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GUIDELINES FOR RAPID ASSESSMENT OF MINOR IRRIGATION SYSTEMS IN SRI LANKA

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Summary: This paper presents a set of guidelines for rapid evaluation of an irrigation system, developed by IIMI staff in cooperation with staff from the Regional Development Division and Badulla District office of the Integrated Rural Development Projects. A one-day workshop on rapid assessment methodologies suitable for minor (small-scale) irrigation systems in Sri Lanka was held at IIMI Headquarters in August 1988. Representatives who participated in ongoing projects to improve minor irrigation systems were from the three Sri Lankan agencies, the Irrigation Department, the Department of Agrarian Services, and the Regional Development Division of the Ministry of Plan Implementation, which oversees the district-level Integrated Rural Development Projects.

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FOREWORD

A one-day workshop on rapid assessment methodologies suitable for minor (small-scale) irrigation systems in Sri Lanka was held at IIMI Headquarters on 15 August 1988. Representatives from the three agencies involved in ongoing projects to improve minor irrigation systems participated: the Irrigation Department, the Department of Agrarian Services, and the Regional Development Division of the Ministry of Plan Implementation, which oversees the district-level Integrated Rural Development Projects (IRDPs). In addition, participation was invited from the Agrarian Research and Training Institute, and the University of Moratuwa.

The focus of the workshop was a set of guidelines developed by IIMI staff in cooperation with staff from the Regional Development Division and Badulla District IRDP office. The guidelines were tested in Badulla, and later in Kurunegala, and their reports formed an important part of the discussion during the workshop. A summary of these reports is given in Part II; the revised questionares appear in the Annexes.

While the word "rapid" has been used in reference to time periods of up to several weeks (e.g., for rapid rural appraisals), the term is used here in a truly "rapid" sense. A half day is the period within which these assessment guidelines are designed to be used. A longer time would certainly be preferable for even a provisional evaluation of an irrigation system, but in discussions with the Badulla IRDP staff it became clear that more time was simply not available. These guidelines cannot be relied upon for details, but if conducted carefully, can generate useful information about trends and tendencies. A discussion of the uses, as well as the limitations, of the guidelines are presented in Part III.

Development and testing of the guidelines, and planning and organizing the workshop involved a surprisingly large number of people from several agencies. The initial stimulus for developing a set of evaluation guidelines came from Robert Hecht (World Bank), Dennis Ramanayake (ex-Director, Regional Development Division, RDD, of the Ministry of Plan Implementation), R.B. Morapaya (Additional Director, RDD), and J. Olsson (Advisor, RDD). A first draft of the guidelines was written by D. Groenfeldt (IIMI) and E. Martin (IIMI). Staff involved in designing and testing the guidelines included: M.H.S. Dayaratne (Badulla IRDP), S. Fernando (Badulla IRDP), A. Jayadeva (Kurunegala IRDP), M. Pieris (RDD), and T.G. Wijeratne (RDD). Special mention is made of A.B. Dissanayake (RDD) for organizing the workshop, and the IRDP Project Directors in Badulla (A. Kodituwakku) and Kurunegala (U. Dharmaratne) for their advice and encouragement. Thanks are also due to the workshop secretary, R. Selliah, and to the Digana Club staff for making the necessary arrangements. The support given by the International Fund for Agricultural Development (IFAD) and the Ministry for Economic Cooperation, Germany (BMZ), is gratefully acknowledged.

INTRODUCTION[1]

This is the tenth year of the Integrated Rural Development Project (IRDP) in Sri Lanka. During this time there has been an evolution from emphasizing infrastructure to a new focus on human resources development. The project is now at the stage where there is a need to exchange experience among projects in the various districts, and among the implementing agencies. The agencies responsible for implementing the irrigation component of the IRDP are the Irrigation Department and the Department of Agrarian Services. The follow-up role for these agencies, after the IRDP work is over, will hinge on monitoring the irrigation schemes to ensure that the project investment is being well maintained.

The Regional Development Division's (RDD) interest in developing a rapid assessment methodology stems from a need for "thumbnail" evaluations of the impact of the IRDP's minor irrigation component. While consultants are hired to do overall postproject evaluations, the RDD needs rapid feedback from individual irrigation schemes where project work has been completed. In a sense, this process uses scheme-specific evaluations as a way of monitoring the overall project while there is still time to make corrections.

The initial impetus for working with IIMI came from the World Bank staff member who was supervising the Badulla IRDP, Robert Hecht, who suggested that IIMI help develop a "model" rapid assessment of impact of minor system rehabilitation. IIMI staff met with RDD staff and with the then director, Dennis Ramanayake, and a collaborative effort was agreed on, focusing on the Badulla IRDP. The study would have the following objectives:

* develop an evaluation method which project offices could use in-house, or through consultants;

* contribute to interdistrict comparisons of IRDP; and

* shed more light on the Badulla IRDP specifically.

The two organizations, IIMI and RDD, had different but very compatible interests in the study. IIMI was interested in developing a methodology for assessing small irrigation systems and having the methodology tested in a real situation. The RDD was interested in a methodology that would provide maximum information with minimal investment of staff resources. The topics identified as most important to the RDD were:

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[1]This paper was compiled by Dr. David Groenfeldt from the proceedings of a Workshop on Rapid Assessment of Irrigation Systems, held at the International Irrigation Management Institute (IIMI), Digana Village, Sri Lanka on 15 August 1988. Dr. Groenfeldt was until recently an Irrigation Specialist at IIMI.

* scheme selection (Did the scheme fit selection criteria?),

* level of beneficiary consultation and participation in rehabilitation,

* adoption of the recommended water management program, and

* economic benefits (e.g., increase in command area).

Developing the Guidelines

Based on these criteria, IIMI staff formulated a short questionnaire and an approach for using it in the field. The basic model used in developing the guidelines was the "Inspection Visit," where the Assistant Director or Plan Implementation Officer spends a few hours visiting a scheme where work is going on, looks at headworks, walks the channel, and talks to farmers, to inspect the progress of work. The assessment guidelines present a more systematic framework for making these same kinds of observations. However, this rapid assessment is not a substitute for other forms of monitoring, or for full-scale evaluation of project impact. Rather, the rapid assessments complement other forms of monitoring and evaluation.

Key features of the rapid assessment guidelines include:

* Discussion with farmers to get their points of view about improvements;

* inspection, in the company of farmers, of the physical system, from the headworks on down to the tail end;

* information on land tenure;

* information on water management; and

* information on crops, inputs, and marketing.

Testing the Guidelines

In June 1987, this approach was tested by a team from IIMI and the RDD, who spent one day in each of three schemes in Badulla District representing the three rainfall zones of the district: Wet (Welimada), Intermediate (Passara) and Dry (Mahiyangana). A report of these assessments was prepared in July 1987, and the results discussed during subsequent meetings in the RDD office. The objectives as well as the field methods were refined through these discussions. A second field test was carried out for 3 days in September, also in Badulla District, and resulted in further changes to the guidelines. A half-day assessment was accepted as the most appropriate time frame.

The next step was to have the guidelines tested under real conditions, by the Assistant Directors who would usually be responsible for this

function. A one-day orientation was held at IIMI in February 1988 at which staff from the IRDP offices in Kurunegala and Badulla participated. Over the next several months the two Assistant Directors tested the guidelines, and revised them to better suit their needs. The results of their experiences are outlined in a later section of this paper.

