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DRAFT GENERIC SCOPES OF WORK  
FOR INTERIM EVALUATIONS  
OF RESEARCH/EXTENSION PROJECTS AND MAJOR  
SURFACE WATER IRRIGATION PROJECTS



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FOR INTERIM EVALUATIONS  
OF RESEARCH/EXTENSION PROJECTS

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GENERIC SCOPE OF WORK FOR INTERIM EVALUATIONS  
OF RESEARCH/EXTENSION  
PROJECTS

I. BASIC PROJECT DATA SUMMARY

- A. Country
- B. Project Title
- C. Project Number
  - 1. Grant
  - 2. Loan
- D. Project Dates
  - 1. First Project Agreement
  - 2. Final Obligation
  - 3. Project Activity Completion Date (PACD)
- E. Project Funding
  - 1. AID Bilateral Funding (loan or grant)
  - 2. Other Major Donors
  - 3. Host Country Contributions
  - 4. Total Funding (all sources)

F. Implementation of Project

1. Host country institutions

- a. Research institute  
(national, regional, or local;  
public or private)
- b. Extension institute  
(national, regional or local;  
public, private, or  
cooperative)
- c. University  
(national, regional)
- d. Training institute  
(national, regional, local)
- e. Ministry of Agriculture
- f. Parastatals
- g. Other institutions  
(private, etc.)

2. Providers of Technical Assistance

- a. University
- b. Private firm
- c. Individuals
- d. Others  
(e.g., multilateral institutions,  
CGIAR centers, etc.)

3. AID Involvement

- a. Mission Director(s)
- b. Project Officer(s)
- c. Evaluation Officer
- d. Backstop Officer (AID/W)
- e. Other (REDSO, ROCAP, etc.)

G. Summary of Project Design (Logical Framework--  
see Table 1.)

H. Previous Evaluation and Reviews  
(include title, type and date)

Table 1: Generic logical framework: Integrated research/extension project

<u>Narrative Summary</u>	<u>Objectively Verifiable Indicators</u>	<u>Means of Verification</u>	<u>Important Assumptions</u>
<p><u>Goal</u></p> <p>A sustained ___ per cent rate of growth in food production by the end of the decade.</p>	<p><u>Measures of Goal Achievement</u></p> <ol style="list-style-type: none"> <li>1. Average nationwide yields of most major food crops show steady upward trends.</li> <li>2. Food crops marketed through commercial channels show steady upward trends.</li> <li>3. Prices received by farmers cover costs and provide reasonable return on capital.</li> <li>4. Prices paid by consumers of domestically produced food remain stable or decline in real terms.</li> </ol>	<p><u>Means of Verification</u></p> <ol style="list-style-type: none"> <li>1. Yield data collected by government institutions.</li> <li>2. Government marketing statistics.</li> <li>3. Farm budget studies by government institutions.</li> <li>4. Consumer surveys.</li> </ol>	<p><u>Assumptions for Achieving Goal Targets</u></p> <ol style="list-style-type: none"> <li>1. The economy is managed well and fiscal and monetary policy provide incentives to investment, production, growth and a free flow of international trade.</li> <li>2. Important elements of the agricultural and manufacturing sectors are guided by realistic planning targets and the private sector is supported in its investment and production decision-making by stable policies and realistic government-implemented programs for manpower training, provision of services, etc.</li> <li>3. The country is endowed with natural resources which provide a favorable basis for development and growth.</li> <li>4. Social policy supports equitable access to resources, information, services, credit and facilities essential to growth and development.</li> <li>5. World economic conditions permit continuing flow of investment resources and export trade on favorable terms.</li> <li>6. World and internal economic conditions will permit allocation of sufficient domestic resources to agricultural sector to support growth.</li> <li>7. Climatic conditions will remain favorable.</li> </ol>



Table 1 : Generic logical framework: Integrated research/extension project (continued)

<u>Narrative Summary</u>	<u>Objectively Verifiable Indicators</u>	<u>Means of Verification</u>	<u>Important Assumptions</u>
<p><u>Purpose</u></p> <p>Economically and ecologically viable improved food production systems and technologies, capable of meeting subsistence needs and providing surplus food for off-farm sale, in use by ___ per cent of project area's farm households.</p>	<p><u>Conditions that will indicate purpose has been achieved: End of project status.</u></p> <ol style="list-style-type: none"> <li>1. Rising production and yield trends giving a surplus of food over subsistence standards at least equal to ___ per cent of the value of total food production.</li> <li>2. Project area's farm households fully using available natural and human resources.</li> <li>3. Soil and water resource base soundly used to support sustainable surplus food yields.</li> </ol>	<p><u>Means of Verification</u></p> <ol style="list-style-type: none"> <li>1a. Yield and off-take data from farm surveys by research program</li> <li>1b. Total weight of major crops and products for project area from government statistics.</li> <li>1c. Total value of crops and products produced and/or sold from government statistics.</li> <li>2. Labor and migration surveys show stability of labor force.</li> <li>3. Soil fertility, water table, and water run-off measurements by research program.</li> </ol>	<p><u>Assumptions for achieving purpose</u></p> <ol style="list-style-type: none"> <li>1. National leadership strongly dedicated to maximum growth of food output as means to accelerate development, improve nutritional status of nation and increase rural incomes and employment.</li> <li>2. Financial organizations and private enterprise will respond favorably to incentives and encouragement from public authorities and provide needed goods and services in the project area.</li> </ol>
<p><u>Sub-purpose</u></p> <p>An integrated research/extension system capable of evolving and disseminating improved production systems and technologies suited to existing small farm conditions and particular ecological zones.</p>	<p><u>Conditions that will indicate sub-purpose has been achieved: End of project status</u></p> <ol style="list-style-type: none"> <li>1. Extension system effectively communicating new ideas to farmers and reflecting their problems to researchers.</li> <li>2. Research programs concentrate on farming systems issues which are closely related to real world needs and constraints of small farmer food producers.</li> <li>3. Extension programs move new varieties and systems to farmers through process of test and demonstration on or near farmers' fields.</li> </ol>	<p><u>Means of Verification</u></p> <ol style="list-style-type: none"> <li>1. Research system prepares detailed, relevant reports on program content, objectives, results.</li> <li>2. Extension system prepares detailed, relevant reports on program content, objectives, results.</li> <li>3. Research community has system of national and international peer review which reports regularly on progress.</li> <li>4. Government and donors hold annual evaluations which report on program progress and revise programs as needed to enhance impact and achieve desired results.</li> </ol>	<p><u>Assumptions for achieving sub-purpose</u></p> <ol style="list-style-type: none"> <li>1. Sector leaders strongly support integrated extension/research system with prime focus on food production by small farmer.</li> <li>2. Sector leaders encourage interactive collaborative work between extension and research.</li> </ol>

Table 1: Generic logical framework: Integrated research/extension project (continued)

