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Subject: AID Evaluation of the Accelerated Mahaweli Program in Sri Lanka

INTRODUCTION

AID participation in the Accelerated Mahaweli Program (AMP) in Sri Lanka has been substantial. To date, the Sri Lankan Mission portfolio has included a total of seven project activities either directly involved with or supportive of the AMP. Of this total, two projects have recently been completed (Mahaweli Ganga Irrigation and its On-Farm Water Management research component), four are well underway (Mahaweli Basin Development Phases I & II, Mahaweli Sector Support and the supportive Reforestation & Watershed Management) and one, new project (Mahaweli Environment) has recently begun. Although the 1984 Annual Budget Submission for Sri Lanka calls for a future gradual shift of country program emphasis from the AMP to "projects more responsive to the Agency's new priorities", it continues to occupy a prominent position within the country program strategy. It is estimated that during the current FY 1983-1987 CDSS period \$ 96.2 million in AID resources will be spent in support of the AMP.

Such a substantial commitment of Agency resources would indicate the need for an extensive monitoring and evaluation plan to insure that U.S. government funding is being utilized as efficiently as possible. In this interest, each of the projects listed above has built-in evaluation plans sufficient to satisfy any AID requirements in this area. However, it is also suggested that such a series of small-scale, project-specific assessments will not prove capable of providing a truly comprehensive picture of AID's role to date in the overall AMP. For this reason and in view of the Agency's present "mid-stream" position in the implementation of AID-funded components of the program, the Mission has requested that an internal evaluation be conducted during the current fiscal year to assess AID's role to date in the AMP in Sri Lanka and provide recommendations for improving project and/or program efficiency in the future. It is believed that such information would prove invaluable considering the current mid-stream position of program implementation. The following sections provide brief descriptions of the overall AMP in Sri Lanka, AID's role to date in the program and a suggested "scope of work" for the subject evaluation.

BACKGROUND INFORMATION

1. The Accelerated Mahaweli Program

The initial reconnaissance level plan for developing the resources of Sri Lanka's major river, the Mahaweli Ganga, was funded by AID's predecessor, USOM, during the period 1958-1961. Following up on this plan, between 1965 and 1968 UNDP/FAO in conjunction with the C&I Irrigation Department developed a Master Plan for the utilization of the Mahaweli Ganga and its tributaries to irrigate major areas of Sri Lanka's dry zone and provide hydroelectric power. The plan envisaged a 30 year program to construct fifteen reservoirs, eleven of which were to include power stations, and to develop 900,000 acres of land 246,000 acres of which were already partially irrigated and 654,000 acres of which were new land.

Work on the first phase of the program began in 1970. Under this phase a diversion dam was constructed on the Mahaweli at Polgolla and a reservoir was constructed at Bowatenna which along with two tunnels, diverted a portion of the river towards the north, augmenting irrigation on 132,000 acres of existing agricultural lands and enabling 71,000 acres of new land to be settled and brought under cultivation. The Polgolla Diversion, including a 40 MW power station, and Bowatenna reservoir were completed in 1976. A 40MW power station at Bowatenna was completed in 1981. Existing land

began receiving benefits in 1976. Settlement of new lands is now also largely completed (about a year ahead of schedule).

In November 1977, the newly elected Government of Sri Lanka (GSL) announced that its major development effort to address unemployment and food shortage problems and to enhance the livelihood of the rural poor would be the completion of the Mahaweli Ganga program in five years. Following this announcement, the GSL agreed that NEDECO, a Dutch firm, would undertake an implementation strategy study essentially to assess and update the UNDP/FAO master plan. At the same time the GSL sought donor financing to undertake feasibility studies of specific projects within the program and expressions of donor interest in financing the actual projects. In 1978 studies began on the various dams in the program and on the downstream areas to be irrigated and developed.

