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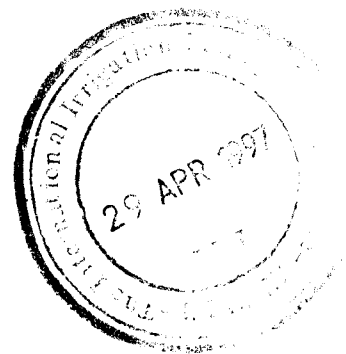
The Third Course on Rapid Appraisal of
Irrigation Systems for Rehabilitation and Modernization

June 1996

IRRIGATION RESEARCH MANAGEMENT UNIT
IRRIGATION DEPARTMENT, SRI LANKA
AND
SRI LANKA NATIONAL PROGRAM
INTERNATIONAL IRRIGATION MANAGEMENT INSTITUTE

Contents

Introduction

To introduce Rapid Rural Appraisal (RRA) as a tool for understanding and analysis in rural areas with special reference to its application in irrigation was the guiding factor in a series of training courses recently concluded at SLITI, Galgamuwa. RRA not only reversed the traditional way of looking at irrigation projects with the stress on a holistic approach, but was also able to provide data when needed at an appropriate cost for decision making. The initial idea for this series emerged when the Irrigation Department was faced with the massive task of appraising a large number of small- and medium- scale tanks to be included in the National Irrigation Rehabilitation Project (NIRP).

These courses on RRA/Participatory Rural Appraisal (PRA) were designed by NIRP/IRMU/IIMI and were intended for Irrigation Engineers and Senior Technical Assistants. The third training course of this series was held at SLITI from 18 to 28 June 1996. The organizers were encouraged by the increased demand for this course and the Irrigation Department (ID) exemplified the fact that for the first course held in 1994 only about 50 percent of the slots were filled by participants while, in 1995, it increased to about 85 percent. In 1996, the participation rate was 100 percent.

Although the first and second RRA/PRA courses were assisted by several expatriate resource persons, the third course had to be conducted mainly by the local staff of IRMU/SLITI/IIMI, as several expatriate experts were out of the island and the Chief Course Coordinator of IIMI had fallen ill. The course got into full swing in spite of the initial apprehensions. About 26 percent of the participants had mentioned nonavailability of resource persons, who are authorities on their respective subject areas, as a difficulty at the final evaluation of the course. Nevertheless, the rating given for the training course by the participants as excellent/good was 89 percent.

As in the past, the core of the course centered on the need for RRA, its evolution and underlying concepts, the range of methodology, important RRA tools and techniques and contexts, issues and types of application.

Objectives

The general objective of the training course was to sensitize irrigation officials interested in research and diagnostic activities on the advantages of using RRA techniques for collecting the required information.

The specific objectives were:

- to provide course participants with a thorough understanding of the purpose, principles and methods of RRA

- to help course participants plan RRA in irrigation schemes (preferably in minor schemes)

- to guide course participants in implementing, discussing and reporting the RRA results

Participants

The Deputy Director, IRMU, had nominated 27 participants from the ID, all of whom attended the course. A list of participants is given in Appendix i. All the participants were Irrigation Engineers or Senior Technical Assistants.

Course Structure

The course was a blend of class room lectures, discussions, exercises, field work, report writing and presentation.

In the lecture sessions basic ideas were conveyed about RRA/PRA concepts, why RRA has become important in recent years, where it should or should not be used, and how it can be integrated with beneficiaries, policymakers and implementing staff. The qualitative principle of RRA, the importance of indigenous knowledge, flexibility, interdisciplinary approach which is rapid, iterative and progressive were stressed. Major risks of RRA were also informed. The RRA was location-specific and the RRA team (of professionals) had to decide what methods/techniques/tools and indicators were to be used for an assessment.

In the class room, trainer-trainee interaction remained at a higher level. The trainers used lectures to introduce main ideas and the participants were frequently invited to comment over actual or hypothetical problems and RRA case studies. The brain-storming sessions and buzz sessions brought out participants' comprehension on activities and events in the process of assessments which enabled them to gain a better grasp of the subject.