<u>Narrative Summary</u>	<u>Objectively Verifiable Indicators</u>	<u>Means of Verification</u>	<u>Important Assumptions</u>
<u>Outputs</u>	<u>Magnitude of Outputs</u>	<u>Means of Verification</u>	<u>Assumptions for achieving outputs</u>
1. High-yielding, nutritious, disease- and insect-resistant varieties of specified crops and well-defined technological and management practices developed, tested, and demonstrated to be suited to existing small farm conditions.	1a. ___ new crop varieties and intervention packages tested and proven each year over life of project. 1b. Research system actively using ___ field trial sites for local adaptability and demonstration/training programs.	1. Research and extension system reports 2. Government and donor evaluation reports 3. Government statistics and data 4. Technical assistance contractor reports	1. Linkage to regional research institutions and worldwide network of research centers permits access to information and plant materials from abroad. 2. Collaboration between research/extension systems and universities as well as other training institutions results in availability of recruits appropriately trained for effective participation. 3. Government manpower policies provide reasonable incentive for management and technical personnel to join and remain committed to the research/extension program. 4. Price relationships are remunerative and provide incentives to increased food production. 5. Input and food distribution and marketing system are efficient enough to support actions by farmers made possible through research and advocated through extension. 6. Infrastructure exists or is developed rapidly enough to avoid imposing constraints to rising production.
2. Adequately trained and equipped inter-disciplinary extension and research staffs.	2a. ___ research personnel trained of whom ___ to Ph.D. level and ___ to MSc level. 2b. ___ extension agents and researchers trained for programs involving close research/extension interaction.		
3. Effective linkages developed for dissemination and feedback among farmers, research and extension staff, and outside institutions.	3. ___ meetings involving farmers, researchers, and extension staff. ___ examples of farmer feedback resulting in new research activities.		
4. Adoption of interventions by small farm households, with resulting raised yields, nutritional status of family, family income and marketable surplus.	4. ___ per cent of farmers using one or more new varieties and ___ newly developed or adapted production systems by end of project.		
5. Identification of and effective use of specific existing resources, including soil, water, traditional farming knowledge systems, labor and power sources, and personnel.	5. Inventory completed and base line data analyzed.		
6. Identification of and increased capacity to deal with specific existing constraints.	6. Inventory completed and base line data analyzed.		
7. Participation of farmers and farm households in res./ex. program.	7. ___ farmers collaborate in field trials by testing new varieties on own fields.		

Table 1: Generic logical framework: Integrated research/extension project (continued)

<u>Narrative Summary</u>	<u>Objectively Verifiable Indicators</u>	<u>Means of Verification</u>
<u>Inputs</u>	<u>Magnitude of Inputs</u>	<u>Means of Verification</u>
<u>A.I.D. Provided</u>	<u>A.I.D. Provided</u>	<u>A.I.D. Provided</u>
1. Technical Assistance services/personnel as required for: <ul style="list-style-type: none"> <li>a. Institutional development</li> <li>b. Design of research program and activities</li> <li>c. Staff development and training</li> <li>d. Design of extension program and activities</li> </ul>	1. Number of T.A. personnel by type, duration of assignment, schedule and cost.	1. AID records 2. Internal/external audits 3. Evaluations
2. Commodities including such types as: <ul style="list-style-type: none"> <li>a. Research instruments for laboratory and field (microscopes, meters, scales, etc.)</li> <li>b. Laboratory and field research materials</li> <li>c. Pumping and electrical equipment</li> <li>d. Transport equipment and vehicles</li> <li>e. Extension/demonstration and training materials</li> <li>f. Office material, supplies and equipment</li> </ul>	2. Commodities/equipment listed by kind/size/specification, delivery schedule and cost.	
3. Training <ul style="list-style-type: none"> <li>a. Degree and non-degree training abroad</li> <li>b. Locally-based technical and management training</li> <li>c. Support for on-the-job training.</li> </ul>	3. Number of person-months/years of training by type, location and cost.	
4. Other costs	4. Amount of cost by category	
<u>Host Country Provided</u>	<u>Host Country Provided</u>	<u>Host Country Provided</u>
1. Land, buildings, facilities, equipment, materials	1. Number of type, location and cost	1. Government records and statistics
2. Funding for personnel	2. Amount of cost and numbers of tasks, personnel etc.	2. Government reports
3. Salary maintenance and local travel for training	3. Cost for salary, travel, maintenance	3. Interview feedback results, etc.
<u>Farmers</u>	<u>Farmers</u>	<u>Farmers</u>
1. Land, tools, labor etc.	1. Land, tools, labor value.	1. Farmer interviews, questionnaires.

## II. BACKGROUND

### A. Project Support

The (name of research/extension project) began in (month/year), when the project agreement was signed. Activities by (names of host country institutions) began receiving support in (month and year). This support has included:

#### 1. Capital assistance

a. salary incentives for host country project researchers and extensionists (amount)

b. equipment, including the following major items: (list, with amounts)

c. funds for the construction of the following buildings, etc., in the following locations: (list, with amounts)

#### 2. Technical assistance

a. Long-term (person years)

b. Short-term (person years)

#### 3. Training

a. Host-country (person years)

b. Abroad

o degree (person years)

o non-degree (person years)

#### 4. Other assistance (specify kinds and amounts)

The project's activities are one part of AID's country development strategy, which also includes efforts in (identify sectors). Other projects in the agricultural sector include (identify projects). The present research/extension project is utilizing \_\_\_\_\_ percent of the funds obligated to agricultural sector development, and the agricultural sector represents \_\_\_\_\_ percent of AID's portfolio for the entire country. The project is also being supported by the host country. This support represents \_\_\_\_\_ percent of the budget for the (name of relevant institution, ministry, or sector).

B. Description of Project Area

During the years in which the project has been underway, the research/extension effort has been concentrated in (name of region). [The climate, topography, ecology, culture, socio-economic conditions, and other relevant attributes of the area should be noted.] Agricultural production in the area has the following characteristics:

[The major farming systems in terms of crops grown, animals kept, cultural and socio-economic characteristics of farm households, etc. of the region should be described.] The research effort has identified a number of constraints in each of the following areas:

[List the principal biological, physical, socio-economic, political, and cultural constraints to increased food production by the project area's farmers, as identified by researchers. Add any others that the Mission has recognized.]

C. Outputs

1. Technological interventions

Of the constraints identified, the research effort has determined the following to be of major importance:

[List the three or four major constraints, as identified by researchers.]

The research program has developed technological interventions to overcome these constraints, taking into account the resources available to farmers in overcoming them. The extension effort seems to be having its greatest success in spreading the following interventions:

[List those interventions which seem to be most widely adopted.]

and the least success with the following:

[List any interventions which failed to be accepted, and reasons for failure, if known.]

The technological interventions have been developed through a process of [describe the process, e.g., on-farm testing; farming systems research approach; variety selection trials, etc.]

2. Institutional development

The host-country institutions carrying out the research or extension activities are (names of institutions). The technical assistance team consists of:

[List team members by name, position, (e.g., by discipline), and number of months they have served and/or are to serve.]

3. Training

Training has been provided as follows:

[List number of persons, level of training and institutions providing training for each discipline/subject matter area.]

D. Purpose

The project's purpose is the increased use of economically and ecologically viable improved food production systems and technologies, capable of providing a food surplus, through an integrated research/extension program capable of evolving and disseminating practices suited to existing small farm conditions.

