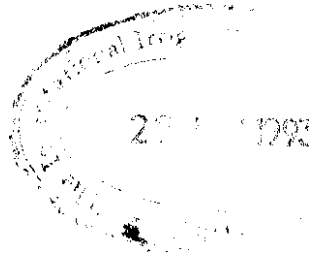


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Report prepared by

**Zenete Peixoto Franca
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PREFACE

This report aims to describe the management training activities conducted by the joint efforts of Sri Lanka Field Operations (SLFO) Division and the Training Unit of the International Irrigation Management Institute (IIMI) to fulfill the needs of the Irrigation Management Division of the Lands, Irrigation and Mahaweli Development (IMD/MLIMD) for improving its performance and sustainability of the Irrigation Management Systems Project (ISMP) in Kurunegala, Polonnaruwa and Ampara ranges.

The training/workshop program was designed to provide the Technical Assistants (TAs) of the Irrigation Departments in Sri Lanka with the opportunity of getting awareness of the needs to improve their performance to sustain the irrigation systems under the ISM Project.

This report includes the description of all activities along with the participants exercises, analysis and group results.

We would like to present our sincere thanks to Mr G T Jayawardena, Project Director for ISMP, IMD/MLIMD for initiating action to get the program through and subsequently attending the first workshop as a guest/observer. We appreciate the whole hearted cooperation extended by Eng. L T Wijesuriya Senior Deputy Director, Irrigation Rehabilitation and Training, Irrigation Department for taking action to nominate and send the Technical Assistants working in the ISM Projects with short notice. Deputy Directors of Irrigation in-charge of Kurunegala, Polonnaruwa and Ampara ranges, the Sri Lanka Irrigation Training Institute, Galgamuwa and the Irrigation Engineers in charge of the respective divisions too deserve special praise for their quick responses to release the TAs and providing official transport to ensure that they arrive at the workshop on time. We also thank Mr W. Ellawala, the Deputy Director, Monitoring & Evaluation, ISMP of IMD/MLIMD for attending the inaugural session and addressing the participants. We greatly acknowledge the support extended by Mr Nanda Abeywickrama, the Director Field Operations of the International Irrigation Management Institute (DFQ/IIMI) by attending the workshop to witness the success of the training workshop and addressing the participants. Mr M F M Fallil, Project Officer, United States Agency for International Development Mission in Sri Lanka too attended the inaugural session of this workshop and extended his support. We thank him profusely.

We would also like to thank Dr Jeffrey Brewer and Dr Sakthivadivel, the experts for the entire workshop whose knowledge and experience contributed to the quality of the workshop and its success as evaluated by the participants.

We also acknowledge the help given by Ms U Sumedha Abayaratna, Secretary for her untiring efforts in word processing instant training reports in-situ, maintaining records and attending to the registration of the participants, Mr Sarath Gunasinghe for his patient and devoted attention for looking after all training materials, equipment and attending to other work

entrusted during the workshop and outside hours and Mr P **G** Yasaratne, the driver who always made himself gladly available with transport even during very early and late hours.

Last but not least, we acknowledge the un-stinted support extended by Ms Muriel Stanislaus for doing all the preliminary work associated with this workshop and also for assisting us in the preparation of this report.

The financial support of the USAID without which these training workshops could not have realized, is gratefully acknowledged by IIMI.

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1. INTRODUCTION

Expanding food production, increasing employment opportunities and raising the standard of living for farmers with small land holdings in Sri Lanka, through improved water management by farmer mobilization, participation and organization are the goals of the Irrigation Systems Management Project (ISMP) under USAID. Considerable investments have been made on improving the physical systems in the irrigation systems under ISMP to boost such a process. A series of in-service training courses was provided to officers attached to the ISM Project during the project life to achieve its goals.

Sufficient training and motivation need to be provided where those are found to be lacking, to improve the attitudes and knowledge of those officers in order to improve the performance and sustainability of the irrigation systems. Since the Technical Assistants in the Irrigation Department have been identified as the key persons in maintaining the innovations introduced under ISM Project, THE SHELADIA ASSOCIATES, the consultants of ISM Project has in their final report recommended providing training to the Technical Assistants focussing on the performance and sustainability of the ISM Project. Accordingly IIMI was invited by the Irrigation Management Division of the Ministry of Lands, Irrigation and Mahaweli Development (IMD/MLIMD) to develop a suitable short term management training program to address the training needs of approximately 40 Technical Assistants attached to the Irrigation Systems Management Project (ISMP) in Kurunegala, Polonnaruwa and Ampara Ranges.

2. IIMI'S MANAGEMENT TRAINING AND INSTITUTIONAL DEVELOPMENT

IIMI's Management Training and Institutional Development activities are usually designed to contribute especially to IIMI's goals of strengthening national capacity, to effectively manage irrigation systems. The programs are therefore specifically designed to facilitate development of appropriate managerial skills among the irrigation personnel aiming to improve their performance for better management of irrigation organizations and schemes.

To reach this objective, IIMI's training efforts are directed towards conducting the activities of the training cycle which are: (a) training needs assessment; (b) curriculum development, (c) training of trainers (d) production of training materials, (e) monitoring the implementation of the training activities and (f) evaluation of all the stages of the training cycle.

In Sri Lanka, for example, IIMI was invited to design a training program for technical assistants (TAs) aiming to facilitate their awareness of the needs to improve their performance to sustain the irrigation systems under ISM Project.

Even though there was no expectation for IIMI to implement all activities of the training cycle, which would generate the involvement of irrigation managers at all levels of the

organization and consequently their support to the continuing development of TAs, the first steps to ensure the relevance of the training program to the participants were taken. Accordingly a rapid training needs assessment for the TAs was conducted.

3. TRAINING NEEDS ASSESSMENT AND ORGANIZATIONAL CONSTRAINTS.

In general, the major objective of the training needs assessment is to provide the potential participants of a **training program** with the opportunity of (a) analyzing their own jobs to get awareness of the skills necessary to perform their jobs well; (b) assessing their own skills and identifying their strengths and weaknesses to reinforce or overcome them; and (c) defining priorities for the training content to meet their primary needs. The participants also get awareness of the constraints of the organization which have to be overcome through different management interventions rather than training.

The rapid training needs assessment of TAs under ISM Project was conducted in two stages -

- (i) Special meeting with TAs and
- (ii) Meeting with irrigation engineers and farmers

3.1 Outcome of the Meeting with TAs and the Training Needs Assessment (TNA)

Despite the short notice given to the Training Unit, **IIMI** Training Specialist, her Assistant and the Senior Irrigation Specialist attached to Sri Lanka Field Operations (SLFO) of IIMI visited Polonnaruwa where most of the ISM activities were concentrated, with a view to meet some of the TAs who would form the main target group. A workshop was arranged at the Giritale Hotel, Hingurakgoda on 31 July 1992, with a sample of thirteen TAs to obtain ideas on their training needs with respect to the management of the irrigation systems with special emphasis on the objectives of the ISM Project. The Training Needs Assessment had the following stages:

- Job and Task Analysis
- Identification of Knowledge and Attitudes
- Prioritization of Knowledge and Attitudes.
- Assessment of Constraints
- Suggestion to overcome Constraints

At the beginning of this workshop, the participants were involved in an inter-active exercise to make them feel at ease and communicate more openly, freely and frankly. After a brief introduction on the purpose of the workshop, the TAs were asked to identify the major tasks they perform in their daily duties. The "Modified Nominal Group Technique" was used in this instance. Each individual was asked to write five major tasks they perform.

The participants were then invited to list their tasks on a group flipchart, leaving out any tasks already listed by the other participants and repeating the exercise until all the tasks from all the lists have been transferred to the flip chart. Afterwards the group as a whole was invited

to list, analyze and discuss the knowledge and attitudes necessary for them to perform the TAs' tasks and the existing gaps which are preventing them of doing a better job.

The following tasks had been identified by this group:

1. Correct delivery of water to the farmers.
2. Operation and maintenance of irrigation systems.
3. Investigating and solving farmers problems.
4. Attend FOs' meetings and solve their problems.
5. To evaluate the performance of work done to farmers.
6. Planning, estimating and executing water related and civil works.
7. Construction supervision.
8. Attending to official correspondence.
9. Collection of data.
10. Preparation of progress report.
11. Surveying and levelling.
12. Drawing plans.
13. Financial management.
14. Managing subordinate staff.
15. Preparing annual work plan.
16. Materials management.
17. Receiving and resolving conflicts.
18. Attending IEs', DDs' and AGAs' meetings.

The related Knowledge as identified by the T.A's were:

1. Area cultivated and water requirement.
2. Measurement of water flow.
3. How to interact with fanners: convince, negotiate, communicate.
4. Technical aspect of conveyance and dismbution systems.
5. To know farmers requirements.
6. Measuring water flow in each outlet.
7. How to develop an operational plan.
8. How to motivate farmers and staff.
9. How to give instructions and how to guide them.
10. How to communicate.
11. Planning for the maintenance management and knowledge about prioritization.
12. How to plan and monitor the farmers' problems and solve them.
13. How to solve problems of farmers.
14. To know staff job descriptions.
15. How to get feedback and response from farmers.
16. Importance of the data need for accuracy for making decision.

Some of the Attitudes identified by the Technical Assistants which would facilitate their job and increase their productivity were:

- | | |
|-----------------|----------------------|
| 1. Politeness | 6. Understanding |
| 2. Diplomatic | 7. Trustworthy |
| 3. Patience | 8. Gratefulness |
| 4. Friendliness | 9. Supportiveness |
| 5. Helpfulness | 10. Appreciativeness |

The constraints which are affecting the TAs' performance were identified as follows:

1. TAs' poor salaries.
2. Poor Allowance for Travel and Subsistence.
3. Lack of Transport.
4. Insufficient Funds.
5. Unit rates (to be updated)
6. Lack of Job Satisfaction.
7. Inadequate Facilities.
8. Less Promotional Prospects.
9. Lack of recognition.
10. Lack of Authority.
11. Lack of In-service Training.
12. Lack of communication channels.
13. Problems in Inter-Agency Relations.
14. Lack of Human Resources.

Some of the solutions suggested by the T.A's were:

1. Provide proper training for modelling work.
2. Finding solutions for the constraints will **bring** better performance.
3. Duty Free Vehicles.
4. Provision of rent free quarters.
5. Improve service conditions.
6. Assignment of stations properly

In summary, the major results of the TNA exercise was the necessity to improve TAs:

- a) Attitudes
- b) Skills for planning, implementing and evaluating activities. (development of action plans)
- c) Skills for communicating with farmers, and
- d) Leadership qualities

During the discussion on the organizational constraints, the TAs showed their resentment to the present salary structure, transport allowances and other living conditions. They even went to compare the wide disparity between their salary structure with those working under contract for the Consultants. Also they expressed their unhappiness about the way the foreign scholarships were distributed among the staff working for the ISM Project. Their appeals to the Heads of the Department with regard to all the above problems too had not brought any favorable results. Some of them hinted that the only way of getting attention to their problems was to go slow when performing their duties under ISMP which may have a direct impact on the performance and the sustainability of the Project.

It was observed that these officers were frustrated due to poor working conditions, poor salary structure and insufficient recognition paid to them by their own superiors in the service, despite the large responsibilities they undertake. These officers have neither been provided with proper incentives nor being motivated properly to achieve job satisfaction while performing their duties. Add to this, inter-agency envies too seemed to exist among some of these officers. They were critical of certain approaches used by some line agency officials when organizing the farmers.

The discussion on the organizational constraints was closed with the TAs' statement on the immediate needs to overcome the major constraints to ensure better performance and sustainability of the systems.

3.2 Meeting with Irrigation Engineers and Farmers to get their Views on the possible Training Needs for the TAs

The training team from IIMI including the Social Scientist from SLFO made a subsequent visit on 20 and 21 August 1992 to Polonnaruwa to meet and get the views of the Irrigation Engineers and those of the farmers about the actual performance of TAs in the field and some suggestions to improve their performance through a training program. The Irrigation Engineers endorsed all what the TAs have recognized as training needs and constraints.

Farmers groups represented Distributory Channel Organization officials, field channel farmer representatives and ordinary farmers. At the group discussion the farmers were made aware of the services that are made available to the farming community by the TAs and the constraints they encounter when discharging their duties.