Field exercises were held at the Pahala Digana Wewa minor irrigation scheme in the Galgamuwa electorate in the Kurunegala District. The trainees were divided into three groups, socioeconomic, agriculture and irrigation, each consisting of 9 members. Each group elected its own facilitator (leader) and planned their RRA field visit with checklists, indicators, etc. A whole day was spent in the field. This was followed by analysis of data and preparation of preliminary findings. These were discussed at a participants' meeting, and guidance was provided on logical presentation. These findings were presented to the farmers on the following day using graphic and illustrative materials. Thereafter, the final reports were prepared using computer facilities available at SLITI.

On the last day at a brief meeting they were instructed on effective presentation of findings. A representative of each group presented the group's findings to a panel consisting of the Deputy Director (DD) (Training), the Senior DD (Performance and Evaluation) and the DD (IRMU). A representative of the three groups presented co-relationships of the findings of the three groups. The panel questioned the representatives on various aspects.

Finale

The finale consisted of addresses by the DD (Tr), Snr DD (P&E) and DD (IRMU), who requested the participants to keep up their knowledge on the ever-changing development scenario, to uphold time-tested traditions of the ID, to earn a good name through hard work and to use the skills acquired in the field. A special word of thanks went to Engineer Dr. K.A. Haq of IIMI, DD (SLITI), Chief Engineer (IRMU) and others for their unstinted support for the course. Thereafter, certificates were presented.

Summary of Presentations by Resource Persons

Introduction to RRA
H. M. Jayatilleke

The evolution of RRA was briefly discussed. RRA objectives and principles were explained. It was emphasized that RRA rests on qualitative principles. Though conventional surveys and rapid or participatory rural appraisal methods are usually seen at the opposite ends of the data collection spectrum, in practice they should be complementary approaches. There are advantages and disadvantages of each that need to be taken into account in the search for the most appropriate method for the task in hand. RRA techniques such as the multiple approach and appraisals were discussed in detail. There is no clear definition of how `rapid' RRA should be. There is further scope for useful research into RRA techniques to identify the precise tradeoff between accuracy, research costs and research time in various circumstances.

Use of RRA Techniques for Appraisal of Irrigation Projects
H. M. Jayatilleke

The need for application of RRA techniques for appraisal of irrigation projects was explained. A system is an integrated whole which functions together. An irrigation system is seen by different disciplines in a different way. Thus a multidisciplinary approach helps take a holistic view needed for development. The urban-rural dichotomy was discussed. RRA is eventually geared to rural development. Hence it has to be adopted to irrigation systems, where appropriateness of data, information, indicators, status/condition/situation and problems have to be assessed. Activities and events involved in the appraisal of an irrigation project were identified and discussed in detail. Subsequently, the appraisal process was analyzed in detail.

Appraisal Methods for Social and Institutional Aspects
S. M. K. B. Nandaratne

An adult cannot teach another adult, but rather share knowledge and discuss issues. The social and institutional aspects were identified, and major methods of collecting data and key factors, selection and use of appropriate methods were explained. Traditionally defined social research has been concerned with gathering data that can help answer questions about various aspects of society which, in turn, can help understand society. There are a variety of approaches to social research. Each particular project is unique in some way because of the particular time and place in which it is conducted.

Group Interviews
L. P. Perera

The type of information needed determines the method of field data collection. In RRA, interviewing is most important. Group interviews could be either with community group or focus group. This again could be segmented into special groups (e.g., village leaders, tail enders) or stratified groups (e.g., head, middle and tail enders). Optimum number of members in a team,

convenient time and location for the interviews were discussed. In group interviews without sub-topics or guidelines there is a tendency to lose control over discussion. No direct question should be asked. While a dialogue should be promoted, a relaxed approach should be maintained. A facilitator or a moderator should be appointed to the team. The advantages of a semi-structured group interviews are that they can obtain information on an area or large group of people more rapidly and economically than in a formal survey. Respondents tend to correct each other and provide rough but reliable information. Among the limitations is the tendency for elites or officials to sometimes dominate.

