Agreed

Action Follow-up: Regional Managers to inform DGM (Sr.) of any pollution problem DGM (Sr.) to take up the matter with Central Environmental Authority.

10. Maintain Distribution Network Diagrams

Agreed

Action Follow-up: (a) Regional Managers to list distributions system for which they have plans.

(b) Central Office to list distributions system for which they have plans.

(c) Set a priority list for obtaining all outstanding information for existing schemes.

(d) As-built drawings for new schemes should be available at Cen. & Reg. offices.

11. Request for materials in Time

Agreed

Action Follow-up: Groups studying this subject at present workshop will come up with recommendations.

12. Maintain Equipment History Sheets

Agreed

Action Follow-up: Group Studying this subject at present workshop will come up with recommendations.

13. Prompt Attention to Communications

Agreed

14. Deploy Staff Properly

Agreed

Action Follow-up: Group studying this subject at present workshop will examine placing and transferring of people.

15. Refer Major Repairs to Head Office with check sheet

Agreed

Action Follow-up: Group studying this subject at present workshop to examine this problem.

16. Avoid Undue Delay in Return of Head Office Workshop Staff

Agreed

Action Follow-up: Regional mech. engineer to supervise work done by workshop staff and make necessary authorizations.

17. Send Circuit Programmes in Time/Inspecting Reports

Agreed

18. Maintain Movement Registers/Log Books

Agreed

19. Furnish Minutes of Monthly Meetings

Agreed

20. Be prepared for Emergencies

Agreed

Action Follow-up: (a) EM[®] will ask OIC[®] to prepare lists of emergency schedules and equipment - Training section to provide assistance.

(b) Master emergency schedules to be prepared by AGM (O&M) and distribute to Regions.

(c) Regional Managers to select sites in regions to stockpile emergency equipment to handle different emergencies.

21. Keep sites clean

Agreed

Action Follow-up: Workshop group to build this into job descriptions. The O.I.C will be responsible for ensuring that cleanliness is maintained.

22. Suggest Improvements to Schemes

Agreed

23. Provide Correct Specifications on M. Requisitions.

Agreed

24. Make Local Purchases Wherever possible

Agreed

25. Anticipate Problems

Agreed

26. Promote Teamwork

Agreed

27. Provide Information on Important Events Including Breakdowns.

28. In Good Public Relations in the Region

Agreed

29. Request Team Inspection Prior to Take-over

Agreed

Action Follow-up: AGM (O&H) to prepare necessary forms for getting this work done. These forms will be circulated to the Regional Managers for comments.

30. Communicate Effectively with Field Staff

Agreed

31. Be Sensitive to Problems of Employees

Agreed

Action Follow-up: Present Workshop group on staffing will go into more detail.

32. Record and Act on All Requests from the Public

Agreed

JOB DESCRIPTIONS:

- o Problem Statement
- o Work Group Recommendations
- o Plenary Session Modifications
- o Action Plan Follow-up

PROBLEM STATEMENTS AND WORKGROUP INSTRUCTIONS

Problem Statement

Job Description

People are oriented to their duties based upon individual and unsystematic criteria. Some jobs at some offices and some schemes have written job descriptions, most do not, uniform job descriptions by category are not yet officially written down. The consequence is confusion and difficulty in getting people to carry out duties which are not specified.

After full discussion of the problem,

TASK:

Write lists of duties for each job category at plant O&M levels. Include as many of the most important functions as possible. Propose these as first draft job descriptions.

WORKGROUP RECORDING SHEET

Problem : **Job Description**

Group Members:

1. J.A , Kulatilake

2. A.Segarajasingham

3. P. Rajasimman

4. W. Tilakumara

5.A,D.R.A. Pathirana

6.P.Abhayagocnawardhena

Summary of discussion and recommendations:

Job Descriptions were developed in respect of the following plant O&M job categories (see attachments).

1. Unskilled Labourer
2. Pipe Fitter
3. Meter Reader
4. Pump Operator
5. Treatment Plant Operator
6. Shift Technical Assistant
7. Officer-in-Charge
8. Chemist
9. Mechanics/Electricians/Welders
10. Assistant Manager (O&M)
11. Manager (O&M)

Unskilled Labour

1. Excavation work/barricading
2. Transport
3. Assisting Pipe Joiners/Masons etc.
4. Site clearing/gardening
5. Assisting T.plant operations
6. Assisting Mechanics and Electricians in repair work

Pipe Fitter

1. Laying and jointing of all types of pipes and attending to new connections.
2. Attend to leaks in pipelines defected valves and other specials.
3. Attend to all repairs in pipe lines
4. Operation of valves in pumping main/distribution system

Meter Reader

1. Reading and recording water meters
2. Check for proper functioning of meters
3. Report malfunctioning tampering of meters
4. Handover records to O.I.C at specific intervals

Pump Operator

1. Operation of pump equipment/generators as per instructions.
2. Reading and recording of instruments and meters in accordance with routine maintenance forms.
3. Operation of all valves connected with pumping operations.
4. Notify D.I.C of any malfunctioning of equipment
5. Assist preventive maintenance (PM) team.
6. Housingkeeping

Treatment Plant Operators

1. Transporting/mixing chemicals
2. Assisting chemist/shift T,A on chemical dosing
3. Operation of all valves, (settling tanks/filters, pipe galley etc.
4. Housekeeping duties
5. Report of any malfunctioning of plant and equipment to T/A/O.I.C.

Shift T.A

1. Supervise all treatment plant operations (Aerator clarifiers filters)
2. Monitoring of water quality (including record keeping).
3. Attend to the following and proper chemical dosing
 - + Proper Chemical dosing
 - + Operation of chlorinators
4. Record keeping
5. Instruct T.P.O in all his duties

O.I.C

1. Be in overall charge of scheme (Treatment plant to ensure adequate supply of safe water at minimum cost. Distribution system All plant equipment stores staff)
2. Ensure Proper operational maintenance records are kept and submitted to Regional Office on specified dates. (Pump chemical, water quality, power consumption, quantity of water, cost analysis).
3. Check and comment on routine mtce. forms, feed back to pump operator Send B.M notification forms to AEM(mtce) and C.E(mtce.).
4. Assist the Training Center in Assessing training needs and provide in-service training to subordinate staff.
5. Ensure ordering and maintaining of a adequate stock of chemicals, pipes and special and other necessary materials.
6. Ensure cordial public relations and community participation.

Chemist

1. Monitoring and assurance of water quality of the schemes in the region.
2. Advise shift T.AA/OIC on chemical dosing, plant control tests and ordering of chemicals.
3. Arrange for periodical sampling of testing of water (Bact. chemicals etc.)
4. Monitoring waste water quality where applicable.
5. Look for possible environmental pollution source and advise M (O&M).

Mechanics/Electricians/Welders

1. Attend to all duties as per instruction given by Foreman(E/M)/O.I.C.

Mech./Elect. Foreman

1. Supervise the work of Mechanics, Electricians and Welders.
2. Perform P.M and B.M duties as per instructions given to them.
Send Monthly PM Report to ARM(M)
3. Maintenance of vehicles in the region.

Elect./Mech. Engineer (A.M)

1. Initiate action on receipt of EM notifications
2. Supervise major EM Operations
3. Respond to request for materials, tools, information etc.
in Foreman's monthly report (i.e make recommendations to B.M)
4. Check and comment on completed EM forms and necessary follow-up
action vis a vis spare parts, workshop repairs, outside contracts
etc. Copy to Foreman.
5. Check Foreman's Monthly Report, comment and make recommendations
(establish engineering standards) send copy to Foreman.
6. Send Monthly PM and EM reports to RM.
7. Send EM summary form to RM.
8. Maintain EM bar charts.
9. Classify breakdowns according to type)e.g. bearing failures,
motor winding burnouts etc. and note frequency of each type of breakdown.

Manager (O&M)

1. Efficient management of all schemes in the region.
2. Represent Board in Regional Meetings.
3. Submitting of all (O&M) reports to A.G.M (O&M).
Respond to ARM comments in his FM and EM monthly reports particularly requests for materials, equipment, spare parts etc.
Send Monthly FM and EM Reports to AGM (O&M). This would generally be the ARM^s reports with EM^s comments. Include EM summary form.
4. Ordering of chemicals, materials spares etc. and making purchases where necessary.
5. Billing and recovery of revenue.
6. Preparation and submission of(O&M) Budget.

PLENARY SESSION AGREEMENTS & MODIFICATIONS

JOB DESCRIPTIONS

1. More detailed plant specific job descriptions will be developed for the categories already dealt with in this workshop.
2. Additional job descriptions will be prepared for other categories eg. O&M staff at Central Office, Storekeepers, support staff (clerks, Secretaries etc.)
3. Job descriptions should list when each person is responsible to and when each person is responsible for . i.e. clear chain of command.
4. The results of this workshop should tie in with the results of the decision making and delegation workshop.
5. Set definite target dates for the preparation of more detailed job-descriptions.

