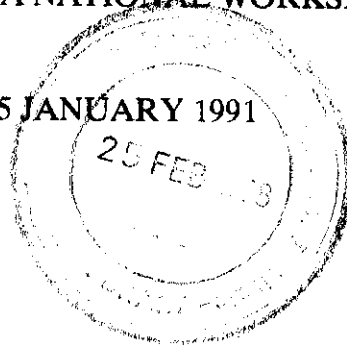


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FUTURE DIRECTIONS FOR IRRIGATION INVESTMENT IN SRI LANKA

RECOMMENDATIONS OF A NATIONAL WORKSHOP

COLOMBO, 24-25 JANUARY 1991



ORGANIZED AND SPONSORED BY THE
INTERNATIONAL IRRIGATION MANAGEMENT INSTITUTE
SRI LANKA FIELD OPERATIONS
IN ASSOCIATION WITH THE
IRRIGATION MANAGEMENT POLICY SUPPORT ACTIVITY

107 HAVELOCK ROAD
COLOMBO 5, SRI LANKA

H 22164

USAID / DIO
COLOMBO, SRI LANKA

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RECOMMENDATIONS OF THE WORKSHOP ON FUTURE DIRECTIONS FOR IRRIGATION INVESTMENT IN SRI LANKA

held in Colombo on 24-25 January 1991

BACKGROUND

In 1990, under the Public Sector Restructuring Project, a comprehensive report giving far-reaching recommendations for future investments in the irrigation sector was completed. Simultaneously but independently, the International Irrigation Management Institute (IIMI) completed some research on past irrigation investment trends which included some recommendations for future investment policies as well. The two approaches had come to somewhat different conclusions.

Also in 1990, the Irrigation Management Policy Support Activity (IMPSA) was launched. IMPSA is expected to assist the Government of Sri Lanka to refine its overall participatory management strategy and recommend strategies for its implementation over the next decade. Itself based on a participatory approach, IMPSA includes a series of consultations with persons involved in irrigated agriculture at all levels, from farmers to secretaries of ministries. IMPSA provides an ideal vehicle for considering the merits of alternative investment possibilities in the irrigation sector and making firm recommendations to the government.

The team which had carried out the study done under the Public Sector Restructuring Project approached IIMI with the suggestion holding a workshop to discuss the merits of alternative irrigation investment strategies, both to publicize the results of the studies and to try to reach a consensus on future directions. In view of its own work in this area, and its close involvement with IMPSA, IIMI readily agreed.

Accordingly, IIMI organized a workshop on 24-25 January 1991, at the Hotel Galadari, Colombo, Sri Lanka, with the active assistance of the IMPSA secretariat and the Public Sector Restructuring Project team. About 50 key people involved in or knowledgeable about the irrigated agricultural sector were invited, and attended the workshop. They represented a wide variety of backgrounds and interests, including various ministries and departments of the government, the private sector, and a few international specialists.

Most of the first day was devoted to presentation of papers by members of the Restructuring Project team, the Director of the IMPSA Secretariat, representatives of private firms involved in irrigated export crops, and IIMI. The last two hours of the day were devoted to small group discussions on key issues and questions emerging from the presentations.

The morning of the second day was devoted to a plenary session in which the results of the small group discussions were presented and discussed in detail. Although as is normal with such large workshops, not all individuals agreed with all the recommendations that emerged, there was a very high degree of consensus on the main points.

The remainder of this section presents the main areas of discussion and consensus that emerged from the discussion. Attached as appendices, are copies of the programme, the list of participants, and the small group discussion questions. The programme indicates the titles and authors of the papers presented. Copies of the papers are available on request from IIMI/SLFO; additional copies are being made of the original report on the irrigation sector under the Restructuring Project and are available at the cost of reproduction.