E. Goal

The project's goal is a sustained \_\_\_ percent rate of growth in food production by the end of the decade.

### III. PURPOSE OF EVALUATION

#### A. Implementation

The evaluation will provide the AID mission with an independent assessment of the project's design and activities to date. The evaluation will assess the implementation of the project to date and also verify (or not) the perceptions of the institutions and persons involved concerning the provision of inputs, management, and other relevant cooperation. The parties involved include AID mission personnel, officials of host country institutions, farmers in the project area, and members of the technical assistance team. [The project manager of the AID mission should here identify key problems and/or successes in meeting the input requirements of the project's design in an appropriate and timely fashion. This should include the project manager's identification of those areas or points where action decisions can be made better on the basis of outside evaluator's recommendations. Such decision areas could be quite specific, e.g. how best to work around the failure of a technical assistance contractor to provide a sorghum breeding specialist, or quite general, e.g. what response should be made regarding the host country's failure to provide the contributing funds promised.]

#### B. Decision Logic

The project has been underway for \_\_\_\_\_ years, long enough for some indications to appear of its direction and progress toward the broader purpose. AID needs to know if project inputs are leading in the most efficient manner to outputs and if these outputs are indeed contributing to the project's purpose. [The project manager or AID mission should here identify specific problems which he or she has been able to identify, and specify options open to the mission in meeting these problems. Particular parameters within which problems are most likely to arise are given in part IV of this scope.]



C. Timing of the Evaluation

The evaluation will be most useful if performed before (enter date), as several options open to the AID mission at present cannot be implemented readily after that date: (list options)

[The options here listed could include such diverse actions as, e.g. influencing host country budgeting prior to the beginning of the next fiscal year, or preparing new marketing survey prior to the harvest season, etc.]

D. Persons Using the Evaluation

The evaluation has been called for by the AID mission to assist it and the project manager in guiding the future course of the project. The present scope has necessarily focused on those concerns most apparent to them. The evaluation team is expected to open up issues beyond the perspectives of the project's designers and implementors. It is expected that the evaluation team will engage all parties involved in the project--AID staff, host country officials, farmers, researchers, and extensionists--in a process of recognizing and correcting problems and building upon strengths of the project.

#### IV. QUESTIONS/ISSUES TO BE ADDRESSED

##### A. Design

In the course of evaluating the research/extension project, the evaluation team will determine the degree to which the project follows the design set forth in the project paper and summarized in the logical framework. This will include:

1. examining the inputs from AID for the project
2. examining the outputs achieved to date by the project
3. assessing progress towards the project's purpose
4. assessing the validity and utility of the indicators selected for demonstrating levels of output achieved
5. identifying project outputs achieved which were not planned for in the project design
6. assessing the validity of the project design's assumptions for achieving outputs and purpose.

##### B. Project Outputs

As part of this effort, the evaluation team will examine in detail the processes initiated or encouraged by the project to attain the expected outputs, assessing the efficiency of these processes in producing the outputs, and identifying valuable attributes and/or problem areas. These should be sought in four general areas, in each of which specific questions should be answered:

1. Quality and appropriateness of research/extension activities

a. Research/extension content

- o Do recommendations to farmers take adequate account of
  - the resources available to farmers?
  - the characteristics of the farming community/population?
- o How well have researchers identified farmer constraints and resources? Has research good quantitative data on all relevant parameters?
- o Does research take adequate account of the biological, cultural, mechanical, and chemical options in improving the long-term sustainability of food production?
- o Are problems, farming systems, or crops upon which research is focused the most important affecting crops produced/consumed in the area by target farmers?

b. Research/extension methodology

- o How are research problems identified and investigated? Why are those selected judged to merit attention?
- o Is on-farm testing carried out? If so, what problems of these types have been found:
  - logistical?
  - social/political?
  - experimental control?How are these problems dealt with?
- o What incentives are there for researchers to carry out on-farm research? What constraints?
- o Are farmers involved in carrying out research? What role do they play in generating technology? What incentives have they to participate? What are the constraints to farmer participation? How are participating farmers selected? Are the involved farmers representative?

2. Effects of project on farmers and farm production

a. Dissemination

- o How well and/or how widely are farmers adopting the new technologies/practices/varieties generated and disseminated by the research/extension project? What elements of the new practices do they find most useful, least useful, most onerous? Do they appear to be contributing to a food production objective? What practices have been most widely put into use?
- o Are the levels of adoption projected in the project design being met? Are they realistic?

b. Results

- o Are farmers getting satisfactory results from new technologies? What other effects have these practices had on the small farmers' production systems, particularly within the principal resource and constraint parameters?
- o To what degree is increased farmer productivity resulting in increased food surpluses for the project area? in better nutritional status for the area's population?

3. Information flows/linkages

a. Between professionals and producers

- o Are effective information flows being achieved among farmers, extensionists, and researchers?
- o Are farmers being contacted by extension workers? Is indirect contact being made?
- o Are recommendations based on research findings being conveyed in terms of farmers' own usages/practices?
- o Are some research problems and extension recommendations being initiated from farmer feedback?
- o Has the project resulted in increased understanding of farmer decision-making and risk-perception? Is this understanding reflected in the recommendations generated?

b. Among professionals

- o Are effective information flows being achieved among project institution personnel and persons from other relevant public and private sector institutions, e.g., ministries, marketing organizations, processing plants or programs, other research or extension institutions, etc.?
- o Are effective information flows being achieved across the lines of professional disciplines?
- o Are effective information flows being achieved between AID project managers and host country institution officials?

c. Institutionalization

- o Are information flows achieved being institutionalized?

4. Institutional development

a. Resources

- o Are the available resources (qualified personnel, funding, equipment, etc.) sufficient to ensure that the research/extension effort is successful and sustainable?

Are these resources well allocated? Are they being allocated in proportion to the emphases in the project design?

Other relevant questions may include:

- o Is the host government increasingly able and willing to meet recurrent expenses in a timely fashion?
- o Are qualified nationals replacing foreign technical assistance staff?
- o Are research and extension salaries competitive with those of alternative employment opportunities? with each other?
- o Are the background and qualifications of the various staff appropriate to their positions?
- o Is the return rate of persons trained by the project acceptable?
- o Are resources for training well allocated with respect to disciplines studied and type of training (i.e., in-country, long-term/short-term, third-country, etc.)

- o Are physical facilities and equipment budget allocations made in appropriate proportion to the emphases in the project design? Are equipment and physical facilities supported for optimal operation and maintenance?

b. Structure

- o Are the objectives of the institutions clearly defined, properly focused, well understood by the leadership and staff, and fully accepted by all those working in the institution?
- o Is support for the different activities of the institution appropriately balanced in terms of staffing, funding, etc.?
- o Is the organization well-structured, sufficiently flexible and properly organized to accomplish its objectives? Is there adequate strong and capable leadership?

C. Project Purpose

The evaluation team will examine trends resulting from project outputs as they influence the achievement of the project's purpose. The team will analyze answers to the questions detailed above, in order to determine how each of the project's components is contributing towards progress to the broader purpose. The team will examine the assumptions of the project design, determining their validity and completeness in accounting for the project outputs' contribution to the project purpose.