Since the GSL's announcement of its intention to complete the total Mahaweli program in five years, the GSL has narrowed the scope of the near term effort (1981-1986) to more manageable proportions, primarily due to the significantly increased cost of the program brought about by inflation. Earlier plans to construct the Moragahakande and Rotalawela reservoirs, Kandakadu Weir and to develop System A and D and the right bank of System B (totalling about 72,000 hectares of new land) have been deferred. The Accelerated Mahaweli Program now focuses on the construction of Kotmale, Victoria, Randenigala and Madura Oya dams, the construction of downstream works including the Minipe Weir and Right Bank canal, Ulhitiya and Ratkinda reservoirs, the Right Bank Transbasin canal, and the development of land areas C and the left bank of B, which total 45,000 hectares of new land and 8,400 hectares of existing land to be brought under irrigated cultivation. Approximately 250,000 settlers will be voluntarily settled in the area on small farms. The estimated cost of the AMP is about \$1.8 billion for which donor contributions totalling \$1 billion are expected from the U.S., Canada, U.K., FRG, Sweden, Japan, ADB, IBRD, EEC and others. The GSL will finance the remaining program costs. The program is expected to be completed in 1987. The attached table lists those countries and organizations interested in assisting Sri Lanka in implementing the AMP as of May, 1980 ("Sri Lanka Mahaweli Ganga Development Program, Status Statement III; GSL/IBRD; May 20, 1980"), and the status of current and proposed program activities. When completed, this program will: (1) more than double the country's total electric generating capacity (now 423 MW, then 1008 MW) meeting power requirements into the 1990's, (2) increase food production by 224,000 tons annually, (3) provide sufficient storage to irrigate an additional 121,000 hectares of land at a later stage, and (4) create significant employment through construction work, farming activities on the new and existing land and non-farm activities in the new areas, and secondary job creation in related sectors of the economy.

2. AID Participation in the Accelerated Mahaweli Program

The USAID program in Sri Lanka places a heavy emphasis on increasing food production through a wide range of institution building projects such as agricultural education, research, water management and paddy marketing. Several years ago, the Agency decided that participation in the AMP would be our largest development assistance activity in Sri Lanka, primarily because of its lead position within the GSL development program, the multi-donor nature of the program and its close agreement with AID's legislative mandate of providing employment and land to landless farmers and opportunities for increased food production.

Led by the World Bank in 1977, AID joined with other donors in the development of a smaller irrigation system and associated on-farm water management practices in System H of the AMP area. This work is currently being completed and should provide many useful lessons for the development of subsequent portions of the program. In 1978, President Jayawardene requested AID to finance an overall environmental assessment of the

AMP. This work has since been completed by the U.S. consulting firm of TAMS (Tibbets-Abbot-McCarthy and Stratton) and is generally accepted as one of the best such studies to date. It forms the basis for the newly started "Mahaweli Environment" project. In 1979, following the completion of feasibility studies by the Canadian firm of ACRES and the U.S. firm of CH2M Hill, AID approved a \$10 million loan for the design and construction supervision of the irrigation infrastructure in System B of the AMP area. Design portions of this work are currently being completed by an association of the U.S. firms of Louis Berger International and the International Engineering Company. In addition, major construction activities associated with Phase II of the project are now well underway through a joint venture of U.S. (Zachry/Dillingham) and Sri Lankan construction companies. When completed, System B will comprise the largest sub-system within the AMP and, as such, is critical for the achievement of the program's stated food production and employment generation objectives. More recent AID activities related to the Sri Lankan AMP include the resource transfer "Mahaweli Sector Support" project, the "Mahaweli Environment" project (mentioned above) and the natural resource-oriented "Reforestation & Watershed Management" project. Brief descriptions of these and other AMP-supportive projects are presented in the following section.

A. AID Major AMP-Related Projects

1. Mahaweli Ganga Irrigation (383-0042): The objective of the project is to develop a total area of 106,000 acres of land in northwest central Sri Lanka for irrigated agricultural production on small farms. The primary focus of the project has been to fully develop 40,300 acres and settle 15,300 families on this land. Under this project, less extensive services are to be provided to the remaining acreage where much work had already been done before this project began. AID is one of six donors to the project who together finance about \$44 million of project costs. AID's contribution is being used to finance heavy construction equipment (\$4 million) and to reimburse the GSL for a small portion of the cost of civil works construction (\$1.2 million). Small amounts of technical assistance were financed by the World Bank. Construction is done by local contractors. The Bank coordinates donor supervision of the project.
2. On-Farm Water Management (383-0048): The project purpose is to develop improved water management methodologies for application in existing or proposed irrigation schemes. Primary emphasis is on land preparation techniques, farm and field layout, field channel design, water delivery procedures and cropping systems which will result in increased production per unit of water. The project is being carried out on an experimental farm in the north-central (Mahaweli H-Block) area of Sri Lanka. Test findings are being directly applied to adjacent farms. USAID is providing \$800,000 in grant funds for technical assistance, commodities and training costs, while the GSL is providing \$272,000 in local cost support activities. Chemonics was the primary contractor from June 21, 1978 to January 31, 1981. A personal services contract was implemented with Dr. Art Corey for the period May 30, 1981 to September 30, 1982.
3. Mahaweli Basin Development Phase I (383-0056): The objectives of this project are to design the approximately 229 kilometers of main and

