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DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA  
COMMISSION OF THE EUROPEAN COMMUNITIES  
MINISTRY OF LANDS, IRRIGATION AND MAHAWELI DEVELOPMENT  
IRRIGATION DEPARTMENT

NATIONAL IRRIGATION REHABILITATION PROJECT  
ALA/91/07  
TECHNICAL ASSISTANCE TO THE IRRIGATION RESEARCH  
MANAGEMENT UNIT  
CONTRACT NO. 669/91/73000/102/141-01

QUARTERLY REPORT NO. 2  
JANUARY TO MARCH 1993

INTERNATIONAL IRRIGATION MANAGEMENT INSTITUTE  
SRI LANKA FIELD OPERATIONS

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## **1. Introduction**

### **1.1 Background**

It is recognized that the benefits derived from irrigation schemes have not been proportional to the investments made. It is also realized that the benefits could be increased through minimizing the various constraints impeding the productivity. One of the major constraints to achieving higher productivity is lack of research in irrigation management and slow adoption of innovations. Therefore, the need for a strong research program in irrigated agriculture has arisen.

A comprehensive research program requires identification and continuation of research, supporting institutions, reporting and dissemination of research findings and incorporating research findings in the implementation of irrigation activities to achieve improvements in design, planning for operation and management of irrigation schemes.

### **1.2 Irrigation Research Management Unit (IRMU)**

The Irrigation Research Management Unit being established in the ID will be a research based service unit. The main objective of the IRMU is to strengthen the institutional capacity of irrigation agencies in carrying out field oriented action research to improve crop productivity, farmers profitability and their welfare.

The IRMU will have a multidisciplinary research team to conduct research and training in irrigated agriculture. The unit will cater to the needs of the ID and especially the needs of the NIRP.

For the establishment and operation of IRMU during the initial stage, necessary assistance is being provided given by the IIMI, through a four-year Technical Assistance Programme.

### **1.3 Objectives of Technical Assistance**

The main objective of the Technical Assistance Programme is to establish and support IRMU in its initial stage. This objective is expected to be achieved through a series of well defined activities.

### **1.4 Activities Under Technical Assistance**

During the project life of four years the following activities are assigned under the Technical Assistance.

- a. Develop the mandate, strategic plan, organizational structure and staffing policy together with ID staff within the first year of assignment;

- b. Assist the IRMU with the preparation of research procedures, policies, annual work plans and related budgets;
- c. Develop methodology and assist training of IRMU staff;
  - i) undertake rapid assessments, particularly to obtain preliminary data for research selection and to train IRMU staff;
  - ii) carry out adaptive research to test technical and institutional innovations;
  - iii) monitor and evaluate a number of schemes being rehabilitated under NIRP, to ascertain how improvements are being implemented and their acceptance, benefits and costs and long term sustainability;
  - iv) measure the cost effectiveness of innovations identified in the research programs as required; and
  - v) record and analyze lessons learned in establishing IRMU and its early operations.
- d. Provide support to IRMU to develop their conceptual, administrative and research activities.
- e. Assist IRMU in conducting a series of workshops to disseminate research findings and solicit inputs to the program;

- f. Provide inputs to NIRP from IIMI's in-country and international research findings and IIMI's international programs.

### 1.5 Project Funding

The total CEC support for the project is estimated to be ECU 843,840 and LKR 21,684,000/-. The breakdown of cost (main items) is given below.

<b>Foreign Exchange Cost</b>		<b>Amount (ECU)</b>
a.	Fees for services of international staff	= 734,448
b.	Refundable expenses	= 109,392
		-----
	Total	= 843,840
		-----

<b>Local Cost</b>		<b>Amount (LKR)</b>
a. Fees for the services of national staff	=	7,444,800
b. Direct expenses	=	13,260,000
c. Refundable expenses	=	980,000
		-----
	Total =	21,684,800
		-----

## **2. Technical Assistance**

### **2.1 Staff**

The recruitment of staff has been completed with the appointment of a driver on March 18, 1993. A summary of staff mobilization and inputs is given in Annex 2.1.



## **2.2 Office, Vehicles and Equipment**

The second field office started functioning as planned from January 1, 1993, at the Kandy Range Office. One Research Officer has been released to this office and he is initiating the research studies proposed for the area.

Action is being taken to establish the third field office during the next quarter at the Kurunegala DDs office.

Two land rovers were received on 22nd March. Three computers, and two printers also were all received on 22nd March. With this all the listed equipment and vehicle procurement has been completed during this quarter.

## **2.3 Contract**

No claim was submitted for payment of consultancy services during the quarter.

### **3. Project Implementation**

#### **3.1 General**

Implementation of the project activities were commenced from August 1992 based on the revised implementation programme and the period upto December 1992 has been considered as the inception phase. The progress of the planned activities of the reporting period, 1 January to 31 March 1993 is given below.

#### **3.2 Help ID Determine the Organizational Structure and Staffing Policy**

The proposed organizational structure and staffing policy of the IRMU was submitted to the RAC and it was approved at its meeting held on 23rd March 1993. The following decisions were also taken by the Committee.

- i. Recruitment of IRMU staff will be made at the entry level.
- ii. IRMU should immediately initiate process to recruit one agronomist and one sociologist/economist on contract basis.
- iii. The proposed organizational structure will be sent to the relevant government agency for approval as well as to seek authorization to create cadres for non-engineers.

### **3.3 Help ID Determine the Mandate and Strategic Plan for IRMU**

The mandate for IRMU has been determined in the last quarter.

Drafting of the strategic plan is progressing and it is expected that the short-term specialist from IIMI/SLFO would submit the draft strategic plan as per schedule. The draft plan will be circulated for comments and then discussed in a workshop to be held before finalizing at the end of September 1993.