ACTION PLAN/FOLLOW-UP: JOB DESCRIPTIONS

Instructions: In order to translate the group's recommendations and agreements into reality, a plan of action must be followed. Each action plan will be carried out under the oversight of an "Action plan task force" the task force will be responsible to the appropriate board administration (e.g. AGM for O&M, or other). Individuals on the task-force or outside of the task force may be enlisted (assigned specific tasks).

1. Problem Area: JOB DESCRIPTIONS FOR

2. Recommendations Summary and Agreements

A. Categories 1 - 21

B.

C.

etc.

3. Responsible Board Official V. Parameswaran AGM (O&M)

Name & Title

4. Task Force Members: P. Abhayagoonawardhena

Task Force Chair

W.A. Karunaratne

Secretary

W. Tilakunara

Member

N.D.R.A. Pathirana

Member

P. Rajasimman

Member

5. Next Scheduled Task Force Meeting Date: 15th June 1983

Members: Mrs. Sivabalasunderam
K.N.P. Silva
B.M.P. Premawardhana

Action Plan: For each agreed upon Recommendation List the specific actions which must be done to implement the Recommendation.

What is to Be Done	Who is to Do It	By When will It Be Done?
<p>1.(a) Produce detailed job descriptions (2nd draft) for the following job categories:</p> <ol style="list-style-type: none"> 1. Unskilled Labourer 2. Pipe fitter 3. Meter reader 4. Pump Operator 5. Treatment Plant Operator 6. Shift technical Asst. 7. O.I.C 8. Chemist 9. Mechanics/Electricians/welders 10.AM (O&M) 11.M(O&M) 12.Foreman 13.DGM (Sr.) 14.AGM (O&M) 15.C.E (M) 16.C.E. (O) 17.Engineer (M) 18.Engineer (O) 19. EA 20. T.A. 21. Caretaker 	<p>Members of this task force</p>	<p>31 July 1983</p>

ACTION PLAN/FOLLOW-UP: JOB DESCRIPTION

Instructions: In order to translate the group's recommendations and agreements into reality, a plan of action must be followed. Each action plan will be carried out under the oversight of an "Action plan task force" the task force will be responsible to the appropriate board administration (e.g. AGM for O&M, or other). Individuals on the task-force or outside of the task force may be enlisted (assigned specific tasks).

1. Problem Area: JOB DESCRIPTIONS for
2. Recommendations Summary and Agreements
 - A. Categories 22 - 27
 - B.
 - C.
 - etc.
3. Responsible Board Official V. Parameswaran AGM (O&M)

Name & Title
4. Task Force Members:
 - P. Abhayagoonawardhena

Task Force Chair
 - P. Weeratunge

Secretary
 - N.E.M.S. Goonesekera

Member
 - Mr. Ranasinghe (Constr)

Member
 - Mr. Ariyadasa (Supplies)

Member
5. Next Scheduled Task Force Meeting Date: 16th June, 1983

Member: Danister (Accountant)
T.Wanasinhe (S.K. - Galle)

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Action Plan: For each agreed upon Recommendation List the specific actions which must be done to implement the Recommendation.

What is to Be Done	Who is to Do It	By When will It Be Done?
1.(b) Produce detailed job descriptions (2nd draft) for the following job categories : 22.. Storekeeper 23 . Accountant 24. Clerk 25 . Typist 26 . Peon 27.. Office Labourers	Members of this task force (No.2)	31 July 1983
2. Workshops to clarify 2nd draft (with regional employees)	Training Centre and O&M Unit	15th August 1983
3. Prepare 3rd draft	Members of task force(1)	15th Sept. 1983
4. Meeting with Senior Board Members, WHO Representatives etc.	Training Centre & O&M	20th Sept. 1983
5. Prepare final draft	Task Force No.1	14th October 1983.
6. Circulate final job descriptions to all concerned	AGM (O&M)	1 Nov. 1983
7. Adeptien of approved job descriptions	AGM(O&M)	1 Jan, 1984

STAFF SELECTION:

- o Problem Statement
- o Work Group Recommendation
- o Plenary Session Modifications
- o Action Plan Follow-up

Problem Statement

Staff Selection

Selection of staff: Staff are often selected without the proper background to do, or learn, the job. Overtime they move up in the system without the requisite skills. Hiring of staff and the decision of whom to have seldom includes consultation with those who will later supervise them.

Rotation of Staff: There are frequent rotations to different schemes or areas within the board for various reasons which causes difficulty. At the same time, some staff need to be transferred in order to match the required skills with operational needs.

Task: After complete discussion of the above two statements, develop recommendations as follows:

- (a) Recommendations for policies and procedures for staff selection and hiring. Include how this should be done, who should be involved and the criteria which should govern hiring for major categories of jobs in operations and maintenance (technical officers, skilled labor, unskilled).
- (b) Develop a scheme and recommendations for a staff rotation policy.

WORK GROUP RECORDING SHEET

Problem: Staff Selection

Group Members:

1. Mr. Sunil de Silva
2. Mr. D.E.P. Jayasuriya
3. Mr. H.I. Kariyawasam
4. Mr. S. Samarawickrama
5. Mr. S.K. Wijetunge
6. Mr. S. Yoganathan

Summary of Discussion and Recommendations:

1. BACKGROUND:

Sectional heads forward requirement to Superior as and when required.

Format

- a) Approved cadre .
- b) Revised cadre recommended for approval.
- c) Availability - Permanent
- Casual
- d) Immediate requirement \times revised approved cadre less available (P&C).
- e) Number of casuals who could be trained and made permanent.

2. SCHEME OF RECRUITMENT:

- a) Chief Executive to appoint committees to study/revise scheme of recruitment wherever necessary. Revised scheme of recruitment may be circulated among relevant heads of sections for their comments.
- b) Committees forward final recommendations of scheme of recruitment for approval.

Contd. Page2 .

3. MODE OF SELECTION:

Chief Executive to appoint different selection committees to different post.

- a) Committee to consist
 - technical personnel for selection of technical officers and skilled labourers (includes practical tests).
- b) Selection opportunities to be first given to the existing staff.
- c) Train the existing staff for the next higher appointment.
- d) Fit the staff as per job specification.

4. ROTATION OF STAFF:

- a) Fit the staff as per job specification (followed by grading of schemes).
- b) To be decided by transfer board in accordance with above.
- c) Transfer to be announced before the end of the month of September each year to be effective from the beginning of the following year.
- d) Provisions to be made for appeals.
- e) Due consideration to be given in regard to schooling, housing etc.
- f) Employees to serve compulsorily at any station for a minimum period of 2 years.

PLENARY SESSION AGREEMENTS & MODIFICATIONS

STAFF SELECTION

1. Background

Amendment: EM to prepare cadre in consultation with AGM (O&M) and DGM (Sr.) and forward the proposals to GM through AGM (O&M)/DGM (Sr.)

GM, to appoint a committee to study the cadre and make recommendations.

The committee shall consist of:

- DGM (Sr.) - who will chair the committee.
- AGM (O&M) or his representative
- EM (O&M)
- Representatives from Laboratory/workshop
- AGM (P) or his representative
- UGM (A) or his representative

2. Scheme of Recruitment:- No change

3. Mode of selection: -de-

4. Rotation of Staff

Amendment:

- (1) Employees to serve compulsorily at any station for a minimum period of 2 years and upto a maximum of 4 yrs. at employees discretion. After 4 yrs. employee is liable to a transfer.

ACTION PLAN/FOLLOW-UP: **STAFF SELECTION**

Instructions: In order to translate the group's recommendations and agreements into reality, a plan of action must be followed. Each action plan will be carried out under the oversight of an "Action plan task force" the task force will be responsible to the appropriate board administration (e.g. AGM for O&M, or other). Individuals on the task force or outside of the task force may be enlisted (assigned specific tasks).

1. Problem Area: Staff Selection

2. Recommendations Summary and Agreements

A. Finalisation of cadre (Technical and skilled)

B.

C.

etc.

3. Responsible Board Official General Manager

Name & Title

4. Task Force Members: D.G.M. (Senior)

Task Force Chair

AGM(OM)

Secretary

D.G.M. (Adm.)

Member

A.G.M. (F)

Member

Chief chemist/C.E. (Workshop) M. (CAE)

Member

5. Next Scheduled Task Force Meeting Date: June 15, 1983

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ACTION PLAN/FOLLOW-UP:

STAFF SELECTION

Instructions: In order to translate the group's recommendations and agreements into reality, a plan of action must be followed. Each action plan will be carried out under the oversight of an "Action plan task force" the task force will be responsible to the appropriate board administration (e.g. AGM for O&M, or other). Individuals on the task-force or outside of the task force may be enlisted (assigned specific tasks).

1. Problem Area: Staff Selection
2. Recommendations Summary and Agreements
 - A.
 - B. Scheme of recruitment
 - C.
 - etc.
3. Responsible Board Official General Manager
Name & Title
4. Task Force Members:
D.G.M. (Senior)
Task Force Chair
A.G.M. (OAM)
Secretary
D.G.M. (Adm.)
Member
C.E. (Workshop)/Chief Chemist/ M (O&M)
Members
C.E. (Training)
Member
5. Next Scheduled Task Force Meeting Date: June 15, 1983

Action Plan: For each agreed upon Recommendation List the specific actions which must be done to implement the Recommendation.