The meetings with these farmers from head and tail end (about 40) of the systems were very helpful to clarify and/or confirm the information given by the TAs during the TNA exercise. The farmers showed appreciation for the TAs' assistance to their problems. However, they requested their presence in the field more frequently to increase the effectiveness of their advice. Fifty percent out of ten farmers interviewed using a questionnaire (Annex - 1) individually agreed that the TAs' visit to the field are insufficient because of too many responsibilities entrusted to them, while forty percent stated that these visits are insufficient due to lack of

official transport. Fifty percent of the interviewed farmers also agreed that the TAs' failure to provide proper solutions to their problems was due to the lack of financial allocations. Sixty percent of the farmers also mentioned that the best way to promote TAs' enthusiasm and interest would be the provision of allowances. Sixty percent of the farmers also agreed that there should be a change in the field inspection routine and that it should be according to a time table. This seems to suggest that the farmers want to rely on the TAs' assistance and they should know when they are visiting the field.

In summary, as a result of the interview it was found that the TAs should be provided with the opportunity to improve their attitudes towards farmers by visiting them more frequently, caring and solving their problems, attending to farmers meetings to be more effective in their work.

This information was taken in to consideration and was included in the training exercises which were designed to sensitize the TAs towards farmers' needs and relationship.

4. CURRICULUM DEVELOPMENT

The curriculum for the training program was developed reflecting the results of the TNA.

The training curriculum was designed and implemented as presented below.

4.1 Introduction

One of the major ISM Project objectives was to enhance the Operation and Maintenance (O&M) capabilities of the Irrigation Department (ID) staff. A series of in-service training was provided to technical assistants, irrigation overseers and other staff to achieve this project objective during the project life. However, it was recommended that a final workshop should be conducted to provide the Technical Assistants with the opportunity of reflecting on the improvement of performance and sustainability of irrigation systems.

4.2 General Objectives

The general objectives of this workshop were to review and discuss systems operations and maintenance in order to develop awareness of the needs to constantly upgrade its performance and improve commitment among Technical Assistants to sustain the systems.

4.3 Participants

Three workshops were attended by forty technical assistants divided into groups of approximately 15 participants for each workshop. They came from all seven ISMP schemes. **See Annex - 2**

4.4 Time-frame and Venue

The workshops were held from 2-8 September, 1992 at the Training Facilities of the **Airport** Garden Hotel. **Three** workshops of two days duration were conducted from 08:00 to 17:00 hrs., as follows:

- Workshop 1 : 2 - 3 September
- Workshop 2 : 4 - 5 September
- Workshop 3 : 7 - 8 September

4.5 Strategy, Methods and Techniques

The strategy of **this** program was designed to facilitate the development of awareness among the participants through group interaction.

This strategy incorporates a series of techniques ranging from individual to group focussed ones.

Among others, the participants will be involved in:

1. Case-study
2. Role-playing
3. Trip around the tables
- 4.** Brain storming
- 5.** Group discussion
- 6.** Integrated panels, etc.

4.6 Instructional Materials

A series **of** instructional materials were **utilized**, aiming to

- (a) support the workshop curricula; and
- (b) facilitate learning process among the participants.

The following instructional materials were **used** during this program: Slide and Video Shows; texts (hand-outs) and IIMI publications; exercise sheets; flipcharts; etc. Extra texts on the content of the Training **Program** were provided to the participants to encourage them to read afterwards.

4.1 Resource Persons

The following resource persons participated in this program:

- (a) Experts: Dr Jeffrey Brewer and Dr R Sakthivadivel, IIMI's Social Scientist and Senior Irrigation Specialist respectively.
- (b) Facilitators: Dr Zenete Peixoto Franca and Mr P Mutukumarana, IIMI's Training Specialist and Assistant to the Training Specialist.

4.8 Evaluation Strategies

(a) **Process** Evaluation: The participants were invited to self evaluate on the process of learning and interaction which took place during the program.

(b) Program Evaluation: The participants were invited to assess the organization, planning, implementation (including methods, techniques, experts' and facilitators' performance, instructional materials and training facilities)

The group was also invited to give oral feedback to evaluate the activities.

4.9 Major Contents for the Sessions of the Workshou

1st Session : The role of the Technical Assistants

2nd Session : Operation Activities in irrigation systems

3rd Session : Maintenance Activities in irrigation systems

4th Session : Specific issues for systems sustainability and performance

5. IMPLEMENTATION OF THE WORKSHOP

Three workshops, each lasting for two full days, were conducted at the Airport Garden Hotel at Seeduwa from 2 - 8 September 1992. Project Director for ISM Project and Deputy Director for Monitoring, Feedback and Evaluation for ISM Project of the IMD/MLIMD attended the inauguration ceremony. The Director Field Operations, IIMI and Senior Deputy Director, Irrigation Rehabilitation and Training of the Irrigation Department attended as guests for the subsequent workshops.

A set of training modules was produced to support the learning process. These training modules were composed of a general plan, including objectives for each day, direction for training methods and techniques, exercise sheets, hand-outs, overhead transparencies, video tape, slide tape presentations, charts and evaluation forms for the participants' self-assessment and assessment of the training program.

During the workshops some of the exercises were improved and/or adjusted in order to meet the needs of the participants.

The activities of the workshop were conducted in the following way.

5.1 Day I

Objectives for the Day I were -

- a) To discuss the role of the technical assistants in the management of irrigation systems.
- b) To design and present an action plan for managing irrigation systems as technical assistants.
- c) To discuss the operation activities in irrigation systems and exercise the design of an operational plan.
- d) To present and discuss an operational plan for implementation at the work site.

After explaining the objectives of the workshop, the participants were involved in an interactive exercise which helped them to feel free, move and communicate easily during the two days. They also were expected to state their expectations of the workshop.

5.1.1 The role of Technical Assistants in the Management of Irrigation Systems

Under the ISM Project, the Technical Assistants **are** identified as the key persons for maintaining innovative approaches introduced by the Project Accordingly it was imperative that these officers be made aware of the qualities of a **good** leader cum manager. These were explained to the participants briefly at the beginning. A Case Study of the performance of Mr A M S Gunadasa at Kimbulwana Oya, Kurunegala was used to focus on the qualities a TA should possess. It was pointed out that one should possess the qualities of a successful manager and also those of a good leader for him to be a successful Technical Assistant

After a discussion on the qualities of a Leader cum Manager, an exercise was conducted for the participants "**to reflect on the TAs' role.**" The technique used was "**Trip around the tables**" because rapporteurs were on a trip visiting other tables to get the views of other participants on their problems. The objective of having this exercise for this lesson was that a person should consult, appreciate and respect the views **of** other groups before a decision is taken on a certain issue. This was meant for the TAs to get an awareness of the qualities of a good manager cum leader and their responsibilities in promoting participatory approach in their working environments. It also gave them an opportunity to assess what qualities they already possess and what they lack.

The results of this exercise are presented in the **Annex - 3.**

5.1.2 Design and Present an Action Plan for Managing Irrigation Systems as TAs

The Senior Irrigation Specialist made a presentation followed by a discussion on Operation and Performance. He dealt on performance in operations, achieving good water distribution, information needed for good water distribution new ISMP operation system and indicators of water distribution performance during the short presentation.

The "Modified Panel" technique provided an opportunity for each group of participants to discuss and present their views through a rapporteur in a panel.

The contents of the exercise included, first, identifying five major activities in operating an irrigation system and explaining how these activities are implemented. Secondly, identifying one major constraint in implementing each of these five activities and also providing suggestions how to overcome these constraints and how would they evaluate the effectiveness of these operational activities. Finally they were requested to list three practical and feasible actions on "How to help the Irrigation Systems under ISM Project to be well operated to improve the performance. (See Annex - 4). The participants were then asked to reflect on the group suggestions obtained from the previous exercise, select one clear objective and design a practical and feasible action plan for operation to enable them to implement it after returning to the field. A guideline (see Annex - 4A) showing the steps to follow when designing the action plan was supplied to the participants. The action plans so generated were copied and handed over to the participants for their use once they return to the field. The action plans developed by the groups during the three workshops are presented in the Annex - 4B.

5.2 Day II

Objectives for the Day II

1. To discuss maintenance activities in irrigation systems.
2. To decide on a maintenance plan.
3. To discuss and get the maintenance plan ratified by the DCO.
4. Analyze and discuss an approach used by a T.A in the field to solve maintenance problems.
5. To discuss sustainability and performance of irrigation systems..
6. To analyze problems and design an action plan for O&M to solve one of them.

The participants were invited to discuss issues related to the maintenance of irrigation systems. The importance of Walk through survey in deciding maintenance requirements, attending to preventive maintenance and making an annual maintenance plan was discussed during the presentation. The resource person stressed that the need for a person to achieve job satisfaction and to get recognition from others for the good work done is as important as direct compensation.

5.2.1 Solving Maintenance Problems

The technique "Play the opposite role" was used to analyze the approach used by a TA in the field to solve the maintenance problems he encountered. The objective of using **Role Play** for this exercise was to put the participants into real life situations and get them to think and develop feelings towards the problem and analyze how they would approach it.

The contents of the role play, consisted of the case study of a TA (Annex - **5**) who had to violate the accepted departmental rules and regulations to solve maintenance problems in his area. This role play created an awareness among the participants about the pros and cons of using certain approaches to solve maintenance problems. Participants very actively took part in the deliberations prosecuting and defending the approach used by this Technical Assistant. The **jury** gave its decision based on the presentations made. However the jury gave its opinion on the correct procedure that should have been followed by the TA. The experts and the peers also took part in the subsequent discussion. Final outcome was the awareness created within the participants to always seek the cooperation of the farmers in solving maintenance problems. The directions of this exercise are presented in Annex - **6**.

The second "role play" conducted during the workshop, weaved around a Technical Assistant who was given an allocation less than that was required to maintain a distributory channel by his Irrigation Engineer. Here too the participants were put to real life situations of farmers, DCO Officers and a TA.

The contents of the exercise composed of an approach used by a TA in negotiating with his farmers and managing to arrive at a decision through the consensus of the interested parties. This role play brought into focus the qualities a TA should possess in dealing with the farmers and the D-Channel Organization Representatives when deciding priorities for the work done in a D-Channel especially when allocations are restricted. The approach used by the TA in the role play was discussed further by the peers and the experts to bring out the good points and criticize the bad points. The TAs while role playing in the farmers position developed an awareness of the problems confronted by the farmers, their conflicts, their aspirations and how these could be solved by a TA through meaningful negotiations with farmers. The IEs who were placed on the TAs' role too got an awareness of the problems confronted by the TAs when discharging their duties. The two work sheets used during this exercise are presented in Annexes **7** and **8**.

5.2.2 Performance and Sustainability of Irrigation Systems

Adequacy, Timeliness and Equity are three main counts on which efficiency of an irrigation system could be measured. The concepts of performance and sustainability were discussed briefly by the resource person under Performance Indicator for Water Delivery Systems.

A Small Group exercise involving a Case Study was conducted to analyze the constraints confronting a typical irrigation system whose maintenance was ignored for over 40

years. The objective of using a case study for this exercise was to present and study the solution of a problem similar to one confronting the TAs under the ISM Project.

The contents of the Case Study included an Irrigation Scheme Kuda Oya (**See Annex - 9**) which was almost 50 years old and functioned well without any problem for several years. However, with time, due to land fragmentation as a result of growing families and also due to lack of funds, the system could not be maintained efficiently for the last 40 years, which resulted in creating problems for the generations to follow. During the first phase of the Small Group Exercise (**Annex - 9A**), the participants were asked to list ~~three~~ constraints which had the most detrimental impact on the system performance on Kuda Oya and to prioritize them.

During the second phase, the participants were asked to develop problem analysis for each constraint. The participants then had to identify one problem that can be tackled by them and to develop an action plan to solve it. A guideline was provided to facilitate **this** task, The results of the group exercises are presented in the Annex - **10**. Subsequently the participants were asked to reflect on the group suggestions to help the irrigation systems under ISMP to be operated well, and design a practical and feasible action plan to implement after returning to the field. A guide line to assist the participants to prepare this action plan was also provided (**See Annex - 11**). The results of this exercise is given in Annex - **11A**.