### **3.4 Assist Establish Research Advisory Committee (RAC)**

A meeting of the Project Coordinating Committee (PCC) of NIRP was held on 5th March 1993 under the Chairmanship of the Secretary, MLI&MD. At this meeting the RAC was established. The first meeting of the RAC was held on 23rd March 1993 under the Chairmanship of the State Secretary for Irrigation. The list of members in the Committee is given in Annex 3.1 and the minutes of the meeting is given in Annex 3.2. Constitution of proposed Research Coordination Committee (RCC) and the Range Research Coordination Committee (RRCC) have been approved by the RAC.

### **3.5 Assist in Recruitment, Orientation and Training of IRMU Staff**

Two Irrigation Engineers recruited under NIRP have been assigned to IRMU from 24th March to work with IIMI staff. After necessary orientation at the ID, Head Office, they will be posted to Galgamuwa and Kandy field offices to work with the IIMI Research Officers and ID staff to gain field experience before undergoing the formal training on rapid appraisal and on research methodology to be organized by IRMU.

Based on the decisions made by the RAC action will be taken to recruit one agronomist and one sociologist/economist on contract basis within the second quarter of 1993.

### **3.6 Assist in Preparation of Research Policy Procedures and Annual Work Plan**

Research policy and procedures for IRMU which will form a part of the strategy document is under preparation. The annual work plan for 1993 was approved after making some changes. (See Annex 3.2, Agenda No. 7.)

### **3.7 Assist Review Past and Current Irrigation Research, Collect Literature and Establish a Research Library**

Ten research papers/documents were summarized during this quarter. Twenty eight documents mainly research papers/reports were collected for the library during this period (Annex 3.3 & 3.4). Arrival of 4000 abstracts on irrigation and drainage studies ordered from CAB International, UK are being awaited.

### **3.8 Assist in Identification of Research Areas and Priorities**

The broad research areas for irrigated agriculture that should be covered by the IRMU have been identified at the workshop held on 28th August 1992.

In the light of the workshop recommendations the IRMU was assisted in the preparation of 1993 Work Plan incorporating the current research priorities, especially for NIRP requirements.

### **3.9 Help IRMU Develop M&E Procedures and Initiate M&E in Selected Schemes**

Nothing to report.

### **3.10 Help Design Methods to Evaluate Innovations**

Nothing to report.

### **3.11 Initiate Adaptive Research**

Eleven research studies have been initiated by the IRMU involving the ID and IIMI staff. The progress upto the end of the quarter is given in Annex 3.5.

### **3.12 Attend Meetings/and Conducting Seminars and Workshops**

Nine meetings were attended on project related matters (Annex 3.6) and seven field visits (Annex 3.7) were made.

The number of field visits were restricted to devote more time to prepare the inception report. A field day was held on 24th March for selected officials of the ID. This is to familiarize officials of the ID with research studies being conducted by the IRMU and ID at Inginimitiya and Rajangana Schemes. The list of participants and a report on the field day is given in Annexes 3.8 and 3.9 respectively.

A seminar on "Analytical Solution for Water Profile in an Irrigation Canal" by Mr. G.G.A. Godaliyadde, DD, Moneragala was held on 15th March 1993.

Initial steps have been taken to hold a workshop on "Use of Computer Operated Models as Decision Support Tools in Operation and Management of Irrigation Systems; Sri Lanka Experiences". This will be conducted at SLITI - Galgamuwa on 8th & 9th July 1993 and about 30 participants will be invited.

### **3.13 Provide Inputs to NIRP from other IIMI Programs**

Nothing to report.

### **3.14 Record and Examine Lessons Learned in the Operation of IRMU**

Nothing to report.

### **3.15 Training Programme**

Preliminary discussions were held with the IIMI Training Specialist on 26th March regarding the structure and content of the training programme on Rapid Appraisal of Irrigation Systems.

### **3.16 Fellowships**

Arrangement have been finalized with the Moratuwa University to send tow students for Post Graduate studies. The course is expected to start from late April.

Negotiation with PGIA, Peradeniya has been initiated for sending 1-2 fellows in the next academic year which begins around the end of the year.

### **3.17 Preparation of Reports**

The draft of the 1st quarterly report covering the inception phase was prepared and submitted to the Project Director, NIRP. The comments on the draft inception report is being awaited and the report is expected to be finalized before the end of April 1993.

## **4. Project Constraints**

a) The delays in appointing the research staff for IRMU will affect the performance of the Technical Assistance by IIMI and also the implementation of the IRMU work plan. The training programmes are mainly targeted to IRMU staff and the research studies are to be carried out by the IRMU staff with help from Technical Assistance team.



b) The Deputy Director, IRMU has other important work assigned to him by the ID and as such he is not in a position to provide full time attention to the IRMU activities.

## **5. Activities Planned for the Next Quarter**

The activities to be implemented during the next quarter are based on the 1993 annual work plan. Some of them are continuation of activities initiated during the inception phase and the rest will be commenced during the quarter. The Annual Work Plan is given in Annex 5.1 describing the progress upto 31st March 1993.

### **5.1 Office**

Action will be taken to establish the third field office at the Kurunegala DDs office in the next quarter. The Research Officer working at the Colombo Office will be released to this office. The assistance of DD, Kurunegala has been requested for this.

### **5.2 Recruitment**

It is expected that the appoint of the Agronomist and Sociologist/Economist will be made during the next quarter.

### **5.3 On-going and New Activities**

**5.3.1** Assistance will be given to IRMU to conduct monthly seminars.

A total of four seminars will be organized (one carry over from last quarter). Titles and speakers for three have already been identified. Fourth one will be identified later.