What is to Be Done	Who is to Do It	By When will It Be Done?
1. Prepare S/R 2. Approve S/R	Task force G.M.	2 months

ACTION PLAN/FOLLOW-UP:

STAFF SELECTION

Instructions: In order to translate the group's recommendations and agreements into reality, a plan of action must be followed. Each action plan will be carried out under the oversight of an "Action plan task force" the task force will be responsible to the appropriate board administration (e.g. AGM for O&M, or other). Individuals on the task-force or outside of the task force may be enlisted (assigned specific tasks).

1. Problem Area: Staff Selection
2. Recommendations Summary and Agreements
 - A.
 - B.
 - C. Mode of selection
 - etc.
3. Responsible Board Official G.M.

Name & Title
4. Task Force Members:

D.G.M. (Sr.)
Task Force Chair
A.G.M. (OAM)
Secretary
D.G.M. (Ad.)
Member
C.E. (Training)
Member
C.E. (Workshop)/Chief Chemist/M (C&M)
Members
5. Next Scheduled Task Force Meeting Date: June 15, 1983

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Action Plan: For each agreed upon Recommendation List the specific actions which must be done to implement the Recommendation.

What is to Be Done	Who is to Do It	By When will It Be Done?
1. Determine vacancies 2. Advertise internally and externally if necessary 3. Appoint selection committees 4. Appoint selectees	M(OM)/CE(W/S)C. Ch. D.G.M. (A) G.M. G.M.	1 month

ACTION PLAN/FOLLOW-UP:

STAFF SELECTION

Instructions: In order to translate the group's recommendations and agreements into reality, a plan of action must be followed. Each action plan will be carried out under the oversight of an "Action plan task force" the task force will be responsible to the appropriate board administration (e.g. AGM for O&M, or other). Individuals on the task-force or outside of the task force may be enlisted (assigned specific tasks).

1. Problem Area: Staff Selection

2. Recommendations Summary and Agreements

A.

B.

C.

etc. D. Staff Rotation

3. Responsible Board Official General Manager

Name & Title

4. Task Force Members: D.G.M. (Sr)

Task Force Chair

AGM (O&M)

Secretary

C.E. (Maint.) / C.E. (Op)/C.Ch/C.E. (Workshop)

Members

D.G.M. (Adm.)

Member

M (O&M)

Member

5. Next Scheduled Task Force Meeting Date: June 15, 1983

Action Plan: For each agreed upon Recommendation List the specific actions which must be done to implement the Recommendation.

What is to Be Done	Who is to Do It	By When will It Be Done?
1. Call for applications annually	D.G.M. (Ad)	Late July
2. process applications	D.G.M. (Ad)	Late August
3. Appoint Transfer Board	G.M.	Late August
4. Issue Transfer Orders	G.M.	Late Sept.
5. Consideration of appeals	G.M.	

DECISION MAKING AND DELEGATION

- o Problem Statement
- o Work Group Recommendations
- o Plenary Session Modifications
- o Action Plan Follow-up

Problem Statement

Decision Making and Delegation

Managers are unsure of which decisions they can and cannot make. Often decisions which could be made at lower levels are not taken. Some feel decisions are either pushed up the chain of command or taken at the top when they could be delegated. Sometimes outside forces get involved in decisions and are not resisted in the best interests of the Board mission.

Task: After full discussion of the above, complete the matrix below, making recommendations for delegation of decision-making at the various levels.

What decision should be made	Who should make it	Who should be consulted
(Example)		
1. Water quality control in plant	OIC	Chemist
2. Purchasing upto X amount	OIC	No-One
3. Staff Rotation within region	RM	OIC Staff involved & AGM

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WORK GROUP RECCORDING SHEET

Problem: Decision Making and Delegation

- Group Members:
1. K.M.S.A. Bandara
 2. P. Dharmablan
 3. W.A. Karunaratne
 4. S.H.P.G. Karunaratne
 5. V. Parameswaran
 6. S.K.H. Perera
 7. N. Sridharan

Reccomendations:

What Decision Should be Made?	Who Should Make it?	Who Should Be Consulted?
1. <u>TECHNICAL</u>		
1.1 <u>Production</u>		
Quantity	OIC day to day	AGM (O&M).
Pumping Hours	M(O&M) Policy OIC	KM(O&M)
1.2 <u>Distribution</u>		
Hours of Supply	OIC/M(O&M)	Local Authority
1.3 <u>Extension</u>		
Investigation/ Estimation	M(O&M)	AGM(D)
Approval	M(O&M)-Up to Rs. 50,000/=	Subject to allocation
	AGM(O&M)Up to Rs.750,000/=)	of funds
Cash	M(O&M)	
1.4 <u>Service Connections</u>		
Investigation/ Estimation	M(O&M)	AGM (O&M)
Approval	M(O&M)	AGM (O&M)
Construction	M(O&M)	AGM (O&M)
Contd. Page2		
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What Decision Should be Made?	Who Should Make it?	Who Should Be Consulted?
1.5 Public Stand posts Approval	AGM (O&M)	GM
1.6 <u>Maintenance</u> Routine Breakdown Preventive Rehabilitation	OIC AM (M) OIC/Foreman AGM (O&M)	AM (M) CE (M) AM (M) DGM Sr
1.7 <u>Operation</u>	OIC	AM (Operation)
1.8 <u>Water Quality</u> Chemical Usage Monitoring Pollution problems	OIC/Regional Chemist Reg. Chemist Reg. Chemist	Chief Chemist Chief Chemist Chief Chemist/M(O&M)
1.9 <u>Record Keeping</u>	OIC/Chemist/AM (M)	M (O & M).
1.10 <u>Reporting (Periods)</u>	M (O&M)	AGM (O&M)
1.11 <u>Taking over schemes</u> FROM L.A.S. from Const.uction branch	M(O&M) to form a committee M (O&M)	GM AGM (O&M)
2. <u>SUPPLIES & STORES</u>		
2.1 Purchasing Local	OIC - Rs. 200/= M (O&M) - Rs.1,000/=	- -
2.2 Supplies Requisition Stores - at sites - Regional	OIC/M (O&M) OIC M(O&M)	- -
Contd. Page3	-44-	

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What Decision Should be Made?	Who Should Make it?	Who Should Be Consulted?
<p>3. FINANCIAL</p> <p>3.1 Billing Collection</p> <p>3.2 Bills(Complaints)</p> <p>3.3 Disconnection</p> <p>3.4 Waste prevention/ Control</p> <p>3.5 Salaries/Other payments</p>	<p>OIC/Reg.Acct. Reg. Acct.</p> <p>M (O&M)</p> <p>M (O&M)</p> <p>OIC</p> <p>Reg.Acct./M (O&M)</p>	<p>M (O&M) M (O&M)/AGM (F)</p> <p>AGM (O&M)</p> <p>AGM (O&M)/GM</p> <p>M (O&M)</p> <p>AGM (F)</p>
<p>4. ADMINISTRATION</p> <p>4.1 Staff Overtime</p> <p>4.2 Travel Claim</p> <p>4.3 Rotation Rotation</p> <p>4.4 Training</p> <p>4.5 Disciplinary action</p> <p>4.6 Quarters allocation</p> <p>4.7 Casual workers (up to 2 weeks)</p>	<p>M(O&M) Up to 50 hours</p> <p>M(O&M) Up to Rs. 1,000/=p.a.</p> <p>M(O&M) within the region</p> <p>AGM(O&M)(excluding Engineers (between regions</p> <p>M (O&M)</p> <p>M (O&M)</p> <p>M (O&M)</p> <p>M (O&M)</p>	<p>AGM (O&M) 7 hours</p> <p>AGM (O&M) up to Rs.2,000</p> <p>AGM (O&M)</p> <p>DCM Sr</p> <p>CE (Trg)</p> <p>AGM (O&M)</p> <p>AGM (O&M)</p> <p>AGM (O&M)</p>
<p>5. TRANSPORT</p> <p>5.1 Vehicle Allocation/ movement</p>	<p>M (O & M)</p>	<p>-</p> <p>-</p>
<p>6. PUBLIC RELATIONS</p> <p>6.1 Attending meetings</p> <p>6.2 Communication with MP's</p>	<p>M (O&M)/AM (O&M)/OIC</p> <p>M (O&M)</p>	<p>-</p> <p>AGM (O&M)</p>
<p>7. EMERGENCIES</p>	<p>M (O&M)</p>	<p>AGM (O&M)</p>

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PLENARY SESSION AGREEMENTS & MODIFICATIONS

DECISION MAKING DELEGATION

General - Consultation ought to include staff lower in level to the decision maker as relevant.