D. Project Goal

The evaluation team will give its considered opinions of the project's impact or progress toward the overall goal of the project.



## V. APPROACHES (METHODOLOGY AND PROCEDURES)

### A. Data Collection

The evaluation team will be expected to complete their study over a period of \_\_\_\_\_ weeks. This time period will probably not be adequate to begin collections of data upon which statistically meaningful tests of hypotheses can be made. The evaluation team, therefore, will rely upon data from a variety of sources, both that to be gathered during the course of the evaluation and that which has already been gathered during the course of the project.

#### 1. Data gathered during the course of the evaluation

Data gathered during the course of the evaluation will be largely qualitative, but some efforts will be made toward quantitative measurement and sample variation. Formal statistical tests are not likely to be possible. 1)

The evaluators will interview:

- o farmers and other members of farm households
- o key members of communities in the project area, host country researchers, extensionists
- o foreign researchers, extension specialists, and other personnel providing technical assistance under contract
- o AID mission personnel involved with the project
- o other individuals likely to have insight into the project.

1) cf. Byerlee, et al (1982)

The evaluators will visit (name of research and/or extension research institution(s)), experimental stations at (list stations) experimental and demonstration plots, representative farmers' fields (farmers both involved and not involved in the project).

2. Data gathered during the course of the project

Data which have been gathered during the course of the project include quantified data from random samples, permitting meaningful statistical tests within many parameters (identify for which of the following parameters data exist):

- o Physical parameters, including climate, soil, topography, irrigation and drainage, etc.
- o Biological parameters, including crop varieties, livestock breeds, diseases, harmful and beneficial insects, micro-organisms, birds, mammals, weeds, etc.
- o Socio-economic parameters, including farm size, labor availability, power/traction sources, input supply and farm output markets, roads, credit, prices of inputs and outputs, division of labor by sex and age, local political power structure, wages and alternative employment opportunities, land tenure, national policy environment, cooperatives, socio-cultural patterns affecting technology use, etc.
- o Farming systems, typed by cropping patterns, land-use practices, use of animals, technology used, etc.

The evaluators will examine these data, and as appropriate, use them in assessing the research and extension efforts and accomplishments to date.

### 3. Data available from other sources

The evaluation team will use available government statistics as indicators where relevant. Data are available for the project region in the following areas (indicate what statistics are available and their source):

- o central government expenditures for agriculture as a percent of GNP, as a percent of total government expenditures, etc for the project region, if possible.
- o agricultural and/or food production, by crop, by aggregate value, per capita, etc.

More focused indicators (e.g. crop yields, etc.) will be of value only if appropriately stratified, which will not be likely except as already gathered during the course of the project (see 2. above).

All secondary data used by evaluators should be assessed for reliability and accuracy.

## B. Data Analysis

### 1. Primary data

The evaluators will rely heavily on interviews with key informants to identify and investigate strengths and weaknesses of the project. The various perspectives revealed in these interviews should be compared and contrasted each with the others, with the evaluators' own observations, and with the project's design. Those areas where contradictions become apparent or which otherwise merit close attention should be examined more closely. Where possible, quantitative data should be used to support judgments; at the very least, particular examples, incidents, or other such anecdotal evidence should be given.

## 2. Secondary data

Many of the data already gathered during the course of the project will have been analyzed statistically. The evaluators should examine the quality of the analysis and the relevance of the results. Where a considerable body of raw data exists of which use has not been made by project personnel, evaluators should use, if appropriate, statistical methods for transforming these into a useful form. Unprocessed data of little value should be so identified.

### C. Use of Information

In the course of their fact-finding mission, the evaluators will engage the parties involved in the project in a process of recognizing and correcting areas of weakness or difficulty. An evaluator will use all due tact and diplomacy in so doing, but should serve as liaison and catalyst where these roles are called for in the interest of improving the research and extension effort.

VI. TEAM COMPOSITION  
(SKILLS AND CHARACTERISTICS NEEDED BY EVALUATORS)

A. Areas of Specialization

The evaluation team will be composed of three or four members and will among these exhibit a blend of technical expertise and general experience appropriate to addressing the particular concerns brought out in the preceding sections. Each member should bring special knowledge of specific approaches relevant to evaluating these key issues. The following areas of expertise represent the minimum which the team should encompass. A team member may well have expertise in more than one of these areas.

1. Institutional Specialist/Management Specialist - This person should have proven field experience in planning and implementing multi-sectoral agricultural programs, speak fluent \_\_\_\_\_, and have a deep understanding of the roles of extension, research, and training in raising on-farm productivity. He should be conversant with the social and economic problems of the small farmer and be able to identify how they can be assisted in helping themselves.

The institutional specialist will assess the allocation of project resources with respect to their impact on the creation and continuing viability of institutions providing agricultural research and extension services. He will suggest specific ways to improve the balance, direction, and management of the institutions involved. He will concentrate particularly on ways to improve flows of information, both among project implementors and between these and project beneficiaries.

2. Research Specialist - This person should have proven field experience in implementing research programs in developing countries, be aware of recent developments in farmer-oriented applied research, and be expert in the design and analysis of this. Fluent \_\_\_\_\_ would be an asset. He should have experience in carrying out research under the ecological conditions of the project area: [identify these, e.g. high rainfall, semi-arid, hill topography, etc.]

The research specialist will assess the accuracy, reliability, scope, design, and relevance of agricultural research undertaken by the project. He will be expected to interact creatively with researchers, extensionists, farmers, and administrators, in identifying options for increasing the value of research to the production systems of the target farmers.

3. Extension Specialist - This individual should have strong background in extension in developing countries. He should speak fluent \_\_\_\_\_, as he will make on-farm visits and interview farmers. He should be conversant with practices and technologies appropriate to farms of the project area.

He will examine the formal and informal mechanisms for dissemination of technological interventions and assesses patterns in farmer adoption of these. He will focus on the effectiveness of feedback to researchers from farmers and extensionists, the relevance of research recommendations to the farmers' needs, and the effectiveness of farmer-to-farmer contact in transferring technology.

4. Village-level Social Analyst - This individual should have, primarily, topical expertise in agricultural development, and secondarily, expertise in the society/culture of the project area. Fluent \_\_\_\_\_ would be a great asset.

The Social Analyst will assess the project's impact on the farm household, including effects on the workload of women and children, nutritional status, etc.

5. Agricultural Economist - This individual should have a keen grasp of both macro- and micro-economic issues in agricultural development. He should understand well aspects of marketing, farm production costs, and policy implications. A strong field background and fluency in \_\_\_\_\_ are desirable.

He will assess the reliability, relevance and design of the micro-economic research undertaken by the project, and identify significant economic patterns in the project area, including labor availability, credit availability, price of agricultural inputs and produce, etc. He will also assess the macro-policy environment's effects on the project's outcome.

B. General

To the greatest degree possible, team members should be adept at:

- o communicating effectively and diplomatically, both among themselves and with the diverse people involved in the project.
- o interactive thinking across disciplinary lines.
- o building rapport easily and quickly.
- o techniques of interviewing. This is especially important for the non-technical specialists, most of whose information will come from primary sources.
- o working together as a team.