PART I. GUIDELINES FOR RAPID ASSESSMENT OF IRDP IRRIGATION SYSTEMS

This report presents a methodology for assessing project impact, consistent with the needs of the Regional Development Division (RDD), and feasible within the constraints of time and resources available to project offices. Many elements of these guidelines are already being practiced by project officers and/or by Agrarian Services officers. The first section of this report discusses the types of information that are currently collected, the methods employed, and the utilization of the information after it is collected. The second section presents a systematic framework for collecting relevant data to assess project impact.

ASSESSMENT OF MINOR IRRIGATION WORKS: CURRENT PRACTICE

Since the Ministry of Plan Implementation has no technical officers, they play a limited role in monitoring the engineering aspects of IRDP rehabilitation. Visits by Plan officers consist of visual inspections and discussions with farmers. Some of the information gathered from these field visits goes into a report to the Assistant Commissioner (Department of Agrarian Services, DAS), and is also reported to the Divisional Agricultural Committee.

The ideal pattern of visits of an IRDP official (e.g., the Assistant Director or a Plan Implementation Officer) to a typical scheme is at the time of: (1) the first meeting, (2) the second meeting, (3) during construction and (4) after completion. In fact, the average number of visits by the Assistant Director to a given minor irrigation system is about one. There are more than 40 systems under construction at the moment. Construction rarely takes more than 3 months, but the process leading up to it can take a year, and averages about 6 months.

System Selection

System selection entails the following procedure: the Agrarian Services Divisional Officer nominates systems to the Divisional Agricultural Committee, which then forwards the names to the Assistant Commissioner, along with basic data (size and number of families). This "Preliminary Investigation List" must then be approved by the District Agricultural Committee. Once approved, the information is sometimes checked by a project officer (either the Assistant Director or a Plan Implementation Officer), since it is often wrong. A number of criteria have to be met: (1) the per acre cost should normally be less than Rs. 5,000 (1985 prices, US$182), (2) the command area should be no less than 10 acres (4.05 hectares), and (3) a minimum of 10 families must benefit directly.

The next step in the process is a meeting of farmers and the DAS Technical Officer. At this "first meeting" the Technical Officer prepares

a Preliminary Investigation Report, a standard, 8 page form (in English) describing in some detail the work proposed, with limited social (the number of families to be benefitted), and agricultural (the current cropping pattern) information. The "meeting" is informal, and usually consists of the Technical Officer and the Cultivation Officer walking the channel in the company of a few farmers. Based on the Preliminary Investigation Report, a detailed estimate is later prepared by the Technical Officer, identifying each item of work to be done, with the estimated cost.

The Ratification Meeting

A second meeting is then held, chaired by the Assistant Government Agent, where the Technical Officer presents the estimate to the farmers for their approval. He is expected to walk the channel with farmers, identifying the tasks in the estimate. Minutes of this meeting are kept by the Assistant Government Agent, and sent to the Project Office as a required condition for disbursement of IRDP funds. Farmers can ask for changes in the construction plans at this point, and if necessary, the Technical Officer may recalculate the estimate and present it at a follow-up meeting. Whether one or two ratification meetings are held, the result is a consensus between farmers and the Technical Officer concerning the work to be done. Following this consensus, a bidding process is handled through the District Tender Board, chaired by the Government Agent. Registered private contractors and/or rural development societies at the Grama Sevaka (village headman) level can bid for the contract. A 10 percent preference is given to voluntary organizations, such as rural development societies. They do not have to be from the same electorate, but should be "local."

The minutes of the ratification meeting list the farmers who are present, some of whom are supposed to form a "construction committee" of about five farmers. The purpose of the construction committee is to play a watch-dog role to ensure the contractors are doing the work as agreed, and are using proper materials. Farmers are expected to carry out downstream work (off the main canal); the responsibility of the DAS is limited to the intake, main canal, and structures for water distribution (both along the main canal, and in some cases, secondary canals). In many systems, there is no infrastructure below the main canal, so farmers are effectively responsible for all downstream work.

Monitoring

At present the Project Office monitors the progress of minor irrigation work by way of the inspection tour. About 3 or 4 times each month, the Assistant Director visits completed or ongoing IRDP work and spends about two hours walking the channel, usually accompanied by the Technical Officer and the Cultivation Officer from the local Agrarian Services Center, and a few farmers. They start at the intake and walk down the canal into the command area. Since the Assistant Director is responsible for other activities in addition to minor irrigation (e.g., water supply

and tea small holders), he normally visits several different kinds of projects within one area during any particular day of inspection.

Reporting Procedures

Each inspection visit is reported in a one-page report for the Project Office files only. Any particular information or problem is forwarded to the DAS, but the report itself is not forwarded. The issues commonly looked at are: (1) whether construction work has been done according to the estimate, (2) whether farmers are satisfied, and (3) any additional work that is required. In addition to (and separate from) inspection tours, Quarterly Reports are sent to the Ministry of Plan Implementation, giving a breakdown for all components of the IRDP in Badulla. Minor Irrigation accounts for a few pages of this document of about 50 pages. Projects are classified according to their stage of completion and costs are itemized, but no qualitative information is included.

A FRAMEWORK FOR ASSESSING PROJECT IMPACT ON MINOR IRRIGATION SYSTEMS

The guidelines presented here focus on evaluating project implementation procedures and impact; however, the basic features of the suggested approach for evaluation are also relevant to the earlier stages of the information retrieval cycle: (1) appraising irrigation system needs, and (2) monitoring implementation of system improvements. Many aspects of the approach outlined here are already being practiced by Plan Implementation officers, but on an ad hoc basis. These guidelines provide a more systematic approach to assessment in general, and postproject evaluation in particular, that can be quick and still relatively comprehensive.

Key features of this assessment approach include:

* discussion with various types of farmers to elicit their point of view regarding system improvements;

* inspection, in the company of farmers, of the physical system, from the headworks down to the tail-end fields.

* information from farmers about land tenure patterns;

* information from farmers about water supply, allocation, and distribution patterns;

* information from farmers and the Cultivation Officer about cropping patterns, supply of agro-inputs, and marketing.

A second issue to be considered in any assessment, and particularly in a postproject evaluation, is the person who will carry out the assessment. Normally this person will be either the Assistant Project Director, or a Plan Implementation Officer working under him. Although it would be highly desirable to assign a specialist to conduct the assessments, it is

clearly not feasible under the constraints of the current organization of the Project Office. In addition to the officer from the project office, it is often better to include an officer from the Department of Agrarian Services (DAS) office, since that department is responsible for implementation. However, precisely for this reason, the DAS officer accompanying the team as an evaluator should not be the officer who implemented the rehabilitation. The Technical Officer who designed the rehabilitation and oversaw the construction can be a very useful informant in explaining the rationale behind the design, but he should not be asked to evaluate his own work; rather, a Senior Technical Officer, or Irrigation Engineer from DAS, would have greater objectivity.

Evaluating Project Impact

Selecting systems to evaluate. All systems should be evaluated soon after the project has been completed. In addition, a number of systems should be revisited after several years have elapsed and the system has reached a more or less "steady state." The purpose of revisiting some of the systems after several years is to learn about the sustainability of the irrigation component in general, and not in each particular system; thus, some type of sampling will be needed to capture the variety of conditions, without looking at each system. As part of the sampling procedure, the major agro-ecological zones within the district can provide a simple and useful set of categories from which a random sample can be drawn. The exact proportion of systems to be covered within each category would depend on the total, since it is advisable to sample equal numbers in each category. In Badulla District, for example, it may be necessary to include more than half the systems in the Dry Zone, to equal the numbers from even a 20 percent sample of the Wet Zone.