RRA - A Tool for Identifying Problem Areas Needing Research
B. M. S. Samarasekera

Objectives of IRMU and how IRMU fits into NIRP were explained. Actual benefits received from irrigation schemes, over the years, cannot justify investments made due to the poor O&M, questionable hydrological parameters, degradation of the catchment areas, and socioeconomic and institutional problems. Drought and erratic rainfall are endemic problems for which answers are limited. Yet there are many other issues such as equity of water issues, inputs needed to make participatory management of schemes effective, sustainable and self-financing and how irrigated agriculture could be made more eco-friendly, that could be dealt with effectively through proper studies. Technical support for the establishment of IRMU was provided by IIMI to identify and coordinate research into such areas. Research and field testing are expected to provide insight for the adaptation, modification and use of RRA methodology in NIRP.

Data Requirement for Assessing Research Needs in Respect of Agricultural Productivity
C. R. Panabokke

It was explained that proper understanding of the location-specificity of an irrigation system is basic to any appraisal of its potential agricultural productivity. This requires an appreciation of the micro-variability of the dry and intermediate zone landscape including land hydrology. Drawing examples from one of the latest research projects carried out, it was stated that tank systems could be classified as macro, meso and micro systems. A meso watershed consists of several micro tank systems and is called a cascade. The character of a tank and its hydrology are interdependent with the other tanks in the cascade. Moisture availability, soil physical properties of main great soil groups, range of crops that fit the micro-topographic position on the landscape based on water table behavior for both maha and yala and estimation of irrigation frequency intervals based on rainfall confidence limits were discussed.

Checklist for Data Collection Relating to Irrigation and Drainage Facilities
N. N. Kamaladasa

Required data for a RRA could be collected from (a) existing records, files, reports, etc., and (b) field inspections, interviews, participant observation, etc. General data, historical data, hydrological data, system features, system condition cultivation aspects, community, farmer organization, irrigation organization, operation, maintenance, resource mobilization for O&M,

system performance, changes needed and other specific proposals may be included in a check list for an RRA for an irrigation intervention. The teams should try to obtain data in many different ways as possible. An irrigation system consists of several overlapping subsystems. If these overlap and their interrelationships are not analyzed, they may prove to be inadequate. Thus the need to go as a team of multi-disciplinary professionals working together is not easy, as the members come from different organizations and different cultures. Their first reaction is to defend their disciplines. Thus by avoiding defending your disciplines and with regular communication, efforts should be made to overcome this weakness. Another important weakness to overcome is indulging in "rural development tourism."

Appraisal Methods for Farm Management
S. Samad

Appraisal methods for farm management were introduced under four major subheadings: farm budgeting, partial budgeting, production functions (to analyze resource allocation pattern) and linear programming (useful for farm planning). Thereafter, definition of the concepts, data requirements, computation methods and type of data required were explained. A budget is a plan to coordinate inflow and outflow of a given set of objectives. A farm budget is prepared to maximize profits of food security in a farm. Basic concepts used in farm budgeting were explained. These included gross value of products, gross margins, and net farm income. Productivity measurements included rate of return to some factors. Thereafter, inputting of family labor costs were discussed. Several exercises were given to the participants for them to get familiar with the subject.

General Principles of RRA Analysis and Reporting
S. M. K. B. Nandaratne

Elements of good analysis, reporting and process of putting together an effective RRA report were the main topics discussed. Analysis techniques were explained in detail in the form of situation analysis, content analysis, behavioral analysis and organizational analysis. A model format was presented to the participants and discussed. Although the format is flexible, it facilitates orderly presentation.