branch irrigation canals in System B of the AMP; supervise their construction; provide technical assistance for System B development and to mitigate possible negative project impacts on the environment. AID is providing a loan for \$10 million and the GSL is providing \$4.2 million in local support costs. The primary inputs are design and construction supervision by the association of the U.S. firms of Louis Berger Int'l and Int'l Engineering Company.

4. Mahaweli Basin Development Phase II(383-0073): The objective of the project is to develop, for irrigated agriculture on small-owner operated farms, 34,000 hectares of land in System B of the AMP. To attain this objective, AID's funds(\$85 million) will finance construction of the main and branch canals of the irrigation system and the GSL(with the possible assistance of another donor) will finance costs for the remaining project works and social infrastructure, including voluntary settlement of 26,500 new pioneer farm families. This work is currently underway via a joint venture of two U.S. firms(Zachry/Dillingham) and a Sri Lankan construction firm.
5. Mahaweli Sector Support(383-0078): The loan(\$18.8 million currently obligated of \$50 million authorized) is to assist the GSL to maintain an adequate level of local currency investment in the AMP by providing a non-inflationary source of rupees for planned activities that otherwise might have to be deferred or eliminated. The rupees may be allocated to activities in the following categories(in order of priority):
 - a. Downstream activities being implemented without expatriate technical assistance(land clearing, on-farm development, social infrastructure, farm-to-market roads, etc.).
 - b. Downstream activities being implemented with expatriate assistance.
 - c. Headworks construction for which expatriate assistance for design and supervision has been arranged under donor financing.

Since the AID loan will reimburse the GSL for expenditures as agreed upon annually, AID assistance is not financing inputs and outputs in the conventional manner. No contractors are directly financed by the AID loan.

6. Mahaweli Environment(383-0075): The project consists of the expansion and development of two existing wildlife reserves(Wasgomuwa and Somawathiya) and the establishment of three new reserves(Maduru Oya, Flood Plain and Hurullu) in and around the AMP area, the expansion and development of GSL Wildlife Department to properly manage and control these reserves and the development and implementation of national natural resources management guidelines. The \$5 million grant will finance technical assistance, equipment and training for monitoring changes in the adjacent wildlands; designing adequate settler sanitation systems; and planning, developing and administering a national system of wildlife preserves to prevent wildlife-caused crop damages, conserve high quality wildlands habitat and insure the successful coexistence of wildlife and human inhabitants of agricultural development areas.

B. AMP Support Projects

1. Reforestation & Watershed Management(383-0055): The project will conserve and stabilize watershed areas in the highland regions and enhance the natural renewable energy and commercial resource base of Sri Lanka. This will be accomplished through expansion of forestry training at all levels, the strengthening of existing forestry research and development programs and the establishment of a National Forestry Extension Service. The project will also reforest 15,000 acres of denuded Mahaweli Watershed Area, develop and maintain 35,000 acres of fuelwood plantations and establish village-operated fuelwood and charcoal production activities. USAID supports this project with a \$950,000 grant for technical assistance and a \$3,400,000 loan to cover the cost of training (\$1.35 million), commodities(\$1.9 million) and construction of classroom facilities at the Forest College(\$150,000). The GSL is providing \$10.3 million in local cost financing for the project.
2. Other AID Support Activities: Additional AID activities which although not directly related to ongoing AMP implementation activities offer great opportunity for positively affecting the program through either knowledge transfer or support mechanisms. Included in this category of projects are: the ongoing "Agricultural Base Mapping(383-0045)" , "Development Services & Training (383-0044;383-0085)"and "Water Management (383-0057)" projects and the proposed "Irrigation Sector Support(383-0080)" and "Mahaweli Downstream Development(383-0086)" projects.