Planning the visit. Since the evaluation guidelines presented here assume a half-day visit to any given irrigation system, in theory there is a choice between visiting two irrigation systems in a single day, or visiting one irrigation system plus one or more other IRDP improvements in the same trip. In practice, there is normally a preference for combining a trip to an irrigation system with other IRDP work in that area. If it is important to view the irrigation system in the context of other improvements (e.g., an agricultural credit scheme), there would be justification for combining an evaluation of the irrigation improvements with the other assessment. However, there is a great advantage in visiting two irrigation systems back-to-back (or visiting four over a two-day period); one's observations and insights are sharpened by drawing immediate comparisons.

Mechanics of the visit. The Plan Implementation Officer and perhaps a senior DAS officer [not from the Agrarian Services Center (ASC) office] should stop at the ASC office en route to the system to inform the Divisional Officer of the visit, and obtain any necessary information. However, for the reasons cited above, it may be preferable that no one from the ASC office, including the Cultivation Officer, accompany the evaluation team. A meeting with the Divisional Officer, Technical Officer, and Cultivation Officer would then be arranged after the field

visit. The composition of the assessment team needs to be considered for each case. In general, there is a trade-off between knowledge of the scheme and objectivity: the very presence of the Cultivation Officer and Technical Officer who know the farmers best, is also likely to influence the responses of farmers in an interview situation. However, the advantage of the knowledge of the Cultivation Officer and Technical Officer in carrying out a rapid assessment may outweigh the disadvantage of their influence on farmers' responses.

Informants. Before any information can be collected, there need to be informants present who can supply the necessary information. In this evaluation approach, farmers themselves will be called on to supply most of the information. Upon arriving in the community where the system is located, the Plan Implementation Officer should ask to see the Vel Vidane or Gamarale (farmer leader). If they are not available, the officer should ask to see any farmer who is available who can guide him to the intake of the system and explain the construction work. Construction Committee members might be particularly useful, but any farmer who uses the system, whether or not he is a landowner, is a potential informant. Another approach would be to contact the Cultivation Officer ahead of time and ask him to assemble a small group of farmers. If this approach is adopted, a particular attempt should be made to interview other farmers as well who may be passing by, or working in their fields, so that the information does not come from a single group of farmers who have close relations with the Cultivation Officer. To summarize, in any given system, three types of informants should be interviewed: (1) the Gamarale or Vel Vidane, (2) Construction Committee members, and (3) regular farmers.

Visiting the headworks. Since the headworks, whether a new intake, or a refurbished tank bund, often comprise a major portion of the IRDP funding, the visit can best begin here. In addition, visiting the headworks along with farmers provides a good opportunity to ask general questions about the irrigation system, and about the IRDP improvements, particularly the rehabilitation work - when it was started, who was the contractor, are the farmers satisfied with the work, were local people hired for the construction, etc. Two important series of questions concern (1) who requested the improvements and why, and (2) what meetings were held prior to construction, who was present, and what actions were taken. Whether a construction committee was established, and what functions it had, could also be asked at this point.

Looking at the intake [in the case of an anicut (weir) system] or standing on the bund (in the case of a tank) is a natural time to ask about the recent history of the system, to find out what other forms of assistance have been received over the past few decades. For example, in many systems the Irrigation Department made improvements to the headworks in the 1960s or 1970s. Learning what improvements had been made prior to IRDP, why they were made, and how well they have been maintained, can give insight into how the new IRDP work in that system will be utilized and cared for in the future. Other questions to ask at this point include the size of the actual command area during the past three or four seasons

(including before and after IRDP improvements), the number of owners, the number of tenants, the number of irrigated encroachers and an estimate for the proportion of cultivators who are owners. Were there more irrigated encroachers prior to IRDP improvements? How have they been affected by the improvements? What are the other major sources of income for the residents of this community? What proportion of the families derive most of their income from irrigated farming?

Operation and Maintenance. Questions about the operation and maintenance (O&M) of various structures (e.g., headworks, main canal, control gates) can be asked while actually observing the structures. If a small, relaxed group of farmers is found next to the headworks, talking with the Plan Implementation Officer, these questions could be asked at this point. If the assembled group does not appear to be very responsive in answering questions, however, then O&M questions about rotations can wait until the Plan Implementation Officer has moved further down the system, where there may be other farmers to talk with. These questions are presented here in subcategories for easy reference, but can be asked in whatever order can best fit the flow of discussion:

a) Main/head sluice: Who adjusts the sluice gate (if a tank) or the head sluice (if an anicut), and on what basis is his decision made? Try to keep the discussion focused on a particular case, for example, the current season, or the previous season. Ask what decisions were taken at the kanna (cultivation) meeting regarding the start/end dates of the season, and find out what effect the kanna meeting has on the actual operation of the system. (Also ask some specific questions about the kanna meeting at this point: Does this system have a separate kanna meeting, or is it combined with other systems? Has there been any change in the kanna meeting since IRDP improvements? Roughly how many farmers attended the last kanna meeting? How does this compare with the situation before IRDP?) Is the sluice kept open at night? Do farmers irrigate at night? Has the IRDP work affected night irrigation? How, and for which seasons?

b) Channel cleaning: When was the main canal cleaned last? Who cleaned it, and who organized the cleaning? How many farmers did not participate last time? Were any measures taken against them, and if so, what? Has there been any change since IRDP?

c) Water rotations: Is water ever rotated within the system, either by yaya (tract) or among individual farmers? When did this last happen? What were the methods used? How is the rotation agreed on, and how is it enforced? How have the rotations changed since IRDP? Has there been any water dispute recently? (If so, find out what happened and how it was resolved.)

d) Bethma[2] practices: Is there a bethma practiced in this system, or is there any other practice for allocating water to only part of the command area within a given season? When did this last happen, and how was it handled?

e) Other types of rotation: Is there a practice of thattu maru (where relatives share cultivation rights in different seasons)? How prevalent is this, and what jobs do the cultivators do during the seasons they do not have cultivation rights?

Walking the canal. (This part relates primarily to anicut systems but also to the main canal of tank systems.) From the headworks, a walk down the canal into the command area provides a good opportunity to observe the physical improvements and to ask farmers their understanding of the reasons for these structures, and to learn the extent to which farmers were involved in deciding what improvements would be made. For example, Hume pipe sections of the canal, or lined portions of canal should be explained by the farmers: why were these constructed? What is the advantage of them? Whose idea was it? This line of questioning is of particular importance for missing or broken structures - for example, missing locking arrangements on the headworks, or missing wooden shutters on division boxes or escape outlets. A useful initial assumption is that missing or damaged structures were not needed in the first place and constitute wasted expenditure. This assumption will sometimes be incorrect, but suggesting it will encourage the farmers to present evidence to justify the structures.

Another reason for asking farmers to explain the purpose of structures encountered along the way is to test their knowledge of the original intent, and thereby evaluate the level of participation during the planning and design of the improvements. For example, a common structure encountered in recent IRDP canals is a concrete bevelled profile (__/) that is meant to indicate the proper slope of the canal bank which the farmers are expected to maintain when they clean it. When questioned as to the purpose of this structure, however, farmers may say that it is to protect the bottom of the channel, or to protect the bank; it is rare to find a farmer who understands that this is intended to be a guide for farmers.

Observing the command area. Walking through the fields commanded by the system provides a good context for asking about both water distribution (particularly if irrigation is going on) and about the cropping pattern and agricultural practices. If there is a good number of farmers in the fields (which depends very much on the crops grown and the seasonal cycle), the Plan Implementation Officer might also wish to add a series of questions about non-irrigation components of IRDP.