Participatory Rural Appraisal (PRA)
Paul Gosselink

PRA is a reaction to RRA in the sense that it allows people to do their analysis, so that experts could learn how they see reality. Thus PRA allows much higher participation of the beneficiaries. Citing examples of PRA appraisals carried out in Sri Lanka, Gaza Strip and Sudan, the use of PRA tools and techniques such as mapping, transacts/walk- throughs, seasonal calendar, time trends, historical profile, daily routine, daily activity profile, livelihood analysis, Venn diagram, flow diagram, matrix scoring and ranking were explained. It was emphasized that PRA is an approach (attitudes + method + process) for learning about rural life and conditions from, with and by the rural people.

Organizing an RRA
C. M. Wijayaratna

Appraisals are based on the collection, analysis and interpretation of data. These involve strategic choices aimed at maximum inferences and prediction from relatively low levels of appraisal inputs in the shortest possible time. There exists tradeoffs between RRAs and other conventional appraisal techniques which are usually based on detailed surveys. Standards of precision accuracy and reliability should be judged in the context of the specific objectives of the exercise, cost involved, etc. Hence, a clear understanding of the specific objectives of the appraisal and the definition of the target population is essential for such decisions as to the type of information to be gathered and methods to be employed.

PRA as an Integral Component of Participatory Rural Development through Integrated Land and Water Management (Case Studies)
C. M. Wijayaratna

The SCOR Project in the Huruluwewa feeder canal area promotes participatory and integrated planning, and water resources utilization. In this watershed PRA of characteristics of resource use and users as well as current resource use mapping were done by a group comprising IIMI/SCOR professionals/catalysts, local officials, and farmer/user representatives. This was repeated in all the villages in the selected watersheds. While refining the map to maintain the accuracy of the scale, SCOR developed an integrated plan to improve land and water resources management.

Course Duration

The course was conducted for 9 working days.

- concepts, principles and theory - 04 days

- focused topics and case studies - 01 day

- field work and the application - 01 day

- review of the field exercise and preparation of draft report - 01 day

- discussion of the draft report with farmers - 0.5 day

- preparation, presentation of the final report and departure - 1.5 days

A detailed breakdown of the time allocation by topic is presented in Appendix II.

Resource Persons

The following resource persons participated in the training program.

I.	Trainers	: B. M. S. Samarasekera, H.M. Jayatilleke, N. N. Kamaladasa, C. R. Panabokke, C. M. Wijayaratna, M. Samad, P. Gosselink, S. M. K. B. Nandaratne, L.P. Perera, A.L. Buruhanudeen, and Frank Perera.
ii.	Organizers	: IRMU, SLITI and IIMI
iii.	Facilitator	: H.M. Jayatilleke (SLITI)
iv.	Course Directors:	K.A. Haq and B.M.S. Samarasekera

Evaluation of the Training Program

The participants were invited to evaluate the process of learning and interaction which took place during the program. They were also invited to assess the training, organization, planning and implementation of the training program (including methods, techniques, experts and facilitators' performance, instructional materials and training facilities). The format used for course evaluation is presented in Appendix III.

The scale of evaluation was from 1 to 5 with 1 denoting objective not achieved and 5 denoting objective fully achieved.

A. Evaluation of Important Topics

Topic	Average Score
1. Ability to describe the RRA technique	4.6
2. Ability to decide the needs of RRA for NIRP schemes	4.2
3. Use of RRA as a tool for identifying research needs	4.2
4. Application of appraisal methods for irrigation supplies and drainage	4.4
5. Ability to use appraisal methods for social and institutional aspects	4.7
6. Ability to interview farmers and farmer groups	4.4
7. Application of RRA analysis and presentation techniques	4.3
8. Use of appraisal methods for agricultural productivity	4.0
9. Ability to organize a rapid appraisal	4.4

10. Ability to conduct participatory rural appraisal   4.4

11. Use of appraisal methods for farm management aspects   4.0

12. Preparation and submission of reports on RRA   4.5

B.   Opinion and Feedback

		Average
1.	Orientation	4.3
2.	Group atmosphere	4.4
3.	Interest and motivation	4.6
4.	Participation	4.4
5.	Productivity	4.0
6.	Physical arrangements	4.6