<u>Specific</u>	<u>Who should Make the Decs.</u>	<u>Who should be Consulted</u>
1.1 Production of Water Quantity	} OIC (day to day) } M(O&M)- Policy	M(O&M) AGM (O&M)
1.2. Distribution time	OIC	} M(O&M) and } community
1.6 Preventive Maintenance	Foreman	
1.8 Water Quality Chemical Dosage " usage	Reg. Chemist OIC	Chief Chemist AM (OP)
1.9 Records	AGM (O&M)	M (O&M)
2.1 Purchases (add)	AGM (O&M) for Rs.1000	
2.2 Supplies at site at region	OIC M(O&M)	(M(O&M)) AGM (O&M)
<u>Financial</u>		
3.1 Meter Reading Billing	OIC Reg. Acct.	M (O&M) } M(O&M) and } AGM (F)
3.5 Salaries - Authorization Payment - Disbursement	M (O&M) Reg. Acct.	AGM (O&M) AGM (F)
<u>Administration</u>		
4.3. Retation (Add)		Staff involved
4.6 Allocation of Qtrs. (Add)		Staff involved
5.1 <u>Transport</u> Vehicles (Add)		Staff involved
6.1 <u>Public Relations</u> Regional Meetings	M (O&M)	OIC and AM(O&M) as relevant.

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ACTION PLAN/FOLLOW-UP: DECISION MAKING/DELEGATION

Instructions: In order to translate the group's recommendations and agreements into reality, a plan of action must be followed. Each action plan will be carried out under the oversight of an "Action plan task force" the task force will be responsible to the appropriate board administration (e.g. AGM for O&M, or other). Individuals on the task force or outside of the task force may be enlisted (assigned specific tasks).

1. Problem Area: Decision making/Delegation

2. Recommendations Summary and Agreements

- A.)
 - B. }
 - C. }
 - etc.
- See attached list

3. Responsible Board Official DCM Sr

Name & Title

4. Task Force Members: AGM (O&M)

Task Force Chair

CE (O&M) - Mr. Karunaratne

Secretary

M (O&M) - Mr. P. Rajasingam

Member

AM (Maint) Mr. T. Tilakumara

Member

CIC - Mr. K.N.P. Silva

Member

5. Next Scheduled Task Force Meeting Date: 30.6.1983

Note: The task force will detail the action plan based on the recommendations of the group on Decision making/delegation

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Action Plan: For each agreed upon Recommendation List the specific actions which must be done to implement the Recommendation.

What is to Be Done	Who is to Do It	By When will It Be Done?
1.7 <u>Operations</u> - OIC	M (O&M)	Immediate
1.8 <u>Water Quality</u> Chemical dosage-regional chemist Chemical usage - OIC Monitoring Pollution problem	CE (Op) CE (Op) CE (Op)	Immediate Immediate Immediate
1.9 <u>Record Keeping</u> M (O&M)	AGM (O&M)	Immediate
1.10 <u>Reporting</u> M (O&M)	AGM (O&M)	Immediate
1.11 <u>Taking over schemes</u> -from L.A. -from Construction Branch	GM DCM (Sr)	Immediate
2.0 <u>Supplies and Stores</u>		
2.1 <u>Purchasing</u> OIC - Rs. 200/= Local M (O&M) Rs. 1,000/=	GM	
2.2 <u>Supplies and Requisitions</u> Stones and sites Regional	AGM (O&M)	
3. <u>Financial</u> <u>Meter Reading</u> Billing Collection Bill complaints Disconnection Waste prevention/control	DCM (Sr) AGM (O&M) GM AGM (O&M)	Immediate Immediate Immediate Immediate
Contd. Page4	-49-	

Action Plan: For each agreed upon Recommendation List the specific actions which must be done to implement the Recommendation.

What is to Be Done	Who is to Do It	By When will It Be Done?
Salaries/Other payments - Authorization - Disbursement	DGM (Sr)	Immediate
4. <u>Administration</u>		
Staff Overtime	GM	
Travelling claim	GM	Immediate
Rotation	GM	
Training	DGM (Sr)	Immediate
Disciplinary action	DGM (Sr)	
Quarters allocation	DGM (Sr)	
Casual Workers	DGM (Sr)	
5. <u>Transport</u>		
Vehicle allocation movement	AGM (O&M)	Immediate
<u>Public Relations</u>		
Attending meetings	DGM (Sr)	To be
Communication	GM	Decided by
Emergencies	DGM (Sr)	Task force

COMMUNICATIONS - INFORMATION

- o Problem Statement
- o Work Group Recommendation
- o Plenary Session Modifications
- o Action Plan Follow-up

Problem Statement

Communications-Information

It is often difficult to locate the information needed to carry out work. Information is widely dispersed in the Board. Management information is not available.

Examples: o Design specification are not readily available for O&M purposes;

- o Records for preventive maintenance are not routinely kept.
- o Water quality test information may not influence chemical dosage in treatment.
- o Records on scheme distribution systems not always available.
- o Meters not functional, difficult to know production of water statistics and use it for management decisions.

Task: Devise a scheme for the storage and use of data. Detail what data should be recorded, where it should be sent, who should have access to it and how should it be stored.

PLENARY SESSION AGREEMENTS & MODIFICATIONS

COMMUNICATIONS - INFORMATION

1. Investigations

Source yield, water quality soil conditions, population, Industries, Institutions and other statistical data.	Statistical and Coordination Branch	Designs and Other Sections	Scheme-wise
--	--	-------------------------------	-------------

2. Designs

(a) Design Criteria for all plant & schemes			
(1) Statistics	-do-	-do-	-do-
(1) Calculations	Designs Branch	Designs Branch	-do-
(b) Working Drawings	-do-	Designs & D&M	-do-

basic data in all schemes will be recorded and stored centrally.

3. Construction

(a) Modifications	-do-	-do-	-do-
(b) Date of Completion	Stats. & Co-ordn	-do-	-do-
(c) Capital costs			

4. Establishment

Personnel Records	-do-	AGM (O&M)	Individually
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5. Operation & Maintenance

(a) Water Quality	} Maintenance info will be available at the regions and Central office (O&M)	} Designs and O&M	} Scheme-wise
(b) Production Cost			
(c) Response to Treatment			
(d) Equipment History Sheets			
(e) Revenue Generated			
(f) Water Quantity Produced			
(g) Property Acquired			

All records to be forwarded thro' appropriate channels.

6. Agenda for Board Meetings	To all Participants one week in advance.	All Participants.
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7. Decisions at Board Meetings	To all Participants within a week	-do-
--------------------------------	--------------------------------------	------

8. Board Plans	R.MM upwards monthly	R.MM upwards
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9. Follow-up action	All participants
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10. Activities in other regions and branches	To Central Office	O.I.CC upwards	Monthly Memo
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11. Information from field	-do-	-do-
-------------------------------	------	------

12. Impact of Training	To Training Division	Trainers	Standardised format
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WORKING GROUP RECORDING SHEET

Problem : **Communications - information**

Group Members:

S:A. Ariyadasa

B.S. Chinniah

D.N.J. Ferdinando

H.B.M.S. Gunasekera

K.H.P. Silva

J. Sivabalasunderam

Summary of discussion and recommendations:

<u>What</u>	<u>Where</u>	<u>Who</u>	<u>How</u>
1. <u>Investigations</u>			
Source yield, water quality soil conditions, population, Industries, Institutions and other statistical data.	Statistical and Coordination Branch	Designs and Other Sections	Scheme-wise
2. <u>Designs</u>			
(a) Design Criteria			
(i) Statistics	-do-	-do-	-do-
(ii) Calculations	Designs Branch	Designs Branch	-do-
(b) Working Drawings	-do-	Designs & D&M	-do-
3. <u>Construction</u>			
(a) Modifications	-do-	-do-	-do-
(b) Date of Completion	Stats. & Co-ordn	-do-	-do-
4. <u>Establishment</u>			
Personnel Records	-do-	ACM (O&M)	Individually
5. <u>Operation & Maintenance</u>			
(a) Water Quality	-do-	Designs and O&M	Scheme-wise
(b) Production Cost			
(c) Response to Treatment			
(d) Equipment History Sheets			
(e) Revenue Generated			
(f) Water Quantity Produced			
(g) Property Acquired			

6. Agenda for Board Meetings	To all Participants in advance	All Participants.	
7. Decisions at Board Meetings	To all Participants within a week	-do-	
8. Board Plans	O.I.CC upwards monthly	O.I.CC upwards	
9. Follow-up action	All participants		
10. Activities in other regions and branches	To Central Office	O.I.CC upwards	Monthly Memo
11. Information from field	-do-	-do-	
12. Impact of Training	To Training Division	Trainers	Standardised format

ACTION PLAN/FOLLOW-UP: COMMUNICATIONS INFORMATION

Instructions: In order to translate the group's recommendations and agreements into reality, a plan of action must be followed. Each action plan will be carried out under the oversight of an "Action plan task force" the task force will be responsible to the appropriate board administration (e.g. AGM for O&M, or other). Individuals on the task-force or outside of the task force may be enlisted (assigned specific tasks).