The team will be responsible for preparing a revised logical framework for the project, summarizing the project design as it has changed over the \_\_\_\_\_ years since implementation began. The team will make specific action recommendations to the AID mission.

## VII. LEVEL OF EFFORT

[The level of effort for an interim evaluation of any particular research/extension project will vary with the expected significance of the evaluation. Larger, more complex projects might seem to merit a more intensive evaluation. So might projects which show signs of going awry, but for obscure or contradictory reasons. Any project, however, can profit from even a moderate effort by a well-balanced team of evaluators with an outside perspective.]

The success of an evaluation team's efforts in providing a project with needed recommendations and useful alternatives will be greatly enhanced if the project manager has carried out as in-depth an analysis as possible from his or her perspective. At the very least, the project manager should have determined the key issues and the availability or not of data which might lead to clarifying and resolving these. An accurate sense of where a project stands is essential to effectively directing the attention of the team to those areas where their limited time may best be spent. Having carried out such an exercise, too, the project manager can determine in what areas special attention may be warranted and where extra time may be needed for an evaluator in a particular discipline to gather and analyze needed data. For example, if the project manager senses that the agronomic information for a given project is very strong, but has misgivings concerning the quality of the socio-economic data, he may feel an ad hoc survey is called for. Such a survey would require a greater level of effort from the social analyst or the agricultural economist, but need not involve the others on the team until the survey's completion.]



## VIII. REPORTING REQUIREMENTS

After a preliminary briefing by the appropriate AID mission officer, the evaluation team will [in most cases] direct its attention to the field, gathering data and information as close to the source as feasible for the first half of the evaluation. During this phase the evaluation team should be free to discuss findings or not, as they feel best. At the end of this phase, the evaluation team should report orally to the AID project manager or evaluation officer, giving their findings and tentative conclusions. Following the initial report of findings in the field, plans should be made for further field work, if necessary, and for discussions with higher level officials involved in the project. Close interaction with appropriate officers at this stage will be helpful in finalizing conclusions and developing realistic and useful recommendations.

The evaluation team will present a written draft of its findings, conclusions, and recommendations to selected AID officers, and to host country officials if appropriate. The report will cover all of the issues described in Part IV of this scope. The team will describe in detail

- o its methodology in collecting and analyzing data
- o its findings, based on the data it has gathered and analyzed
- o the conclusions it draws from these findings
- o recommended actions to improve the project or to clarify project issues.

The report will also include a new logical framework, summarizing the project in light of its progress over the past \_\_\_\_\_ years.

The final report will incorporate any necessary changes based on the comments received on the first draft.

DRAFT GENERIC SCOPE OF W  
FOR INTERIM EVALUATION  
OF MAJOR SURFACE  
WATER IRRIGATION PROJEC'

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DRAFT GENERIC SCOPE OF WORK FOR INTERIM EVALUATIONS  
OF MAJOR SURFACE WATER IRRIGATION PROJECT

I. BASIC PROJECT DATA SUMMARY

- A. Country
- B. Project Title
- C. Project Number
  - 1. Grant
  - 2. Loan
- D. Project Dates
  - 1. Initial Project Agreement
  - 2. Final Obligation
  - 3. Project Activity Completion Date (PACD)
- E. Project Funding
  - 1. AID Bilateral Funding
    - a. Grant
    - b. Loan
  - 2. Other Major Donors
  - 3. Host Country Contributions
  - 4. Total Funding (all sources)
- F. Mode of Implementation
  - 1. Host Country Institutions
    - a.
    - b.
    - c.

2. Institution(s) Providing Technical Assistance
3. AID Participants
  - a. USAID Director (name)
  - b. USAID Project Officer (name)
  - c. USAID Evaluation Officer (name)
  - d. Backstop Officer (AID/W) (name)
  - e. Other (REDSO, etc.) (name)
- G. Summary of Project Design (Logical Framework-- see Table 1.)
- H. Previous Evaluations or Reviews
  - a. Title
  - b. Type
  - c. Date

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Table 1. Generic logical framework: Major surface-water irrigation project

<u>Narrative Summary</u>	<u>Objectively Verifiable Indicators</u>	<u>Means of Verification</u>	<u>Important Assumptions</u>
<p><u>Goal</u></p> <p>A sustained ___ per cent rate of growth in food production by the end of the decade.</p>	<p><u>Measures of Goal Achievement</u></p> <ol style="list-style-type: none"> <li>1. Average nationwide yields of most major food crops show steady upward trends.</li> <li>2. Acreage under irrigation increases by ___ per cent during the decade and yields are substantially above those for dryland areas.</li> <li>3. Farm gate prices for food crops cover costs and provide a return on capital equal to the real cost of money in the country.</li> <li>4. Prices paid by consumers for domestically produced food remain stable or decline in real terms.</li> <li>5. Food crops marketed through commercial channels grow at a rate equal to or exceeding growth of urban population.</li> </ol>	<p><u>Means of Verification</u></p> <ol style="list-style-type: none"> <li>1. Yield data collected by Ministry of Agriculture demonstrate strong upward trends on the basis of 3-year moving averages.</li> <li>2. Acreage of land in active production under irrigation and achieving yields at least ___ per cent higher than dry land acreage for the same crops increases by ___ per cent over the decade per national agricultural statistics.</li> <li>3. Farm budget studies show average farm gate prices paid to farmers cover costs and provide a competitive return to small as well as larger farmers.</li> <li>4. Consumer price data prepared by national statistical authority.</li> <li>5. Marketing statistics prepared by commercial and national government authorities.</li> </ol>	<p><u>Important Assumptions for Achieving Goal Targets</u></p> <ol style="list-style-type: none"> <li>1. The economy is managed well and fiscal and monetary policy provide incentives to investment, production, growth and a free flow of international trade.</li> <li>2. Important elements of the agricultural and manufacturing sectors are guided by realistic planning targets and the private sector is supported in its investment and production decision-making by a stable set of policies and realistic government-implemented programs for manpower training, provision of services, etc.</li> <li>3. The country is endowed with a set of natural resources which provide a favorable basis for development and growth.</li> <li>4. Social policy supports equitable access to resources, information, services, credit and facilities essential to growth and development.</li> <li>5. Institutions function effectively in providing access to research extension, credit, marketing and inputs.</li> </ol>

Table 1. Generic logical framework: Major surface-water Irrigation project type (continued)