This particular exercise facilitated an awareness how one could contribute towards solving problems of an irrigation scheme even when the department failed to provide sufficient funds for maintenance. Since the general trend in the public service seems to be to wait for funds and delay, without trying to solve the immediate problems for which solutions are available, this exercise created a good impact on the participants to get them to identify constraints, prioritize them and develop problem analysis to explore the problems where one could provide a solution with a view to improve the performance and sustain their irrigation systems.

6. EVALUATION

Two kinds of evaluation were developed and applied during the workshops. They were: (a) participants' self evaluation, and (b) program evaluation.

6.1 Participants' self-evaluation

At the end of the workshop the TAs were invited to evaluate their own process of development during the workshop. A self-evaluation form, comprising of thirteen statements to be assessed on a rating scale from 1 (very low) to 10 (very high) was used to record the participants' views and feelings about their own level of development.

The average results of the participants' self evaluation are given below:

		<u>Average</u>
1.	My knowledge about my own qualities which help me to be a leader as TA .	was 5.42 today 7.9
2.	My feelings of being more active and a good leader.	was 7.17 today 8.5
3.	My willingness to overcome the difficulties in my job to feel better inside myself.	was 6.05 today 8.32
4.	My feelings of being attentive to farmers, my staff, my peers, superiors, and to my responsibilities.	was 7.0 today 8.87
5.	My interest in motivating myself and motivating farmers, my staff and peers	was 6.35 today 8.62
6.	My patience to listen to farmers, my staff, my peers, etc.	was 6.77 today 8.72
7.	My wish to understand and deal with conflict among farmers and my subordinates.	was 6.62 today 8.87
8.	My self-confidence and belief that I am capable enough to help farmers to understand and accept my advice to improve the system performance.	was 6.42 today 9.02
9.	My belief that I am able to change my own behavior to be happier in my job, among farmers and my staff.	was 6.6 today 8.7

10.	My self-confidence in my skills (knowledge, understanding, attitudes and feelings) to convince farmers, my staff and peers that they can be happier if they improve communication with others, with farmers and create ways to solve problems.	was today	5.95 8.57
11.	My belief that myself, my peers, my staff, and my superiors are responsible for the improvement of the irrigation systems.	was today	7.1 8.25
12.	My belief that I am capable enough to improve my services to farmers by being a committed leader, effective coordinator, motivator, believer, hard-worker, etc.	was today	6.72 8.67
13.	My feelings about this workshop and its usefulness to my work to improve my attitudes and behavior with my staff, farmers, etc.	was today	5.5 8.87

6.2 Program Evaluation

The objective of the program evaluation was to conduct a systematic appraisal to assess whether the objectives of the program had been achieved to **get** an idea of the strengths and weakness of the program. This evaluation **will** assist the organizers to incorporate improvements to any future programs wherever necessary.

The participants were given a questionnaire for them to evaluate the success of the workshop with respect to achieving it's objectives. A scale of 1 to 5 was given for them to check where 1 was low (objective not achieved) and 5 very high (objective achieved very well). The average of the results obtained from the **40** participants for each item is given below. The average scores received for each objective was above **4** indicating that the objectives had been achieved remarkably well.

Total number of participants was 40. Averages reached for objectives are given below.

	<u>Average</u>
1. To discuss the role of the technical assistants in the management of irrigation systems	4.20
2. To design and present an action plan for managing irrigation systems as technical assistants	4.35
3. To discuss the role of TA as leader and manager	4.38
4. To discuss the operation activities in irrigation systems	4.25
5. To present and discuss an operational plan for implementation at the work site	4.15
6. To discuss maintenance activities in irrigation systems	4.00
7. To discuss the maintenance plan in a meeting with DCO (role playing)	4.38
8. To discuss sustainability, performance of irrigation systems and identify indicators to measure the performance.	4.175
9. To analyze Kuda Oya scheme and list problems	4.11
10. To design an action plan for O&M	4.30

Opinion **and Feedback** also was obtained from the participants. The following averages were obtained from the overall results. A scale of 1 to **5** was given where 1 was very low and **5** very high. All, except for Orientation, the scores received were above **4** indicating high opinion of the workshop.

	<u>Average</u>
1. Orientation	3.92
2. Group atmosphere	4.6
3. Interest and motivation	4.6
4. Participation	4.3
5. Productiveness	4.3s
6. Physical arrangement and comfort	4.6

The participants were also asked how they would rate the workshop, varying from not good to excellent. (Not good, Mediocre, All right, Good, Excellent). The average received for the responses from all the participants was 4.1., indicating a good evaluation from the participants.

As stated by the participants the strong points of the workshop were:

- * New proposals and experiences to improve the knowledge
- * Trip around the table session
- * Group work; improve speaking ability
- * Learnt more important things to improve the knowledge about farmers
- * Distributed notes and materials
- * Action plan on good management
- * Introducing how to develop an Action Plan
- * Group participation and exchange of views
- * Orientation in modern ways to understand and overcome existing and oncoming problems

- * Participatory management
- * Leadership qualities of TAs
- * The sessions were excellently carried out within the specified time allocation
- * Operation of maintenance plan, DCO meetings, action plans
- * Discussion on working with farmers
- * Interest, motivation, productiveness and keeping to schedule
- * Knowledge on Working with DCOs
- * Preparation, implementation and monitoring of the action plan
- * Role playing using field experience
- * Leadership; farmer relationship
- * Discussion on the role of TAs as leaders
- * Discussion on the role of the TAs in the management of irrigation systems
- * Presentations
- * Well planned, systematic, useful handouts and well organized group participation
- * Well organized handouts containing excellent and valuable data
- * Making participants' stay very comfortable; more discussions and presentations by participants' lectures
- * Giving an understanding to plan, organize and work as a leader and manager to keep the suggestions in good shape
- * Physical arrangements and comfort; training methods; presentations
- * Personal attention to all the participants

The weak points:

- * No time for proper translation
- * Communication gap due **to** the language difference (Difficult to comprehend the accent of the trainers)
- * Too much work for learners
- * Time is too short
- * Long session for a day
- * Not in a position to collaborate in some problems arose during the period
- * Lack of time: Conducting in an improper time **as** we are very busy with our construction works
- * Insufficient time for discussions on Gunapala's case studies and DCO meetings
- * Duration **of** the workshop is inadequate **to** cover all the aspects
- * None
- * Could not find. Everything appears to be good and strong
- * **Work all** the time without a break

Suggestions for Imurovements

- * More time should be given and proper translation into Sinhalese would **be** more useful
- * Workshop to be organized with a field trip for a week
- * Notice has to be given well in advance
- * To conduct meetings with farmers and officers at the same time
- * At least three days duration should be given
- * To have periodic programs and extend the duration

- * All items to be corrected using role playing
- * This type **of** workshops should be held in quiet places
- * Should be held in places like Nuwara Eliya with some entertainments
- * Feedback. Whether this training will be made **use** of in Irrigation Departments
- * Presentation **of** these views to higher authorities in the Irrigation Departments
- * Extend the days to incorporate some more management activities
- * To introduce more. exercises to involve participants in presentations
- * Inquire from TAs how long the duration should be for the management of farmers' organizations

7. SUMMARY OF CONCLUSIONS AND EXPECTATIONS

7.1 Conclusions

The scope of the training activities for the technical assistants under ISMP ranged from the training needs and organizational constraints assessment to planning, implementation and evaluation of the workshop program.

After conducting all the training activities, the following major conclusions were reached:

The factors affecting individual performance of the TAs under the ISMP are related to interventions both training and non-training.

The factors leading to solutions by training are mainly the gaps in managerial knowledge such as planning, monitoring, evaluating irrigation activities and in attitudes such as patience, appreciation, diplomatic, commitment, etc. including those related to leadership qualities, dealing with farmers, etc.

- The training/workshop program was specially designed to meet the participants' training needs which included exercises to (a) facilitate awareness of the TAs as leaders focussing on the leadership qualities of TAs and their relationship with farmers and irrigation staff; (b) improve the operation and maintenance activities for better performance and sustainability of irrigation systems; and (c) develop skills for designing action plans to direct activities such as planning, implementation, monitoring and evaluation.
- The objectives of the workshop were evaluated by the participants as "well achieved" showing a group average ranging from 4.0 to 4.38 within a scale from 1 (objective not achieved) to 5 (objective achieved very well).

The participants' self-evaluation results also presented very positive feedback in terms of their improvement of attitudes and understanding. Among others, there was improvement on their belief, self-confidence, understanding, interest in diverse aspects of their jobs, including willingness to overcome difficulties in their jobs to be more active and good leaders, etc.

It was observed that the "non-training" factors are in great dimension. They are mainly related to TAs' poor salaries, poor allowance for travel and subsistence which promote demotivation, lack of job satisfaction and interest, high level of frustration, etc.

7.2 Exuectations

As a result of the interactive exercise with TAs during different stages of this program which provided opportunity to discuss their jobs along with the respective constraints, the following expectations were raised:

- The "non-training" factors need to be taken into consideration, in order to minimize and/or overcome major problems which are preventing the TAs of carrying out their jobs properly.
- The immediate intervention of the Department of Irrigation in this respect would be very appropriate since the TAs have got awareness of their own potential to provide better contribution to the irrigation system, besides the improved expectation and motivation generated by their participation in the workshop program.
- A **Human** Resource Development (HRD) Plan should be designed to provide the TAs and **all** staff who are/will be involved in the management of the schemes under ISMP with a systematic training program and other HRD activities to assist them in developing appropriate skills to improve job performance and to ensure expected results besides developing motivation and job satisfaction.
- A follow-up program should be designed and implemented to assist the "trained" TAs in the application of **new** developed **skills** in the field, including assisting them in the implementation of the action plans designed by them during the workshop.
- The indicators for evaluating performance of TAs should be defined with them as part of the follow-up program to facilitate communication between supervisors and TAs in terms of providing advice and training when necessary for improvement of the job performance.

ANNEXURES

QUESTIONNAIRE USED DURING
THE INDIVIDUAL INTERVIEW WITH THE FARM

1. When did the TA in-charge of your area meet you last for any of your problem?
2. Did he visit your residence or the field when he met you?
3. Was it on your Quest or on his own?
4. What was the problem posed to him?
6. Did you get a solution to your problem ?
7. Were you satisfied with the solution to your problem? '
8. If he did not come to specifically meet you, when did you see him last at the field?
9. How often does he visit the field?
Daily Bi-weekly.... Weekly.... Monthly....
10. If his visits to the field are insufficient what do you think is the reason for it?
Lack of transport
Stationed far away
Private problems
Unwillingness to meet farmers
Insufficient attention or monitoring by his superiors.
Due to too many responsibilities given to the TA
11. How long does he spend in attending to your problems?
12. Does he give a hearing to farmers problems when he visits the field for routine departmental inspections?
13. If he failed to provide proper solutions to your or any others problems was it due to:
Lack of financial allocations
Red tape
Not getting support from his superiors
His lethargy
Himself not motivated by his superiors
His frustration about his job
Any other reasons

14. How often does he attend D/Channel Meetings and Project Meetings?

15. Does he cooperate with other agency officials during his normal duties?

16. How is his enthusiasm regarding work?

Not interested... A little... Average... Good... Very Enthusiastic...