- (a) "Managing Irrigation Deliveries for Non-Rice Crops" by Dr. C.R. Panabokke on 01.04.93.
  
- (b) "Application of Relative Water Supply Concept for Performance Management in Irrigation Systems" by Mr. Nihal Fernando, DD, Polonnaruwa.
  
- (c) A seminar on agrowells (exact topic to be decided later) by Mr. R. Ariyabandu, Research & Training Officer, AR&TI.

**5.3.2** The Terms of Reference for RCC and RRCC will be prepared and assistance will be provided for proper functioning of these committees.

**5.3.3** Necessary arrangements for holding workshop on Computer Models to be held in July will be finalized during the quarter. This includes (a) identification of computer models/studies developed in Sri Lanka (b) selection of topics and invitation of resource personnel and requests for submitting abstracts of papers will.

Preparatory activities including the preparation of course outline, selection of topics, and identification of resource personnel will be done for the proposed training programs namely Rapid Appraisal of Irrigation Systems and Research Methodology. The programmes will be conducted after recruiting the research staff for IRMU.

The other on-going activities presented in the Annual Work Plan relevant for the quarter will be continued.

The finalization of the Inception Report and the preparation of the 2nd quarter progress report are the other activities of the quarter. Several new activities as indicated in the 1993 Work Plan will also be initiated.

## 6. Recommendations and Requests

Considering the assigned activities it is recommended to have the following additional equipment for the project.

i.	Desk-top computer	-	2 nos
ii.	Lap-top/note book computer	-	1 no
iii.	Slide projection system	-	1 no
iv.	Overhead projection system	-	1 no.

The two desk top computers are to be used by the two field offices and lap top/note book computer will be used in the field for data collection. Overhead and slide projectors are necessary for the seminars, workshops, and training programmes that will be conducted by the IRMU.

The savings from the "Equipment" component of the budget may be used to purchase the above.

SUMMARY OF STAFF MOBILIZATION AND INPUTS:  
SECOND QUARTER (JANUARY - MARCH, 1993)

POST	NOMINATION	APPROVAL	DATE		MAN - MONTH			BALANCE
			START	LEAVE	ALLOCATION	UTILIZED UPTO 31.12.92	UTILIZED DURING THE QUARTER	
FULL TIME STAFF								
Technical Advisor	K. Azharul Haq		17.08.92		36	4.5	3	28.5
Research Associate	C. Nanayakkara		01.12.92		44	01	3	40
Research Officer	K. Hemakeerthi		01.08.92		48	05	3	40
	J. Upasena		01.08.92		48	05	3	40
SHORT TERM SPECIALISTS								
Agricultural Economist	C.M. Wijayaratna		01.08.92		7.5	0.75	1.0	5.75
Irrigation Specialist	R. Sakthivadivel		01.08.92		7.5	0.75	1.0	5.75
Agronomist	C.R. Panabokke		01.08.92		7.5	0.75	1.0	5.75
Sociologist	J. Brewer		01.08.92		7.5	0.75	1.0	5.75
RESEARCH SUPERVISORS	Not appointed yet				96			96

**MEMBERS OF THE RESEARCH ADVISORY COMMITTEE**

Mr. L.U. Weerakoon  
State Secretary of Irrigation

Mr. K. Yoganathan  
Director, Irrigation Department

Mr. L.T. Wijesuriya  
Senior Deputy Director, MIR & TR  
Irrigation Department

Mr. K.S.R. de Silva  
Project Director, NIRP,  
Irrigation Department

Mr. P.W.C. Dayaratna  
Deputy Director (R&T)  
Irrigation Department

Mr. G.O. Uittenbogaard  
Co-Project Director, NIRP

Mr. W.M.U. Navaratna  
Engineer, Water Management  
Department of Agrarian Services

Prof. L.L. Ratnayake  
Head, Dept. of Civil Engineering  
University of Moratuwa

Dr. C.M. Wijyaratna  
Head, IIMI/SIFO.

Mrs. Vajira Liyanage  
Executive Director, CARP

Mr. Ananda Wickremaratne  
Chief Irrigation Engineer  
Mahaweli Economic Agency

Mr. G.T. Jayawardene  
Additional Director  
Irrigation Management Division

Mr. I.R. Perera  
Agrarian Research & Trng. Institute

Dr. S.L. Amarasiri  
Deputy Director, Research  
Department of Agriculture

Dr. K. Gunasekera  
Assoc. Professor, Dept. of Agri. Engineering  
University of Peradeniya

Dr. K. Azharul Haq  
Technical Advisor/NIRP

## **MINUTES OF THE FIRST MEETING OF THE RESEARCH ADVISORY COMMITTEE (RAC) FOR THE IRMU**

The meeting commenced at 2.30 p.m. on 23rd March 1993 at the conference room of the Irrigation Department, chaired by the State Secretary for Irrigation, Mr. L.U. Weerakoon.

To facilitate discussion, papers on "Background Information Leading to Establishment of IRMU", "Proposed Organizational Structure of IRMU" and the Annual Work Plan - 1993 were distributed to the members on 18th March 1993.

### **1. Agenda No. 1: Introduction of Members**

The members introduced themselves. Director AR&TI, Mr. G. Seneviratne could not attend the meeting but sent a representative, Mr. I.R. Perera. Dr. S.L. Amarasiri of Agriculture Department is out of the Island and Dr. K. Gunasekera did not attend. Fourteen out of sixteen members attended the meeting (Annex 1).

### **2. Agenda No. 2: Opening Remarks by the Chairman, RAC**

The chairman welcomed the members and explained the background for the establishment of IRMU in the ID.

