Completion Report



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

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

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Introduction

The National Irrigation Rehabilitation Project (NIP) expects to rehabilitate and modernize 800 minor and 30 medium/major irrigation schemes. It has been trying to surmount the task of completing assessment work of schemes suggested by local authorities for prioritizing them for inclusion in the NIRP. This required a more discerning, rapid and flexible but cost-effective method instead of the conventional sampling survey method. Thus, Rapid Rural Appraisal (RRA) was considered as the most appropriate method to meet this need.

This second course on RRA was designed for irrigation engineers/senior technical assistants directly involved in the implementation of NIRP. In developing the curriculum, the International Irrigation Management Institute (IIMI) has tailored the RRA methodology to match the need of irrigation system rehabilitation and modernization. The core of the course centered on the need for RRA, its evolution and underlying concepts, the range of RRA methodology, important RRA tools, techniques and contexts, and issues and type of application.

This course expected to inculcate in the course participants not only an appreciation of the holistic approach to appraisal involving socioeconomic, institutional, agricultural and irrigation aspects; but also change their attitudes towards selecting schemes for rehabilitation, based on actual needs.

Objectives

The general objective of the two-week training course is to sensitize irrigation officials interested in research and diagnostic activities on the advantages of using the RRA technique for collecting the required information. Other objectives are to:

- Provide course participants with a thorough understanding of the purposes, principles and methods of RRA.
- Help course participants plan RRA in irrigation schemes (preferably in minor schemes). Guide course participants in implementing, discussing and reporting the results of RRA.

Participants

The Project Director, NIRP nominated 20 participants from the Irrigation Department, of whom 19 actually attended the course. A list of participants with their designations is presented in Appendix 1. All the participants were engineers or senior technical assistants associated in one way or another with the rehabilitation program being implemented by NIRP.

Course Structure

The course was a blend of classroom lectures, group discussions and extensive filed exercises.

During the classroom part of the training course, certain basic ideas were conveyed about why RRA has become important in recent years, what it should and should not be used for, and how it can be integrated with the needs of policy makers and implementing staff. RRA principles conveyed included the importance of indigenous knowledge, flexibility and interdisciplinary learning which is rapid, iterative and progressive, and the effective combination of multiple methods.

It was emphasized that RRA is location-specific, and that the methods and indicators used should be informed by persons having extensive knowledge about local conditions.

Training sessions included discussions with the participants about aspects such as deciding when RRA is appropriate and when it is not, what conditions make RRA successful, how to organize and prepare for an RRA, methods of implementation and how to ensure that the results of RRA are used effectively by relevant agencies. Methods of implementation received the most attention. The orientation was towards introducing participants to practical RRA methods which could be applied by staff of both the implementing and research units.

Trainers used the lecture mode to introduce the main ideas and methods. The participants were frequently invited to comment on hypothetical or actual problems and case studies of RRA. This approach was mixed with role-playing exercises, where the participants made use of interview techniques and discussed the exercises. Readings were assigned and the participants were asked to present short reviews of the readings and relate them to the previous day's lecture.

Field exercises were conducted at the Pahala Kokawewa Minor Irrigation Scheme located in the Galgamuwa Irrigation District. The scheme has a command area of slightly over about 40 acres of land with a cropping intensity of about hundred percent (details of the project are included in the Participants Appraisal Report.)

Participants were divided into three groups: two groups had six members and the third had seven. Each group was assigned the appraisal of one of the following topics: irrigation; agricultural production systems and socioeconomic and institutional aspects. The groups prepared work plans for their RRA field exercises. The groups also discussed the type of information to be collected and the indicators and working hypotheses on the determinants of management performance and impacts.

Each RRA team implemented its trial RRAs in the field for two days in the second week. This was followed by analysis, preparation and presentation of the findings which included the preparation of a short report, use of graphic or illustrative materials and a verbal presentation to the group.

Summaries of Presentations by Resource Persons

Introduction to RRA K. A. Haq

RRA objectives, principles, techniques and its application to irrigation systems are explained. RRA is a process of learning in an intensive, iterative and expeditious manner geared towards problem solving. it is characteristically multidisciplinary and holistic in approach. The RRA tools and techniques adopted to achieve increased accuracy at a low cost are discussed. It is also pointed out that analysis of information collected and accurate presentation are areas that need special attention at present.