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[2] This is a traditional as well as modern practice whereby a portion (usually 50%) of the total command is irrigated during a water scarce season, and farmers have rights to cultivate an area in proportion to their land holdings.

a) Water distribution: If irrigation is taking place at the time, some questions should be asked about why a particular farmer is taking water now, when he began irrigating, who irrigated before him, whether there is a formal plan, or whether they have an informal understanding that determines when one farmer stops and the other starts, etc. This line of questioning can corroborate or add to the more general information obtained about water rotations. The quality of the information will be much higher if it is based on very specific questions of this kind. The main point to determine is how water distribution practices have changed (if at all) since the IRDP improvements were made.

b) Cropping pattern: The area cultivated, the crops grown, and the cropping intensity are important data for evaluating the economic performance of the irrigation system. A good way to obtain this information is to interview several farmers in their fields, and ask them about their particular plots over the past few seasons. What crops did they grow last season (and the previous seasons); did they have any fallow land? Why? The Vel Vidane and/or a group of farmers could be asked about the area actually cultivated during the past few seasons. This question is worth repeating even if asked earlier, as the size of the command area is often not an easily answered question. What changes have taken place in the area irrigated, crops grown, and intensity of cultivation since IRDP? (Note: The answer to these questions is contained in the standard file kept by DAS, and based on information supplied by the Cultivation Officer; however, an independent source of information is needed to evaluate IRDP's impacts.)

c) Agro-inputs: Where do farmers obtain their agricultural inputs, including credit? What arrangements do they make? Do they take bank loans or do most deal with mudalalis (shop-owners)? What new programs have been introduced since the IRDP irrigation works?

d) Marketing: Do all farmers sell their produce, or do some (many?) grow mostly for home consumption? Find out roughly how many do what, and for which crops. Where is the nearest market? Do they face any particular marketing problems?

Discussions with the Divisional Officer, Technical Officer, and Cultivation Officer. Following the field visit, the Plan Implementation Officer and the DAS officer should stop in at the Agrarian Services Center and discuss their observations with the relevant officers, preferably including the Divisional Officer, Technical Officer, and the Cultivation Officer for that system. Any problems raised by the farmers should be discussed, and the evaluation team should offer their frank assessment of what they have seen, and outline what they expect to include in their report. If more than one irrigation system within the same area is being visited in the same day, it would be advisable for the evaluation team to visit the ASC at the end of the day and discuss both systems at the same time, asking the ASC officers to make their own comparisons of the two systems.

A list of questions incorporating the information discussed above is included in the Annexes to these guidelines. The questions are of necessity presented in a certain order; however, that order need not be followed exactly. During an interview, it is important to follow and guide the discussion smoothly, and avoid sudden jumps in the topic. Thus, the order of topics will depend upon the dynamics of each interview and cannot be anticipated precisely.

PART II. USING THE GUIDELINES

The rapid assessment guidelines were developed initially for the Badulla IRDP, where the vast majority of minor irrigation improvement involves anicuts, although there are also some tanks. Staff from the Badulla Project Office have helped formulate and field-test the guidelines, and from April to July 1988 conducted rapid assessments in 24 schemes. In the following section, the results of the Badulla experience are presented. A modified questionnaire, developed by the Badulla Project Office, is given in Annex I. While basically similar to the IIMI questionnaire above, Annex I relies relatively more on check lists which the project staff found to be easier to fill in the field.

At the same time that the guidelines were being tested in Badulla, they were also being tested by the project office in Kurunegala, where tanks predominate. The Kurunegala experience is discussed in the next section, following Badulla. A revised questionnaire developed by the Kurunegala IRDP staff is given as Annex II along with a second modification of the questionnaire.

USING THE GUIDELINES IN BADULLA[3]

During 1983-1987, the Badulla IRDP provided assistance to some 160 minor irrigation schemes as one of the IFAD-funded components of the project. The main objective of the irrigation component is to increase food production under the selected schemes and thereby upgrade the socio-economic condition of the rural farm families.

Badulla District has all three climatic regions (Dry, Intermediate, and Wet) and is geomorphologically heterogeneous. Except for the dry zone area, where the terrain is almost flat, the major form of irrigation is diversion of rivers and streams by anicuts. Anicut schemes play a very important role in Badulla District, particularly in the minor irrigation component. The basic criteria for selection of minor irrigation schemes to be assisted under the project schemes are that they have command areas of more than 10 acres (4.05 hectares) and benefit more than 10 families.

Testing the Guidelines for Rapid Assessment

The questionnaire presented along with the guidelines of IIMI (see above) was tested, to monitor and evaluate, as a rapid assessment, completed minor irrigation schemes in the district. Some 24 schemes were assessed in the period April-July 1988. The schemes visited for the rapid assessment were completed between 1986-1988. Except for one tank, all were anicut schemes. They are located in the Assistant Government Agent

[3] Report prepared by the Badulla Project Office.

(AGA) Divisions of Uva-Paranagama, Weligama, Kandeketiya, Meegahakiula, Soranathota, Ella, Bandarawela, Passara, Haliela, Haldummulla, and Ridimaliyadda.

Findings of the Rapid Assessment

Table 1 gives a summary of the findings of the rapid assessment, carried out in 24 minor irrigation schemes. Ten schemes had sound structures with satisfactory construction, while at 12 schemes small defects were reported. The structures were very poor and not up to the standard at two schemes, whereas there were water management problems at three schemes. There were either encroached areas of cultivation in the canal reserves or illicit tapping of water at three schemes. Improvements to the schemes were checked against the original design and estimates and the discrepancies were identified. The level of farmer participation at the stages of design, construction and maintenance were also examined.

Table 1. Summary of the findings of rapid assessment.

Name of the AGA division within which the scheme is located	Number of schemes visited	With sound structures	With some defects	With very poor structures	With water management problems	With encro-ach-ment
Ella	2	1	1	-	1	1
Bandarawela	3	2	-	1	-	2
Uva-Paranagama	8	4	3	1	1	-
Welimada	3	1	2	-	-	-
Haliela	2	-	2	-	-	-
Haldummulla	1	-	1	-	-	-
Passara	1	-	1	-	-	-
Kandeketiya	1	1	-	-	-	-
Soranathota	2	1	1	-	1	-
Meegahakiula	1	-	1	-	-	-
Total	24	10	12	2	3	3

Strengths and Weaknesses of the Guidelines

The guidelines are a useful tool to assess completed minor irrigation schemes, as an exercise in postproject evaluation. They cover a wide range of relevant details; once the questionnaire is completed it forms a single document giving the background and post-project condition of a scheme. Because of this feature the guidelines could be used, with necessary modifications, for periodic monitoring of minor irrigation schemes in the district. For use in monitoring these under the Badulla IRDP, however, the guidelines require modifications in order to fit the district situation. The observed weaknesses which need improvements may be summarized as follows:

* The different construction items in ongoing projects, or the defects of completed schemes cannot be specifically assessed.

* Provisions are not provided to detect illicit tapping of irrigation water.

* There are some common questions, for which answers would be nearly identical for each scheme.

* The guidelines do not provide for measurement of changes in yields after project improvement.

Recommendations

For improvements to the guidelines and their more effective use as a monitoring tool, the following recommendations are made.

a) The questionnaire should be modified to fit the conditions of different districts. (A modified version applicable to the Badulla IRDP is given in Annex I).

b) Two separate questionnaires could be prepared and used on pre-project and postproject conditions for easy comparison. The assessment of the preproject condition could then be used in the selection process.

c) The common questions, which give similar answers in each scheme could be omitted.

d) Questions should be included in the questionnaire on postproject defects.

e) Questions should be included to identify illicit tapping and encroachments in the schemes.