RECOMMENDATIONS AND ISSUES

A. Priorities for investment in irrigated agriculture

The workshop agreed on the overall investment priorities to be incorporated in the Public Investment Programme (PIP), although no actual numbers in terms of rupees or percentages were suggested. The priorities are as follows (see Figure):

1. First priority should be given to fully funding operation and maintenance (O&M) including institutional strengthening of existing irrigation systems. The allocations should be divided between funds intended for distributaries and field channel work, including institutional strengthening, and funds intended for O&M of headworks and main canals. The funds for headworks and main canal maintenance would remain static in real terms during the remainder of the decade. As the participatory management policy of the government is implemented, farmers' organizations will take increasing responsibility for O&M on distributaries and below, and this allocation will be phased out. It is suggested the government consider implementing a special time-bound project to develop participatory management on irrigation schemes.

2. Second priority should be given to funding research and development (R&D) at a generous constant level in real terms. The R&D programme should include pilot projects to test and adapt new approaches to crop diversification and irrigation modernization. It will be important to expand national R&D capacity both by expanding existing departments and institutions and contracting out some work. Further work is required to establish the quantum of resources for R&D, but it should be substantial enough to produce real outputs, at a sustainable level. Good research and development work is expensive and long-term, but the benefits are likely to be enormous.
3. Third priority should be given to completion of on-going projects so that the returns could begin flowing as soon as possible. This investment line would decline rapidly as projects are completed.
4. Fourth priority should be given to maintaining the process of system rehabilitation at about the current level for the remainder of the decade. After the year 2000, this could be reduced as improved maintenance begins lengthening the life of rehabilitated projects from the present roughly 20 years, to about 30 years.
5. The fifth priority should be given to new projects, both for modernization of existing schemes and for development of new areas. These projects would introduce modern technologies enabling a more profitable diversified agriculture. Economic viability and returns should be the basis for choosing among new project choices.

If the total quantum of funds available to the irrigation sector is limited, the above prioritization would allow keeping the fundamentals -- the previous investments -- intact and producing incomes.

In regard to O&M allocations, it was noted that a major problem is created because Mahaweli investments bundle together other things like community development and extension; O&M funds should be separated out and other expenses excluded. Another point made is that an effort be made to prepare specific O&M including institutional strengthening projects, and attract foreign funding as well as local funds.

In regard to R&D, it is suggested that a national research committee be established for allocation of R&D resources for priority research thrusts to the various research institutions.

For both modernization and R&D projects, investment outside the PIP for example by the private sector should be strongly encouraged by the government.

It is important to avoid over-funding, since experience shows the capacity for using funds effectively is limited.

B. Irrigation technologies: physical infrastructure for high value crops

1. The small group reporting on this issue stated that the present irrigation infrastructures "below the command" can support various cropping patterns, including rice-rice, rice-other crops, other crops in both seasons, and perennial crops. But some improvements may be required, for example additional cross regulators, control outlets, balancing reservoirs, measuring structures, and additional surface drainage. The scale of the required improvements would be greater in older systems than in Mahaweli and post-Mahaweli systems. Conjunctive use could be encouraged for increased flexibility, using electric or fuel-driven pumps.
2. Most participants, particularly those involved in the Public Sector Restructuring Project, did not agree with the view that present irrigation infrastructures are adequate for high value diversified crops. An important point, however, on which most participants did agree is the importance of additional research to test alternative designs, technologies, and operational procedures at system and on-farm levels, as well as research on alternative crops, market research, interdisciplinary management-oriented research, and research on environmental impacts. Pilot testing of alternatives is urgently required.
3. A specific idea that generated considerable discussion was the proposal that on selected systems, the idea of operating irrigation systems on a 12-month basis, rather than the standard two-season basis, be tried. The idea is not that all canals would operate for a full 12 months; but that a flexible supply of water be available on demand to support annual crops and to allow cultivation of crops at times when there is a "window of opportunity" in markets. In some areas shallow ground water could be an alternative source of water "off season." The third small group also endorsed this idea (see C, below).
4. The participants generally supported testing the idea of encouraging irrigation "above the command" through pumping from canals and pumping groundwater where available for semi-perennial and perennial high value crops. Irrigation micro-technologies are available for this, but required further pilot testing. Some rules would be required regarding the rights and limitations to these rights to pump irrigation canal water.