Mr. Weerakoon indicated that it was a long felt need to conduct field oriented research on irrigated agriculture, disseminate and adopt the innovations recommended at farm and project levels to increase agricultural production and farmers income. It is true that institutions like IIMI, AR&TI, and Universities are involved in research related to irrigated agriculture, but there is no mechanism or institutional arrangements to apply the findings through the irrigation organizations at project and farm levels. To rectify this institutional deficiency it was decided to establish the IRMU at the ID, through financial support of National Irrigation Rehabilitation Project (NIRP) and technical assistance from IIMI.

### **3. Agenda No. 3: Briefing by Project Director/NIRP - NIRP Support to IRMU**

The Project Director, NIRP, Mr. K.S.R. de Silva explained the nature of NIRP support to IRMU. The NIRP which is funded by the EEC and World Bank is a 6 year project commenced in 1992 to rehabilitate about 1000 minor irrigation schemes and 60 medium and major schemes. After rehabilitation farmer organizations will be responsible for their operation and management.



As a sub-project of NIRP, funds are provided to establish the IRMU. The funds are provided by EEC and the project period is four years. The technical assistance is being provided by IIMI and Dr. K. Azharul Haq is working for IRMU as the Technical Advisor. The IRMU is expected to provide research input to NIRP implementation and also in planning, monitoring and evaluation processes of the project.

**4. Agenda No. 4: Introduction of IRMU, by DD/IRMU**

The Deputy Director, IRMU, Mr. P.W.C. Dayaratna elaborated the objectives and functioning of IRMU.

He mentioned that, the IRMU is to manage and implement field based research of relevant technical, agricultural and institutional aspects of irrigation. The unit will have a multidisciplinary research team representing irrigation and drainage, irrigation agronomy, socio-economics and environment.

The selected research topics will cater to the field problems and provide inputs to on-going projects under NIRP. The research studies will be conducted either by IRMU/IIMI and ID staff or contracted out to other research organizations/individuals.

Other IRMU activities include award of fellowships, training programmes and workshops, seminars and publications to disseminate research findings and establishment of a research library.

At the end of the four year project period the unit is expected to be a self-sustaining research unit and will cater to the needs of the irrigated agricultural sector.

**5. Agenda No. 5: Briefing about IIMI Technical Assistance, by Technical Advisor**

Explaining the role of the technical assistance program Dr. Azharul Haq indicated that IIMI staff will act as a catalyst to support and stimulate IRMU program. He opined that IRMU research program should seek solutions to the field problems of immediate concern and the recommendations should be simple to adopt.

He also informed that the IIMI Technical Assistance Team has already been put together by completing the recruitment of staff and procurement of vehicles and equipment. Two field offices, one at ITI, Galgamuwa and the other at DDI's office at Kandy have also been established and are being manned by IIMI research officers. Research staff from IRMU are expected to join the field offices very soon.

## 6. Agenda No. 6: Discussion on the Proposed Organizational Structure

The next item of the agenda, the organizational structure proposed for the IRMU was explained by Mr. Dayaratna.

Dr. Haq indicated the possible options of filling the positions proposed. One option is to fill the positions at the entry level and after acquiring necessary experience they could be promoted to the higher levels. This option is expected to provide adequate incentive for staff to make a career in research.

The other option is to fill all the positions at once but he preferred the first option. Prof. Ratnayakae asked the appropriateness of the designation "Research Associate" after a few comments, the designation was agreed. It was also discussed how to attract and retain the researchers with the present salary structure.

Referring to the remuneration paid by Lanka Hydraulics Ltd., for a Ph.D level researcher, Prof. Ratnayake suggested that there should be some system to give an attractive salary and benefits package to researchers to retain them at the IRMU.

The DI, Mr. Yoganathan mentioned about the management problems the Department will face if such extra benefits are provided to the officers of a unit of the department. He also mentioned that after the unit is well established it can become an independent organization similar to CECB, AR&TI, when it may be possible to offer better remuneration.

Dr. C.M. Wijayaratna, Head, SLFO briefed the functioning of National Irrigation Administration (NIA) in the Philippines. It is a model that could be followed, he said. The NIA is a income generating profit making organization conducting research and consultancy on contract basis.

Dr. K. Azharul Haq indicated that it will be difficult for the ID to obtain a separate pay structure for IRMU staff. However, some special allowance may be built into the benefit package.

Mr. Ananda Wickremaratne, CIE, MEA, emphasized the need for hiring experienced researchers at the senior levels which in his opinion, will help IRMU at the inception stage. The Chairman read out the comments sent by Mr. Gamini Seneviratne, Director, AR&TI (who could not be present in the meeting). He also recommended the filling of the senior positions at the initial stage.

After further discussion, the Committee approved the structure. The following decision were also taken:

1. Recruitment of IRMU staff will be made at the entry level.
2. IRMU should immediately initiate process to recruit one agronomist and one sociologist/economist on contract basis.
3. The proposed Organizational Structure will be sent to the relevant government agency for approval as well as to seek authorization to create cadres for non-engineers.

**7. Agenda No. 7: Discussion on IRMU Workplan for 1993**

The IRMU workplan for 1993 was taken up next. On inquiry from the ID, Director Dr. Haq briefed the members on on-going research studies of the IRMU. These include:

- a. Performance monitoring of the automatic flow and water level downstream control structure at Rajangana. The SLITI initiated this study under MIRP. On termination of MIRP in June 1993 the study will be continued under IRMU.
- b. Adoption of border irrigation for paddy inter cropped with OFC's in water deficit irrigation systems in the dry zone.