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
Purpose	End of Project Status	Means of Verification	Assumptions for Achieving Purpose
<p>An economically viable, environmentally sound and equitably-operated irrigation system capable of meeting subsistence needs of small farmer households and providing a surplus of food for off-farm sale equal to 20 per cent of total food production by the end of the decade.</p>	<ol style="list-style-type: none"> <li>1. A completed irrigation project with costs and outputs providing an overall satisfactory B/C ratio, improved and acceptable incomes to farmers, laborers, etc. on the project and contributing positively to the national economy.</li> <li>2. A stable pattern of environmental factors supportive of the maintenance of productivity, the ecology and human health and well-being.</li> <li>3. Rising production and yield trends giving a surplus of food over subsistence standards at least equal to 20 per cent of the value of total food production.</li> <li>4. An institutional structure for the management of the project which is well organized and adequately staffed to plan and implement the project efficiently and equitably.</li> </ol>	<ol style="list-style-type: none"> <li>1a. Physical inventory shows project structures and systems built and complete in accordance with basic original and/or approved revised plans.</li> <li>b. Output and O&amp;M costs analysis based on life-of-project experience shows positive B/C ratio.</li> <li>c. Farmer incomes show growth to a level providing more than average national levels for farms of comparable size.</li> <li>2. Measures of: water table level; water quality (including mineral content and organic pollutant level); disease vector incidence; weed clogging in canals drains; erosion losses of soil; acres of forest land.</li> <li>3. Data on               <ol style="list-style-type: none"> <li>a) Tonnage of major crops and products</li> <li>b) Yield and off-take data</li> <li>c) Total value of crops and products produced.</li> <li>d) Total value of crops and products sold.</li> </ol> </li> <li>4. Stable, well-staffed organization with an active training program, clear objectives and a record of attaining a large proportion of its goals and meeting the needs of the region and its population.</li> </ol>	<ol style="list-style-type: none"> <li>1. That national and local authorities share basic goals for the development of the region where the project is located and are dedicated to affording significant opportunities for local participation in the management and operation of the project in order to maximize the probability of success.</li> <li>2. Financial organizations and private enterprise will respond favorably to incentives and provide needed goods and services in the project area with encouragement from public authorities.</li> <li>3. Citizens will respond favorably and form effective voluntary organizations to support developmental and operational goals serving their mutual interest where opportunity to participate and understand the program is provided.</li> <li>4. Through participatory organizations equitable solutions can be found to resolve the conflicting interests and goals of individuals and groups.</li> <li>5. That the feasibility studies have identified all major issues and provided for a satisfactory site selection, physical and organizational designs to deal effectively with the social, economic, ecological and resource needs and constraints.</li> </ol>



Table 1. Generic Logical Framework (Major surface-water irrigation project type (cont.))

<u>Narrative Summary</u>	<u>Objectively Verifiable Indicators</u>		<u>Means of Verification</u>	<u>Important Assumptions</u>
<u>Outputs</u>	<u>Magnitude of Outputs</u>		<u>Means of Verification</u>	<u>Assumptions for Achieving Outputs:</u>
1. Physical structures for water storage control, distribution and drainage and for transport, power and communication built according to a sound plan, proper standards and a schedule.	1. Specify: Cost and no. of major and minor structures; kms and cost of canals, drains, roads, etc.; capacity and cost of power installations, pumping stations, etc. Gross and net acreage under irrigation at key intervals over life of project.		1. Government records and statistics.	1. Manpower policies of government provide reasonable incentive for management and technical personnel to join and remain committed to the success of the irrigation program.
2. Proper provision made for the equitable, cost effective delivery of all required production-oriented services (e.g. fertilizer) designed especially to be accessible to small farmers.	2. Number, duration, location, schedule and cost of personnel trained, facilities built, equipment delivered, credit and supplies provided, storage capacity provided, technicians/workers functioning, etc.		2. Aerial photographs.	2. Farmers are assisted and encouraged to form water users associations for effective local water control and management and sound on-farm water management practices.
3. Proper provision made for equitable, cost-effective delivery of all required social services (e.g. health, education, etc.) fully accessible to low income people.	3. Same as 2 above.		3. Audits.	3. Appropriate user fees are charged for water to ensure adequate funds for operation and maintenance and to discourage excessive water use within a rational overall project water management regime.
4. A comprehensive water management/control system with an institutional structure organized and staffed for effective long term management and cost-effective operation and maintenance of the irrigation network.	4. Number and cost of management and technical personal trained, number of personnel functioning at key intervals during project, operation and maintenance budget and work schedule/accomplishments projected annually by task.		4. Evaluations.	4. Input distribution and output marketing systems function efficiently to permit farmers to make optimal use of high output potential and realize satisfactory income levels.
5. Farmers organized to achieve equitable water distribution and efficient on-farm water use on well-levelled and properly drained fields and producing surplus of food available for off-project sale.	5. Acreage of land levelled, under production by crop and farm size; yield and production of all major crops/products; water use efficiency data.			5. Farm size, land purchase terms and labor availability at peak demand periods permit use of balanced farming systems and capital/labor input ratios.
6. Farmsteads established providing adequate shelter to people and animals and a basis for efficient production using appropriate technology.	6. Number of farms established by farm size; value of investment in houses, other structures, tools and equipment, electricity and drinking water facilities and cost.			6. Design criteria used and drainage investments made combined with effective water control and management ensure long term productivity of the land.

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Table 1. Generic logical framework: Major surface-water irrigation project type (continued)

<u>Narrative Summary</u>	<u>Objectively Verifiable Indicators</u>	<u>Means of Verification</u>	<u>Important Assumptions</u>
<u>Inputs</u>	<u>Magnitude of Inputs</u>	<u>Means of Verification</u>	
<u>A.I.D. Provided</u>	<u>A.I.D. Provided</u>	<u>A.I.D. Provided</u>	
<ol style="list-style-type: none"> <li>1. Technical Assistance services/personnel as required for:               <ol style="list-style-type: none"> <li>a. Design of physical layout and construction</li> <li>b. Institutional development for water management</li> <li>c. Efficient and cost-effective irrigation O &amp; M</li> <li>d. Production Services and input delivery</li> <li>e. Farmer organization for cooperative action in water management, credit, marketing, etc.</li> <li>f. Staff development and training</li> </ol> </li> <li>2. Commodities inclusive of such types as:               <ol style="list-style-type: none"> <li>a. Construction materials</li> <li>b. Heavy construction equipment</li> <li>c. Pumping and electrical equipment</li> <li>d. Transport equipment and vehicles</li> <li>e. Extension/demonstration and training materials</li> <li>f. Office material, supplies and equipment</li> </ol> </li> <li>3. Training               <ol style="list-style-type: none"> <li>a. Degree and non-degree training abroad</li> <li>b. Locally-based technical and management training</li> <li>c. Support for on-the-job training.</li> </ol> </li> <li>4. Other costs</li> </ol>	<ol style="list-style-type: none"> <li>1. Number of T.A. personnel by type, duration of assignment, schedule and cost.</li> <li>2. Commodities/equipment listed by kind/size/specification, delivery schedule and cost.</li> <li>3. Number of person-months/years of training by type, location and cost.</li> <li>4. Amount of cost by category</li> </ol>	<ol style="list-style-type: none"> <li>1. AID records</li> <li>2. Internal/external audits</li> <li>3. Evaluations</li> </ol>	
<u>Host Country Provided</u>	<u>Host Country Provided</u>	<u>Host Country Provided</u>	
<ol style="list-style-type: none"> <li>1. Land, buildings, facilities, equipment</li> <li>2. Funding for personnel and O &amp; M</li> <li>3. Salary maintenance and local travel for training</li> </ol>	<ol style="list-style-type: none"> <li>1. Number by type, location and cost</li> <li>2. Amount of cost and numbers of tasks, personnel etc.</li> <li>3. Cost for salary, travel, maintenance</li> </ol>	<ol style="list-style-type: none"> <li>1. Government records and statistics</li> <li>2. Government reports</li> <li>3. Interview feedback results, etc.</li> </ol>	
<u>Farmers</u>	<u>Farmers</u>	<u>Farmers</u>	
<ol style="list-style-type: none"> <li>1. Homestead development, tools, labor, etc.</li> </ol>	<ol style="list-style-type: none"> <li>1. Cost for houses, other buildings, tools, labor value.</li> </ol>	<ol style="list-style-type: none"> <li>1. Farmer interviews, questionnaires.</li> </ol>	

## II. BACKGROUND OF PROJECT

### A. The Project

This major surface water irrigation project known as (name of project) was begun in (year) following signature of the Project Agreement on (date) under the direction of (name and title) of the (name of host country institution) and with the participation of (other host country institutions).