5. Participants agreed with the small group that supporting services below the irrigation command need to be improved. These include provision of an efficient input supply service, improved credit, transportation, marketing and insurance, post-harvest technology, encouragement of agro-industries through the private sector, and improved extension and technology transfer. A specific service that would be useful to farmers is a soil classification and testing service. As farmer organizations develop, it will be important to use these as a mechanism for transferring the technology and knowledge required for modernizing agriculture.
6. The small group suggested establishing a commission on agricultural prices for producers, to carry out market research, and also to protect local crop prices. There was not a lot of enthusiasm for this idea, although the problem was recognized. Support for small-scale agro-industries, and more generally for increased private sector involvement was widespread though not unanimous at the workshop.
7. The participants agreed that it is very important to establish some mechanism for overall co-ordination of agricultural planning and production, and food imports. At present there is no adequate information service to allow importers to estimate import requirements to avert serious shortages. Similarly there is no good information service to allow producers to estimate what the demand will be for particular crops some months ahead. There is also a strong need for continuous export crop market intelligence.

C. Crop diversification and rice policy for the future

1. The participants recommended continuing the existing policy of encouraging a high level of self-sufficiency in rice but recognizing the country is facing a plateau in rice yields for the foreseeable future.
2. The participants recommended a policy of agricultural diversification, not simply crop diversification. This should include encouraging other field crops for the local market, high value crops for both import substitution and export, and value-added activities like agro-industries in the rural sector. It was noted that in order for diversification of irrigated agriculture to be successful in the long term, flexibility must be built into the irrigation systems. Farmers must be able to obtain different quantities of water for different periods of time as and when needed, to meet peak market demands. This involves "breaking the monsoon cycle."

3. The participants proposed encouraging an active role for the private sector in diversification into high value crops, including applied research, agro-processing, and marketing. The term "private sector" includes small farmers and farmers' organizations, as well as private firms. The participants also proposed a continuing important role of the government in diversification, including research development and extension.
4. The small group had also recommended including a research and development line item in the PIP, as recommended by group one (see above). During the discussion a number of participants highlighted the weaknesses in present research institutions and the absence of research planning. Participants agreed that it is important to develop a long term research programme, with priority areas identified; and that it is important to focus resources on strengthening and improving the research capabilities of public research departments and organizations. Providing too much money too quickly, i.e., that is beyond the absorptive capacity of research institutions, also must be avoided.

D. Other points emerging in plenary discussion and final wrap-up

1. During the final plenary session participants were requested to point out those recommendations proposed by the small groups with which they particularly disagreed; if no disagreement were expressed, it would be presumed that they generally agreed. In response, while no one questioned the points that came out of the small group presentations and discussions, a number of issues were highlighted. Those which seem particularly important, and on which there seemed to be considerable agreement, are presented here.
2. Several participants emphasized the importance of doing a lot more thinking and research on the roles of the private and public sectors in agricultural diversification and modernization. For example, there has been insufficient attention to developing and using food processing technologies to add value to agricultural production. This is an important area in which the private sector should be encouraged. It was noted that the government needs to have a clear policy giving a long term assurance and a free hand to encourage private investments. If the vision of a modernized diversified profitable agricultural sector is to be achieved, provision will be required to encourage appropriate private investment.
3. It was noted that there is currently a shortage of good new irrigation investment projects in the PIP pipeline. While some participants emphasized the importance of continuing investments in expanding irrigated area to meet future rice requirements, most participants agreed the decisions about future investments should be based on the likelihood of achieving solid economic returns.