Conclusions

We have designed a revised questionnaire which is annexed herein (Annex I), and we hope to use it in assessing all of our completed minor irrigation schemes. Any information on defects and drawbacks detected by the rapid assessment are transmitted to the Assistant Commissioner/Agrarian Services, with requests for corrective measures. Routine information collected by each field visit, systematically compiled, would provide valuable documentation records for postproject evaluation.

USING THE GUIDELINES IN KURUNEGALA

The Kurunegala IRDP was the first in the country, and the project is now drawing to a close. Rapid assessments could be useful for evaluating

project impact. As in Badulla District, all three rainfall zones (Dry, Intermediate, and Wet) are included, but unlike in Badulla, tanks are the predominant form of minor irrigation. Of the 10 schemes where the assessment guidelines were tested, all were tanks.

The experience of testing the assessment guidelines in Kurunegala has been incorporated into a revised questionnaire, given below (Annex II). The rationale behind the questions is discussed relating to the following points:

Location: The most important elements of the scheme's location are the services to which it has access. Thus, in addition to the administrative divisions (Electorate, Assistant Government Agent Division, and Grama Sevaka Division), the Agrarian Services Center and the Cultivation Officer Division should be recorded.

Physical Works: Detailed information on the preproject situation and improvements to headworks and other physical structures is needed to assess the project's impact. Although this information is available from project records, checking with farmers about the details of what was done is an effective way of eliciting their views.

Beneficiary Participation: The most important opportunity for farmers to interact with project officers is at the ratification meeting. In the questionnaire, this meeting should be the focus of questions concerning farmers' participation. Also, specific questions about the composition, function, and decisions of the Tank Committee would be useful for evaluating farmers' current level of participation in water management.

Yields and Marketing: Data on yields are important for obtaining a rough estimate of project benefits; such questions must be asked in logical sequence, though even then the quality of the data is often poor. Marketing information is too complicated to deal with in such a short assessment and should be dropped altogether.

DISCUSSION

Following the presentations from the Badulla and Kurunegala delegations, the workshop participants discussed the assessment guidelines and made a number of suggestions for variables to be included and methods which could be employed. A summary of these points follows.

Tank Water Supply

J.L. Senaratne suggested that at least a rough estimate of tank water availability should be recorded at the time of the assessment; either the Cultivation Officer, Technical Officer, or farmers would have some idea of the relative, and perhaps absolute, amount of water. A water balance sheet might also be available from the kanna meeting records. The tank capacity curves should be available from the file for each scheme (either with the DAS or the Irrigation Department).

Tank Location and Context

C. Kumariyawasam asked why the Irrigation Engineer's Division was not recorded in the assessment form. U. Dharmaratne, the Kurunegala IRDP Director, responded that even where the Irrigation Department implements the IRDP work, the scheme is handed over to the Department of Agrarian Services upon completion, so the DAS office is more relevant to the post-project situation.

D.P. Dayananda made the suggestion that in addition to recording the administrative divisions relevant to the scheme, their location within the catchment needs to be recorded. The number and size of anicuts/tanks immediately upstream and downstream, plus the total size of the catchment area, can provide an indication of the water potential of the scheme.

Command Area

The command area is difficult to determine precisely, since the area cultivated in any season depends upon water availability. S. Balasingham noted that the Final Village Plan, available from the Grama Sevaka, shows the official command area, which can at least serve as a reference. The Badulla IRDP Director (A. Kodituwakku) replied that these plans are not available in most villages in Badulla. They are prepared by the Land Settlement Department and are available for most colonization schemes, as well as for some purana (preexisting) villages, but cannot be assumed to be available everywhere.

W. Navaratne pointed out that the term "command area" refers to the total area under the "command" of the tank, including roads, rock outcrops, and other uncultivable areas. The more exact term for the irrigated crop area is "irrigable area" which refers to the irrigated area that can be cultivated.

Condition and Function of Structures

Balasingham suggested that the assessment guidelines should include observational data on the tank bed condition, and the condition of the bund and sluice. This type of information offers important clues to (1) further rehabilitation needs and (2) the level of maintenance of work already rehabilitated.

For the structures provided by the project, both the quality of construction, as well as its function, needs to be recorded, noted Navaratne. For example, a gated outlet might be well constructed, but never used, and this is the kind of information that needs to be known for future planning.

Marketing

A few simple marketing questions can offer important insights, suggested G. Wickramasinghe. Probably the most revealing single piece of information is the percentage of crop production that is marketed. Are

farmers market-oriented? Has the project had an impact on market-orientation? Another important set of information is credit and indebtedness. Here again, a few simple questions can provide an idea of what is going on. Do more farmers take bank loans since the commencement of the project? Has the level of private loans increased or decreased?

Regional Variation

C.R. Panabokke suggested that each district needs to develop its own version of the assessment questionnaire to suit the particular landscape and hydrological conditions. The assessment "guidelines" should be treated as just that; a guide from which each district project office can make the necessary revisions to suit the local situation.

There may also be a need for two basic types of assessment forms, noted R.B. Morapaya. One could be developed to suit Wet Zone conditions (e.g., Nuwara Eliya) and another for Intermediate/Dry Zone conditions (e.g., most of Badulla and Kurunegala). Within these two categories there could also be finer distinctions.

Interview Questions

J. Olsson commented on the type of questions in the two sets of questionnaires presented. The first set, prepared by IIMI and the RDD (Regional Development Division) (above) ask a number of open-ended questions, while the modified questionnaire prepared by the Badulla and Kurunegala project offices (Annex I) are more structured. There are advantages to each; for example, open-ended questions allow for a greater scope of farmer responses, but also require more time and skill in conducting the interview. Structured questions can be completed faster, and allow for easier comparisons among schemes.

The interview should be recorded on the questionnaire form, suggested E. Ratnasiri. The number of farmers interviewed, and whether or not the Vel Vidane, Cultivation Officer, Technical Officer, and others were present, can affect the quality of the responses, and should therefore be indicated.

R.B. Morapaya cautioned against asking too many questions in the "rapid" assessment. We are not trying to conduct a socio-economic survey, he noted; we want to gather key information that will give a sense of project impact, which will help in designing a more rigorous evaluation study which could then be carried out at a later date.

PART III. THE POTENTIAL AND LIMITATIONS OF THE GUIDELINES IN SELECTION, MONITORING, AND/OR EVALUATION

In the preceding section, the use of the assessment guidelines was discussed in terms of evaluating IRDP work at the individual scheme level. Such evaluations were the intended purpose of the guidelines, and they were used in this way in the Badulla and Kurunegala projects. The assessment guidelines could also be used to select schemes for IRDP work, i.e., to determine which schemes need what type of assistance. The data requirements for scheme selection are somewhat different from evaluation needs, but the guidelines could be revised to suit the purpose, as is discussed below in the section on "Selection."

Another potential use of the assessment guidelines is in long-term monitoring of irrigation systems, after the project has been implemented. Long-term monitoring of minor irrigation is the responsibility of the Department of Agrarian Services. What types of information are needed for purposes of monitoring the continuing "health" of schemes? How do these information needs differ from those of evaluation? These issues are discussed below in the section on "Monitoring."