1. Problem Area: Communications - Information
2. Recommendations Summary and Agreements
 - A. **Investigations**
 - B. **Designs**
 - C.
 - etc.
3. Responsible Board Official D.E.F. Jayasuriya, DGM (Sr.)
Name & Title
4. Task Force Members:
A.P. Chandraratne, AGM Designs
Task Force Chair
D.N.J. Ferdinando
Secretary
S.J.P. Wijegunawardena
Member
H. Pinidiya
Member
C.J.A. Stembo
Member
L.M.N. Jayasinghe
5. Next Scheduled Task Force Meeting Date: 16, June 1983

Action Plan: For each agreed upon Recommendation List the specific actions which must be done to implement the Recommendation.

What is to Be Done	Who is to Do It	By When will It Be Done?
<p>Generate information in respect of source yield, water quality, soil conditions population industries, institutions, other statistical data.</p> <p>Design Criteria -Statistics -Calculations</p> <p>Working Drawings</p> <p>Basic Data</p>		

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ACTION PLAN/FOLLOW-UP:

Instructions: In order to translate the group's recommendations and agreements into reality, a plan of action must be followed. Each action plan will be carried out under the oversight of an "Action plan task force" the task force will be responsible to the appropriate board administration (e.g. AGM for O&M, or other). Individuals on the task-force or outside of the task force may be enlisted (assigned specific tasks).

1. Problem Area: Communications-Information
2. Recommendations Summary and Agreements
 - A. Water Quality
 - B. Production cost
 - C. Response to treatment
 - D. Equipment History Sheets etc.
 - E. Revenue Generated
 - F. Water quantity produced
 - G. Property Acquired
3. Responsible Board Official Mr. V. Parameswaran - A.G.M. (O&M)
Name & Title
4. Task Force Members:
 - P. Dharmapalan
Task Force Chair
 - W.A. Karunaratne
Secretary
 - J. Sivabalasunderam
Member
 - H.D.R.A. Pathirana
Member
 - N.E.M.S. Gunasekera
Member
 - L.M.N. Jayasinghe
Member
5. Next Scheduled Task Force Meeting Date: 16th June 1983.

Action Plan: For each agreed upon Recommendation List the specific actions which must be done to implement the Recommendation.

What is to Be Done	Who is to Do It	By When will It Be Done?
<p>Generate information requirements in respect of</p> <ul style="list-style-type: none"> Water quality Production cost Response to Treatment Equipment History Sheets Revenue Generated Water Quantity produced Property acquired. 		

ACTION PLAN/FOLLOW-UP:

Instructions: In order to translate the group's recommendations and agreements into reality, a plan of action must be followed. Each action plan will be carried out under the oversight of an "Action plan task force" the task force will be responsible to the appropriate board administration (e.g. AGM for O&M, or other). Individuals on the task-force or outside of the task force may be enlisted (assigned specific tasks).

1. Problem Area: Communications Information
2. Recommendations Summary and Agreements
 - A. Establishment
 - B. Personnel records
 - C.
 - etc.
3. Responsible Board Official Mr.E.B. Tennekeem D.G.M.(A)
Name & Title
4. Task Force Members:
Mr.P.Abhayageenawardhena
Task Force Chair
Mr.P.Weeratunge
Secretary
Mr. A.N. de Alvis
Member
Mr. Opatha
Member
Mr. M.I.M. Kiyabdeen
Member
L.M.N.Jayasinghe
5. Next Scheduled Task Force Meeting Date: 16th June, 1983

Action Plan: For each agreed upon Recommendation List the specific actions which must be done to implement the Recommendation.

What is to Be Done	Who is to Do It	By When will It Be Done?
<p>Generate information required for personnel records.</p> <ul style="list-style-type: none">- Educational- Professional- Experience- Training		

ACTION PLAN FOLLOW-UP **Communications Information**

Instructions: In order to translate the group's recommendations and agreements into reality, a plan of action must be followed. Each action plan will be carried out under the oversight of an "action plan task force" the task force will be responsible to the appropriate board administration (e.g. AGM for Gov. or others). Individuals on the task force or outside of the task force may be selected (assigned specific tasks).

1. Problem Area: **Communications Information**

2. Recommendations Summary and Agreements

A. **Construction**

- a. **Modifications**
- b. **Date of Completion**
- c. **Capital Costs**
- etc.

3. Responsible Board Official: **G.R. Esmerage AGM (C)**

Name & Title

4. Task Force Members: **R.K.C. Rajagopal, CE Construction**

Task Force Chair

R.K. Piyasene

Secretary

Harold Alvis

Member

Mrs. Vithana

Member

Mr. Sathrasan

Member

L.R.S. Jayasinghe

5. Next Scheduled Task Force Meeting Date: **16th June, 1983.**

Action Plan: For each agreed upon Recommendation List the specific actions which must be done to implement the Recommendation.

What is to Be Done	Who is to Do It	By When will It Be Done?
<p>Generate information required in respect of modifications of design. Stages of completion Capital Costs.</p>		

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ACTION PLAN/FOLLOW-UP:

Instructions: In order to translate the group's recommendations and agreements into reality, a plan of action must be followed. Each action plan will be carried out under the oversight of an "Action plan task force" the task force will be responsible to the appropriate board administration (e.g. AGM for O&M, or other). Individuals on the task-force or outside of the task force may be enlisted (assigned specific tasks).

1. Problem Area: Communication Information
2. Recommendations Summary and Agreements
 - A. Agenda for Board Meetings
 - B. Decisions at " "
 - C. Board Plans
 - D. Follow up action etc.
 - E. Activities in other Regions and Branches
 - F. Information from the field
 - G. Impact of Training
3. Responsible Board Official Mr. D.E.F. Jayasuriya - D.G.M.(Sr.)
Name & Title
4. Task Force Members:
Cyril J. Gunatillake
Task Force Chair
Sunil de Silva
Secretary
Mr. Yeganathan
Member
S.K.H. Perera
Member
K.N.P. Silva
Member
L.M.N. Jayasinghe
Member
5. Next Scheduled Task Force Meeting Date: 16th June, 1983.

Action Plan: For each agreed upon Recommendation List the specific actions which must be done to implement the Recommendation.

What is to Be Done	Who is to Do It	By When will It Be Done?
<p><u>Information to be dispatched</u></p> <p><u>m</u> Agenda for Board Meetings</p> <p>Decisions at Board "</p> <p>Board Plans</p> <p>Follow-up action</p> <p>Activities in other regions and branches.</p> <p>Information from the field</p> <p>Impact of training.</p>		

REORGANIZATIONAL ISSUES

- o Problem Statement
- o Work Group Recommendations
- o Plenary Session Modifications
- o Action Plan Follow-up

Problem Statement

Reorganizational Issues

The recent separation of the O&M functions from the construction function was carried out so that the Board could provide more efficient and effective service to their consumers. Regional and central office staff feel that this organizational change was a constructive one, but that improvement could be made in several areas.

Task: After full discussion of the above, complete the matrix (see samples) with your recommendations for more efficiency carrying out of O&M functions.

EXAMPLE

Activity to be carried out	Person Responsible for activity	Persons Responsible for implementing activity
1. Allocation of clerical position in regional office	RM (O&M)	Clerical Staff
2. Allocation of transport to regional staff	RM (Const.)	Drivers
3. Attend meeting with local authorities on distribution system extension	RM (Const.)	RM (Const)

WORK GROUP RECORDING SHEET

Problem: Reorganizational Issues

Group Members: S. Ariyadasa
D.N.S. Ferdinande
S.H.P.G. Karunaratne
W.A. Karunaratne
S.K.H. Perera
A. Segarajasinghan

Recommendations

Activity to be Carried Out	Person Responsible for Activity	Persons Responsible for Implementing Activit
1. <u>POLICY</u>		
1.1. O&M of new scheme	-	Construction branch to be responsible during trial initial operation & Authority.
1.2.L.A Schemes	Advisory -M(O&M)	
1.3.Revenue collection - Metering - Bills not paid	Board/Ministry GM	AGM (O&M) AGM (O&M)
1.4 Wells - 8 handpumps - (O&M) - Construction	Local Government -do-	M (O&M) advising " " " M (O&M)
1.5 Improvement & extension.	M (O&M)	M (O&M) upto Rs. 1 million M (C) more than a "
2. <u>ORGANIZATION</u>	DGM (Sr.)	AGM (O&M)
3. <u>STAFFING</u>		
3.1. Representation in region	M (O&M)	-copy of the monthly(Const progress report to M(O&M)
3.2. Staffing pattern at schemes and posting	DGM (Sr)	AGM (O&M)
3.3 Reg. Acct.	M (O&M) administratively	
3.4.Storkeeper and stores	Separate for construction &(O&M)	
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? Activity to be Carried Out	Person Responsible for Activity	Persons Responsible for Implementing Activity
<p>4. <u>INFRASTRUCTURE</u></p> <p>4.1 Office accommodation</p> <p>4.2 Separation of staff between construction and O&M</p> <p>4.3 Quarters at schemes for essential staff and for M (O&M)</p> <p>Note: Existing quarters should go to O&M</p> <p>4.4 Setting up repair workshop and lab</p>	<p>DGM (Sr)</p> <p>DGM (Sr)</p> <p>DGM (Sr)</p> <p>DGM (Sr) & AGM (O&M)</p>	<p>M (O&M)</p> <p>AGM (O&M) AGM (C)</p> <p>M (O&M)</p> <p>M (O&M)</p>
<p>5. <u>TRANSPORT</u></p>	<p>- Separate for construction and O&M.</p> <p>- Pickup and jeep (mini) for O&M for supplies (O&M) lorries under AGM (O&M) Supplies branch.</p>	

PLENARY SESSION AGREEMENTS & MODIFICATION

REORGANIZATIONAL ISSUES

1. Policy

- O&M of New Schemes

Handing over procedure should include check list on condition on a handing over synopsis of all equipment and civil works.
DCM Sr to determine final operation period based on complexity of schemes.