STATEMENT OF WORK

1. Purpose of the Evaluation

The purpose of the proposed evaluation is to assess AID's role to date in assisting the AMP of the GSL meet its goals of increased agricultural production and rural employment in a timely and efficient manner. Results of the evaluation will be used to determine appropriate modifications and/or revisions of ongoing projects to improve implementation efficiency and effectiveness and to provide valuable insight in the design and development of future proposed activities in this area.

2. Evaluation Terms of Reference

The evaluation of a program of the magnitude of the Sri Lanka AMP must be carefully focussed to provide useful and meaningful results. This requires a recognition of the relative importance of the various factors affecting the program with regards to the stated purpose of the evaluation. In the interest of meeting this requirement, the following suggestions are offered as guidelines for the subject evaluation "scope of work".

First, it is most important to remember that the subject evaluation is intended to assess AID's role in the AMP in Sri Lanka. With over twelve other donors involved in the program, it is neither realistic nor feasible to expect to ascertain the affects of each on the program in any single evaluative effort. It is therefore suggested that team members focus on other donors' programs only insofar as they might impinge on AID project implementation and/or design activities in the area.

Next, while it is always desirable to keep abreast of latest project developments and results it must be recognized that this is not the intended function of the subject evaluation. Such information is already available through built-in, periodic project monitoring and reporting requirements. It is therefore recommended that team members focus not on "short-term" project events but rather on the "long-term" implications of these events for both ongoing project activities and future project development. It is suggested that in this manner results obtained will prove most useful in the efficient allocation of limited Agency resources.

Third, it is suggested that team members adopt a macroperspective for the subject evaluation. Although AID's contribution to the program consists of several discrete and localized project activities, this assessment is not intended to list the relative merits and liabilities of each of these projects. Its purpose is aimed rather at obtaining an integrated and holistic picture of AID's role to date in the Sri Lankan AMP and the implications of these findings for GSL national development policy objectives and future AID assistance in this area. It is anticipated that individual project evaluation results will be used in achieving the evaluation objectives, but these alone should not be considered the desired evaluation results.

Finally, it is suggested that all findings of the evaluation be oriented towards constructive recommendations for future AMP-related development activities. It is always both interesting and useful to note "lessons learned" from a particular project. However, this information is currently available through a variety of existing mechanisms and should not be duplicated here. Constructive recommendations for the future, however, are invaluable in the present context in view of the current "mid-stream" position of AID activities in this area and the substantial commitment of Agency resources to the overall AMP in Sri Lanka.

The following terms of reference include both evaluation questions and a listing of pertinent subjects to be addressed in the evaluation. Each of the questions should be considered according to their relative impacts on the technical, financial, social, economic and other aspects of each of the subject areas to the greatest extent possible. It is always useful to remember that meaningful information is of far greater utility than simply a complete reiteration of facts. The questions comprise the basis of the evaluation and the subject areas the means for addressing these questions within the AMP context. In this manner, it is hoped that the evaluation can be properly focussed to insure a maximum efficacy of results.

A. Evaluation Questions

1. Have USAID, GSL, private contractors and others managed AMP-related projects effectively?
2. Have AID project activities been adequately coordinated with GSL, other donor, private contractor and beneficiary interests?
3. Has the quantity of project results obtained to date proven cost effective for USAID, GSL, private contractor and beneficiary interests? Are original project targets realistic or should they be modified?
4. Has the quality of project results obtained to date proven sufficient

to meet USAID, GSL, other donor, private contractor and beneficiary standards?

5. How have GSL, other donor, private contractor and local institutional program obligations affected AID-funded, AMP-related project activities?
6. Have USAID, GSL, other donor, private contractor and beneficiary demonstrated levels of commitment to the program proven adequate to meet program objectives? What are the implications of these findings for future GSL policy, other donor programs, private contractor implementation and system operation and maintenance considerations?
7. How has AID's role in the program affected overall AMP implementation to date? Has it been as effective as possible relative to the levels of resource commitment?
8. What are the team's recommendations for improvement for the efficient and effective implementation of ongoing and future AID-funded portions of the program?

others?