Need of RRA for NIRP Projects K. S. R. de Silva

Presently, schemes (especially minor schemes) are selected for rehabilitation under NIRP based on proposals from the Agrarian Services Committee in Divisional Secretariat areas. The number of schemes proposed invariably exceeds the number that could be accommodated. Thus, it is necessary to prepare a priority list, but presently there is no sound basis for preparing such a list. If RRA could be used to prioritize schemes on the basis of social needs, then it would ensure that NIRP reaches the area where the need is most acute. Furthermore, RRA techniques could be used to gather information on the strengths of Farmer Organizations (FOs), effectiveness of farmer training programs, farmer participation in rehabilitation and readiness of the FOs to take over schemes for operation and maintenance (O&M).

RRA - A Tool for Identifying Research Needs B. M. S. Samarasekera

IRMU objectives and how IRMU fits into NIRP are explained. Over the years, the actual benefits received from irrigation schemes cannot justify the investments made due to the poor O&M of schemes, use of questionable hydrology parameters, monocropping of rice, and associated socioeconomic and institutional problems. To coordinate research into such areas, technical support for the establishment of IRMU was provided by the IIMI Sri Lanka Field Office. In finding solutions to the problems the schemes are facing, research and field-testing expect to provide insights into the adaptation, modification and use of RRA methodology in NIRP.

Checklist for Data Collection Relating to Irrigation and Drainage Facilities R. Sakthivadivel

The emphasis is placed on the fact that rural people and irrigation engineers often perceive and understand rural environments in ways that are very different, but equally important. In some ways, rural knowledge may be seen to be superior in that it is often the result of generations of direct experience in dealing with particular rural situations. dialogues with the people living within the system could provide the key to understanding the system. Thus, it is necessary to take a holistic (integrated) view of the functioning of the system. Given this background, it is explained how data collected on irrigation and drainage could be organized under check lists. Sources of data lists include general information on the scheme (water resources, system design and system conditions), organizational data, procedures of O&M management, and data analysis. The approach advocated is linked to an action plan to improve tank performance.

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

This lecture explains that a proper understanding of the location-specificity of an irrigation system is basic to any appraisal of its potential agricultural productivity. This required an appreciation of the micro-viability of the dry and intermediate zone landscape, including land hydrology. Drawing an example from one of the latest research projects carried out by IIMI/IRMU, it was stated that the tank systems could be classified under macro, meso and micro systems. A meso watershed consisting of several micro tank systems is called a cascade. It is shown that in this research project, the 3,000 odd small tanks systems in the Anuradhapura District could be classified under 275 cascades. Thus, the character of a tank and its hydrology are interdependent with the other tanks in the cascade.

Organizing an RRA C. M. Wijayaratna

In general, appraisals are based on the collection, analysis and interpretation of data. These involve strategic choices aimed at maximum inference and prediction from relatively low levels of appraisal inputs in the shortest possible time. There exists tradeoffs between RRA and other traditional appraisal techniques which are usually based on detailed surveys. However, standards of precision, accuracy and reliability should be judged in the context of the specific objective of

the exercise, the cost involved, etc. Hence, a clear definition of the target population is essential for such decisions as the types of information to be gathered and the methods to be employed.

PRA as an Integral Component of PR Development through Integrated Land and Water Management: Case I - Maha Meegaswewa, Case II - Mahaweli Feeder Canal Area, Huruluwewa C. M. Wijayaratna

The Shared Control of Natural Resources (SCOR) projects in Maha Meegaswewa and the Mahaweli Feeder Canal Area in Huruluwewa promotes participatory and integrated planning for land and water resources utilization. In these selected watersheds, participatory appraisal of the characteristics of resource use and users, as well as current resource use mapping; were done by a group comprising IIMI/SCOR professionals/catalysts, relevant local officials and farmer/user representatives. Each group was provided with a line map of 1:3000 scale indicating roads and streams for guidance. The group collected data and mapped each plot of land in the village. This was repeated in all the villages in the selected watersheds. Refining the map to maintain the accuracy of the scale was done by a draughtsman. Subsequently, using this map SCOR developed an integrated plan to improve land and water resources management. Novel modes of state-user partnerships in land and water resources use have been arranged.