4. But in order to identify viable new projects for future investment, a large effort in research and development in irrigation technologies and potential new crops is urgently required. The importance of research and development, and the need for a research planning and coordination mechanism were highlighted many times during the workshop, and emerged as a unifying theme.
5. Although IMPSA is developing a vision of irrigated agriculture in the year 2000 and beyond to guide policies and strategies, the Ministry of Agriculture needs to initiate a similar planning process for the agricultural sector as a whole.
6. There was a lively debate on whether current system designs, as found in newer gravity systems like Mahaweli, are sufficiently flexible to future diversified cropping patterns. Some argued they are sufficiently flexible, noting current successes in growing a wide range of crops. However, others argued that if in future farmers are going to be encouraged and enabled to go beyond the alternation of rice and a limited number of traditional other crops, the present technologies will not be adequate. In order to enable farmers to cultivate perennial high value crops, or to shift into a rotation among a variety of high value crops targeted at local and foreign market opportunities, then the current systems are definitely not sufficiently flexible to deliver varying quantities of water on varying schedules. This discussion reinforced the need for applied research and pilot testing of irrigation technologies to support high value crops.
7. In the past, the "irrigable" area of a scheme has been taken as the area under the canal command, i.e., where water can reach through gravity flow. But it is now clear that other land officially above the command can be very productively irrigated through the use of pumps, especially for high value crops, and this area should be considered as "irrigable" as well. Thus the concept of "irrigable land" needs to be redefined.
8. This is the first such national workshop at which operation and maintenance (O&M) was given priority over other investments. Research and development was given second priority; and the importance of institutional strengthening, which also requires a commitment of resources by the government, was also emphasized. If the necessary institutional transformations are to occur, the government must explicitly set goals, develop plans, allocate resources, and if necessary, seek additional resources from donors.