B. Evaluation Subject Areas

1. Irrigation Infrastructure

- a. Major structures: dams; tanks or reservoirs; weirs; canals; tunnels; hydropower facilities.
- b. Minor structures: distributary, field and drainage channels; water control and measuring devices; bank and canal stabilization procedures; water conveyance systems; pumps; land preparation.
- c. Construction support: labor; operation & maintenance; equipment procurement; other commodity procurement, handling and storage; contracting procedures; planning and design.

2. Human Settlement Infrastructure

- a. Major structures: building units(stores, housing, cooperatives, schools, health and storage facilities); sewage and sanitation systems; potable water systems; electrical systems; roads.
- b. Minor structures: latrines; wells; roads; educational & health materials.

- c. Construction support:(same as above).
3. Institutional Development
- a. Capacity: human resources; financial resources; technical expertise; facilities; equipment.
 - b. Management: organization; policy; commitment; financial; coordination; scheduling of activities.
 - c. Project support: design and implementation; operation & maintenance; training & development; contracting & commodity procurement; monitoring & evaluation; reporting.
4. Water Management
- a. Physical aspects: land preparation; water control and measuring devices; quantity of water; farm size; soils; water supply, conveyance and delivery systems; equipment and/or other power sources; hydrology; research & monitoring; rehabilitation; operation, maintenance and repair.
 - b. Social aspects: cooperatives, associations and other water user groups; water fees and/or charges; taxation; distribution; training and demonstration; extension; community organization.
5. Agricultural Production
- a. Cropping systems: types & quantities; soils; water supply; land characteristics; water management & distribution; fertilizer, pesticides and other commodities; method of cultivation; equipment and other power sources; disease & pests; post-harvest storage & handling; climate; farm size; land distribution & security.
 - b. Livestock production: species; genetic stock; method of breeding; pest & diseases; products storage & processing; feedstock; land quality & distribution; farm size; accessory equipment; land security.
 - c. Research: crop diversification; integrated farming systems; genetics; land preparation & use; extension; institutional support; water management & hydrology; food processing & storage; other.
 - d. Extension: cooperative development; education; commodity procurement; systems analysis; demonstration; curriculum development; training; credit & financial; institutional support & development.
 - e. Other factors: markets; transportation network; demand; government policy; subsidies; macroeconomics(world situation).
6. Human Settlement
- a. Physical aspects: infrastructural support(see above); number of people; land use planning & management; timing & scheduling of events; location; logistics.
 - b. Social aspects: land security(tenure & titling); taxation; distribution; caste; orientation; community development; health; education; institutional support; employment opportunity; regulation & enforcement.
7. Employment Generation
- a. Private enterprise: laborers; farmers; entrepreneurs; number of people;

- small-scale industry; credit & finance; taxation; subsidies; training; design & construction.
 - b. Public institutions: training; number of people; (see "Institutional Support" above).
 - c. Policy framework: institutional support; subsidies; taxation; etc..
8. Energy, Environment & Natural Resource Considerations
- a. Watershed management: soils; sedimentation; land use planning; afforestation; reforestation; stabilization & erosion control; topography; climate; species; forestry; energy systems; monitoring & control; resource conservation; water quantity & quality; pesticides & fertilizers; health sanitation.
 - b. Wildlife management: species; habitat displacement; park & preserve development; translocation; land use planning & management; fisheries; recreation; regulation & enforcement; education; institutional support;
 - c. Policy framework

- additional suggestions?