SELECTION

Selection of a limited number of minor irrigation systems to be improved under IRDP is carried out through a process of elimination, based on a database that varies from region to region. In the Matale District, the Agrarian Services Center has initiated an inventory system of "data cards" for each minor irrigation system. When funds become available for certain kinds of improvement, the eligible tanks or anicuts can easily be identified. Final selection is based on detailed investigations carried out by the Technical Officer from the Agrarian Services Center, or, in the case of Puttalam, by outside planning consultants employed for this purpose.

The quality of the selection process is linked to the quality of the database available. The more complete the inventory data, the easier is the task of selecting those systems where there is the greatest need. Even if an inventory procedure is in place, as in the Matale and Puttalam districts, routine monitoring is needed to update the inventory data. A report "Minor Irrigation System Inspection" is given (in translation) in Annex III. However, routine monitoring of the agricultural system does not always include the same data required to monitor the need for structural or organizational improvements to the irrigation system.

Routine information on the status of an irrigation system can be used to determine its eligibility for IRDP improvements, and providing some degree of baseline data for later assessment of project impact. However, this level of information will probably not be adequate for determining

what improvements are needed. Ed Martin suggested that two separate forms may be needed: one for the preproject baseline data (and the form used for routine monitoring of the systems might be expanded slightly to accommodate this function), and a second form that would help identify the improvements needed, both social and technical. For example, in addition to the Technical Officer's report of physical improvements needed and their estimated cost, an assessment is needed of the farmers' organizational capacity for helping construct and maintain the improvements.

This type of preproject rapid assessment could incorporate information from the DAS and supplement it with first-hand observations and interviews at the tank or anicut. U. Dharmaratne said that DAS information sheets should not be relied on too much, noting that the data contained therein was often sketchy, and direct observations would certainly be needed also. At the same time, J.L. Senaratne noted that duplication must also be avoided; if information is available in the DAS records, there is no need to collect it again.

DISTRICT-LEVEL INVENTORIES

A distinction between two separate steps was emphasized in the discussion: (1) preselection process and (2) feasibility or baseline studies resulting in a final selection. Less information is needed for (1) than (2); indeed, the level of information required for preselection could be met through a systematic inventory of systems which would record the size, number of families, and agro-physical data of the irrigation system and crops. D.P. Dayananda related the experience of the Hambantota IRDP where they are carrying out inventories of minor irrigation systems in the entire district. The information collected includes land tenure and organizational data, as well as cultivation practices (see Annex IV). This form might serve as a model for other districts interested in a full inventory, although modifications would be needed.

The DAS is already working on data cards for each site, which will eventually comprise an inventory, but as H.M.H.B. Herath noted, this process will take some time. The possible role for district-level or provincial-level planning units was discussed in terms of developing inventory data on minor irrigation systems. The group resolved to follow-up on this issue in a smaller working group.

MONITORING

The basic difference between monitoring and evaluation, explained A.B. Dissanayake, is that monitoring is done to reveal bottlenecks or other problems which need to be remedied; evaluation is done to assess the benefits coming out of a project. Monitoring is practical in the sense that one tries to remedy the problems uncovered; evaluation is done to improve future projects, not existing ones. The assessment guidelines presented here were intended primarily as an evaluation of IRDP

improvements at the level of individual schemes. At the district project office level, however, these individual evaluations of completed schemes can serve to monitor the project as a whole. Mid-course corrections can be made not in individual schemes (since only completed schemes are assessed), but in the overall project guidelines, thus affecting the IRDP work carried out in ongoing and new schemes within that district.

After the IRDP work draws to a close, as has already happened in Kurunegala, the periodic monitoring of schemes improved under IRDP can provide an evaluation of the project as a whole, over time. Only as years go by can the sustainability of the IRDP improvements become known. At that point, however, the IRDP office is not directly involved with the schemes, because the "project" is over. The Department of Agrarian Services is responsible for routine monitoring of all minor irrigation, including those schemes which were improved under IRDP.

The assessment guidelines need to be merged with the forms already being used by DAS for routine monitoring of the agricultural performance of minor irrigation systems (as discussed above). Monitoring of the long-term impact of IRDP improvements (both organizational and physical) can then be carried out as part of the routine monitoring procedure of DAS. This type of monitoring would be done at certain intervals, perhaps every year or two years, while agricultural data would continue to be collected on a more frequent (e.g., monthly) basis.

PART IV. CONCLUSIONS

The IRDP process can be divided into five stages, of which the fourth stage, postproject evaluation, has been the focus of the assessment guidelines. However, the guidelines can also be used, in whole or in part, at other stages:

1) Preselection
2) Feasibility/baseline studies
3) Implementation of the project
4) Postproject (evaluation)
5) Postproject (monitoring)

Preselection

At the stage of preselection, elements of the questionnaire could be useful in developing a data base for an inventory of all minor irrigation systems within a district or province. However, only a few key bits of data would be needed for an inventory; indeed, too much detail would prove counterproductive. The data cards already in use by DAS might be improved by incorporating some, but not too many, of the variables included in the assessment guidelines.

Feasibility/Baseline Studies

In planning and designing improvements in specific irrigation systems there is a twin need for gathering information on project feasibility and collecting enough information to serve as a baseline against which project impact can be evaluated at a later time. This feasibility/baseline stage requires a range of information about the organizational capacity of the farmers in the specific tank or anicut, as well as technical data regarding the structures to be constructed or improved. In addition, data on cultivation and irrigation practices are needed as baseline information. Much of the information asked in the assessment guidelines has relevance to the feasibility/baseline stage, and could be incorporated into the Preliminary Investigation Report (PIR) prepared by the Technical Officer. It would be useful, though perhaps not immediately possible, for a social science specialist to work with the Technical Officer (and the farmers) in preparing this expanded Report.

Project Implementation

During the actual implementation of improvements, there is little to be gained through carrying out a rapid assessment. Periodic site inspections are already made by the implementing agency (DAS or the Irrigation Department) and by IRDP staff, to confirm that the work is being carried out properly. This level of inspection is adequate during project implementation.

Postproject Evaluation

The assessment guidelines presented here were designed primarily for evaluating project impact after completion of the project. The experience from testing the guidelines in Badulla and Kurunegala demonstrated the effectiveness of the guidelines in identifying drawbacks and benefits of IRDP improvements. Measurement of benefits is not possible in such a rapid assessment, but broad trends can be revealed. The guidelines can be customized for the particular conditions of each district, and the specific interests of each project office.

Postproject Monitoring

Periodic monitoring of minor irrigation systems where improvements were carried out can reveal problems before they get out of hand, and thereby help sustain the initial benefits of the improvements. The assessment guidelines can be used in basically the form in which they are used for postproject evaluation, although some of the questions might need to be changed or deleted. Monitoring every year would probably be optimal, but even an assessment every two or even three years would provide valuable follow-up.

Using the Information

The rapid assessment guidelines presented here are a tool to be used whichever way it can be most useful; there is no single approach that will work in all situations. Testing the guidelines in Badulla and Kurunegela demonstrated the utility of the guidelines, and also pointed to some revisions needed to meet the needs of the respective IRDP offices. Similarly, the guidelines could be adapted to a range of information needs at various stages of project implementation.

There are at least three key features that distinguish rapid assessments from routine data gathering procedures: (1) the mode of data collection is different; (2) the data are primarily qualitative rather than quantitative, and (3) the individuals who collect the data are also the primary users of that information. This report has focused on the first two features: the issue of data collection methods and the qualitative nature of farmer interviews. In this concluding section, we consider the collectors and users of rapid assessment information.