17. Is there any way his superiors could promote his enthusiasm more?

Increased Salaries/Allowances/Government quarters/Foreign scholarships/
Training/Promotions

18. Is there any way you could promote his enthusiasm?

19. Do you feel that there should be a change in his field inspection routine and if so how should it be changed?

20. Whom do you think, you should meet to get your irrigation difficulties solved?

Work-supervisor
Technical Assistant
Irrigation Engineer
Institutional Organizer
Institutional Development Officer
Project Manager

LIST OF PARTICIPANTS

(Technical Assistants from Irrigation Department)

1. Mr D Wijenayake
2. K V D Chandrasekera
3. G Wickramanayake
4. S M K de Alwis
5. H D Gunasiri
6. M W J K Marapone
7. M H C K de Silva
8. W G Gnanadasa
9. W L H M T Bandara
10. A A D Dias
11. K A N Perera
12. K T Nanayakkara
13. B H S K Balasooriya
14. S S Fernando
15. P A K R Theodore
16. W M Wanninayake
17. H M R Herath
18. K T Bandusiri
19. W L Bandula
20. B M Sirisena
21. K G B S Wijayabandara
22. W Jayasinghe
23. M J K V Seneviratne
24. D M G P Dissanayake
25. Y B M G Jayasinghe
26. Laxman de Silva
27. Mr R A J P Perera
28. A S Buhari Ahamed
29. L G P Samarawickrema
30. M Kanapathipillai
31. A V D Alosious
32. V L Amarasekera
33. I M Bakeer
34. M H A Sathar
35. U R Liyanage
36. A M U B Alahakoon
37. Gamini Bandaranayake
38. M K Wijesooriya
39. K A U S Imbulana
40. R A Maithripala

EXERCISE

REFLECTING ON TAs' ROLE

Technique: **Trip-around the table**

Directions:

1. Form **4** groups of participants



2. Each group will elect a rappporteur
3. Each group will work on one question assigned below
4. The groups will have 20 minutes to discuss and respond only one question
5. The rapporteur will compile the group responses in a sheet of paper (should be a list of about 10 items)
6. In the next step, the rappporteur will begin the 'trip-around the table'. He/She will have 7 minutes to visit each table.
7. He/She will present his/her group question and response to the new table and will collect contributions from the participants to improve his/her list.
8. After visiting the three other tables, he/she goes back to his/her own group, share the contributions collected during the "trip" and make group decision on the five major priorities in 10 minutes.
9. The rappporteur will write these priorities on the flip chart **to** present it to the audience (5 minutes)
10. Each group will have 10 minutes to present the results **of** item no. 3
11. At the end, the participants will be invited to give feedback on the process **of** the **exercise**, including advantage **and** disadvantage for the learning process **and** technique.

REFLECTING ON TAs' ROLE

Questions for playing "trip around the table"

Please write down:

Group A

Qualities or attributes of TAs as managers-leaders (two contributions from each member)

Group B

Problems which prevent TAs to be good leaders in their irrigation systems (two contributions from each member)

Group C

Conditions which are favorable to the TAs to demonstrate leadership skills in the irrigation environment (two contributions from each member)

Group D

What are the major responsibilities of TAs as managers-leaders in the irrigation systems under ISMP? (two contributions from each member)

Reflecting on TA's Role - Priorities

Results of the Group Exercise

WORKSHOP I

Group A

Qualities or attributes of TAs as managers-leaders (two contributions from each member)

1. Sound technical knowledge.
2. Proper planning and organizing capacity.
3. Reliability and punctuality.
4. Availability **of** the organization.
5. Support from superiors and subordinates.
6. Identify problems and relevant solutions.
7. Ability to speak in a simple manner.
8. Good public relationship

Group B

Problems which prevent TAs to be good leaders in their irrigation systems (two contributions from each member)

1. In adequate time for full time participation due to existing **work** load.
2. Lack of support from higher authority towards TA.
3. Lack of training facilities to TA s/supporting **staff**.
4. Difficulty in changing traditional practices of farmers.
5. Intimidation of political personnel.

Group C

Conditions which are favorable to the TAs to demonstrate leadership skills in the irrigation environment (two contributions from each member)

1. Irrigation ordinance.
2. Responsibility of a TA for operation and maintenance.
3. Technically skilled supporting staff **superiors** and subordinates.
4. Availability **of** TA when and where he **is** wanted.
5. Proper awareness about the interests and attitudes **of** farmers.

Group D

What are the major responsibilities of TAs as managers-leaders in the irrigation systems under ISMP? (two contributions from each member)

1. Should be aware of all human aspects and feelings of farmers.
2. To have a good rapport with farmers.
3. To have farmers participation in planning and implementation of the annual maintenance plan.
4. To educate farmers for their O&M works.
5. To get quality jobs done in rehabilitation works.

WORKSHOP II

Group A

Qualities or attributes of TAs as managers-leaders.

1. The TA should have a sound technical background.
2. He should possess a willingness to explain the objectives and goals and to and to initiate any **task**.

3. The TA should be patient to give a good hearing to suggestions, criticisms and be able to distinguish the problems in the area.
4. To get the confidence of the farmers and line agencies he must **work** to a decided schedule.
5. He must be able to plan monitor and evaluate.

Group B

Problems which prevent TAs to be good leaders in their irrigation systems

1. Lack of authority
2. Lack of support from superiors and if they do not appreciate.
3. If we have more personal problems eg. bad living standards.
4. Political influences.
5. When people don't like to change their traditions.

Group C

Conditions which are favorable to the TAs to demonstrate leadership skills in the irrigation environment

1. Technical education and knowledge.
2. Support from the government and non-government agencies.
3. Legal authority.
4. Facilities.
5. Recognition (From supervisor and farmers, training further).

Group D

What are the major responsibilities of **TAs** as managers-leaders in the irrigation systems under ISMP?

1. Preparation of rehabilitation estimates for effective water delivery with the assistance of Farmer Organizations. *
2. Explain of importance of sustainability of the system after the rehabilitation.
3. Train farmers for O&M.
4. Create awareness among farmers that government officers are prepared **to** help them.
5. Preparation, implementation and monitoring Annual Maintenance Plan and water issuing schedule with the assistance of **Farmers** Organizations.

WORKSHOP III

Group A

Qualities or attributes of **TAs** as managers-leaders

1. Ability to forecast, plan & implement monitoring farmers by listening to their views.
2. Ability of organizing to see the plan is implemented.
3. Motivating farmers by listening to their views.
4. Availability to communicate effectively.
5. Monitoring, feedback and evaluation.

Group B

Problems which prevent **TAs** to be **good** leaders in their irrigation systems

1. Traditional methods.
2. Administration.
3. Political interference.

4. Inter-agency conflicts.
5. Prominence and dependability.

Group C

Conditions which are favorable to the TAs to demonstrate leadership skills in the irrigation environment

1. Supports from superiors and sub-ordinates.
2. Less interference by politicians.
3. Understanding and acceptability by the society.
4. Inter-agency - co-ordination.
5. Communication system.

Group D

What are the major responsibilities of TAs as managers-leaders in the irrigation systems under ISMP?

1. Organize the farmers to an organization.
2. Transferring technical knowledge to the farmers.
3. Give sufficient knowledge of water management.
4. Assist **the farmers** to **develop** the skills in Operation & Maintenance.
5. Guide them to increase their income.

MODIFIED PANEL

OPERATION ACTIVITIES IN IRRIGATION SYSTEMS

1. List five major activities involved in operating an irrigation system.
2. List one major constraint in implementing each of these five activities.
3. Have you implemented these activities? How do you evaluate the effectiveness of this operation activities?
4. What are your suggestions to help the irrigation systems under ISMP to be well operated to improve the performance? (Please list three practical and feasible actions on a flipchart.)

WORKSHOP II

PREPARATION FOR DESIGNING AN OPERATIONAL PLAN

1. List five major activities involved in operating an irrigation system.

Group A

- i. Prepn. of a schedule after getting information from farmers and higher authority.
- ii. Make sure that the canal system is in proper condition.
- iii. Arrange good operational staff.
- iv. Daily checking of gauges in canals and head works
- v. Getting daily information of **equal** water distribution among farmers.

Group B

- i. Discussion.
- ii. Forecasting and planning.
- iii. Delegation of duties.
- iv. Implementation.
- v. Monitoring, evaluation and feedback. (while implementing)

Group C

- i. Calculating of water available for season considering tank storage, diversion and rainfall.
- ii. Decide acreage and crop type to be cultivated.
- iii. Preparation of water schedule with help of the farmers.
- iv. Check whether essential maintenance have been done.
- v. Implementation and monitoring.

Group D

- i. Having an idea of the actual command area.
- ii. Availability of water for the season.
- iii. Advise from line agencies about crop types and water rotation.
- iv. A well programmed O&M plan.
- v. Assurance of funds from the central government and farmer participation in shramadana activities if funds are not sufficient.

2. Prioritize the Three Major Ones

- 1st - Decide acreage and crop to be cultivated.
- 2nd - O&M plan. (concentrate on operational plan).
- 3rd - Calculation of water available for season. (tank storage, rainfall etc).

WORKSHOP III

Group A

Mr. M. Kanapathipillai
Mr. R.A. Maithripala
Mr. I.M. Bazeer

DIRECTION

1. List five major activities involved in operating an irrigation system.
 - i. Check in communication.
 - ii. All Turn **Outs** to be closed.
 - iii. Issue water in main channel up to the **tail** end.
 - iv. Open Turn Outs and commence issue from **tail** end of other channels.
 - v. Monitoring and evaluation.

2. List one major constraint in implementing each of these five activities
 - i. Farmers disagreed.
 - ii. Unexpected repairs (locks)
 - iii. Farmers could steal water due to absence of locks.
 - iv. Failure in communication.
 - v. Negligence of staff.

3. Have you implemented these activities? How do you evaluate the effectiveness of this operation activities?
Yes
 - i. Meet farmers and discuss.
 - ii. Collect daily information of farm details.

4. What are your suggestions to help the irrigation systems under ISMP to be well operated to improve the performance? (Please list three practical and feasible actions on a flipchart.)
 1. Farmer training and funding support.
 - ii. Motivate staff concerned.
 - iii. Introducing complaint book (log book) and responding to complaints efficiently.
 - iv. Allocate sufficient funds for effective maintenance.

Group B

Mr. M.K. Wijesooriya
Mr. V.C. Amarasekera
Mr. A.D.V. Alosious
Mr. K.A.U.S. Imbulana

DIRECTION

1. List five major activities involved in operating an irrigation system.
 - i. Check conditions and update water control systems.
 - ii. Deciding cultivation calendar.
 - iii. Deciding area to be cultivated.
 - iv. Preparation of irrigation schedules and issue.
 - v. Ensure the effectiveness of two way communication system.

2. **List one major constraint in implementing each of these five activities**
 - i. Inadequate funds.
 - ii. Non availability of seasonal rains.
 - iii. Inadequate water due to encroachments
 - iv. Inadequate field data
 - v. Inadequate communication facilities.

3. **Have you implemented these activities? How do you evaluate the effectiveness of this operation activities?**

Yes
Yield compared to water issue.
Farmers satisfaction.

4. **What are your suggestions to help the irrigation systems under ISMP to be well operated to improve the performance? (Please list three practical and feasible actions on a flipchart.)**
 - i. Provide enough funds.
 - ii. Improve communication facilities.
 - iii. Collect field data more frequently and computerize the system.

Group C

Mr. A.S.B. Ahamed
Mr. Liyanage
Mr. Samarawickrama

DIRECTION

1. List five major activities involved in operating an irrigation system
 - i. Planning for allocation
 - ii. Water scheduling
 - iii. Implementation
 - iv. Flow measurement
 - v. Monitoring & evaluation

2. List one major constraint in implementing each of these five activities.
 - i. Forecasting **of** rainfall and others (incorrect acreage, encroachment, reservation problem, unreliable data)
 - ii. Incorrect acreage and other as referred in i.
 - iii. Operating **staff** - inadequate number
 - not well trained
 - not well motivated
 - Farmers
 - Not having good farmer organization
 - Not properly trained
 - No proper motivation
 - Irrigation
 - No properly maintained adequate number of structures system
 - iv. Not enough structures
Not enough Instruments
No Competent staff
 - v. No Good communication system.

3. Have you implemented these activities? How do you evaluate the effectiveness of this operation activities?

Yes
Whether we sent the water in correct amounts.
Inspecting and feed back
Through daily information.
Studying the duty after the season
Check the yield with water issues.

4. What are your suggestions to help the irrigation systems under ISMP to be well operated to improve the performance? (Please list three practical and feasible actions on a flipchart.)
- i. Irrigation system should be maintained well for allocation when necessary
 - ii. Irrigation **staff** - properly motivated.
 - iii. Farmers to be properly motivated.

Group D

Mr. A.M.U.B. Alahakoon
Mr. G. Bandaranayake
Mr. M.H.A. Sathar

DIRECTION

1. List five major activities involved in operating an irrigation system.
 - i. Collection of data.
 - ii. Preparing and implementing a water schedule.
 - iii. Maintenance.
 - iv. Repairs and improvements.
 - v. Rehabilitation.