Key	Very low	Low	Average	High	Very High
1	1	2	3	4	5
2	1	2	3	4	5
3	1	2	3	4	5
4	1	2	3	4	5
5	1	2	3	4	5
6	1	2	3	4	5

C.   Ratings Given for the Training Program

	Total	Percentage
Not good	-	-
Mediocre	-	-
Alright	2	7.4
Good	12	44.4
Excellent	12	44.4
Not Available	1	3.7
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	27	99.9
	==	===

D. Course Strengths

1. Proper guidance, moral support, provision of materials needed and good working atmosphere

2. Insight gained on community needs and activities

3. Healthy group atmosphere

4. High interaction between resource persons and participants

5. Knowledge gained on the multidisciplinary approach

6. Well-organized field exercises

7. Good meals, accommodation and lecture hall facilities

8. Contribution of IRMU/ID resource persons

9. Effective course coordination

10. Expert guidance to understand theory and practical aspects of RRA

11. Well-presented PRA techniques

12. Relevance of RRA to ID work

E. Weak Points

1. Too intensive and concentrated training course

2. Absence of resource persons

3. The training program not proceeding according to the schedule

4. All the participants not getting an equal opportunity in getting field experience

5. Poor audio-visuals

6. Language in which the training course was conducted

7. Non-multidisciplinary group

8. Non-homogenous (considering that they are all from the ID where they are hierarchically categorized)

9. Dominance of some participants

10. Lengthy course

11. Insufficient time provided for field work

12. Paucity of orientation given

13. Non-representative farmer group

14. `It is not clear what we are to do after training'

15. Poor physical arrangements

F. Improvements Suggested

1. Authorities on different disciplines should be provided as resource persons.

2. Participants must be provided a brief description of the training course before coming to the SLITI.

3. RRA is a must for all relevant officials in the ID.

4. Proper recognition should be given to RRA/PRA in the ID.

5. In field visits, a single group should handle all aspects (i.e., irrigation, socioeconomic and agriculture aspects).

6. Course duration should be reduced.

7. Gradual building up of relationship with villagers before doing the field work is needed.

8. Behavioral studies should be a part of the course.

9. More research should go into RRA/PRA to adapt it into irrigation work.

List of Participants

1. Mr. D. Abeysiriwardane
2. Mr. U.L.M. Aseez
3. Mr. D.M.C. Bandara
4. Mr. P.A. Chithra
5. Mr. B.G. Gunawardane
6. Mr. A. Gunasekera
7. Mr. H.M. Herathbanda
8. Mr. M.S. Kaldeen
9. Mr. K.M.A.P. Karunanayake
10. Mr. H.V. Kodituwakku
11. Mr. K.A.D.W. Kumarapeli
12. Mr. L. Mahindasena
13. Mr. K.B. Piyadasa
14. Mr. D.S. Pitgampola
15. Mr. L.G.P. Samarawickrama
16. Mr. M.B. Seneviratne
17. Mr. G.Saravanabavan
18. Mr. T.C.M. Silva
19. Mr. M.W.P. de Silva
20. Mr. W.N. Silva
21. Mr. V. Sriranganathan
22. Mr. S. Tiyagarajah
23. Mr. V. Umapathy
24. Mr. M. Varatharajan
25. Mr. K.Weligepolage
26. Mr. R.A.P. Wijewardane
27. Mr. H.S. Wijepala