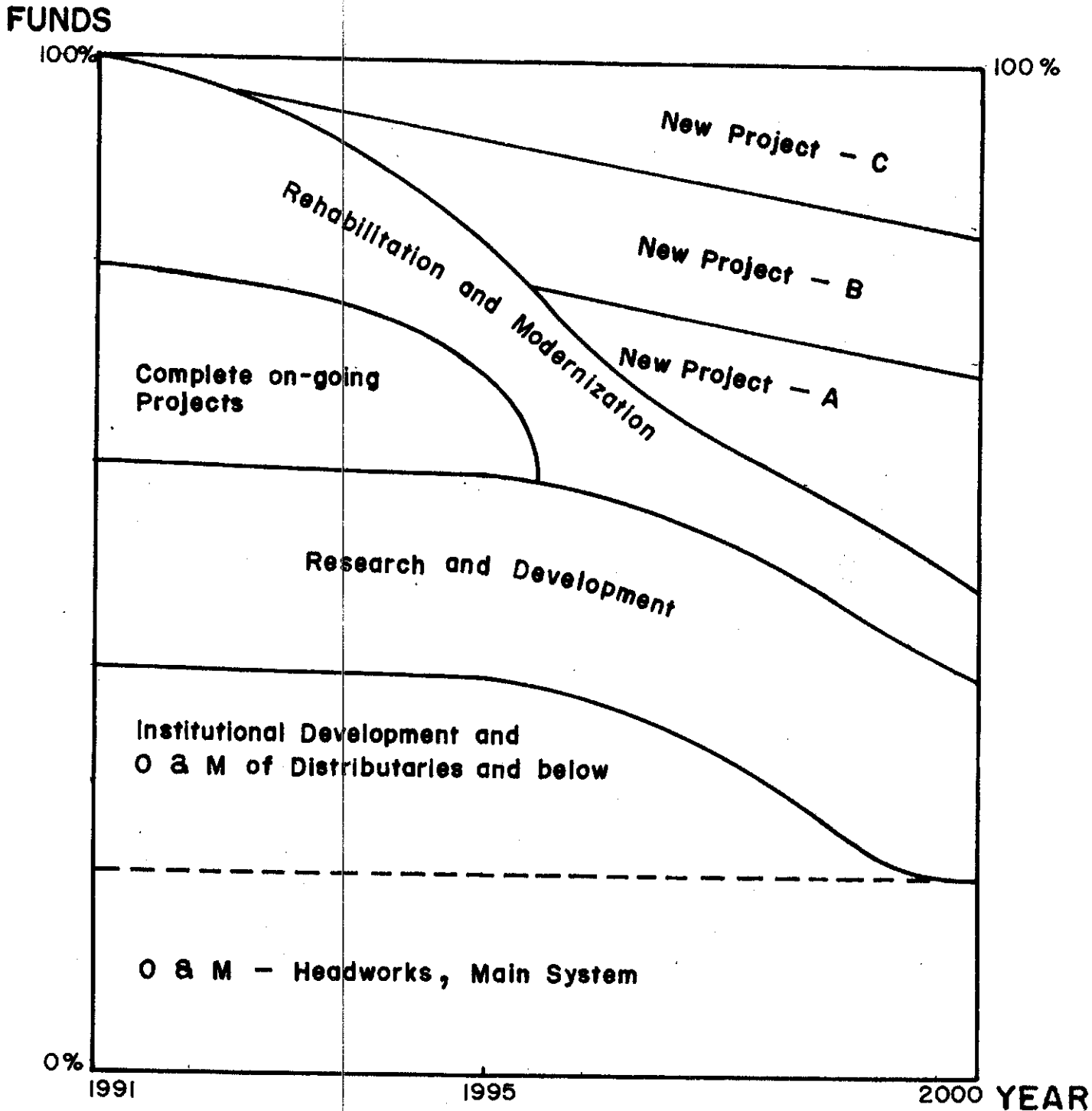


FIGURE - PROPOSED INVESTMENT PRIORITIES FOR IRRIGATED AGRICULTURE SECTOR

NOTE - THIS FIGURE IS NOTIONAL ONLY. THERE IS NO SCALE IMPLIED.

**WORKSHOP ON FUTURE DIRECTIONS FOR IRRIGATION
INVESTMENT IN SRI LANKA**

PROGRAMME

**24-25 January, 1991
Ball Room, Hotel Galadari Meridien Colombo**

Thursday 24 January

0800-0830 - Registration

0830-0845 - Introduction to the workshop by Dr Doug Merrey

Opening remarks by Mr Nanda Abeywickrema

SESSION ONE - Chairman Mr Nanda Abeywickrema

0845-0915 - "The irrigation sector in the year 2000 and beyond: IMPSA's view, " by Mr N G R de Silva

0915-1000 - "Diversification into high value crops under irrigation," by Dr R T Shand, Dr U Pethiyagoda and Dr A Ekanayake

"High value crops under irrigation: experience with gherkins," by Mr Michael Mack

1000-1030 - Discussion

1030-1100 - Tea Break

SESSION TWO - Chairman Mr L U Weerakoon

- 1100-1145 - "Irrigation for the future: increasing flexibility and reliability of irrigation systems to meet the needs of diversified agriculture," by Mr K N Wickremaratne
- "On demand irrigation: experience with micro-irrigation," by Mr Ranjith Perera/Dr Kapila Gunasekera
- 1145-1215 - Discussion
- 1215-1330 - Lunch

SESSION THREE - Chairman Mr W R B Rajakaruna

- 1330-1400 - "Options for irrigation investment; recommendations for the future," by Dr A Ekanayake, Mr Somasunderam, Mr Weerasekera, and Dr R T Shand
- 1400-1430- Discussion
- 1430-1500- Tea break

SESSION FOUR - Chairman Mr Jayantha Jayawardena

- 1500-1530 - "Irrigation investment trends in Sri Lanka: Implications for policy and research in irrigation management," SLFO, IIMI
- ("Policy and research issues in irrigation management for crop diversification: with special reference in Sri Lanka" by Dr M Kikuchi; paper only)
- 1530-1600 - Discussion
- 1600-1630 - Briefing for small group discussions by Dr D Merrey
- 1630-1830 - Small group discussions (tea will be served midway)
- 1900 - Reception

SESSION FIVE - Chairman Dr N RanaweeraFriday 25, January

- 0830-0915 - Presentation of Group One Report and Discussion
0915-1000 - Presentation of Group Two Report and Discussion
1000-1030 - *Tea Break*
1030-1115 - Presentation of Group Three Report and Discussion
1115-1200 - Plenary Discussion
1200-1230 - Workshop closure - Wrap-up and evaluation by Mr N G R de Silva
1230 - *Lunch*

Small groups :1)Irrigation investment policy for future
2)Irrigation technology for future
3)Crop diversification and rice policy for future