Module on PRA Paul Gosselink

Participatory Rural Appraisal can be seen as a reaction to RRA because it allows people to do their analyses, so that experts could learn how people perceive reality. Thus, RRA allows, among other things, much higher participation of the beneficiaries. Citing examples of PRA appraisals carried out in the Gaza Strip and in Sudan, the use of PRA tools and techniques such as mapping, transact walk-throughs, seasonal calendar, time trend, historical profile, daily routine profile, daily activity profile, livelihood analysis, Venn diagram, flow diagram, matrix scoring, and ranking are explained. It is emphasized that PRA is an approach (attitudes + methods + process) for learning about rural life conditions from, with and by the rural people.

PRA Method for Farm Management Aspects of Irrigation Systems P. B. Aluwihare

Farm management is described as the way in which the individual farmer organizes the factors of production (i.e., land, labor, and capital) in his farm and adopts practices to suit his particular environment and so disposes of his products in a way that will yield him the highest net return

while still maintaining the integrity of his land and equipment. Farm management practices in irrigated agriculture consist of crop selection, cropping patterns, land preparation, cultural practices, irrigation, harvesting and processing, storage and disposal of produce. Data for RRA could be collected by way of individual interviews for head-middle and tail-end areas, group interviews, secondary data sources and various study reports. Based on the data gathered, analysis and interpretation could be carried out to assess the economic profitability based on technical efficiency (yield performance, input use, farm size and cropping index) and economic efficiency (gross revenue, gross value added, farmers' income, labor productivity, and water productivity).

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

As traditionally defined, social research has been concerned with gathering data that can help answer questions about various aspects of society and this can help us understand society. There are a variety of approaches to social research. Each particular project will be unique in some way because of the particular time and place in which it is conducted. RRA requires cost-effective and timely methods that make low demand on the staff. Given this background, information of great importance for RRA, and various social and institutional aspects are discussed. NIRP work requires identification of social and institutional aspects of irrigated agriculture, identification of major methods to be used for data collection on these aspects, and identification of key factors affecting selection of such methods.

RRA Analysis and Presentation Techniques S. M. K. B. Nandaratne

RRA rests on the qualitative principle which has to be appreciated by everyone involved in the project. If data are to be useful in decision making and policy implementation, they must be as accurate as possible, available when required and obtainable at an appropriate cost. This inevitably necessitates some sacrifice in precision and detail. RRA techniques include the use of existing information, good organization (i.e., objectives must be very clear and the minimum necessary data required must be identified). When in the field, attention must be paid to moving out of the roadside, talking to a cross section of people, appreciating the local knowledge of people, avoiding seasonal bias and using multiple approaches (e.g., individual and group interviews). Among the data collection methods that could be utilized as appropriate are randomization, purposive sampling, the use of key informants, panel surveys, questionnaires, checklists, guided interviews, group interviews, cross generation, participant observation, use of local people, involvement of local people, interview technique, aerial surveys and air

photographs. If RRA becomes a widely accepted method it will be important to be explicit about the way in which RRA techniques are applied.

Farmer Group Interviews S. M. K. B. Nandaratne

The module reviews basic methods for conducting interviews, recording and analyzing interview information and presenting results. The differences between unstructured, semi-structured and structured interviews are discussed. The advantages of semi-structured group interviews are that they can obtain information on an area or a large group of people more rapidly and economically than a formal survey and bring out a broader range of perceptions and attitudes. Further, respondents tend to correct each other and provide rough but reliable information. Some limitations of group interviews are that the elite or officials at times tend to dominate the discussions, some respondents are reluctant to speak in public and the search for consistency of comments by different persons can lead the interviewer to draw conclusions related to his or her own bias.

Course Duration

The course was conducted for eight working days as follows:

•	Concepts, principles and theory	-	4 days
•	Focused topics and case studies	~	1 day
•	Field work and the application	-	1 day
•	Review of field exercises and preparation of draft report	-	1 day
•	Discussion of draft report with farmers	-	0.5 day
•	Preparation and presentation of final report -	0.5 day	У

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:

Trainers: K. S. R. de Silva; B. M. S. Samarasekera; C. M. Wijayaratne; R. Sakthivadivel; C. R. Panabokke, S. M. K. B. Nandaratne; P. Gosselink; P. Aluwihare; K. A. Haq; M. Fernando; S. Perera; A. L. Buruhanudeen; and Frank Perera.

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Preparation and presentation of final report

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Organizer: Irrigation Research Management Unit (IRMU); Sri Lanka Irrigation

Technical Institute (SLITI); and International Irrigation Management

Institute (IIMI).