2. List one major constraint in implementing each of these five activities.
 1. Unreliable data due to lack of facilities or due to lack of interest.
 - ii. Non availability of proper structures.
 - iii. Not enough allocation.
 - iv. Lack of awareness
 - v. Lack of funds

3. Have you implemented these activities? How do you evaluate the effectiveness of this operation activities? Yes
 - i. Compare planning with actual operation
 - ii. Same as i.
 - iii. By inspection of the physical condition.
 - iv. Degree of damages to the system, adherence to cultivation calendar, less complaints regarding disputes.

4. What are your suggestions to help the irrigation systems under ISMP to be well operated to improve the performance? (Please list three practical and feasible actions on a flipchart.)
- i. Continue with the officer-fanner relationship established under **ISMP**.
 - ii. Conduct training **and** awareness regularly to educate farmer and tie up relationship.
 - iii. Involve **farmer** in decision making process **as** they are going to operate and maintain the system in the future.

**SUGGESTIONS TO
DESIGN AN OPERATIONAL PLAN**

DIRECTIONS

1. Please form **three** small groups.
2. Reflect on the group suggestions to help the irrigation systems under ISMP to be operated well, and design a practical and feasible action plan for you to implement it after returning to the field.
3. You could use the following steps,
 - a) Define one clear objective for conducting operation activities.
 - b) Identify the target area for related to this objective.
 - c) Choose two operation activities to conduct to reach defined objective.
 - d) List three constraints under which you will conduct these two activities.
 - e) List actions that you will **take** to minimize or overcome these constraints to accomplish this plan successfully. (Do not forget that it should be feasible solutions).
 - f) List five personal qualities that you need to have to be successful in this **task**.
 - g) How will you communicate this plan to your supervisor and/or people affected by this plan?
 - h) Where do you plan to implement it ? (Cite the name of the area)
 - i) How many people will be involved in this plan? (Do not forget that it should be with a feasible number).
 - j) When will you begin to implement this plan, and please define duration. (How many months do you intend to take to implement this plan seriously and with commitment?).

- k) Schedule follow-up and evaluation to assess the progress of this plan.**
- l) How do you plan to collect information on the progress of this plan?**
- m) List three results which can you anticipate as consequence of this action plan.**

The rapporteur will be invited to present the results of this exercise to the participants.

OPERATIONAL PLANS DEVELOPED BY TAs

WORKSHOP I

Group A

Mr. K.V.D. Chandrasekera

Mr. L.H.M.T. Bandara

Mr. W.G. Gnanadasa

A. One Clear Objective

Objective of operation activities is to have equitable water distribution to each paddy lot during a specified time.

B. The Target Area

Middle lot of a field canal

C. Two Operation Activities

- i. Calculating the quantity of water using available parameters.
- ii. Measuring the flow to the farm lot to check whether the designed discharge is delivered.

D. Three Constraints

1. Reliability of parameters
- ii. Inadequate resources
- iii. Inadequate communication and cooperation.

E. Actions

- i. By taking updated parameters.
- ii. Make the maximum use of available resources.
- iii. Training farmers by various means to improve communication and cooperation.

F. Five Personal Qualities

- i. Sound technical knowledge about water management.
- ii. Listening to the farmers to understand their personal problems regarding water distribution.
- iii. Unbiased regarding personal interests.
- iv. To be faithful to the farmers.
- v. Dedication to the job.

G. Plan to Communicate to Supervisor/and or People Affected by this Plan

Hold a meeting and explain about the plan to communicate to the work supervisor and farmers. (using various methods to explain)

H. Where to implement

In the field canal area

I. How Many Participants

14 participants

J. When to Implement (Duration)

Two weeks before starting the water issues. Intend to implement this plan for about five months.

K. Follow-up

- i. Observing daily records of the measuring gauge.
- ii. Inquire the farmers response.
- iii. Comparing the actual discharge with the designed discharge.

L. Plan to collect information

- i. Employ a capable person as a recorder of measuring gauges and carrier.
- ii. Frequent field inspection to know the running condition.

M. Three Results

- i. Saving considerable amount of water by using traditional methods.
- ii. By a equitable water distribution everyone's water problems are solved.
- iii. Farmers will be able to work to a better plan and will have a better yield.

Group B

Mr. H.D. Gunasiri
Mr. K.T. Nanayakkara
Mr. B.M.S.K. Balasuriya

A. One Clear Objective

To deliver sufficient water to a field system.

B. The Target Area

FC Area (10-15 Ha)

C. Two Operation Activities

- i. Preparation of program to be implemented according to a time schedule.
- ii. Taking measurements of water delivery in the canal system at various places to ascertain the amount of water flowing.

D. Three Constraints

- i. Farmers have to be informed about the prepared water issue program.
- ii. Prefer training of subordinate officers as well as farmers.
- iii. Arrange farmers to be punctual at their fields during operation.

E. Actions

Giving a proper explanation and understanding about the importance of their presence

F. Five Personal Qualities

- i. Proper understanding
- ii. Listening to the farmers
- iii. Being patient
- iv. Tolerance
- v. Commitment

G. Plan to Communicate to Supervisor/and or People Affected by this Plan

Submitting at proper time duration of discussing the unforeseen facts of finalizing the program with relevant authority with the farmers.

H. Where to implement

DCO area and for selected FC sections

I. How Many Participants

15 Farmers

J. When to Implement (Duration)

October 20th

3 weeks for land preparation

4 weeks primary age

4 weeks developing stage

K. Follow-up

Monitoring proper data collection from farmers as well as FC representative.

L. Plan to collect information

Through the Work supervisor collect records from field channel representatives daily.

M. Three Results

- i. Preventing unnecessary wastage of water.
- ii. Issue the exact amount to be required for that said period.
- iii. Understanding the farmers in a proper manner by participating with them during the activities.

Group C

Mr. S.S. Fernando

Mr. M.H.C.K. de Silva

Mr. L.K. Marapana

Mr. A.A. Dias

A. One Clear Objective

Water distribution and management in D-channel

B. The Target Area

DCO Area

C. Two Operation Activities

- i. Supply the crop water requirement
- ii. Keeping to time schedule (Time factor)

D. Three Constraints

- i. Not knowing the extent of cultivation.
- ii. Poor maintenance of channels and structures.
- iii. Farmers irregular cultivation patterns.

E. Actions

- i. To get correct information from farmer representatives.
- ii. To introduce a workable plan to do the maintenance of channels and structures by Farmer Organization.
- iii. Make the farmers work within the acceptable time table.

F. Five Personal Qualities

- i. Tactfulness
- ii. Punctuality
- iii. Friendly
- iv. Impartial
- v. Systematic

G. Plan to Communicate to **Supervisor/and** or People Affected by this Plan

Presenting the operation plan to IE. Discussing the same with farmer organization.

H. Where to implement

DCO Area

I. How Many Participants

50 members

J. When to Implement (Duration)

14 days before cultivation begin
Yala - **4** months
Maha - **4.5** months

K. Follow-up

Daily and weekly

L. Plan to collect information

Through a meter recorder, FC organization

M. Three Results

- i. Increase crop output
- ii. Creating awareness among the farmers about the DCO.
- iii. To create better understanding between farmers and the departmental officers.

Group D

Mr. D. Wijenayake

Mr. G. Wickramanayake

Mr. K.A.N. Perera

Mr. L. De Alwis

A. One Clear Objective

Maintaining the water level at control points

B. The Target Area

D/2 main channel and P.S.S.

C. Two Operation Activities

- i. Preparation of water issue schedule after discussion with the ID and DCO officials.
- ii. Execution of water issue schedule by ID and DCO officials.

D. Three Constraints

- i. Poor maintenance.
- ii. Unauthorized tapping.
- iii. Changing of operation schedule.

E. Actions

- i. Proper maintenance of canal system.
- ii. Educating and creating awareness among farmers to taking legal action against unauthorized cultivators.
- iii. Close supervision of the water issue schedule.

F. Five Personal Qualities

- i. Tactfulness.
- ii. Self confidence.
- iii. Commitment to the job.
- iv. Punctuality
- v. Ability to take correct decisions.

G. Plan to Communicate to Supervisor/and or People Affected by this Plan

Hold a meeting with DCO members and ID officials.

H. Where to implement

Command area under D/2 sluice.

I. How Many Participants

150 families

J. When to Implement (Duration)

The date fixed by the kanna meeting.

According to the variety of paddy, duration will be changed.

K. Follow-up

Daily feed back from farmers and supervisor or T.O.attendant.

L. Plan to collect information'

From the complaints received at monthly project committee meeting.

M. Three Results

1. Reducing the political interference.
- ii. Satisfaction among the farmers and officials.
- iii. Reducing the damages to the physical system.
- iv. Facilitating the **delivery** of water to the tail end.

WORKSHOP II

GROUP A

Mr. **J.V.K.**Seneviratne
Mr. **K.T.**Bandusiri
Mr. Y.B.M.G. Jayasinghe
Mr. **W.L.** Bandula

A. One Clear Objective

To issue water - timely, equally, sufficiently.

B. The Target Area

D.C.O Area

C. Two Operation Activities

1. Timely checking of water issues to see the anticipated targets have been achieved.
- ii. Checking the tank inflow according to schedule.

D. Three Constraints

- i. Insufficient field staff.
- ii. Lack of measuring devices.
- iii. In-adequate transport facilities.

E. Actions

Farmers should be trained.

F. Five Personal Qualities

- i. Good communication ability
- ii. Good organizing ability.
- iii. To be satisfied (Should have a good living standard)
- iv. Should be energetic.
- v. Should be task oriented.

G. Plan to Communicate to **Supervisor/and** or People Affected **by** this Plan

Submitting plan to Irrig. Engineer **an** informing fanners during **the** DCO meetings.

H. Where to implement

D.C.O area

I. How Many Participants

Depending on the size of the scheme

J. When to Implement (Duration)

From the beginning of the cultivation season and throughout the season.

K. Follow-up

Daily feed back from the farmer representatives.

L. Plan **to** collect information

Getting feedback from the farmers representatives.

M. Three Results

- Preventing water wastage
- Creating a friendly atmosphere among farmers
- Creating a good farmer-officer relationship.

Group B

Mr. P.A.K.R. Theodore
Mr. R.A.J.P. Perera
Mr. W.M. Wanninayake
Mr. H.M.R. Herath
Mr. W. Jayasinghe

A. **One Clear Objective**

Check the actual acreage and deciding the quantity of water to issue.

B. **The Target Area**

D.C.O Area

C. **Two Operation Activities**

- i. Prepare operational plan by issuing water to tail enders first and head enders then.
- ii. Checking on the equitable distribution of water by joint management of **ID** staff and farmer leaders.

D. **Three Constraints**

- i. Illicit tapping by head enders during water issue periods to the tail enders.
- ii. In-experience of farmer operators attending to equitable distribution.
- iii. Inadequacy of water in D channels as expected.

E. **Actions**

- i. To make the head enders aware of keeping **to** the operation plan and close supervision **to** arrest illicit tapping.
- ii. By employing the Department water issue labour along with the farmer operators.
- iii. To see that adequate water is issued to the D channel by discussing with other **staff**.

F. **Five Personal Qualities**

- i. To be able **to** communicate with farmers and officers.
- ii. To be attentive
- iii. To be impartial during water issues.
- iv. To be supportive in Farmer Organization work.
- v. To be energetic.

G. Plan to Communicate to Supervisor/and or People Affected by this Plan

Arrange a meeting with farmers and officers to discuss and make adjustments to the operation plan.

H. Where to implement

In the D channel area

I. How Many Participants

Respective FC group leader and the work supervisor and patrol labour.

J. When to Implement (Duration)

At the start of the cultivation period and during the duration.

K. Follow-up

Have fortnightly discussions with farm leaders and connected ID staff and attend to necessary adjustment in rotation issues.

L. Plan to collect information

As above

M. Three Results

- i. To ensure successfully crops.
- ii. Improve joint management.
- iii. Understand to work for a program.

Group C

Mr. K.G.B.S. Wijebandara

Mr. B.A.L. de Silva

Mr. G.B. Dissanayake

Mr. B.D.M. Sirisena

A. One Clear Objective

Water issues in a particular channel according to a schedule.

B. The Target Area

D.C.O. area

C. Two Operation Activities

- i. Issuing water according to the needs of the farmers after consulting higher officers.
- ii. Find the quantity of water to be sent in particular canal.