LIST OF PARTICIPANTS WHO ATTENDED THE WORKSHOP

Prof Shand's Team

- | | |
|-------------------------|---|
| 1. Rick Shand | 85, Horton Place, Colombo 7 |
| 2. S. Somasundaram | Deputy Director, Ministry of Finance & Implementation |
| 3. Y.M.Y.B. Weerasekera | Deputy Director, Department of Banking Development,
Central Bank |
| 4. U. Pethiyagoda | Employment and Investment & Enterprises
Development (EIED) |
| 5. Anura Ekanayake | Director of Planning, Ministry of Plantation Industries |
| 6. Nimal Wickremaratne | Assistant Director, MECA |

Institute of Fundamental Studies

- | | |
|----------------------|----------------------|
| 7. Sarath Divisekera | Research Fellow, IFS |
| 8. R. Weerasooriya | |

IMPSA

- | | |
|-------------------------|-------------------------------|
| 9. N.G.R. de Silva | Director, IMPSA |
| 10. Nihal Fernando | Irrigation Engineer, IMPSA |
| 11. A. Widhanapathirana | Agricultural Economist, IMPSA |
| 12. Paul Rajasekera | Training Specialist |

Ministry of Lands, Irrigation and Mahaweli Development

- | | |
|-----------------------|---|
| 13. A.A. Wijetunge | Secretary, Ministry of Lands, Irrigation & Mahaweli Development |
| 14. L.U. Weerakoon | State Secretary, MLI&MD |
| 15. W. Tennakoon | State Secretary (Mahaweli Development), MLI&MD |
| 16. K. Speldewinde | Director, Planning, MLI&MD |
| 17. Ananda Gunasekera | Acting Director, Water Resources MLI&MD |
| 18. Ariya Abeysinghe | Director, Agricultural Planning, MLI&MD |

Irrigation Department

- | | |
|----------------------|------------------------------------|
| 19. K. Yoganathan | Director, ID |
| 20. E.P. Wimalabandu | Senior DD (Major Construction), ID |
| 21. L.T. Wijesuriya | Senior Deputy Director (R&T), ID |

Irrigation Management Division

- | | |
|---------------------|---------------|
| 22. D.M. Ariyaratne | Director, IMD |
|---------------------|---------------|

Mahaweli Authority of Sri Lanka

- | | |
|-----------------------|--|
| 23. K.H.S. Gunatilake | Director General, MASL |
| 24. P.T. Senarath | Secretary General, MASL |
| 25. R. Wanigaratne | Head, Planning & Monitoring Unit, MASL |

Mahaweli Economic Agency

26. H.A. Wickremaratne Chief Engineer, MEA

Ministry of Agricultural Development and Research

27. W.R.B. Rajakaruna State Secretary, MAD&R

ARTI

28. G.D.P. Seneviratne Director, ARTI

29. W.G. Somaratne Head, Water Management Division

Department of Agriculture

30. N. Ranaweera Deputy Director, Economics, AD

31. S. Somasiri Head, Land and Water Use Division, AD

32. S. Wirasinghe Deputy Director, AD

University of Peradeniya

33. H.M.G. Hearth Chairman, Dept Agri Economics

34. K. Gunasekera Chairman, Dept Agri Engineering

Private Sector

37. Jayantha Jayawardena Deputy Chief of Party, MED/USAID Project
38. Max Goldensohn Chief of Party, MARD/MDS Project
39. Chris de Seram 31, Polhengoda Terrace, Colombo 5
40. I. Phillips Investor Services Manager, MASL/EIED
41. N.A. de Mel
42. Michael Mack Director, Aitken Spence Shipping Ltd
43. Y. Sano Chief of Party, Nippon Koei, ME/CA
44. Wimal Gunawardena Chairman, Teams Pvt Ltd

Donors

35. G.E. Anders Chief, Food and Agricultural Division, USAID
36. S. Murakami First Secretary, Embassy of Japan

International Irrigation Management Institute

45. N. Abeywickrema Director Field Operations, IIMI
46. D. Merrey Head, Sri Lanka Field Operations, IIMI
47. R. Sakthivadivel Senior Irrigation Specialist, IIMI
48. M. Kikuchi Agricultural Economist, IIMI
49. C.R. Panabokke Senior Associate, IIMI