This study was initiated in 1992/93 maha as an observation trial at the Inginiyitiya experimental station. In a water deficit scheme like Inginiyitiya this experiment is designed to grow paddy and chillie in borders and ridges respectively using significantly reduced amount of water than that needed for paddy. Initial results indicate that income is likely to increase substantially with significant saving in water. A designed experiment will be conducted in coming yala season.

- c. Adoptability and evaluation of the water turbine pump for lift irrigation of OFC.

A water turbine pump has been installed at Rajangana in 1985 and water is being pumped to cultivate OFCS. This study will evaluate the technical and socio-economic aspects of this lift irrigation system.

- d. Agro-wells are becoming increasingly popular in the dry zone. Even in commands of tank schemes hundreds of wells are being constructed to provide supplementary irrigation for paddy and for growing OFCS. Questions are being raised about the ability of the aquifers to sustain such large scale development. The study initiated will evaluate hydraulic as well as socio-economic parameters of the agro-wells.
- e. Another study has been initiated to monitor and evaluate farmers involvement and contribution to rehabilitation work being implemented under NIRP.

The work program submitted by the IRMU was accepted and approved by the Committee, with the following comments and suggestions:

- i. Mr. Yoganathan, DI recommended that the water shortage problems of the Huruluwewa scheme be studied on a priority basis.
- ii. Mr. G.T. Jayawardena, proposed that in the paddy/chillie intercrop experiment, possibility of growing a third crop, in the period between harvest of paddy and last picking of chilli (about 60 days) such as mung bean, should be investigated.
- iii. Mr. Ananda Wickremaratne suggested that studies should be conducted on the potential of using surface and ground water conjunctively to improve both water availability and equity.
- iv. Mr. Navaratna indicated that land fragmentation in the minor irrigation schemes was a major constraint to the improvement of their performances. He recommended that some studies on land consolidation be taken up.
- v. Mr. K.S.R. de Silva, re-emphasized the need to design studies to cater needs of the NIRP.
- vi. Mr. Uittenbogaard, Co-Director NIRP recommended that while conducting M&E and O&M studies the IRMU should see that these are complementary to the work being carried out under the Technical Assistance for Project Implementation and Evaluation.
- vii. Mr. L.T. Wijesooriya opined that the work program was "loaded" with engineering topics and suggested that a balance should be maintained among the major program areas. Dr. Haq indicated that after recruitment of the IRMU staff in those program areas it will be possible to develop a more balanced program.

**8. Agenda No. 8: Constitution of Research Coordination Committee and Range Research Coordination Committees**

The RAC approved the constitution of the RCC and RRCC as proposed in the "Proposed Organizational and Management Structure of IRMU". The IRMU, however, was asked to formulate terms of reference for both the Committees.

**9. Agenda No. 9: Other Business**

Payment of honorarium to the Committee members (RAC, RCC, RRCC) as well as to staff of other ID units were discussed. DD, IRMU indicated that there is provision for paying honorarium and adequate funds have been allocated in the 1993 budget. It was agreed that RAC members will be paid an honorarium of Rs. 750/- per meeting where as RCC and RRCC member will be paid Rs. 500/- per meeting. ID staff, other than those working for IRMU, will also be eligible for honorarium which will depend on the amount of their involvement in IRMU. The Committee requested IRMU to obtain necessary government approval for this.

**10. Agenda No. 10: Date of Next Meeting**

The date of next meeting will be informed in due course.

The meeting ended at 4.15 p.m.

## LIST OF SUMMARIZED PAST AND PRESENT IRRIGATION LITERATURE

1. Corey, A.T. 1986. Control of water within farmer turnouts in Sri Lanka. Workshop on Water Management, 1986, AR&TI.
2. Wickremasinghe, Lakshman. The Galoya experiment with farmer participation. Workshop on Water Management, 1986, AR&TI.
3. Choo, Y.K. and Senthinathan, S. 1986. Water management for rice cultivation in Mahakandarawa Tank Area - Tank Irrigation Modernization Project, Maha 80/81. Workshop on Water Management, 1986, AR&TI.
4. Nikahetiya, S.B.R. 1986. Farmer participation in Water Management in the Minipe Project. Workshop on Water Management, 1986, AR&TI.
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## PROGRESS OF RESEARCH STUDIES PLANNED FOR 1993

	TITLE OF STUDY	STUDY LOCATION	PLANNED DATE OF INITIATION	DATE INITIATED	PROGRESS UPTO 31ST MARCH	REMARKS
1.	Research					
1.1	Performance monitoring of the automatic flow and water level downstream control structures	a. Rajangana Scheme b. Huruluwewa Scheme	On-going	Maha 92/93	Data collection for the season completed.	a. Study being conducted by SLITI under NWRP will cease under IRMU/NWRP from Maha 1993/94 b. The commencement of the study at Huruluwewa scheme will depend on the availability of water for cultivation
1.2	Adoption of border irrigation for rice inter cropped with OFCs in water deficit irrigation systems in the dry zone of Sri Lanka	a. Inginimitiya Experimental Station	Maha 92/93	Maha 92/93	Yield data and other information on crops cultivated have been collected. A demonstration field day was held.	This will be repeated for the yala by the SLITI staff.
1.3	Monitoring and evaluation of the computer model for irrigation management in Hakwatuna Oya Scheme	a. Hakwatuna Oya Scheme	2nd week January	2nd week January	Visited the scheme and initial discussion was held with the IE, Hiriya to monitor the study.	Data collection will be continued by IE Hiriya Division
1.4	Adaptability of the Chinese water-lift pump for lift irrigation of other field crops	a. Rajangana Scheme b. Kandeketiya Scheme	2nd week January 3rd week January	4th week December 1992 3rd week January	Crop production data and other socio-economic data collected for the 92/93 maha season. Visited the potential site and discussed with the DD, Bandarawela, and IE, Kandeketiya, made arrangements for a topographic survey for the	This will be continued in the 1993 yala season.
1.5	OSM management study	Ketawela Scheme a. Gampaha Division b. Hakwatunoya scheme Hiriya Division c. Gampola Rajawela Scheme Kandy Division	4th week January 2nd week January 1st week February	4th week January 2nd week January 1st week February	Initial field visit was made, discussed with the DD, Colombo Range, IE, Gampola and TA of the scheme. Site visited and preliminary data collected. Site visited, and draft proposal prepared by the RO.	
1.6	Catchment hydrology model study	a. Maddeketiya tank, Hiriya Division b. Wennoruwa Tank Kurunegala Range c. Uduwoda Bandaraela Kandy Range	2nd week January 2nd week January 1st week February	2nd week January 2nd week January 1st week February	selected site. Site visited, and basic information collected - do - Site visited and preliminary data collected	It was decided to select some other site (tank scheme) instead of this anicut scheme because of logistical problems.