Most agricultural information is gathered by a field-level worker, such as a Cultivation Officer, as part of his job assignment, in response to a request by his supervisor (in this case, the Divisional Officer). The Divisional Officer, in turn, is instructed by his supervisor, the Assistant Commissioner, as to what information is needed on minor irrigation within that particular division. The data collected and the reports generated are passed from lower to higher levels of the organization. This is the normal, and certainly necessary, mode of information acquisition and use. Data from the field level are summarized and "predigested" for consumption by higher level officers and planners.

Rapid assessments, on the other hand, are designed to be carried out by the same individuals who then utilize the information: the officers or planners at the district level. These are the people who are faced with the task of making sense of quantitative reports describing the status of a region or project, yet whose office responsibilities usually preclude their direct involvement in the field, other than brief inspection visits. Yet it is these officers and planners - who are most isolated from the field - who are responsible for making decisions and managing field projects and programs.

Rapid assessments provide an escape from this dilemma, at a relatively modest cost of time and (though it was not discussed in the workshop) training. In the case of the Badulla and Kurunegala IRDPs, it was the Assistant Directors who carried out the rapid assessments, and they are the primary users of the information they collect. In devising the next year's plan for minor irrigation, or in developing a new project, they can make use of their first-hand knowledge from the field. And because they are the producers as well as consumers of this information, they can modify the assessment guidelines (as shown in Annex III and Annex IV) to best meet their particular needs.

When the individual who conducts the assessment is also the person who uses the information gathered, the analysis of the information becomes internalized in that individual. Each "rapid assessor" needs to devise a simple reporting mechanism by which he can record the essential results of the assessment, both for his own information, and to communicate those results to others in the agency. Aggregate data from a series of assessments can then form an overall picture supplementing the routine information base provided by field-level officers.

The uses of rapid assessments are varied and flexible. Rapid assessments provide qualitative insights from which routine statistical data take on new meaning. The guidelines discussed in this workshop are not the "answer" to the problem of information management, much less irrigation management. Rather, these guidelines suggest ways in which officers and planners can gather information which is immediately useful in helping them take appropriate decisions.

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ASSESSMENT OF IRDP - MINOR IRRIGATION SYSTEMS IN BADULLA

1. General information

Name of system

Location: Grama Sevaka/Cultivation Officer Division:

Agrarian Services Division:

Electorate:

TEAM MEMBERS
1
2
3
4

Command area (acres):

Number of families:

Date started:

Date completed:

Estimated cost:

Actual expenditure:

Sketch map of system (River intake/Tank, Canal, Command area etc)

II. Improvements by IRDP: (What was done)

1. Tank/intake: Earth work: (m^3)
   - Sluice: (m^3)
   - Spill: (m^3)
   - Head wall: (m^3)

2. Canal: Earth work:

Toe/Retaining walls:	No.
Boulder packing:	No.
Channel lining:	No.
Sluice/Head wall:	No.
Spill/Regulator:	No.
Canal profiles:	No.
Outlets:	No.

3. Other:

- Who first requested the IRDP assistance:

- What meetings took place: (when, who was present, what was done).

  1. First meeting:
  2. Second meeting (Ratification):
  3. Other meeting:

- What did the farmers ask for?: All above improvements/ More than above/part of them.

- What committees were formed: Construction/Tank/Anicut (who & task)

III Tank/Intake and Canal System

- When was a tank/anicut first constructed here: (The year - if recently/ 10-25 years ago/ 25 years ago/ not known)

- When was the present tank/intake constructed (Before IRDP)

- By whom: DAS/RDS/APC/ID/Farmers/Other

- The kind of tank/anicut before that: Boulder packed/Sand-bagged Earthen/Other

- Before IRDP when was the canal last repaired:
  What happened and how was it fixed:

- When was the canal last cleaned:
  Who helped:
  How was it arranged:

- Are the canal cleaning/maintenance methods written?

- Is there any encroached irrigation or cultivation:
  Total encroached irrigated area:
  Number of families in the encroached area:
  Are they farmers or outsiders:
  Number of illicit tapping of water:
  How the encroached irrigation has affected the regular farmers:

- Defects or damages to the system after IRDP improvements
  Structures (explain):
  Bund (explain):

IV. Within and around command area

- Size of the command area: maha: .... ac: yala ..... ac

- Size of the command area before IRDP: maha ..... ac yala..... ac
- Cropping pattern (this season)

	MAJOR CROP %	SECOND CROP (%)	THIRD CROP (%)
a) Head-end position			
b) Tail-end position			

General cropping pattern
a) Maha season
b) Yala season
c) 3rd season

- Land tenure: What percentage of farmers are tenants
  What percentage of land owners are resident
  Size of 3 largest land-blocks
  What percent of farmers have land outside scheme

- Marketing: Which crops are marketed:
  Where: Farmgate/Local town/city/Colombo
  What percentage of families buy rice:

- Off farm jobs: Home Gardening/Chena/Labor work/Other

- Yield per acre - Before IRDP maha ..... yala .....
  After IRDP maha ..... yala .....

V. WATER DISTRIBUTION AND MANAGEMENT

- Command area irrigated: during the recent maha season ..... ac
  during the recent yala season ..... ac

- Is there any type of rotating irrigation: (explain)
- How is the water shared among operators (explain)

- System of water management: Vel vidane/Farmer representative
  How active is he : good/fair/poor
  Is he being paid his share: Yes/No
  How many are systems under him:
  Duration of his service:

- Efficiency of Agricultural Officers:
  How active is Cultivation Officer: good/fair/poor
  How active is KVS: good/fair/poor

- When was the last Kanna (cultivation) Meeting:
  How many systems/villages were included
  Who called the meeting: AGA/DO/CO
  Who participated
  How far were the decisions implemented

COMMENTS:

RAPID ASSESSMENT OF IRDP MINOR IRRIGATION SCHEMES IN KURUNEGALA

Name of the scheme: .....

Date of inspection: .....

Team members

1. .....
2. .....
3. .....
4. .....

1. Location of the scheme

1.1 Electorate .....
1.2 Assistant Government Agent Division .....
1.3 Grama Sevaka Division .....
1.4 Village .....
1.5 Agrarian Service Centre .....
1.6 Cultivation Officer Division .....

2. Command Area

2.1 Specified command area:
(To be obtained from the Technical Report)

2.2. Cultivated area before rehabilitation
(Previous maha)

3. Farm Families

3.1 Number of farm families directly benefited before rehabilitation

3.2 Number of farm families directly benefited after rehabilitation

4. Rehabilitation operators (Prior to IRDP rehabilitation)

4.1 Previous rehabilitation records.

a. When was the first construction of the tank and what was the approximate area and the depth of the tank bed: .....
b. What was the length of distributary canals (Left bank, Right bank) if constructed· .....
c. When was the last rehabilitation: .....
d. Implementing agency: .....
e. Mode of rehabilitation work done: .....
By Executing Agency/Contractor/Voluntary Labor

4.2 Maintenance and water management activities

a. How was the tank and distributary canal cleaned? .....
b. Who carried out the clearing operations .....
c. What sanctions were imposed on those who did not come .....
d. Are there any written records of labor for clearing/maintenance
e. When did the tank last spill .....
f. Who opens/closes the sluice .....
g. Does it open at night .....
h. Number of offtakes .....
i. Extent of the encroached area .....
j. Number of farm families in the encroached area .....

5. Rehabilitation operations (After IRDP rehabilitation)

5.1.1. Headworks

a. Raising of Bund .....
b. Improvements to the Spill .....
c. Improvements to the Sluice .....
d. Improvements to the Tank Bed .....
e. Inlet Canal .....
f. Construction of Riprap .....