### B. External Support

The types of external support provided for the project by AID are as follows:

1. Long-term technical assistance personnel (person years)
2. Short-term technical assistance personnel (person months)
3. Training in the Host Country (person years)
4. Training abroad
  - a. degree (person years)
  - b. non-degree (person years)
5. Capital assistance (\$ million)
6. Other costs (specify main types) (\$ million)
7. Other assistance (specify kind/ amount)
8. Total external support (\$million)

### C. Size and Location of Project

The project is located in (name of region or province(s)) in the valley of the (name of River). It covers a total of (number) acres with a farm population estimated at (number) and non-farm population totalling (number).

D. Major Natural Characteristics

1. Soil characteristics
2. Vegetation characteristics
3. Rainfall (mm) annual average, maximum month, minimum month
4. The River (as the source of irrigation water)
  - a. average annual flow (cubic meters)
  - b. seasonal variations (average) maximum month (cubic meters), minimum month (cubic meters)
  - c. annual variations over past (number) years: maximum (cubic meters) minimum (cubic meters)

E. Major Problem Areas Foreseen

The major problems for the development of an irrigation project foreseen at the time of project's design were as follows (specify as for example below):

1. Water storage
2. Water control and management
3. Institutional factors
4. Manpower
5. Soil characteristics
6. Crops and farming systems
7. Socio/cultural factors

F. Major Achievements Projected

1. Construction
  - a. Major structures (number/value)
  - b. Minor structures (number/value)
  - c. Canals: major (km); minor (km)
  - d. Drains (km)
  - e. Pumping stations (number/capacity)
  - f. Housing (number of units)
  - g. Storage facilities  
(cubic meters/tons capacity)
2. Institutional development (water management, research systems, etc.)
3. Manpower training
4. Land and water rights exchanges
5. Farmer organizations formed
6. Others (identify)

G. Major External Factors Influencing the Project

1. National economic conditions and policy
2. Government decentralization progress and devolution of responsibility to the project authority
3. Progress in developing credit and marketing programs in the region
4. Provision of health, education and other social services by authorities external to the project (as applicable)
5. Others (specify)

### III. PURPOSE OF THE EVALUATION

#### A. Broad Purposes

This evaluation is being undertaken at the interim (or formative) stage of the project where extensive work has been done and achievements have resulted, but the project is still in the process of construction and implementation. Such evaluations are undertaken not only because in-depth reviews are called for as part of the original design. In addition, responsible policy and administrative leaders of the host country and AID will generally find that it is essential to have a review at the mid-point of such major investment activities because of their significant economic, social, and political ramifications. For these reasons a variety of broad purposes should be identified in the definition of a specific scope of work.

The broad purposes to be served by an interim evaluation are usually in the following areas:

1. Identification of significant implementation problems;
2. Assessment of the continued validity of the original design;
3. Assessment of the roles, relationships and effectiveness of the major actors participating in carrying out the project;
4. Analysis of the degree of impact of the project in achieving the originally established targets, purpose and goal;
5. Review of the validity of the key assumptions at all levels to determine any need for re-orientation;
6. Changes in inputs, structure and purpose of the project required to more effectively contribute to goal achievement;
7. Provide insight (to the degree possible from a formative evaluation) into basic issues, design criteria, etc.

B. Persons Using the Evaluation

The evaluation should meet needs at various levels and in the following ways:

1. Project managers (AID, other donors and Host Country)

a. To refocus attention on any key implementation problems identified;

b. To adjust schedules as necessary to more realistic targets;

c. To permit modification of the input mix to more effectively accomplish outputs;

d. To assess progress of project in achieving desired social and economic targets and goals.

2. Project Implementors: (Contractors and Host Country)

a. To assist in the identification and resolution of any conflicts impeding project progress;

b. To identify and resolve administrative bottlenecks;

c. To strengthen the understanding of all concerned of their respective roles and relationships;

d. To sharpen the focus of attention on the most important social and economic development targets.

3. Policy-makers at or near the project site

Facilitate identification of the need for and means to accomplish:

a. Required adjustments in resource commitments

b. Required changes in policies related to project implementation

c. Required changes in broad policies impacting on project purpose or goal achievement;

d. Flexible adjustments regarding validity of assumptions relating to the project which are proving to be wholly or partially invalid and adversely affecting accomplishment of project objectives.

4. Policy-Makers in AID concerned with projects of similar kinds elsewhere

a. Identification of issues and problems which appear to be of key and generic significance in projects of the particular type;

b. Design characteristics or emphasis with major significance in determining the probability of success or failure in projects of the particular type.

c. Techniques of design (generalist vs. specialists, etc.), administrative or financing structure and implementation with key significance for success of projects of the particular type.



#### IV. QUESTIONS/ISSUES TO BE ADDRESSED

##### A. General

In undertaking an evaluation of a food-production-oriented irrigation project it is critical to keep in mind that it is a complex activity. It inevitably impacts every phase of the operations of government in the area; the means of livelihood and patterns of daily life of the people as well as their relationships among themselves and to the local authorities, their property rights and their health, the structure and nature of institutions serving the community and finally, the resource base and ecological environment of the area. In addition these factors interact in complex ways. The result is that an evaluation must be structured and approached in ways to capture as much as possible of both the particular functions, notably the efforts to increase food output, and their manifold interrelationships. The issues and questions to be addressed are similarly multi-dimensional. The evaluators will therefore need to be prepared to operate in a highly interdisciplinary mode despite the issues being classified in separate categories.

At the interim stage of project implementation, there are a variety of important issues on which one can not make definitive or perhaps even "first approximation" judgments. It is, however, probably desirable to have in mind those questions which can only be fully evaluated as the project is formally concluded or perhaps only at some still later stage. This is useful in maintaining a proper perspective at the interim stage. Attention needs to be focussed to a considerable degree on the more operational issues such as: progress in construction, equipment delivery, training, etc.; quality of contractor/grantee, personnel and institutional support; degree of host country support; progress in development of services and institutions playing key roles in the project, etc. At the same time, to the degree feasible, it is desirable to assess the more basic purpose-related issues such as production trends (a proxy for income), costs, benefit/cost ratios, equity in employment, access to inputs and services, etc. The areas which are most relevant to an interim evaluation and more likely to be feasible at this formative stage are noted by asterisk in the ensuing list.