Facilitator:

H. M. Jayathilaka (SLITI).

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 asses the training, organization, planning and implementation of the training program (including methods, techniques, expert and facilitator performance, instructional material and training facilities). The format used for course evaluation is presented in Appendix III.

Evaluation of Important Topics

	Topic	Average Score
1.	Ability to describe RRA techniques and principles	4.6
2.	Ability to decide on the needs for RRA for NIRP schemes	4.2
3.	Using RRA as a tool for identifying research methods	4.2
4.	Applying appraisal methods for irrigation supplies and drainage	
		4.0
5.	Ability to use appraisal methods for social and institutional aspects	
		4.2
6	Ability to interview farmers and farmer groups	4.4
7.	Applying RRA and analysis and presentation techniques	4.2
8.	Using appraisal methods for agricultural productivity	3.6
9.	Ability to organize a Rapid Appraisal	4.2
10.	Ability to conduct PRA	4.2
11.	Using appraisal methods for farm management's aspects	3.6
12.	Preparing and submitting reports on RRA	4.1

Opinion and Feedback

		Average	
1.	Orientation	4.0	
2.	Group atmosphere	4.3	
3.	Interest and motivation	4.2	
4.	Participation	4.5	
5.	Productivity	4.0	
6.	Physical Arrangements	4.8	

 Key:
 Very low
 =
 1

 Low
 =
 2

 Average
 =
 3

 High
 =
 4

 Very high
 =
 5

Ratings Given for the Training Program

		Percentage
1.	Not Good	0
2.	Mediocre	5.6
3	Alright	16.7
4.	Good	53.6
5.	Excellent	22.2

Course Strengths

- RRA provided insights for speedy decision making.
- Tapping and using indigenous knowledge helped correct appraisals.
- RRA theory could be put into practical use.
- Knowledge imparted through the use of visuals.
- Availability of experienced resource persons for the course.
- Lectures were convincing.
- Fulfillment of a felt-need of the participants.
- Ability to get closer to people with RRA.

- Video presentation of RRA was a useful educative exercise.
- Participation in the field exercise provided first-hand experience.
- Frank discussion with resource persons.
- Well-prepared lecture notes.
- RRA provided direction to future research.
- Program was organized in a professional manner.

Weak Points

- Sociology and agronomy were not adequately covered.
- Presentation of technical points by non-technical persons was not successful.
- Handouts being available before every lecture.
- Improper selection of irrigation schemes for field work.
- Group participation was not satisfactory.
- Lack of direction and guidance by the Irrigation Department.
- Training course commenced too close to the new-year holidays.
- Mid-course change of program scheduled for the weekend.
- Non-participation of senior deputy directors (NIRP) throughout the course.
- Several lectures repeated the same points.
- Delivery of lectures by non-specialists.
- Did not cover the psychologistical aspects of the respondents.
- Too many handouts.
- Time unnecessarily wasted as only about five-and-a-half hours were utilized per day for training purposes.
- Non-participation of individuals from other disciplines being a weakness in a multidisciplinary effort.
- Accuracy of RRA being doubtful.

Improvements Suggested

- Since participants are technical persons, more reference books should be made available on sociology and agronomy.
- Time and resources should be made adequately available to officers who intend to practice RRA
- Resource persons should accompany participants on field work.
- Groups should be multidisciplinary.
- Handouts should be made available before the delivery of each lecture.
- Presentations must be well organized to avoid boredom.

- Better participation of ID/NIRP personnel needed.
- A session on report writing.
- Reduce the duration of course to 6 days.
- Include a sociologist and an agronomist to assist in field work.
- Experienced professionals should conduct the course.
- Participants should be from a multidisciplinary background.
- RRA field work on different disciplines should be rotated among groups.
- More audio visual presentations on field work should be made available.
- Include participants from the Departments of Agriculture and Agrarian Services .
- Irrigation engineers and technical assistants need training in agricultural aspects.
- Representatives from other agencies such as agricultural instructors should be invited when farmer interview are being conducted.