5.1.2. Downstream works

a. Construction/Improvements to Main Canal .....
b. Construction/Improvements to Distributary Canal .....
c. Construction/Improvements to Field Canal .....
d. Construction/Improvements to Control Structures .....

5.1.3 Execution of works

a. Directly by executing agency
b. Through contractors
c. Through voluntary laborers
d. Date of commencement of rehabilitation
e. Date of completion

5.1.4. Beneficiary acceptance of rehabilitation works

a. What did the farmers request Headworks/downstream
b. Have those been accommodated in the rehabilitation works
c. Are those inconsistent with the suggestions made at the ratification meeting

6. Maintenance and Water Management activities after IRDP Rehabilitation

6.1 Area cultivated

a. Cultivated area in the current season .....
b. Cultivated in the last season .....

6.2 Cropping intensity

a. General cropping pattern Season	Major crop %	Second crop %
Maha season	.....	.....
Yala season	.....	.....

6.3 Water distribution

6.3.1. Kanna Meeting

a. When was the last Kanna Meeting held .....
b. Who called it .....
c. Who came .....
d. What was decided .....
e. To what extent were those decisions implemented .....

6.3.2. Sharing of water

a. How is water shared among farmers .....
b. Are there any written rules for water distribution .....
c. What was the most recent water dispute .....
d. How was it resolved .....

6.3.3. Vel Vidane/Gamarale

a. Is there a Vel Vidane/Gamarale .....
b. How long has he served .....
c. Does he receive any payment from farmers .....
d. What does he do .....
e. How have his duties change since IRDP rehabilitation .....
f. How many systems under his justification .....
g. Does he have other IRDP systems and VIRP systems .....

6.3.4. Tank Committee

a. Is there a Tank Committee .....
b. Composition of the Tank Committee .....
c. How often do they meet .....
d. What is the most recent decision made .....
e. When was it .....
f. What is the most common complaint made to the Tank Committee .....
g. When did it last meet? .....
h. How many attended .....

6.3.5. Cleaning of the Tank and the Distributary Canal

a. When was the Tank and the Distributary Canal cleaned .....
b. Who carried out the cleaning operations .....
c. What sanctions were imposed on those who did not come .....
d. Are there any written records of labor for cleaning/maintenance..

7. Yield average

a. Before IRDP rehabilitation

Crop	Yala	Maha
Rice	.....	.....
Other crops	.....	.....

b. After rehabilitation

Crop	Yala	Maha
Rice	.....	.....
Other crops	.....	.....

8. Farm size and Tenure

a. What is the average farm size .....
b. Size of the three smallest farms .....
c. Size of the three largest farms .....
d. What percentage of farmers are tenants .....
e. What percentage of land owners are residents .....
f. Do farmers have land outside scheme
(or in other schemes) .....

ANNEX III

MINOR IRRIGATION SYSTEM INSPECTION REPORT (MATALE)

1. Name of the tank/anicut:.....

2. Agrarian service division: .....

3. Cultivation Officer division: .....

4. Inspection date: .....

5. Condition of the tank bund on the inspection date: .....
.....
.....
.....

6. Condition of the sluices (left/right/upper) on the date of inspection:
.....
.....
.....

7. Condition of the spill and the spill canal on the date of inspection:
.....
.....
.....

8. Condition of the wooden gates of the anicut/sluice/spill .....
.....
.....
.....

9. Condition of the canals and sub canals: .....
.....
.....
.....

10. Work that farmers have to do:.....
.....
.....
.....

11. Steps taken for the above work: .....
.....
.....
.....

12. Special comments: .....
.....
.....
.....

13. Names/Addresses/Designations of the participants of the inspection:
.....
.....
.....
.....

14. The latest year and the department that did the repairs: .....
.....
.....
.....
.....

Date: .....

.....
Signature of the Technical Officer

Name of the Technical Officer: .....

Subject Clerk, Mr/Mrs/Miss,

Seen. Act as listed below.

1. .....
.....
.....

2. .....
.....
.....

Date: .....

Assistant Commissioner, Agrarian Services
Matale

ANNEX IV

SURVEY OF TANKS IN THE HAMBANTOTA DISTRICT

1. Name of tank:

2. Assistant Government Agent Division:

3. Agrarian Services Division:

4. Cultivation Officer's Division (Agrarian Services):

5. Grama Sevaka Division:

6. Location of Tank (Specify directions including distance):

7. Is there water during the whole year or only in certain months of the year?

8. i. Capacity of the tank on spill level (Acre-Feet)

   ii. Capacity of the tank below the sluice level (Acre-Feet)

9. i. Is there a permanent spill?
   ii. Is there a permanent sluice?
   iii. Has canal construction been done?
   iv. Are irrigation structures available in the canals?

10. i. Has there been any rehabilitation or improvement works? If so specify the year.
    ii. Agency that did the rehabilitation/improvement works.
    iii. What are they?
        a. Bund (earth filling, terracing,.....)
        b. Outer spill
        c. Sluice (newly constructed/repaired)
        d. Canal system
        e. Digging of the tank bed
        f. Fixing of gauges
        g. Construction of canal structures

11. Approximate amount spent on rehabilitation and improvement works.

12. Are there weeds inside the tank?

13. What steps have been/need to be taken to remove these?

14. Is the tank silted?

15. Suggest a way to desilt it.

16. Any suggestions to stop the silting in future?

17. Is tank bed cultivation done here?

18. If so, how many farmers do this type of cultivation?

19. Do these farmers have any other land to cultivate?

20. Are they engaged in any other employment?

21. What crops are grown in these lands?

22. Do they cultivate in both seasons? yala/maha

23. What are the crops grown during maha (over the last 5 years)?

24. What are the crops grown during yala (over the last 5 years)?

25. Give reasons for not cultivating in both seasons or in one season.

26. Have there been any attempts for diversified cropping?

27. If not give reasons.

28. Number of acres that can be irrigated.

29. Of this how many acres are cultivated now?

30. Give reasons for not cultivating the full area.

31. Number of landowners.

32. Number of landowners who are farmers.

33. Number of "Ande - tenants"

34. How are the lands divided? (Landowners/Ande - tenants)
Less than 1/4 acre
Between 1/4 and 1/2 acre
Between 1/2 and 1 acre
Between 1 - 2 acres
Between 2 - 3 acres
Between 3 - 5 acres
More than 5 acres

35. Are there any Farmer Organizations?

36. Is there any fishing done in the tank?

37. If so, is the fish breeding done by the Department of Agrarian Services or by any other Agency?

38. If not, are there any arrangements to start this in the future?

39. Is there a system for water distribution and water management?

40. Are there any Farmer Organizations for this?

41. Use of fertilizers for cultivation?

42. From where do they get loans for fertilizers?

43. Do officers come to give instructions on agriculture?

44. Who does the maintenance work?

45. Are the bund and the canal system in good condition?

46. If not give reasons.

If rehabilitation and improvement work are necessary

47. What physical work is needed?

48. In what type of work can the farmers participate?

49. Has there been any request for these works?

50. If extra land is needed for rehabilitation and improvement, can they get land without compensation?

51. What is the water source for the tank?

52. Are there upstream irrigation systems?

53. Do these irrigation systems predate this tank?

54. If after this tank, have there been any changes in the quantity of water from the water source?

55. What are the irrigation systems downstream?

56. If the spill level is raised will it affect downstream irrigation systems?

57. From whom can we get more information for Nos. 51 - 56?

58. Is there a road to this tank?

59. Is there a tract leader (Yaya Nayakaya) appointed for this scheme?

60. Give name and address of a person from whom we can get further information about the tank.

ANNEX V

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