D. Three Constraints

- i. Disagreement between farmers and officers.
- ii. Insufficient water in main canal.
- iii. Improper maintenance of canals.

E. Actions

- i. Convincing farmers.
- ii. Consult IE in-charge and provide a solution to send water to Main channel.
- iii. Explain the farmers the importance of doing the proper maintenance and obtain Departmental support too.

F. Five Personal Qualities

- i. To be energetic (Active person).
- ii. Good listener (You listen to farmers).
- iii. Ability to convince.
- iv. Ability of working together with farmers and other officials.
- v. Honesty.

G. Plan to Communicate to Supervisor/and or People Affected by this Plan

- i. After preparing the program submit to IE.
- ii. By field canal level.

H. Where to implement

DCO area

I. How Many Participants

15 people

J. When to Implement (Duration)

After the commencement of the rotations and depending on the variety of crop.

K. Follow-up

Checking on the complaints from farmers.

L. Plan to collect information

Mean while the rotation is going on advice the WS to get the details.

M. Three Results

1. Reliable supply of water.
- ii. Least conflict among farmers.
- iii. Good relationship between farmers and officers.

WORKSHOP III

Group A

Mr. R.A. Maithripala

Mr. LM. Bazeer

Mr. A.S.B. Ahamed

Mr. M.K. Wijesuriya

A. One Clear Objective

Assuring the D canal has enough water.

B. The Target Area

This D channel is divided into 3 sections such as head, middle, tail in away that each section has 1500 acres as command area.

C. Two Operation Activities

- i. Scheduling the rotation with farmers depending on the acreage.
- ii. Calculating the quantity of water required for the particular acreage cultivated using the computer and releasing the water through the gate.

D. Three Constraints

- i. Implementation -
 - a) Illegal tapping by farmers.
 - b) Poor maintenance of field canal.
 - c) Farmers not adhering to the plan

- ii. Water scheduling
 - a) Correct acreage data not given by farmers.
 - b) Correct rainfall data's are not recorded.
- iii. Variations of the soil **type** in different areas not taken in to account correctly.

E. Actions

- i. Implementation:
 - a. Farmers organization should look into this matter and take action.
 - b. Educate farmers about the canal maintenance.
 - c. Agricultural inputs adequate tractors should be fund.
- ii. Water scheduling
 - a. Deeply investigate **in** the field using available maps and find the correct acreage
 - b. More rain gauges fixed.
- iii. Variations of the soil type in different areas not taken in to account correctly.

Correct studies to be made

F. Five Personal Qualities

- i. Devotion
- ii. Patience
- iii. Commitment
- iv. Punctuality
- v. Delegation

G. Plan to Communicate **to Supervisor/and** or People Affected by this Plan

Conducting frequent meetings, training the officers

H. Where to implement

Gonagolla

I. How Many Participants

Six farmers' representatives and 450 farmers
 1 Patrol laborer
 1 WS
 1 TA

J. When to Implement (Duration)

October 15, for **4** months

K. Follow-up

By supervision from **WS**

L. Plan to collect information

Daily inspection and feedback by FO, also check equitable distribution of water.

M. Three Results

- i. Farmers satisfaction
- ii. **Canal** efficiency
- iii. Job satisfaction

Group B

Mr. M. Kanapathipillai

Mr. A.D.V. Aloysious

Mr. M.H.A. Sathar

Mr. **U.R.** Liyanage

A. One Clear Objective

D canal operation

B. The Target Area

LB **5** of Gal Oya **168** Acs

C. Two Operation Activities

- i. Operation gates.
- ii. Monitoring discharges.

D. Three Constraints

- i. Illicit opening **of** gates
- ii. F.O. without control gates
- iii. In effective gauges.

E. Actions

Farmer cooperation.

Temporarily with stop planks or sand bagging and by expediting fixing gates Fixing of gauges

F. Five Personal Qualities

- i. Cordiality
- ii. Attentive
- iii. Sincerity
- iv. Supportive
- v. Authoritative

G. Plan to Communicate to Supervisor/and or People Affected by this Plan

- i. Daily in the morning at unit office.
- ii. Through patrol laborers and farmer representatives.

H. Where to implement

Unit office of the TA

I. How Many Participants

Three farmer reps, one ML, one WS, TA

J. When to Implement (Duration)

- i. Commencing 3 dates before the land preparation.
- ii. Four months

K. Follow-up

Weekly

L. Plan to collect information

Meeting the farmer reps, collecting the progress.

M. Three **Results**

- i. Correct amount of water at the correct time.
- ii. Effective feedback.
- iii. Economical use of water.

Group C

Mr. **U.B.** Alahakoon
Mr. **K.A.U.S.** Imbulana
Mr. V.L. Amarasekera
Mr. **L.G.P.** Samarawickrama
Mr. **G.** Bandaranayake

A. One Clear Objective

To ensure proper water issues.

B. The Target Area

D-channel area 1000 Ac

C. Two Operation Activities

- i. Oiling and greasing
- ii. Attending to minor **repairs**

D. Three Constraints

1. Continuous water issues
- ii. Funds
- iii. Government rates are lower than prevailing rates.

E. Actions

1. Inform the farmers and discuss with them to find a solution.
- ii. Seek the cooperation of farmers.
- iii. Seek assistance from farmers.

F. Five Personal Qualities

1. Cordiality (Working cordially with farmers).
- ii. Dedication
- iii. Devotion
- iv. Flexibility
- v. Empathy **to** work

G. Plan to Communicate to Supervisor/and or People Affected by this Plan

Meeting them in the sub project committee.

H. Where to implement

In D channel area

I. How Many Participants

3 People, FO representatives, Department Reps, one other man

J. When to Implement (Duration)

During the close **season** or between two rotations - for **3** days.

K. Follow-up

By direct supervision by **TA or WS**.

L. Plan to collect information

By direct supervision and feed back from D-channel F/O.

M. Three Results

1. Reliable water issues.
- ii. Strengthen the officer-farmer relationship.
- iii. Quality of **work. (high standard)**

CASE STUDY - GUNAPALA MEETS THE CHALLENGE

Gunapala is a technical assistant attached to the Polgasowita Irrigation Scheme. He has approximately 15 years service in the department and draws a salary of **Rs. 2300** per month. He was a honest but a frustrated man who tried h i best to work for the fanners and get a good name. He had a maintenance plan to do as laid down by the Irrigation Engineer. He was given an allocation less than that would be necessary to do **all** stated in the maintenance program. To decide on the priority items, he conducted a walk-through survey with the farmers and identified certain maintenance items as essential ones and proposed doing these with the available money to the Irrigation Engineer. Most of these items would help the tail-enders rather than those at the head of the channel. Irrigation Engineer accepted his proposals.

He employed approximately 50 laborers registered in the scheme to do the maintenance work on the main channel. Most of these laborers are supporters of the politician of the area and did not care to do a proper job and did not come to work in time. This necessitated his frequent inspections but his inability to inspect the field frequently resulted in poor quality and insufficient output in the maintenance work. He had difficulties with regard to getting transport frequently to go to the field as there was only one jeep available for 10 Tas to travel about. He **also** was not paid sufficient subsistence allowance for travelling to the field frequently. He was getting blamed by his engineer for not maintaining the main canal according to the maintenance program.

The farmers getting benefitted from these maintenance work were unable to help the TA in providing labor input as they were staying too far away from their homesteads and had their own work to do in their farms. He met these laborers and demanded more output from them. They protested that they **are** already doing work for what they are paid and they could not do any more work for that salary. After failing **to** get better farmers to do this job he decided to recruit some casual laborers from his home town to do the maintenance work.

He got his brother-in-law appointed as a casual work-supervisor to this work-site since the present work-supervisor was not capable in getting the work done from the farmers within his area. **His** brother-in-law somehow managed to get the required work output from the laborers and kept to the maintenance target to schedule without any complaints. When there was no maintenance work to be done from all the laborers brought from outside, he got a friend to do rehabilitation contracts in another TA's area and employ the **surplus** labor from his work-site to work **for** these contracts. He gave part of the capital and necessary advise during his visits to the friend to do the contracts and in return got a share of the profit. This helped him to get a job satisfaction by doing a good job and also to overcome his financial difficulties to some extent as he had to send lot **of** money to his family who stayed at his hometown far away from the work-site. By doing this he not only managed to get a good name and recognition from the engineer and the farmers for doing a proper maintenance job and but also got financially benefitted.

However, the laborers who were discontinued from the labor gang sent a petition to the politician of the area and the Irrigation Engineer alleging that the **TA** has employed his own people in **his** work-site without following the correct recruitment procedure **and is** getting benefitted financially by doing contracts. It is very likely that the politician will take up the matter with the Director of Irrigation to punish this **TA**.

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DIRECTIONS FOR PLAYING THE OPPOSITE ROLE

GUNAPALA MEETS THE CHALLENGE

A Case Study for playing the opposite role technique

DIRECTIONS

I PHASE

1. Divide the participants into three small groups
2. The group will have 30 minutes to discuss the text and prepare their presentations
3. Group no. 1 will play the positive role.
 - (a) The group will prove that Gunapala has acted correctly when he decided to follow this course of action which helped him to do the maintenance work within his work site despite the difficulties in finding labor and transport.
 - (b) The group will prepare a presentation (using flip chart) to convince the audience that Gunapala **has** used the best approach to have his job done successfully. The group can use all kinds of arguments, including own experiences, concepts, assumptions, etc.
4. Group no. 2 will play the negative role.
 - (a) The group will prove that Gunapala has acted wrongly when he decided to follow this course of action which helped him to do the maintenance work.
 - (b) The group will prepare a presentation (using flip chart) to convince the audience that Gunapala has used the worst approach to do his job and therefore he should be punished.
5. Group no. 3 will play the role of Jury.
 - (a) The group will study the case study thoroughly to judge Gunapala's approach to solve the maintenance problems.
 - (b) The group will list some alternatives which should be used by Gunapala.

- (c) The **group** will examine the pros and cons of the facts raised by group nos. 1 and 2 during the presentation.
- (d) The group will present the list of alternatives which was generated by the **jury**.
- (e) At last, they will "vote" based upon the credibilities of the arguments which convinced them to take the decision.

ROLE PLAYING INSTRUCTIONS

MAINTENANCE ON D-CHANNEL 4

Directions:

1. Divide the participants into four small groups:

Group 1 will play the role of the TA.

Group 2 will play the role of the tail end Farmer Representatives.

Group 3 will play the role of the head end Farmer Representatives.

Group 4 will play the role of DCO Officers who will have the important task of facilitating negotiation between TA and farmers and present recommendations for the ultimate decision.
2. The groups will have 30 minutes to discuss the task and prepare their presentation.
3. Conduct a meeting involving all groups. DCO officers will be responsible for this session. A chairman should be elected to lead the meeting.
4. The Group 1 (TA) will present their plan to the audience and will invite the farmers to discuss on it. - 15 minutes.
5. The Group 2 and Group 3 will have 10 minutes each to convince the TAs about their interests.
6. The Group 4 (DCO Officers) will be moderators during the previous discussion and will present recommendations for the ultimate decision.
- 15 minutes.

Please undertake the following tasks:

1. How do you determine which of these items to undertake?
2. After deciding how you want to proceed, you decide that you must have this ratified by the farmers. Therefore, at the next D Channel Committee meeting, you present your maintenance plan for the year. Although the DCO President, whose land is right at the head of the channel, approves, an objection **is** raised from the F6 Farmer Representative. He argues that there is a great need for a culvert at the point where the tree trunk is

located. He argues that tree *trunk* is the only crossing for almost a kilometer each way and is essential. Off hand, you guess that the requested culvert would cost Rs 10,000. Indeed he points out that the damage to the channel bund at the point is due to cattle and machinery crossing nearly every day. Another farmer from the tail area objects saying that first priority must go to any repairs that help to ensure water reaches the *tail*. What do you do to help the DCO arrive at a decision?