- L. Authority Schemes

Construction branch to handover directly to L. Authority schemes that will be operated by them.

- Improvements and Extensions.

M (O&M) responsibility to be limited to Rs. 100,000/=.

2. Organization

Implement the regional organization on O&M in all regions.

3. Staffing

- Representation at meetings.

Meetings concerning construction directly to be attended by Construction Branch.

- Regional Accountant.

For reason of economy one regional accountant should be responsible for both O&M and construction. M (O&M) will be the supervisor of the reg. accountant administratively. Similarly accounts clerks will be administratively responsible to either M (O&M) or M (Const) but will obtain technical direction of Reg. Acct.

REORGANISATION ISSUES

ACTION PLAN/FOLLOW-UP:

Instructions: In order to translate the group's recommendations and agreements into reality, a plan of action must be followed. Each action plan will be carried out under the oversight of an "Action plan task force" the task force will be responsible to the appropriate board administration (e.g. AGM for O&M, or other). Individuals on the task-force or outside of the task force may be enlisted (assigned specific tasks).

1. Problem Area: Reorganization Issues
2. Recommendations Summary and Agreements
 - A. See Attached
 - B.
 - C.
 - etc.
3. Responsible Board Official General Manager
Name & Title
4. Task Force Members:
DGM Sr.
Task Force Chair
AGM (O&M)
Secretary
CE (O) - Dharmapala
Member
Per. Officer - Weeratunge
Member
M (O&M) - Gunasebaru
Member
5. Next Scheduled Task Force Meeting Date: 30.6.1983

Action Plan: For each agreed upon Recommendation List the specific actions which must be done to implement the Recommendation.

What is to Be Done	Who is to Do It	By When will It Be Done?
<p>1. Policy</p> <p>1-1. Handing over procedure for new schemes should include checklist on equipment and civil works.</p> <p>1-2 Handing over to local authority to be done directly by Construction Branch</p> <p>1-3 Revenue collection - Billing (Metering) - Bills not paid</p> <p>1-4 Well and Handpumps - Construction M(O&M) Advisory - O&M - M (O&M) Advisory</p> <p>1-5 Improvement and extension upto Rs.100,000-M(O&M) above Rs.100,00-AGM(C)</p>	<p>G.M.</p> <p>G.M.</p> <p>Board/Ministry</p> <p>G.M.</p> <p>G.M.</p> <p>G.M.</p> <p>G.M.</p>	<p>As soon as possible</p>
<p>2. <u>Organization</u></p> <p>Implementation of the approved regional organization</p>	<p>DGM (Sr.)/G.M.</p>	
<p>3. <u>Staffing</u></p> <p>3-1 Representation at regional meetings. - Construction by M(C) - All others by M(O&M) M(O&M) to liase with construction and designs.</p> <p>3-2 Staffing pattern at schemes and posting of staff to be prepared by D.G.M. (Sr).</p> <p>3-3 Regional accountant for reason of economy on regional accountant should be responsible for both O&M and construction. M(O&M) will be the supervisor of reg. acct. administratively. Similarly accounts clerks will be administratively responsible to either M(O&M) or M(C) but</p>	<p>G.M.</p> <p>C.M.</p>	

Action Plan: For each agreed upon Recommendation List the specific actions which must be done to implement the Recommendation.

What is to Be Done	Who is to Do It	By When will It Be Done?
3-4 Storekeeper/stores separate for O&M and construction	G.M.	
4. Infrastructure	G.M.	
4-1 Office accommodation	G.M.	
4-2 Separation of staff between construction and O&M.	G.M.	
4-3 Quarters at schemes for essential service staff and for M(O&M).	G.M.	
4-4 Setting up repair workshop and lab.	G.M.	
<u>Notes:</u>		
1. Existing quarters to be allocated to O&M.	G.M./D.G.M. (Sr.)	
2. O&M should have permanent office building.		
3. Repair workshops and labs to be built as soon as possible.		
5. <u>Transport</u>		
Separate for O&M and construction. Pickup and jeep (minimum) for O&M	G.M.	
<u>Note:</u>		
For supplies to O&M, the supplies branch to arrange for transport either through Board lorries or private lorries.		

MAINTENANCE MANAGEMENT SYSTEMS

- o Problem Statement
- o Work Group Recommendations
- o Plenary Session Modifications
- o Action Plan Follow-up

Problem Statement

Maintenance Management Systems

If the Board is to provide efficient and effective service to its public it must maintain its equipment in good working order. Not only must equipment which is used frequently be kept in good order, but stand-bys must be ready to use. The preventive and breakdown maintenance programs of the Board are in need of improvement.

Task: After full discussion of the above make a list of recommendations for the improvement of preventive and breakdown maintenance.

SAMPLE

RECOMMENDATIONS

1. Each piece of equipment sent from a scheme to a regional or the central workshop should have a copy of the attached worksheet sent with the equipment. (See attachment 1).
2. The following job aids should be developed for the pump operator:
 - o Lubrication schedule for each type of pump
 - o Checklist for weekly, monthly and annual preventive maintenance procedures to carry out
 - o _____
 - o _____
 - o _____

WORK GROUP RECORDING SHEET

Problem: Maintenance Management System

Group Members: P. Dharmabalan

S. Yoganathan

S. Samarawickrama

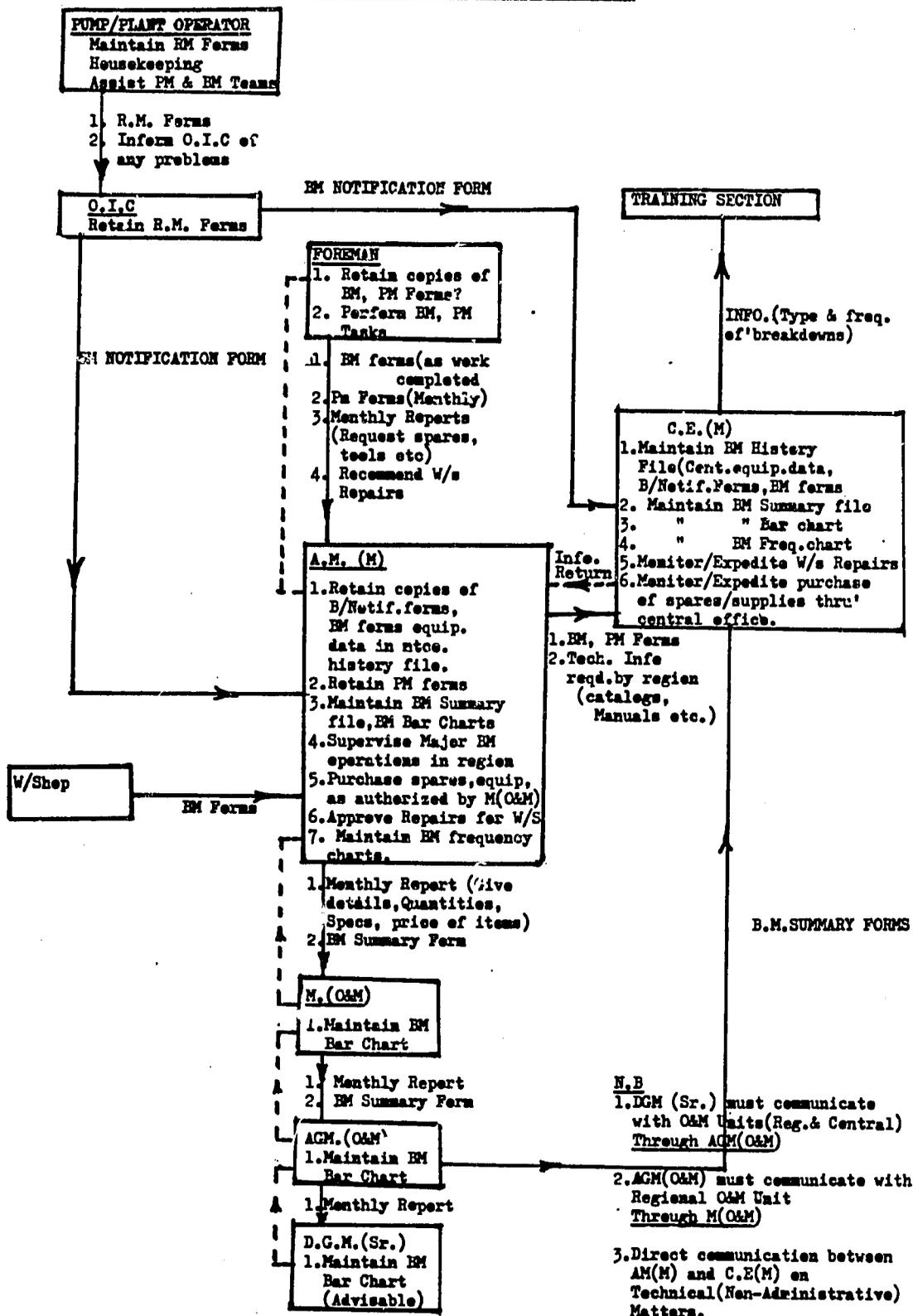
S. De Silva

S.K. Wijetunge

Recommendations:

The attached forms, describing in outline a proposal for a maintenance management system in respect of breakdown, preventive and routine maintenance is submitted for approval by the Board.