3. Evaluation Team Requirements: Qualifications & Experience

Due to the unusually wide scope of the evaluation, it is suggested that all team members possess senior level experience within each of their respective fields of expertise. The five member evaluation team will consist of one each: AID Development Specialist/Team Leader, Agronomist, Agricultural Economist, Agricultural/Civil Engineer and Rural Development Specialist. It is further suggested that all team members possess at least some prior South Asian experience for the subject assignment. The more detailed, individual qualifications and experience criteria follow:

- A. AID Development Specialist/Team Leader: A senior level development specialist, preferably with experience in one of the areas listed above, thoroughly familiar with AID contracting and commodity procurement procedures, project development and implementation procedures and supportive documentation. This person will act as team leader in guiding team activities towards an integrated and coordinated product. It is highly desirable that this team member possess some degree of familiarity with the Sri Lanka AMP and the country itself.
- B. Agronomist: A senior level agronomist familiar with current South Asian crop varieties, cropping systems and cultivation practices in large-scale, irrigated, agricultural schemes. This team member should also possess a knowledge of current developments in South Asian agricultural research problems, especially those pertaining to intensive, HYV, irrigated cropping systems. Some knowledge of soil and water management implications in semi-

Team Leader

arid agricultural systems is also preferable for this position. Although familiarity with the country or the AMP is not considered mandatory for this team position, someone with prior experience in these areas should be considered preferable.

- C. Agricultural Economist: A senior level economist or agricultural economist familiar with macroeconomic principles and practices required for analysis on a national scale. Cost and price forecasting and the resultant assessment of Sri Lanka's current and future position in the international marketplace will be key elements of this portion of the evaluation. This team member should be capable of conducting meaningful, in-depth policy dialogues with senior level GSL officials.
- D. Agricultural/Civil Engineer: A certified, senior level, professional civil and/or agricultural engineer with extensive experience in LDC development activities. This person should be thoroughly familiar with current and proper techniques for the design and construction of both major and minor irrigation systems, hydroelectric facilities and human settlement infrastructure development (i.e., housing, roads, sewage and water systems, etc.). In view of the large amount of information associated with this assignment, it is believed that this team member should possess at least some prior knowledge of the Sri Lankan AMP. AID's existing resource commitment suggests that this should be considered a key team position.
- E. Rural Development Specialist: A senior level social anthropologist or sociologist thoroughly familiar with South Asian cultural practices. Of particular importance, is prior experience with large-scale human resettlement schemes. However, this person will also examine current Sri Lankan customs and practices as they relate to agricultural production, employment generation and natural resource conservation and management program objectives (i.e., caste, community structure, religion, nationality, land distribution and security, socioeconomic relationships, extension, education, type of employment, attitude to government, etc.). Extensive prior Sri Lankan experience is essential for this team position.

4. Methodology, Procedures and References

Most ongoing AMP-related projects have built in a number of data collection and monitoring activities; including internal evaluations, committee meetings and periodic implementation reporting requirements. The evaluation will assess both the quality and relevance of existing data and augment it as required through USAID staff, GSL, other donor and contractor interviews and associated field observations. Where adequate data is not available, the team will identify and list areas which should be considered for monitoring and/or future studies. The team will assess and document relevant evidence, analyze and interpret the information and draw its own conclusions based upon the preponderance of available evidence. It will then synthesize these findings in a final report, answering the above questions and making recommendations pertinent to the purposes of the evaluation. It is suggested that reporting requirements be limited to an informal "trip report" format to afford team participants a maximum amount of "in-country" assessment time. The following list of reference materials form the core of relevant existing evaluation data:

- A. Project Papers(with Annexes) for all pertinent, AMP-related, AID projects in Sri Lanka.
- B. TAMS Environmental Assessment of the AMP(August, 1979).
- C. Nedeco Mahaweli Ganga Development Program Implementation Strategy Study (September, 1978).
- D. Program-Related Feasibility Studies(ACRES Report-March, 1979; CH2M Hill Report-December, 1980).
- E. Relevant Contract Tender Documents(Chemonics, Zachry/Dillingham, etc.).
- F. USAID, GSL, other donor and private contractor weekly, monthly, quarterly and other project monitoring and/or implementation reports.
- G. USAID, GSL and other donor project evaluation reports.
- H. USAID, GSL and other donor project files and personnel.

5. Evaluation Timing and Logistics

It is suggested that the subject evaluation be scheduled as late as possible within the time period allotted for its completion while still affording sufficient time to meet scheduled budgetary requirements. This timing is proposed to allow a maximum amount of time for ongoing construction and settlement activities associated with AID's major System B irrigation project and the completion of other scheduled project assessments prior to the undertaking of the proposed evaluation. The selection of final dates for the evaluation is left to the discretion of USAID, GSL, AID/W and other interested parties. It is further recommended that the evaluation include one weekstime spent in Washington, D.C. familiarizing team members with relevant program documentation and available knowledgable personnel. The ultimate length of the evaluation period will depend upon the amount of funds allocated by the Agency.