Items of maintenance work as identified while on a walk thro-survey

Estimate

1.	Gauge post placed near the weir is damaged.	Rs. 600.00
2.	Growth of water weeds between the 2nd and 5th chain along D channel.	Rs. 600.00
3.	D channel road near 6.5 ch. damaged and needs earth filling 4 cu.	Rs. 600.00
4.	Off take of F/C 3 cannot be closed properly due to damaged gate.	Rs. 1300.00
5.	Heavy silting on one side of the D channel between 11th -12.5 chains.	Rs. 4500.00
6.	Big ant-hill on the bund near 13 chains.	Rs. 200.00
7.	Water weeds between 13 - 15 chs.	Rs. 1200.00
8.	A tree trunk used as channel crossing obstructing channel flow.	Rs. 450.00
9.	Heavy silting near FC 6 off take.	Rs. 900.00
10.	Weir in the drop structure at 15 ch has to be re-done.	Rs. 2000.00
11.	Down stream wing walls of the drop structure near 15 ch badly damaged.	Rs. 4500.00
12.	Shrubjungle on side slopes near 16 ch - 18.5 chs to be cleared.	Rs. 600.00
13.	Cast iron gates of FC channels of FC 7,8,9 and 10 to be replaced.	Rs. 14000.00

14.	Repairs to retaining walls 20 ch - 22 chs.	Rs. 8000.00
15.	Earth work repairs to closing a leak on the bund 22.5 ch.	Rs. 400.00
16.	Repairs to under crossing at 26.0 ch.	Rs. 2500.00
17.	Repairs damaged channel bund at 31.5 ch.	Rs. 800.00
18.	Repairs to T.O. structure to FC 6 at 33 ch.	Rs. 2000.00
19.	Removal of water weeds from 34-36 ch.	Rs. 400.00
20.	E/W repairs to channel bund from 37-38 ch.	Rs. 1800.00

FARMERS' TASKS

You are Farmer Representatives who sit on the D4 DCO Committee. You are well aware that the following maintenance work **is** needed.

1. Gauge post placed near the weir is damaged.
2. Growth of water weeds between the 2nd and **5th** chain along D channel.
3. D channel road near 6.5 ch. damaged and needs earth filling 4 cu.
4. **Off** take of F/C 3 cannot be closed properly due to damaged gate.
5. Heavy silting on one side of the D channel between 11th -12.5 chains.
6. Big ant-hill on the bund near 13 chains.
7. Water weeds between 13 - 15 chs.
8. A tree trunk used as channel crossing obstructing channel flow near 15 chains.
9. Earthwork to restore channel bunds needed just below the tree **trunk**.
10. Heavy silting near FC 6 off take.
11. Weir in the drop structure at 15 ch has to **be** re-done.
12. Down stream wing walls of the drop structure near 15 ch badly damaged.
13. Scrub jungle on side slopes near 16 ch - 18.5 chs to be cleared.
14. Cast iron gates of FC channels of FC 7,8,9 and 10 to be replaced.
15. Repairs to retaining walls 20 ch - **22** chs.
16. Earth work repairs to closing a leak on the bund 22.5 ch.
17. Repairs to under crossing at 26.0 ch.
18. Repairs damaged channel bund at 31.5 ch.

19. Repairs to T.O. structure to FC 6 at 33 ch.
20. Removal of water weeds from 34-36 ch.
21. Earthwork repairs to channel bund from 37-38 chains

You **are** now going to meet with the **TA** at a regular DCO meeting to discuss maintenance plans.

The following special interests and knowledge exist:

1. DCO Officers (President Treasurer): Your treasury includes only Rs.5000. You hope to increase this amount through sale of fertilizer but are not sure how much you will be able to earn.
2. Tail Farmers: Because of design deficiencies, your farmers have trouble getting water every time the discharge into D4 falls even a little below design. You are aware that this situation has been aggravated by inadequate maintenance. Therefore, YOU are very concerned to see that those maintenance items which most affect flow to the tail get highest priority.
3. Head End Farmers: **You** also have occasional problems getting water to the tails of the FCs when discharge into D4 is lower than it should be. However, you have a different interest over the past two years, your farmers have taken to crossing the channel at the 15 chain point. Individuals cross over the tree trunk but cattle and some tractors have to **go** down the banks **thus** causing the damage at that point. Since this is the only crossing for some distance each way, you want to have a culvert built there to replace the tree *trunk*. **A** neighborhood contractor estimates the cost of the culvert at **Rs. 10,000**. **You** therefore are very interested in seeing that the culvert is included in the maintenance program.

CASE STUDY - KUDA OYA IRRIGATION SCHEME

Kuda Oya is a reservoir based irrigation cum settlement scheme constructed about 40 years ago in the *dry* zone of Sri Lanka. The command area of this scheme is 5000 acres. About 1000 families were settled in the scheme originally.

Each farmer family was given 5 acres of paddy land and 2 acres of homestead land where farmers used to construct their house and **raise** orchards and other field crops.

The hydrology of the scheme was good, because the catchment area of this scheme was predominantly uninhabited area with shrub forest. The reservoir used to get copious supply of water to raise two paddy crops both during maha and yala seasons. The farmers used to raise long duration (5 months) varieties of conventional paddy during maha season and a medium duration variety (4 months) during yala season. The land preparation was carried out by bullock ploughing and paddy cultivation was by transplantation. Since the farmers were having cattle, farm-yard manure was applied and use of chemical fertilizer was not very much prevalent.

There was no farmer organization in the initial years; since they had copious water supplies and the agency operated the system and provided sufficient funds for maintenance, the farmers with the help of village elders were able to cultivate their lands and get their conflicts resolved. This was more or less an agency managed scheme with very little contribution from farmers either for managing the system or for operating and maintaining the system. The scheme was working fairly satisfactory. This was the scene 40 years ago.

Today the scene is different. In that scheme, we have now three generation of settlers. The total number of farm families have increased to 1850 with the population of that settlement increased by 2.5 times. Land fragmentation has taken place; because of population pressure, encroachment of reserved land and peripheral land has increased the command area to 6000 acres.

During 1970's high yielding medium and short duration varieties of rice were introduced which were requiring large quantity of water and the use of chemical fertilizer and pesticides started increasing.

Due to population pressure, Government development plans and NGOs, a number of smaller irrigation scheme was constructed in the upstream catchment reducing the reservoir water supply, increasing the sediment inflow to the reservoir and restricting the grazing land in the catchment area. This coupled with changing farmers' practice gave raise to increased use of tractors and machinery for land preparation, direct sowing instead of transplanting, use of increased amount of chemical fertilizer and pesticides instead of farm-yard manures, raising of high-yielding varieties instead of conventional varieties and increased, unauthorized cultivation of land. All these factors lead to insufficient reservoir water supply, less reservoir storage,

insufficient carrying capacity of the conveyance channels, siltation and weed growth in the distribution system due to insufficient funds provided by the government for maintenance activities and no organization at the farm level to operate and maintain the system.

Because of the market intrusion into the village community and less emphasis in value system, the village elders acting as collective managers of irrigation system could not work satisfactorily.

Because of poor maintenance and insufficient management, the system got deteriorated to such an extent that a large portion of the tail was not receiving its due water supplies. Most of the reservoir water was used in the upstream reaches resulting in waterlogging and salinity problems. While the productivity of tail-end area got reduced due to insufficient water supplies, the head-end areas productivity got stagnated and even started reducing due to waterlogging and salinity problems. On the whole, irrigated farming in that system has become not a profitable avocation for farmers and they started losing interest in paddy-farming,

Also, due to increased use of chemical fertilizers and pesticides, weeds such as water-hyacinth and ipomea started growing luxuriantly in the water ways requiring increased attention from the agency and the farmers in maintaining the system integrity.

All the above factors have led the Government to include it in one of donor-funded rehabilitation projects and physical rehabilitation was carried out recently at a very high cost. The Government has helped the farmers to form water user groups at the FC levels and FOs at the distributory level. The project is also brought under the INMAS program with a project manager already appointed and constituting a project management committee. For improving the productivity and profitability to the farming community, the Government is encouraging the farmers to switch over to high value field crops especially during the yala season.

The sustainability of the various measures adopted by the government to improve the performance of the system is questioned by the policy-makers. What do we as Technical Assistants who are responsible for operation and maintenance of the system have to offer to keep this system under sustained renewal?

DIRECTIONS FOR SMALL GROUP TECHNIQUES

CASE STUDY: KUDA OYA IRRIGATION SCHEME

1st Phase

1. List the three constraints which have had the most detrimental impact on system performance in Kuda Oya Scheme.
2. Prioritize these constraints.

2nd Phase

3. For each constraint develop problem analysis.
4. Identify those problems that can be tackled by you.
5. Select one of the problems for defining an objective to solve it

3rd Phase

6. Develop action plan to implement the objective.

Note: A guide line will be provided to facilitate the task.

SMALL GROUP EXERCISE RESULTS

CASE STUDY : KUDA OYA IRRIGATION SCHEME

WORKSHOP I

Group A

1st Phase

1. List the three constraints

- i. Disturbance to the catchment due to the construction of small irrigation schemes.
 - a. Siltation **of tank**
- ii. Encroachment of reserved lands.
 - a. Decrease in the quantity water available for each farmer
- iii. Change **of** farmers' practices.
 - a. water nutrients * increased weeds
 - b. greater farmer demand for water

2nd Phase

1. Poor maintenance and insufficient management
 1. Problem analysis
 - a. de-silting
 - b. J/C and weeding
 - c. Earth work
 - d. structure repairs

3rd Phase

Action Plan

Holding meetings and discuss about problems.

Walk through survey with Farmer Organization representative and prepare priority list.

Labour - By maintenance labour

Organized by DCO

Material - Supplied by department

Group B

1st Phase

1. List the three constraints

- i. Conflict among farmers, land fragmentation decrease of the extent of the farm lot.
- ii. Introduction of new irrigation systems on upstream.
- iii. Market intrusion

2nd Phase

Poor maintenance of insufficient management.

Problems analyzed in the FC area.

1. De-silting
2. J/C and weeding
3. Earth work
4. Structure repair

3rd Phase

Action Plan

- * Meeting
- * Make estimates
- * Discuss with farmers and **fix** the time period for various work.
eg. de-silting in close season.

Group C

1st Phase

1. List the three constraints

- i. Encroachment of reserved lands.
- ii. Conflict among farmers.
- iii. Poor maintenance and insufficient management.

2nd Phase

Problem analysis

Encroachment of reserved lands

1. Increase in the command area
2. Difficult to issue water according to the original design.
3. Tail enders problems will be increased.
4. This leads to the damaging of the structures and canal bunds.
5. Farmers cooperation will be reduced and illicit tapping and drainage problems will increase.
6. Insufficient storage.
7. Channel losses will be increased.

Problems that can be tackled

- 1 & 2 - Introduction of water saving techniques.
- Develop the farmer education about the irrigation system.

Target area = Command area belonging to the reservoir.

Operation activities

Introduction of water saving techniques.
Develop farmer education about the irrigation system.

Constraints

- Political interference
Some of the farmers do not accept water saving method.
Whole DCO.

3rd Phase

Action Plan

Conflict among farmers

- i. Land ownership/leasing
 - ii. land fragmentation
 - iii. Water delivery
-
- a. Assume that one 5 acre farm lot has been broken into 1 acre lots.
 - b. According to the water issue schedule 2 day rotation is applied for this particular field canal.
 - c. TA decide to request the fanners to share the water receiving for **2** days among the **5** farm lots.
 - d. This is discussed with the farmers in the canal.
 - e. Technical advise will be given by the TA to cut a canal in this 5 acre land to deliver the water to 5 nos land lots equally.
 - f. The 5 land owners sharing the said land will get together and cut the proposed canal.
 - g. Sharing of water to these lots will be done by the farmers in this 5 acre lots in consultation with the TA.
 - h. Some time the responsibility of the water delivery will be taken by the Field canal representative.
 - i. Prepare a maintenance program by the TA with the assistance from IE.
 - ii. Include incentives such as traveling allowance and allowance for fuel and other in this estimate.
 - iii. Try to find money from DI or other.
 - iv. Explain the facts to politician including.
 - v. If there is no solution call a farmers meeting and present them the situation and form a Farmers Organization by ID.
 - vi. Discuss the problems and take a decision on what to do.

I.E. can propose

- a. Handing over of the system to the farmer organization.
- b. If they have taken over the FCC, try to hand over more.
- c. Most important items in the system can be kept with ID.
- d. ID should be there to provide necessary consultation.