	TITLE OF STUDY	STUDY LOCATION	PLANNED DATE OF INITIATION	DATE INITIATED	PROGRESS UPTO 31ST MARCH	REMARKS
1.7	Monitoring farmers' involvement in NIRP rehabilitation	a. Wennoruwa Scheme b. Gampola Rajaala Scheme Kandy Range	March	2nd week January 1st week February	Site visited, attended the FO meeting on rehabilitation work. Draft proposal prepared	This will be developed as a joint study for both study site.
1.8	Pilot testing of manually operated water lifting devices	-	-	-	Arrangements have been made for procurement of the pump from abroad.	Not started
	a. In irrigation canals	a. Rajangana Scheme	93 yala			Not started
	b. For agrowells	b. Palukadawala Scheme Galgamuwa Division	93 yala			Not started
1.9	Water resource study in Mi-oya basin	Mi-oya basin, Puttalam District	93 yala			Not started
1.10	Operation of Kirama Oya cascade anicut system	Kirama oya cascade, Hambantota District	93 yala			Not started
1.11	Drainage and reclamation study	Kalutara Division	93/94 maha			Initial discussions were held with the DD, Colombo on 3rd week of January.
1.13	Environmental impact assessment	Kaltota Scheme	93/94 maha			Not started
1.14	Sprinkler and drip irrigation study	Inginimitya Scheme				Not started

**IMPORTANT MEETINGS ATTENDED**

<b>DATE</b>	<b>PARTICIPANTS</b>	<b>PURPOSE</b>
06.01.93	C.M. Wijyaratna, Head, SLFO J. Brewer, Social Scientist, SLFO C.R. Panabokke, Senior Associate, SLFO K.A. Haq, Technical Advisor, IFIMU C. Nanayakkara, Research Associate	To discuss the first draft of the Inception Report
19.01.93	U. Delpachitra, DD, Colombo, Range K. P. Perera, IE, Gampaha P. de Silva, TA, Gampaha P.W.C. Dayaratna, DD, IRMU K.A. Haq C. Nanayakkara	To discuss IRMU Workplan for Colombo Range
18.02.93	K.S.R. de Silva, PD, NIRP P.W.C. Dayaratna, G. Utteinbogaard, Co-Director/NIRP K.A. Haq C. Nanayakkara	Discussion on the draft Inception Report
25.02.93	K.S.R. de Silva P.W.C. Dayaratna K.A. Haq C. Nanayakkara	Discussion on the progress of research program
01.03.93	Alex Baird, Resident Consultant, EEC K.A. Haq	Discussion on Mr. Baird's comments on Inception Report
05.03.93	All PCC Members	Discussion on NIRP implementation progress
23.03.93 (8.30 a.m.)	G. Utteinbogaard K.A. Haq	Discussion on the second draft of the Inception Report
23.03.93 (2.30 p.m.)	RAC Members	Meeting to discuss overall activities of IRMU
26.03.93	Z. Franca, IIMI, Training Specialist K.A. Haq C. Nanayakkara	Discussion of overall activities of IRMU
30.03.93	WB/EEC Review Mission	Discuss IRMU progress

DATE	PARTICIPANTS	LOCATION	PURPOSE
09.01.93	K.A. Haq C. Nanayakkara	Radevibendiela scheme Anamaduwa	To attend the opening of the R a d a v i b e n d i e l a n e w irrigation settlement scheme.
13.01.93	K.A. Haq C. Nanayakkara K. Maheswaran	Kururegala DDs Office, Hriyala IEs Office, Hakwatunaoya, Meddeketiya and Wennoruwa schemes	To organize the two research studies a. Monitoring farmer participation in NIRP rehabilitation b. Catchment hydrology model study.
21.01.93	K.A. Haq C. Nanayakkara K. Maheswaran	a. Gampaha IEs Office, Ketavela and Morena Anicut schemes b. Wennoruwa scheme Udakotuwa FO	a. Familiarization visit on wetzone irrigation schemes b. To attend the FO meeting to to discuss the rehabilitation schedule for 1993.
24.01.93 & 25.01.93	K.A. Haq C. Nanayakkara	Bancarawela DDs Office and Kandeketiya IEs Office and Bathgoda field site	To initiate a pilot study on water turbine pump to evaluate its technical feasibility and farmer acceptance.
02.02.93	C. Nanayakkara W.J. Upasena K. Maheswaran	a. Dept. of Agriculture, Peradeniya b. Kandy DDs Office c. Udugoda Bandarawela and Gampolawela, Rajaala schemes	a. To collect information b. To meet the DD and to see the operation of IRMU field Office c. Reconnaissance visit to study sites.
10.02.93	C. Nanayakkara K. Hemakeerthi K. Maheswaran	a. Inginimitiya and Rajangana schemes b. Anuradhapura village	a. To see the progress of field experiments b. To see the area selected for the study on agrowells.
17.03.93	K.A. Haq	Inginimitiya Experimental Farm	To observe progress of field experiment.
24.03.93	K.A. Haq C.M. Wijyaratna R. Sakthivadivel C. Nanayakkara K. Hemakeerthi W.J. Upasena K. Maheswaran	Inginimitiya and Rajangana	To attend field day.