MAINTENANCE MANAGEMENT INFORMATION FLOW-DIAGRAM



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(1)

B.M. NOTIFICATION FORM

This form to be completed by OIC and sent to AM (M) and C.E. (M) whenever a breakdown occurs. O.I.C. retains copy

1. Name of Scheme
2. Name of Region
3. Date of Breakdown
4. Equipment in need of repair an I/D number (each item of equipment to be entered on separate sheet)
5. Details of nature of breakdown
6. Name, signature of OIC and date

EM SUMMARY FORM

This form to be completed by AM (M) and sent to M (O&M)

Month and Year
Region

WATER SUPPLY SCHEME IN ALPHAB ETICAL ORDER	I/D NO. OF EQUIP.	REPAIR COMMENCE DATE	IF REPAIR COMPLETED THIS MONTH	IF NO, ESTIMATED COMPLETION DATE	REMARKS AM (M) & DATE

PREVENTIVE MAINTENANCE OPERATION NUMBERS

CENTRIFUGAL PUMPS AND MOTORS

- | | |
|------------------|--|
| Monthly | 1. Volts (red, yellow and blue phases) |
| | 2. Current(" " " " " ") |
| | 3. Megger (red, yellow, blue) |
| | 4. Flow at design head |
| | 5. Speed (r.p.m.) |
| | 6. Bearing temperatures |
| | 7. Noise, vibration |
| | 8. Check/adjust gland leakage |
| | 9. Free rotation of pump shaft |
| 3
Monthly | 10. Grease bearings |
| | 11. Check motor brushes (length, free movement, spring tension) |
| | 12. Clean area round brushes |
| 6
Monthly | 13. Clean slip rings |
| | 14. Change bearing lube oil |
| | 15. Shaft alignment |
| | 16. Wear of coupling pins/bushes |
| | 17. Clean electrical contacts in motor control panel |
| | 18. Clean and grease stuffing box housing, gland and bush |
| Annually | 19. Inspect shaft/sleeve for wear |
| | 20. Replace gland packing |
| | 21. Clean, grease pump threaded openings |
| | 22. Clean, grease petcocks on pump flushing lines |
| | 23. Check vert play on pump sleeve bearings |
| Every
2 years | 24. Check tightness of electrical connections (motor and control panel) |
| | 25. Clean and refill bearing housings with grease |
| When
required | 26. Dismantle and clean motor |
| | 27. Dismantle pump and check pump case, impeller, wear rings for wear cavitation, etc. |

CHLORINATORS (VACUUM)

- | | |
|--------------|--|
| Monthly | 28. Clean water strainer |
| 3
Monthly | 29. Clean chlorine filter |
| | 30. Clean meter tube and float |
| 6 Monthly | 31. Clean injector nozzle and throat, clean non return valve |
| Annually | 32. Clean regulator valve, control valve, restrictor valve, vacuum relief valve, restrictor valve, pressure relief valve |

RECIPROCATING PUMPS (CHEMICAL FEED)

- | | |
|-----------|--------------------------------|
| 3 Monthly | 33. Grease main shaft bearings |
|-----------|--------------------------------|

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- | | |
|-----------|--|
| 3 Monthly | 34. Check shear pin and grease shearing surfaces |
| 6 | 35. Check ball valve |
| Monthly | 36. Change oil and clean magnetic drain plug |
| | 37. Check plunger |
| Annually | 38. Clean deposits and scaling |
| | 39. Check babbit for wear |
| Monthly | 40. Clean suction strainer |
| Annually | 41. Check operation of relief valve |

PLENARY SESSION AGREEMENTS & MODIFICATIONS
MAINTENANCE MANAGEMENT SYSTEMS

1. Forms may have to be modified for special situations like Colombo region.
2. Clarify list duties to OICC - In regard to minor repairs.
3. A direct communication system from site to Head quarters will be implemented in respect of emergency breakdowns.
4. BAR CHART to include while the repairs are being effected Site/Workshop as well.

ACTION PLAN/FOLLOW-UP: **MANAGEMENT MAINTENANCE SYSTEMS**

Instructions: In order to translate the group's recommendations and agreements into reality, a plan of action must be followed. Each action plan will be carried out under the oversight of an "Action plan task force" the task force will be responsible to the appropriate board administration (e.g. AGM for O&M, or other). Individuals on the task-force or outside of the task force may be enlisted (assigned specific tasks).

1. Problem Area: Maintenance Management Systems

2. Recommendations Summary and Agreements

- A.)
 - B.) As per workshop recording sheets
 - C.)
- etc.

3. Responsible Board Official DGM (Sr)

4. Task Force Members: B) Mr. V. Parameswaran AGM (O&M)

Task Force Chair

Mr. P. Dharmablan CECO/S

Secretary

Mr. Sunil de Silva ME

Member

Mr. S.U. Wijathunga ME

Member

Miss Thambirijah EE

Member

5. Next Scheduled Task Force Meeting Date: 15th June 1983

Action Plan: For each agreed upon Recommendation List the specific actions which must be done to implement the Recommendation.

What is to Be Done	Who is to Do It	By When will It Be Done?
1. Forms to be studied and modified to suit to different places. a) General Format b) Actual Forms	CL (M) and ME (M) - do -	3 months - do -
2. Flow diagram to be examined and modified to suit conditions of different sections	Task force A	One month
3. R/M set up has to be developed and should be implemented.	Task force A	Two months
4. The role and the importance of the workshop in the maintenance management system and suggest improvements to improve the maintenance management system effectively.	Task force B	14 months

SUPPLIES AND SPARES LOGISTICS

- o Problem Statement
- o Work Group Recommendations
- o Plenary Session Modifications
- o Action Plan Follow-up

Problem Statement

Supplies and Spares Logistics

The ability of the Board to provide effective and efficient service, so the public has an ample quantity and a safe quality of water is in part dependent on adequate supplies and spares to keep equipment operating and chemicals for treatment. Recent experience in the Board indicates that some changes might be in order to improve the flow of supplies, chemicals and spares to the point of need.

Task: After full discussion of the above, make recommendations for supplies and spares logistics.

SAMPLE

RECOMMENDATIONS

1. When stores returns a partially filled order, they should indicate the status of unfilled items (e.g. when it will be sent; out of stock, don't know when available, etc.).
2. The following list of minimum inventory should be maintained at:
 - o Scheme
 - o Regional Office stores
 - o Central stores

WORK GROUP RECORDING SHEET

Problem: Supplies and spares logistics

Group Members: N .E.M.S. Gunasekera

H.I. Kariyavasam

V. Parameswaram

H.D.R. A. Pathirana

K.M.P. Silva

W. Tilakumara

Recommendations:

1. C.E. (Supplies) to summon meeting of all M(O&M) and decide on items:
 - to be supplied by the main stores.
 - to be purchased locally by M(O&M) (necessary authority to be delegated to M(O&M)).
2. Manager (O&M) should prepare MDNN very clearly and in detail with necessary specifications. MDNN should also give alternative wherever possible.
3. MDNN which are new in use not suited and need revision.
4. An MDN placed (M(O&M) to C.E. (supplies) should not lapse after part supply. The MDN should be effective until full supply is made. This will not only avoid duplication but also save time and stationery.
 - . When part delivery on an MDN is made CE(S) should indicate status of balance items with the first instalment of supply ("status" means when balance items could be supplied or if not whether it could be purchased locally by M(O&M)).
5. The cost price of each item to be marked on the M.T.N.
6. M(O&M) to send back GRNN is far as possible by the same vehicle delivering the materials or at the earliest opportunity not exceeding one week from the date of delivery of such materials.