RRA Training Course Schedule, 18-28 June, 1996

Time	18	19	20	21	24
8.00 a.m.to 10.30 a.m.	Registration at the inaugural session	Classroom discussion	PRA PG	Classroom exercise and discussion	Organizing RRA CMW
10.30 a.m to 11.30 a.m.	T e a I n t e r v a l				
11.30 a.m. to 12.30 p.m.	Introduction to RRA HMJ	Appraisal methods for social and institutional aspects SMKB	PRA continued	Appraisal methods for farm management MS	RRA case studies CMW
12.30 p.m. to 2.00 p.m.	L u n c h I n t e r v a l				
2.00 p.m. to 3.00 p.m.	RRA for irrigation systems HMJ	Group interviews	Appraisal methods for agricultural productivity CRP	Classroom discussion	RRA exercise preparation orientation HMJ/NNK
3.00 p.m. to 3.30 p.m.	T e a I n t e r v a l				
3.30 p.m. to 4.30 p.m.	Classroom discussion of above continued	RRA—A tool to identify problem areas needing research BMMS	Appraisal methods for irrigation supplies and drainage NNK	General principles of RRA analysis and reporting SMKB	B. method and field plans HMJ/NNK
4.30 p.m. to 4.45 p.m.	Roundup of day's work	Roundup of day's work	Roundup of day's work	--	Review of the course

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Time	25	26	27	28
8.30 a.m to 10.30 a.m.	Field exercises at an irrigation scheme	Review of field exercise	Presentation of findings to the farmers at the scheme	Pre-presentation meeting
10.30 a.m. to 11.00 a.m.	T e a		I n t e r v a l	
11.00 a.m. to 12.30 p.m.	Field exercises at an irrigation scheme	Preparation of preliminary reports	Presentation of findings to the farmers at the scheme	Presentation and submission of the report and closing session
12.30 p.m. to 2.00 p.m.	L u n c h		I n t e r v a l	
2.00 p.m. to 3.00 p.m.	Field exercises at an irrigation scheme	Preparation of preliminary reports	Preparation of the final reports	Departure
3.00 p. m. to 3.30 p.m.	T e a		I n t e r v a l	
3.30 p.m. to 4.30 p.m.	Field exercises at an irrigation scheme	Preparation of preliminary reports	Preparation of the final reports	--
4.30 p.m. to 4.45 p.m.	--	Presentation of preliminary findings and discussions	--	--

(You need not sign your name)

**Rapid Appraisal of Irrigation Systems
for Rehabilitation & Modernization and
Research Needs**

PROGRAM EVALUATION SCHEDULE

A. Goals

The objectives of this training program are listed below:

Please indicate the number that closely resembles your feeling that each objective had been achieved.

The scale is from 1 to 5, 1 denoting the objective was not achieved and 5 denoting the objective was achieved very well.

1   Ability to describe the RRA technique

    1   2   3   4   5

2   Ability to decide the needs of RRA for NIRP schemes

    1   2   3   4   5

3   Use of RRA as a tool for identifying research needs

    1   2   3   4   5

4   Application of appraisal methods for irrigation supplies and drainage

    1   2   3   4   5

5   Ability to use appraisal methods for social and institutional aspects

    1   2   3   4   5

6   Ability to interview farmers and farmer groups

    1   2   3   4   5

7   Application of RRA analysis and presentation techniques

    1   2   3   4   5

8   Use of appraisal methods for agricultural productivity

    1   2   3   4   5

9   Ability to organize a rapid appraisal
      1   2   3   4   5

10   Ability to conduct participatory rural appraisals
      1   2   3   4   5

11   Use of appraisal methods for farm management aspects
      1   2   3   4   5

12   Preparation and submission of RRA reports
      1   2   3   4   5

B.   Opinion and Feedback

What is your overall rating of the training program for each of the following items? (Please circle the appropriate number.)

	Very Low	Low	Average	High	Very High
1. Orientation	1	2	3	4	5
2. Group atmosphere	1	2	2	4	5
3. Interest and motivation	1	2	3	4	5
4. Participation	1	2	2	4	5
5. Productiveness	1	2	3	4	5
6. Physical arrangements and comfort	1	2	2	4	5

Please answer the following questions:

1   How would you rate the training program (check)?

      Not good ☐ Mediocre ☐ Alright ☐ Good ☐ Excellent ☐

2   What were the strong points?

3   What were the weak points?

4   What improvements would you suggest?