Appendix I

List of Participants

- 1. Mr. S.M.D.C.K. de Alwis, IE
- 2. Mr. A. Angammana, IE
- 3. Mr. K.J.P. Appuhamy, TA
- 4. Mr. H.M. Gunatillake, IE
- 5. Mr. W.G. Gnanadasa, TA
- 6. Mr. K.P. Fernando, IE
- 7. Mr. B.W. Kulatunga, IE
- 8. Mr. W.H. Karunadasa, TA
- 9. Mr. N.N. Kamaladasa, IE
- 10. Mr. W.A. Leelaratne, IE
- 11. Mr. M.K. Noordeen, IE
- 12. Mr. N. Palipane, IE
- 13. Mr. P. Perera, IE
- 14. Mr. A.U. de Silva, IE
- 15. Mr. U.A.D. de Silva, IE
- 16. Mr. M.D.J. Stembo, IE
- 17. Mr. W.A.P. Wijesooriya, IE
- 18. Mr. M.P. Wijeratne, IE
- 19. Mr. K.M.P.M. Wickrematillaka, IE

Appendix II

RRA Training Course Schedule, 18–27 April, 1995.

Time	18	19	20	21	24
08:30 a.m.	Registration and inaugural session	Appraisal methods for irrigation supplies and drainage	Farmer group interview	Participatory rural appraisal	RRA case studies
		(RS)			
10:30 to 11:00	Tea Break	<u> </u>	(SMKB)	(PG)	(KAH)
a.m.	Теа Втеак				
11:00 a.m.	Introduction to RRA	Appraisal methods for social and institutional aspects	Organizing RRA	Appraisal methods for farm management	RRA exercise preparation and orientation
		(SMKB)	(CMW)	(MS)	(KAH)
12:30 to 02:00 p.m.	Lunch Break				
02:00 p.m.	Needs of RRA for NIRP schemes	Appraisal methods for agricultural productivity	RRA case studies	RRA case studies	Methods and field plans
	(KSR)	(CRP)	(CMW)	(KAH)	(KAH)
03:00 to 03:30 p.m.	Tea Break				
03:30 p.m.	RRA: Tool for identifying research	RRA analysis and presentation techniques	Exercise Preparation	RRA case studies	Review of course
	(BMS)	(SMKB)	(CMW)	(PG)	(HMJ)
07:00 to 08:00 p.m.	Video Presentation				

Time	25	26	27
08:30 a.m.	Field exercises at irrigation	Review of field exercises	Discuss reports with farmers
	schemes		at the schemes
10:30 to 11.30 a.m.	Tea Break		
11:00 a.m.	Field exercises at irrigation	Review of field exercises	Discuss with report with
12:30 p.m.	schemes		farmers at the schemes
12:30 to 02:30p.m.	Lunch Break		
02:00 p.m.	Field exercises at irrigation	Preparation of draft report	Preparation of final report
03:00 p.m.	schemes		
03:00 to 03:30 p.m.	Tea Break		
03:30 p.m.	Field exercises at irrigation	Preparation of draft report	Presentation and submission
04:30 p.m.	schemes		of final report
07:00 to 08:00 p.m.	Video Presentation		

Rapid Appraisal of Irrigation Systems for Rehabilitation and Modernization

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 lowest - objective not achieved and 5 denoting highest - objective very well achieved.

1.	Ability	to descr	ribe the	RRA tec	chniqu	ie
	1	2	3	4	5	
2.	Ability	to decid	de on the	needs o	of RR	A for NIRP schemes
	1	2	3	4	5	
3.	Using F	RRA as	a tool fo	r identif	fying 1	research needs
	1	2	3	4	5	
4.	Applyir	ng appra	aisal met	thods for	r irrig	ation supply and drainage
	1	2	3	4	5	
5.	Ability	to use a	ppraisal	metho	ds for	social and institutional aspects
	1	2	3	4	5	
6.	Ability	to inter	view far	mers an	d farn	ner groups
	1	2	3	4	5	
7.	Applyii	ng RRA	analysi	s and pro	esenta	tion techniques
	1	2	3	4	5	
8.	Using a	ppraisa	l method	is for ag	gricult	ural productivity
	1	2	3	4	5	
9.	Ability	to orga	nize a ra	pid appi	raisal	
	1	2	3	4	5	
10.	Ability	to cond	luct parti	icipatory	y rural	l appraisals
	1	2	3	4	5	
11.	Using a	ppraisa	l method	ds for fa	rm ma	anagement aspects
	1	2	3	4	5	
12.	Prepari	ng and	submitti	ng repor	rts on	RRA
	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	3	4	5
3.	Interest and motivation	1	2	3	4	5
4.	Participation	1	2	3	4	5
5.	Productivity	1	2	3	4	5
6.	Physical arrangements and	1	2	3	4	5
	comfort					

1.	How would your 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?			