**LIST OF PARTICIPANTS**

1. Mr. L.T. Wijesooriya  
Senior Deputy Director (Rehabilitation)
2. Mr. P.W.C. Dayaratna  
Deputy Director, IRMU
3. Mr. H.P.S. Somasiri  
Deputy Director, Kurunegala Range
4. Mr. W.G. Wimalaratna  
Irrigation Engineer, Hiriyala Division
5. Mr. Bandula de Silva  
Technical Assistant, Hiriyala Division
6. Mr. W.P. Jinadasa  
Deputy Director, Anuradhapura Range
7. Mr. K. Jayathilleke  
Technical Assistant, Rajangana Scheme
8. Mr. S. Ampalam  
Deputy Director, Puttalam Range
9. Mr. G.A. Wimalachandran  
Chief Resident Engineer, Inginimitiya Scheme
10. Mr. A.A. Manoharan  
Irrigation Engineer, Inginimitiya Scheme
11. Mr. S. Shanmuganathan  
Irrigation Engineer, Radavi Bendi Ela Scheme
12. Mr. A. Karunathilleke  
Irrigation Engineer, Neela Bemma Scheme
13. Mr. H.B. Premasena  
Deputy Director, Kandy Range

14. Mr. U. Delpachitra  
Deputy Director, Colombo Range
15. Mr. K. Pathmasiri Perera  
Irrigation Engineer, Irrigation Office, Yakkala
16. Mr. H.M. Jayathilleke  
Deputy Director, SLITI, Galgamuwa
17. Mr. J.C. Muthumala  
Irrigation Engineer, SLITI, Galgamuwa
18. Mr. N. Bandaranayake  
Technical Assistant, SLITI, Galgamuwa
19. Mr. P.H. Ariyawansa  
Technical Assistant, SLITI, Galgamuwa
20. Mr. S.S. Fernando  
Technical Assistant, SLITI, Galgamuwa
21. Mr. M. Seneviratna  
Irrigation Engineer, Galgamuwa, Division
22. Mr. K.P.N. Perera  
Divisional Assistant, Rajangana Scheme
23. Dr. C.M. Wijyaratna  
Head, IIMI/SLFO
24. Dr. R. Sakthivadivel  
Senior Irrigation Specialist  
IIMI/SLFO
25. Dr. K. Azharul Haq  
Technical Advisor, IIMI/IRMU
26. Mr. C. Nanayakkara  
Research Associate, IIMI/IRMU

27. Mr. K. Hemakeerthi  
Research Officer, IIMI/IRMU
28. Mr. J. Upasena  
Research Officer, IIMI/IRMU
29. Ms. K. Maheswaran  
Research Officer, IIMI/IRMU



**REPORT ON THE FIELD DAY ORGANIZED  
BY IRMU, SLITI AND IIMI**

A field day was organized on March 24, 1993 to familiarize officials of the Irrigation Department with the research studies being conducted at the Inginimitiya and Rajangana schemes. A total of 40 persons were invited of which 29 participated, 22 from ID and 7 (seven) from IIMI. List of the participants is presented in Annex 3.7.

The specific objectives of field day were to:

1. Introduce and demonstrate operation of the computer model INCA being used to improve water scheduling of the Inginimitiya scheme.
2. Show and solicit comments on the field experiment "Adoption of Border Irrigation for Paddy Intercropped with Chilli" being conducted at the Inginimitiya Irrigation Practice and Demonstration facilities.
3. Introduce and demonstrate working and operation of water turbine pump and its advantages in irrigating highlands; and
4. Demonstrate the Neyer Tec downstream control structures as a flow regulating device for more equitable distribution of water.

**Activities at Inginimitiya Irrigation Scheme.**

The participants arrived at the premises of Chief Resident Engineer's (CRE) office at 10 a.m. The field day commenced by a briefing from the CRE about different aspects of the project. The scheme has a reservoir capacity of 58000 ac. ft., a command of 6530 acres and benefits 2400 farmers. The CRE indicated that from the very beginning, the project is experiencing water shortage and out of 16 seasons only once the entire command area was irrigated since commissioning in 1985. In last seasons only 50% of the command area was irrigated. In the rest of the seasons less than 50% of the command was irrigated. Due to the water shortage in the project, bethma was tried; but it was not very effective. Now, water is allocated in alternative seasons for RBMC and LBMC respectively. This appears to have worked better during the last two seasons. The settler farmers in the schemes are interested in growing paddy and not OFCs due to the risk and marketing problems. The cropping intensity in the project is between 70 and 80 percent as compared to the target of 130.

The briefing was followed by a demonstration of the computer model on water scheduling installed by IIMI(HQ -Performance program)/HR Wallingford. The computer model - Irrigation Network of Control Analysis (INCA) as was explained, plans the discharge at the D-channel turnout. The IE who demonstrated the computer model indicated that due to insufficient computer storage capacities it takes about 1 1/2 hours of computer time to run the program.