Workshop II

Group A

1st Phase

1. List the three constraints

- i. Insufficient consideration about the increasing population.
- ii. Establishment of minor schemes at U/S side of catchment
- iii. Poor maintenance and insufficient management.

2. Prioritize the constraints

Development of small tanks in the catchment.

Group B

1st Phase

1. List the three constraints

- a. Poor maintenance
- b. New reservoirs in the catchment.
- c. Encroachment of reservation.

2. Prioritize the constraints

Poor maintenance and insufficient management

Group C

1st Phase

1. List the three constraints

- i. Negligence of the future generation while planning the scheme.
- ii. Farmers have given up the traditional methods.
- iii. Construction of small tanks in the catchment.

2. Prioritize the constraints

No consideration of the future generation while planning the scheme.

Workshop III

Group A

1st Phase

1. List the three constraints

- i. Exploitation of catchment.
- ii. Non-availability of farmer organization.
- iii. Insufficient funds for maintenance.

2. Prioritize the constraints

Exploitation of catchment.

Group B

1st Phase

1. List the three constraints

1. Number of irrigation schemes coming up in the catchment area.
2. Unauthorized cultivation in reservations.
3. Insufficient funds provided by the government for maintenance.

2. Prioritize the constraints

Unauthorized cultivation in reservations.

Group C

1st Phase

1. List the three constraints

- i. Construction of minor tank and developing catchment area.
- ii. No major rehabilitation for last 40 years.
- iii. No farmer participation as proper farmer organization.

2. Prioritize the constraints

No major rehabilitation of the last **40** years.

**GUIDELINES TO DESIGN AN ACTION PLAN TO
IMPROVE PERFORMANCE OF IRRIGATION SYSTEMS**

DIRECTIONS

1. Please form three small groups.
2. Reflect on the group suggestions to help the irrigation systems under ISMP to be operated well, and design a practical and feasible action plan for you to implement it after returning to the field.
3. The action plan is to be developed for achieving of the objective identified in the previous session.

You could use the following steps,

- a) Identify the target area for implementing this objective.
- b) Choose two operation activities to implement the defined objective.
- c) List three constraints which might crop up while implementing.
- d) List actions that you will take to minimize or overcome these constraints to accomplish this plan successfully. (Do not forget that it should be feasible solutions).
- e) List five personal qualities that you need to have to be successful in **this task**.
- f) How will you communicate this plan to your supervisor and/or people affected by this plan?
- g) Who will be involved in this plan? (Do not forget that it should be with a feasible number).
- h) When will you begin to implement this plan, and please define duration. (How many months do you intend to take to implement this plan seriously and with commitment?).
- i) Indicate follow-up and evaluation to assess the progress of this plan.
- j) How do you plan to collect information on the progress of this plan?

- k) List three **results** which you anticipate as consequence of this action plan.
 - l) How do you measure the performance **of** these results.
4. The rapporteur will be invited to present the results of this exercise to the participants.

**ACTION PLANS GENERATED BY TAs BASED ON THE GUIDE LINES
TO IMPROVE THE PERFORMANCE OF IRRIGATION SYSTEMS**

WORKSHOP II

Group A

1. Mr. P.A.K.R. Theodore
2. Mr. B.A.L. de Silva
3. Mr. R.A.J.P. Perera
4. Mr. W.M. Wanninayake
5. Mr. B.D.M. Sirisena

A. Target Area

D-4 Area.

B. Two Operation Activities

- i. Preventing cultivation of encroached area.
- ii. Preparation of water issue and schedule for a rotational issue.

C. Three Constraints

- i. Illicit tapping
- ii. Political influence
- iii. Farmers don't adhere to rotational issues

D. List Actions to Overcome the Constraints

- i. To have a regular patrolling staff for land preparation by illicit tapping.
- ii. Conducting discussions with politicians to warn the illicit tappers.
- iii. To have awareness programs to educate them.

E. Five Personal Qualities

- i. Honesty
- ii. Good public relations.
- iii. Ability to convince others.
- iv. Leadership and initiative.
- v. Creativity in developing new techniques.

F. How to Communicate this Plan to Supervisor/or People Affected by this Plan

Discussions with supervisor, meeting with farmer representatives and publicity program.

G. Who is Involved

Farmers, work supervisor, **TA**, patrol laborers and water issue laborers.

H. When to Implement this Plan

At the commencement of cultivation season, three and a half months for low yielding paddy.

I. Follow-up

To have discussions with farmers reps and laborers on every fort night.

J. How to Collect Information

Collection of data at fortnightly meetings and from **WS** in meetings.

K. Three Results

1. To have least no of disputes among farmers and government agents.
- ii. Farmers will have awareness of the different conclusions.
- iii. Increasing of yield.

L. How you Measure the Performance of Results

- i. Least no of complaints.
- ii. Acceptance of operational plan by farmers.

Group B

1. Mr. K.G.B.S. Wijebandara
2. Mr. H.M.R. Herath
3. Mr. J.V.K. Seneviratne
4. Mr. G.B. Dissanayake

A. Target Area

Tail end of the D channel

B. Two Operation Activities

- i. Supplying water to the tail enders in rotational system
- ii. Rehabilitation of the system.

C. Three Constraints

- i. Less water in the main channel.
- ii. Poor maintenance of D channel.
- iii. Illicit tapping of head enders.

D. List Actions to Overcome the Constraints

- i. Speak with IE in-charge and get more water.
- ii. Organize a shramadana to clean the channel.
- iii. Prepare a estimate and get the funds to repair the channel.

E. Five Personal Qualities

- i. Active person
- ii. Good public relationship
- iii. Tactfulness
- iv. Enthusiastic
- v. Tolerable

F. How to Communicate this Plan to Supervisor/or People Affected by this Plan

Prepare the plan and submit to IE in-charge to get approval and summon a meeting to explain farmers.

G. Who is Involved

10 People

H. When to Implement this Plan

In close season, 2 months

I. Follow-up

- i. Do the work according to the work-place.
- ii. Close supervision and feed back.

J. How to Collect Information

From **Work** Supervisor and DCO people.

K. Three Results

- i. Farmer involvement in system management.
- ii. Better O&M of system.
- iii. Early distribution of water.

L. How you Measure the Performance of Results

Least complaints from farmers, increase the production

Group C

1. Mr. W. Jayasinghe
2. Mr. Y.B.M.G. Jayasinghe
3. Mr. K.T. Bandusena
4. Mr. W.L. Bandula

A. Target Area

D Channel - No.3

B. Two Operation Activities

1. Establish a committee for (DCO) distributing of water in the F.C and train them and preparation of water issue calendar.
2. Make the canal in proper condition to convey and equal distribution of water as far as possible with available funds.

C. Three Constraints

- i. Poor farmer participation.
- ii. **Lack** of funds.
- iii. Insufficient water.

D. List Actions to Overcome the Constraints

1. Encourage farmers for regular participation.
- ii. Organizing shramadana.
- iii. Water management and changing the cropping pattern.

E. Five Personal Qualities

- i. Willingness
- ii. Patients
- iii. Getting the confidence of farmers
- iv. Awareness of farmers requirements.
- v. Ability in cooperating with **line** agencies and higher authority.

F. How to Communicate this Plan to Supervisor/or People Affected by this Plan

1. **By** arranging small meetings.
- ii. Discussing personally and giving instructions in writing.

G. Who is Involved

TA, Work Supervisor, Maintenance laborer, farmer leaders

H. When to Implement this Plan

One cultivation season (not less than **4** months)

I. Follow-up

Smooth functioning of water distribution among farmers.

J. How to Collect Information

1. Personal inspection
- ii. Correct information from farmers and patrol laborers in regular meetings.

K. Three Results

1. To minimize the problems.
- ii. Increase the yield.
- iii. Due to farmer participation decrease in maintenance expenditure

L. How you Measure the Performance of Results

By comparing three yields, satisfaction of farmers and standard with the past.

WORKSHOP-III

GROUP A

1. Mr. K.A.U.S.Imbulana
2. Mr. V.L.Amarasekera.
3. Mr. A.S.B.Ahamed..
4. Mr. M.H.A.Sathar.

One clear objective

Preservation of the catchment area

A. Target Area

Catchment Boundary

B. Two Operation Activities

- i. Frequent inspection for control of further exploitation.
- ii. Monitoring reservoir inflow as **far** as possible.

C. Three Constraints

- i. Non availability of man power for i.
- ii. Insufficient transport facilities
- iii. Insufficient backup support by the community.

D. List Actions to Overcome the Constraints

- i. Supply watchers cum informants.
- ii. Provide adequate minimum funds for facilities.
- iii. Strengthening inter-relationship between the community and the officers.

E. Five Personal Qualities

- i. Devotion
- ii. Patience
- iii. Punctuality
- iv. Flexibility
- v. Reliability

F. How to Communicate this Plan to **Supervisor/or** People Affected **by** this Plan

Organize meetings which would include the responsible officers of the area.

G. Who is Involved

Irrigation officials, farmer representatives, A.G.A, Politicians, Agencies connected with lands.

H. When to Implement this Plan

Immediately, One month

I. **Follow-up**

Monitor the rate of inflow

J. How to Collect Information

Messengex

K. Three Results

- i. Increase in water availability
- ii. Soil conservation
- iii. Increasing the life span of the project

L. How you Measure the Performance of Results

Maintain capacity records
Maintain silt content records of the inflow to the tank
Check productivity

GROUP B

1. Mr A.M.U.B.Alahakoon
2. Mr L.G.P.Samarawickrema
3. Mr A.D.Aloysius
4. Mr M.K.Wijesooriya

One clear objective

To establish the required head of water in the channel.

A. Target Area

D Channel Area

B. Two Operation Activities

- i. Rotational Issues.
- ii. Earth work done by shramadana basis

C. Three Constraints

- i. Farmers may disagree
- ii. Inadequate supply of water in the D-Channel
- iii. Un-availability of gates, outlets etc.

D. **List** Actions to Overcome the Constraints

1. Explain to the farmers and get their cooperation
- ii. Communicate with superior officer for assistance
- iii. Use temporary arrangements to close the gates.

E. Five Personal Qualities

1. Dedication
- ii. Perseverance
- iii. Punctuality
- iv. Reliability
- v. Flexibility

F. **How** to Communicate this Plan to Supervisor/or People Affected **by** this Plan

Common discussion at D.Channel level

G. Who is Involved

Farmers, Fanner Organization representatives, T.A. , W.S,

H. When to Implement this Plan

During the closed season

I. Follow-up

Physical inspections

J. How to Collect Information

By direct supervision, W.S, Farmer Organization Representatives

K. Three Results

- i. Fair distribution of water
- ii. Improve team work among fanners
- iii. Building awareness among the farmers

L. How you Measure the Performance of Results

By interviewing farmers and physical supervision
Maintain silt content records of the inflow to the tank
Check productivity

GROUP C

1. Mr. M.Kanapathipillar
2. Mr. U.R.Liyanage
3. Mr. R.A.Maithripala
4. Mr. Gamini Bandaranayaka

One clear objective

Demarcating actual drainage reservation

A. Target Area

Between the D.Channels

B. Two Operation Activities

- i. Setting out the actual reservations
- ii. Excavating the drainage to the correct profile

C. Three Constraints

- i. Protests by encroached farmers
- ii. Getting the authority to set out the reservation
- iii. Finding funds for excavating

D. List Actions to Overcome the Constraints

- i. To get the assistance of the farmers organization to settle the dispute.
- ii. Getting the assistance of the related agencies.
- iii. Organizing shramadana (Voluntary labor)

E. Five Personal Qualities

- i. Devotion
- ii. Flexibility
- iii. Reliability
- iv. Tactfulness
- v. Patience

F. How to Communicate this Plan to Supervisor/or People Affected by this Plan

At the D.Channel level organization.

G. Who is Involved

Farmers, C.O, Surveyors, Grama Sevaka, T.A and W.S

H. When to Implement this Plan

Off season, 3 Weeks

I. Follow-up

Discussion at the F.O meetings in the particular area/

J. How to Collect Information

Frequent visits and inspection

K. Three Results

- i. Proper drainage system
- ii. Prevention of salinity
- iii. Farmers gaining **of** the knowledge regarding **the** drainage problems.

L. How you Measure the Performance of Results

Team visits by farmers and officials
Farmers feed back.