7. Annual requirement of fast moving items such as chemicals, reagent, water meters, meter repair kits, pipe fittings, lubricants, gland packing, bearings to be studied and stocked as given below.
8. Minimum safe level of items for each site, to be stored are as
 - (a) Alum - 6 months' requirement
 - (b) Lime - 3 " "
 - (c) Ferric Chloride 1 month's requirement
 - (d) Chlorine 1 month's requirement
 - (e) Bleaching powder 3 months'
 - (f) Lubricants 1 month's requirement
 - (g) Water meters and accessories 12 months requirement
9. AGM (O&M) to have a separate unit for monitoring supplies.
10. C.E(S) to have ³steres officers in charge of 3 ranges to attend to the 8 regional supplies requirements.
11. CE(S) to open up well secured 8 bays for 8 regions for temporary storage of items awaiting despatch until a full vehicle load of items is collected. This avoids intermixing of items meant for different regions and uneconomical frequent transport.
12. M(O&M) to have sufficient stock of essential items such as belt, nuts and bolts, spark plug, gland packing, bearings, injections etc. This will prevent M(O&M) running for these items when a breakdown occurs.
13. Equipment such as portable generators, storage pump, sheet piles pipes and fittings etc should be kept in major schemes in the region and made available to other schemes as and when required. Lists of such items and locations as to where they are available should be circulated amongst AGM (O&M), MM(ORM) and O.I.CC.
14. All vehicles passing sites on the return journey to Central Office to be instructed to transport empty chlorine cylinders. Details of such empties and locations to be provided by M(O&M).
15. When a new scheme is taken over arrangements should be made to have at least 2 years requirement of spares. Necessary provisions should be made in the tender with regard to this.

PLENARY SESSION AGREEMENTS AND MODIFICATIONS

SUPPLIES AND SPARE LOGISTICS

3. Add the following sentence
MDN to have space to indicate as to what purpose the item is required.
4. Add the following sentence
C.E(S) to inform M (O&M) on receiving MDN the details of those items which cannot be supplied by the time specified in the MDN.
- 7 & 8. Add the following to 8.
It is the responsibility of C.E (S) to have the above items in ample quantities and supply as and when required by sites.
10. Delete it as it is not necessary if 9 is accepted and taken action accordingly.
15. Add the following sentence
These spares should not be used by the contractor during his maintenance period.

SUPPLIES AND SPARES LOGISTICS

ACTION PLAN/FOLLOW-UP:

Instructions: In order to translate the group's recommendations and agreements into reality, a plan of action must be followed. Each action plan will be carried out under the oversight of an "Action plan task force" the task force will be responsible to the appropriate board administration (e.g. AGM for O&M, or other). Individuals on the task-force or outside of the task force may be enlisted (assigned specific tasks).

1. Problem Area: Supplies and Spares Logistics
2. Recommendations Summary and Agreements
 - A. 1 to 15.
 - B.
 - C.
 - etc.
3. Responsible Board Official General Manager, Mr. T.B. Madugalle

Name & Title
4. Task Force Members: Mr. D.E.F. Jayasuriya, DGM(S)

Task Force Chair

Mr. J.D.H. Silva, CE(S)

Secretary

Mr. H.D.R.A. Pathirana

Member

Mr.N.E.M.S. Gunasekera, M(O&M) Galle

Member

Mr. M. Karunaratne, Mech.Engineer

Member
5. Next Scheduled Task Force Meeting Date: June 23, 1983

Action Plan: For each agreed upon Recommendation List the specific actions which must be done to implement the Recommendation.

What is to Be Done	Who is to Do It	By When will It Be Done?
1. Summon meeting of CE(S) and MM (O&M) convene meeting and decide on items to be purchased by (1) CE(S) and by (2) MM (O&M).	CE (S)	Within 1 month
2. MDNN to be clear and with proper specs. and also alternatives if any.	OICC and MM (O&M)	With effect from 1st July 1983.
3. New MDN format to be designed, printed and supplied to site.	M(O&M) to give format to CE(S)	With effect from 1st July, 1983
4. MDNN to be effective until full supply is complete. M(O&M) to be informed of items which cannot be supplied by specified time.	CE(S)	With effect from 1st July 1983
5. Cost price of items to be given on MDN.	CE(S)	-do-
6. Prompt return of GRNN	M(O&M)	-do-
7&8. CE(S) to have ample stocks of fast moving items.	CE(S)	-do-
9. AGM(O&M) to have unit for monitoring supplies.	AGM(O&M)	-do-
10. CE(S) to open up 8 separate bays for temporary storage of materials one bay per region.	CE(S)	1st September 1983
12. M(O&M) to have sufficient stocks of spares.	M(O&M)/AM(O&M)	1st August 1983
13. Material and equipment for urgent repairs to be at major sites and listed.	M(O&M)/AM(O&M)	-do-
14. Collection of empty Cl ₂ cylinders by Board vehicles.	DGM(P)/T.O/CE(S) M(O&M)/OICC	1st July 1983
15. Spares for 2 years to be included in tender.	AGM(D)/AGM(O&M) AM(O&M)	1st September 1983

COMMUNITY RELATIONS AND PARTICIPATION

- o Problem Statement
- o Work Group Recommendations
- o Plenary Session Modifications
- o Action Plan Follow-up

Problem Statement

Community Relations and Participation

Since the major purpose of the Board is to supply its consumers with an adequate supply of potable water it behoves the Board to be concerned about the image it creates. Also it is important that the community be involved in the decisions made about their water supply since they are the ones paying for the water service. As the Board expands its service into the handpump area, it will have much greater needs for its employees to have community participation skills.

Task: After full discussion of the above, develop a list of activities that Board employees will be involved with in community relations and participation. Indicate the level of worker who will be involved.

SAMPLE

Activity	Lever of Worker
1. Train village caretaker of handpump 2. Collect fees from villagers for O&M of handpumps	

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WORKSHOP RECORDING SHEET

Problem: Community Relations and Participation

Group Members: P. Abhayagoenawardhana

D.E.P. Jayasuriya

J.A. Kulatilaka

H. Sridharan

B.S. Chinniah

Recommendations:

Activity	Level of Worker	
	N.W.S & D.B	Community
<u>COMMUNITY PARTICIPATION</u>		
1. Selection of sites for Hand pumps - W.S. Schemes/Stand Posts	Engineer/ Geologist - Ground Water Section	Village Organizations
2. Distribution Pattern-Rural W.S Urban W.S	Manager O.I.C Manager(O&M)/OIC	- de - - de - Local Authority Village Org.
3. Maintenance and Protection	O.I.C	Village Organizations such as Gramedays and Jala-Araksaks Associations.
4. Maintenance of Hand Pumps	Area Hand pump Mechanic	Village Volunteer (Community Org.)
5. Repairs to Hand Pumps	- de -	N.G.OO such as Sarvedaya who have competent staff.

<u>Activity</u>	<u>Level of Worker</u> <u>H.V.S & D.B</u>	<u>Community</u>
6. Reduction of Waste at Stand posts and minimizing pollution.	O.I.C	Village Volunteers.
7. Collect fees for Hand pump Maintenance		Village Organization
8. Residual Chlorine tests	O.I.C/Chemist	Village Org. School Children Teachers Boy Scouts Girl Guides

COMMUNITY RELATIONS

1. Establish Dialogue and credibility	Manager/O.I.C Field Officers	Village Organization
2. Health Education	Head Office Management Manager/O.I.C	Health Volunteers School Children Teachers Religious Leaders Mass Media Such as films T.V. Radio News papers Posters and Lectures
3. Water Conservation	- de -	-de -
4. Cost Consciousness	- de -	-de -
5. Benefit Awareness	- de -	-de -

PLENARY SESSION AGREEMENTS & MODIFICATION

COMMUNITY PARTICIPATION - ACTION PLANS

1. Discussions with community essential in deciding where wells should be sited.
Discussions will also take place with politicians in the region.
2. O&M of hand-pumps - US AID have developed a course for trainers in this field. Erik Loken of US AID can be contacted for details.

COMMUNITY RELATIONS

1. Sarvodaya & Health Science Training Centre (Kalutara) have already developed these aspects and more info. could be obtained from them.

ACTION PLAN/FOLLOW-UP: COMMUNITY RELATIONS AND PARTICIPATION

Instructions: In order to translate the group's recommendations and agreements into reality, a plan of action must be followed. Each action plan will be carried out under the oversight of an "Action plan task force" the task force will be responsible to the appropriate board administration (e.g. AGM for O&M, or other). Individuals on the task-force or outside of the task force may be enlisted (assigned specific tasks).

1. Problem Area: Community Relations and Participation

2. Recommendations Summary and Agreements

A.

B.

C.

etc.

3. Responsible Board Official D.E.F Jayasuriya, DGM Senior

Name & Title

4. Task Force Members: P. Abhayagunawardhena

Task Force Chair

R.A. Henry

Secretary

Mrs. J. Sivabalasunderam

Member

C.J. Stenbe

Member

N.E.M.S. Gunasekera

Member

P.Dharmabalan

W.A. Karunaratne

5. Next Scheduled Task Force Meeting Date: 16th June 1983

Mr. Kamnadasa (Sociologist)

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Action Plan: For each agreed upon Recommendation List the specific actions which must be done to implement the Recommendation.

What is to Be Done	Who is to Do It	By When will It Be Done?
<p>Design procedures for involving community in</p> <ul style="list-style-type: none"> Selection of sites for wells/handpumps W.S.Schemes/standposts. Decisions on respective distribution and patterns maintenance and protection maintenance of hand-pumps Repairs to Handpumps Reduction of wast at standposts. Minimising pollution Collecting fees for hand pump maintenance residual chlorine tests establishing dialogue and credibility Health education. Water Conservation Cost Consciousness Benefit Awareness 		<p>By Sept 30th, 1983.</p>

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