The group then visited the Ingirimitiya Irrigation Practice and Demonstration facility. The participants were briefed on the experiment being carried out on "Adoption of Border Irrigation System for Rice Inter-cropped with Chilli" by Mr. H.M. Jayatilleke, DD SLITI. Chilli was harvested twice and a yield of 6 kgs. (ripe) was obtained from 1/8th of an acre. Of the treatments the chilli plants in treatment 2 showed better results in terms of its growth and yield (see annex for the types of treatments). Certain chilli plots were struck by leaf curl disease and in another instance the chilli pods were affected by anthracnose. The rice is in early maturity stage.

The participants discussed the feasibility of this crop combination in water deficient schemes. Some participants wanted to know how these two crops having widely varying growth duration can be inter cropped. It was explained that the turn around time between maha and yala rice is nearly two months and hence there will not be any problem with harvesting of chilli. Trying OFCs other than chilli in the experiment was also discussed. There was a suggestion to explore the possibility of growing a short duration OFC like mung bean as a relay crop after the rice was harvested, as chilli would continue for a period of two months after rice. This suggestion was also made by a member of the RAC. This will be tried in yala season study.

## **2. Activities at Shri Lanka Irrigation Training Institute, Galgamuwa**

In the afternoon the participants were briefed by the DD, SLITI on the downstream control structure study being conducted at the Rajangana scheme. This study was initiated under MIRP in 1992. He explained that results obtained from last yala season was quite encouraging. Farmers seems to have accepted the technology as there was no attempt to damage them (which has been quite common with other flow regulating and measuring devices).

### **Activities at the Rajangana Scheme**

After the briefing the group visited the Rajangana scheme. At first, the group observed the workings of the Chinese water turbine pump in tract 6 of the LBMC. This pump was installed in 1985. The farmers are cultivating chilli and gherkins. The combined acreage was only 0.08 ac. The water turbine pump was operated and the group observed the discharge to the box from which the plots were irrigated through a network of channels. The discharge of the pump was estimated to be 30 lps which should irrigate between 40-60 ac. of OFCs.

The group then visited the Neyer Tec downstream control structure situated in tract 2 of the Rajangana scheme.

Mr. Muthumala, from the SLITI, demonstrated to the participants the workings of the Neyer Tec downstream gates and flow dividers at off-take points. The control structures are installed at the down stream side of an off-take chamber with a float arrangement. On the downstream of the float there are a number of flow dividing gates with different discharge capacities. One can select a discharge rate which can be adjusted by operating the shutters of the flow dividers. Depending on the discharge, the water level either increases or decreases. This change in the water levels disturbs the balancing of the downstream float which actuates the closing and opening of the downstream gate.

It takes a few minutes for the equilibrium to reach; under the equilibrium condition, the set discharge passes through the flow dividers. The complete closing of the gate is effected only by the upstream screw type vertical gate.

The participants then visited the off-take of a field channel where flow dividers have been installed to supply required amount of water. Total capacity of the dividers is 30 l/sec., divided into 15, 10 and 4 l/sec.. This allows application of six different flow rates (30; 25; 20; 15; 10 and 5 l/sec.). Constant head at the D-channel is maintained by a duckbill weir installed at the downstream side of the off-take.

The DD, SLITI with his staff took the major responsibility of organizing the field day.

Breakfast, lunch and afternoon tea was provided respectively by RE, Inginitiya scheme, DD, SLITI and IE, Rajangana which was gratefully acknowledged by the participants. The participants also thanked the IRMU/IIMI for a well organized "Field Day" which was, in their opinion, quite educational. The "Field Day" ended at 5 p.m.

**Types of treatments in the field trial****Control: Rice and chilli planted as per normal practice.**

## Treatment No. 1

Border size	:	2' x 9"
Ridge size	:	1.5' x 9"
No. of chilli rows	:	1
No. of paddy rows	:	3
Border spacing	:	3'

## Treatment No. 2

Border size	:	3.5' x 9"
Ridge size	:	3' x 9"
No. of chilli rows	:	2
No. of paddy rows	:	5
Border spacing	:	6.5'

## Treatment No. 3

Border size	:	2.5' x 9"
Ridge size	:	2' x 9"
No. of chilli rows	:	1
No. of paddy rows	:	4
Border spacing	:	4.5'

Treatment No. 4 : Control

**IIMI TECHNICAL ASSISTANCE PROGRAMME -  
ANNUAL WORK PLAN 1993, AND THE PROGRESS UP TO 31 MARCH 1993**

ACTIVITY	1992	1			9			3			1994		
	AUG<--->DEC	1			2			3			4		
		J	F	M	A	M	J	J	A	S	A	N	D
1. Together with the ID staff develop the mandate, strategic plan, organizational structure and staffing policy													
1.1 Mandate	Completed												
1.2 Strategic Plan													
1.3 Orgnizational Structure and Staffing Policy	Completed												
2. Assist preparation of Research Policy and Procedures													
3. Develop methodology and assist training of IRMU staff													
4. Help establish RAC													
5. Assist in recruitment and orientation of IRMU staff													
6. Assist IRMU review past and current irrigation research, collect literature, establishment of research library													
7. Assist in identification of													
7.1 Research areas	Completed												
7.2 Research priorities													
8. Help IRMU design M&E procedures and initiate M&E in selected schemes													
9. Help design rapid appraisals													
10. Help design methods to evaluate innovations													
11. Initiate adaptive research													
12. Attend meetings/workshops													
13. Help IRMU contribute to the planning M&E and implementation of NIRP projects													
14. Provide inputs to NIRP from other IIMI programs													
15. Record and examine lessons learned in the operations of IRMU													
16. Seminars													
17. Workshops													
18. Training programs													
19. Fellowships													
20. Prepare inception reports													
21. Prepare quarterly reports													

XXXXX

Progress

Planned