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Countries and Organizations Interested in Assisting Sri Lanka
in the Mahaweli Ganga Development Program

<u>Country</u>	<u>Assistance</u>
Canada	Canada has committed Cdn \$76 M (US\$65 M equivalent) in the form of a concessionary loan for the construction of Maduru Oya headworks and Cdn \$7 M (US\$6 M equivalent) as a grant to cover engineering services and construction supervision.
Japan	Consultants' services, financed with grant funds, to carry out the feasibility study of the Moragahakanda Project. The report was submitted to the Government of Sri Lanka in October, 1979.
Netherlands	Grant funds for the Implementation Strategy Study carried out by Netherlands-financed consultants (NEDECO). Report submitted to Government of Sri Lanka in August, 1979. Grant funds also to help finance a Hydrological Crash Program.
Sweden	Implementation of Kotmale Project (dam and power plant) through Swedish Import Support -- about SKr 630 M (US\$170 M equivalent) over the next five years.
United Kingdom	Updating the feasibility study and preparation of designs and tender documents for Victoria Dam and power plant, and preparation of the feasibility study for System C. UK has committed £ 100 M (US\$220 M equivalent) as a grant to help finance the construction of Victoria headworks.
United States	Study of the impact of the Mahaweli Ganga Development Program on the environment. An initial concessionary loan in the amount of US\$10 M to finance the designs, tender documents and construction of the downstream irrigation works for System B, with an additional concessionary loan in the amount of US\$85 M earmarked to help finance the construction of these works.

Organizations

Asian Development
Bank

Technical assistance grant in the amount of US\$98,000 to assist in the planning of roads in the Mahaweli and Maduru Oya Basins, with possible future financing for road construction and other works in the Mahaweli Program.

European Economic
Commission

EEC Special Action Credit funds in the amount of US\$2 M equivalent to finance the review of designs and tender documents for the Right Bank Canal Complex and the preparation of final designs and tender documents for construction of civil works and social infrastructure for part of System C, executed with the World Bank under the Mahaweli Ganga Technical Assistance Project. Possible additional EEC financing for the construction of downstream works in part of System C.

Kuwait Fund

Expression of interest in providing financial assistance for the implementation of the Mahaweli Program.

Saudi Fund

Expression of interest in providing financial assistance for the implementation of the Mahaweli Program.

United Nations
Development
Program

Technical assistance grant, provided under the UNDP-financed Multi-Sector Program of Project Preparation, for financing consultants to work with Government officials in carrying out services related to the planning and preparation of final designs, specifications and tender documents for projects included in the Mahaweli Program. Additional grant funds provided for financing advisors to the Mahaweli Authority.

World Bank

Execution of the above UNDP-financed consultants. IDA Credit in the amount of US\$3.0 M to finance the preparation of a study of plans for conveying and utilizing surplus Mahaweli Ganga water to develop land in three alternative areas in order to select the best plan for a transbasin diversion project, as well as support for other studies and designs in the Mahaweli Program, executed under the Mahaweli Ganga Technical Assistance Project. Possible additional IDA financing for the construction of downstream works in the major part of System C.

* from: Sri Lanka Mahaweli Ganga Development Program, Status Statement III; GSL/IBRD; May 20, 1980.

SRI LANKA

* MAHAWELE GANGA TECHNICAL ASSISTANCE PROJECT Existing and Proposed Irrigation Schemes

- Project boundaries
- Existing canals
- - - Proposed canals
- ▨ Irrigated areas
- ▩ Proposed irrigation areas
- ▧ Existing dams and reservoirs
- ▧ Proposed dams and reservoirs
- ▧ Existing weirs and reservoirs
- ▧ Proposed weirs and reservoirs
- Existing power station
- Proposed power stations
- ⊠ Proposed pumping station
- Rivers
- Roads
- Railways
- A Irrigation service areas
- ▨ Natural reserves and sanctuaries
- NCRB Complex
- System C
- Proposed tunnels
- Area boundaries