##### B. Issues

It is here to be understood that a central purpose of the project is the increase of food output both to meet the requirements of the inhabitants of the project area and to contribute to meeting the food goals of the country at large. At the same time an irrigation project must succeed in all its dimensions if it is to be viable. For this reason the

evaluation must examine a range of issues covering its economic viability (inclusive of production questions), resource use, water system, environmental quality and social soundness. Under each of these headings are various sub-heads and specific issues. The evaluators should seek to address all of these and be alert to identifying and assessing any other dimensions or specific issues which may be emerging as critical problem areas even if they have not been so perceived by those working most closely with the project.

[The scope should include here a brief set of observations of the areas of strength and weakness as judged by those involved with the project. These observations should cover such topics as: adherence to schedule, conformity of the activity to original design in terms of production trends, personnel, training, construction (specifications and cost), equipment, overall cost, organizational and institutional development and performance, local citizen participation, etc. The perceptions of the managers should be a guide to the evaluators as to where key issues may be but should also be subjected to a skeptical review by the evaluation team.]

The issues to be examined include but are not limited to the following:

1. Economic viability

a. General

What quantitative and qualitative contributions is the project making to economic improvement at the local, regional and national levels and what is the project's economic performance in benefit/cost terms?

b. Local

(1) What are the levels and trends of crop/livestock yields and off-take rates and production on farms in the project (by farm size)?\*

(2) What are the levels and trends of net farm income (by farm size)?

(3) How do actuals compare with project planning projections for yield, production and net farm income?

c. Project (regional)

(1) How do actual capital and O and M costs compare to planning projections?\*

\*Starred items of particular significance at formative stage.

(2) How do IRR or B/C projections made for planning purposes compare with estimates using available data for actuals?\*

(3) What are the levels and trends of food availability as surplus for off-project sale?\*

d. National

(1) What is the impact of food output from the project on the national food budget?\*

(2) What contribution/impact does the project make on national product, trade balances, and balance of payments?

(3) What favorable and unfavorable economic impacts does the project have on off-project areas?

2. Resource Use

Is the use being made of resources for the project optimal? What are the opportunity costs?\*

a. Land

(1) Did design provide for proper layout re: drainage, access, equipment use, etc.?\*

(2) Is cropping pattern efficient and suitable? What are the trends? Why are changes occurring? Is the land suitable for irrigation?--for the crops raised?\*

(3) Were/are alternative sites, uses and patterns of use considered? What are the changes needed in these factors as further project development proceeds?\*

b. Water

(1) Is water use efficient enough in relation to present and prospective demand, seasonal and cyclical changes in water availability?\*

(2) Is the source viable in the long-term and is or will the source be the least cost later?\*

\*Starred items of particular significance at formative stage.

(3) What are alternative uses and sources for the water used on this project?\*

(4) How efficiently is water being used?

c. Capital

(1) Is capital being used with optimal efficiency in economic terms for structures as well as for the equipment, inputs, etc?\*

(2) Is credit targeted for the most suitable and efficient uses at appropriate interest rates?\*

(3) Is there a charge for water? If so is it sufficient? If not, how is the real cost of water covered?\*

(4) Is the system financially viable?\*

d. Labor

(1) Is the technology and capital intensity appropriate to the need for employment?\*

(2) Is there unemployment, seasonal slack in employment or disguised unemployment?\*

(3) What are the sources of labor:\*

o on site?

o seasonal migration?

o permanent migration?

3. Water System

a. Water Delivery/Control

(1) Is water control and delivery operating:

o according to original design\*

o in a manner compatible with crop needs and farmer constraints?\*

\*Starred items of particular significance at formative stage.

- o so as to encourage good on-farm water use and water management practices?\*
- o so as to minimize seepage, evaporation and leakage?

(2) Are particular structures designed adequately to meet system design and user requirements?\*

(3) Is drainage adequately provided for and operating to eliminate excess water?\*

b. Water Management

(1) Is water management being carried out in accordance with design?\*

(2) Is water management effectively serving the needs of farmers and sound standards of land and water conservation?

(3) Are the organization, staffing and institutional development for water management meeting project plans and achieving progress toward project objectives:\*

- o at farmer organization level?

- o at government/project levels?

(4) Are farmers and farmer groups satisfied with and adopting the water management systems built into the project?\*

(5) Are structures and channels being properly operated and maintained:\*

- o to ensure continuing operation?

- o at a cost appropriate to benefit levels?\*

4. Environmental Quality

a. Project impact on the land

(1) What kinds/amounts of changes have occurred in:

- o Soil salinity?\*

\*Starred items of particular significance at formative stage.

- o Soil alkalinity?
- o Water level/water table?\*
- o Reservoir silting and canal silting/scouring?\*

(2) Have any other positive or negative changes occurred in the soil and/or land?

b. Project impact on vegetation

Have project activities had an impact on the amount, character or quality of vegetation in the area? How? Why? To what extent? What is the impact on erosion control upstream and in project area?

c. Water quality

Have project's activities changed the water quality downstream of the project favorably or unfavorably? How? Why? To what degree?\*

d. Health

Is there evidence of health problems deriving from the expanded use of irrigation, e.g., schistosomiasis or malaria? What are the apparent incidence and trends in number of cases? Is it now or likely to become an acute problem? What measures are in place to counter negative trends? Are they effective?

5. Social Soundness

a. Family and household unit status and changes

(1) What impact has the project had on households and/or family units resident in the project area, including households whose heads are: farmers, laborers, artisans, entrepreneurs, etc., in terms of:

- o family income
- o role, relationships, and status of various members of the family within the family and the society
- o nutritional status and general well-being of the family as a whole and/or its various members including literacy, school attendance, etc.

\*Starred items of particular significance at formative stage.

- o participation in the cash economy and impact of the changes on the family as a whole and individuals within it?

(2) What are the patterns of change in the role and status of families as a result of economic forces, services access, etc. What migration patterns are observable?

b. Social services

(1) What social services are available? Are they adequate? How accessible are they to residents? Is access equitable among the various groups in the society?\*

(2) Is the cost of social services in line with local and/or national ability to sustain them? Are project-generated revenues making a contribution to offset the cost? To what extent?

c. Income and wealth distribution

(1) What changes in distribution of wealth and income have occurred as a result of the project?

(2) Have land ownership patterns been modified? How and to what degree?\*

(3) Are water rights being affected? How?\*

(4) Have landless people benefitted or been hurt?

(5) Have any new groups emerged who were not previously present? What are their roles? Impact on society? Benefits from the project?

The above listing is intended to be relatively exhaustive but also illustrative. The actual scope of work for a particular evaluation must weigh the relative importance of specific problems in relation to the status of the project and put a clear emphasis on the issues to be given primary attention. No evaluation carried out at reasonable cost can deal with all issues. The evaluators must be instructed to focus their concerns.

A few examples may serve to highlight the kind of selection to be made. If there was believed to be an

\*Starred items of particular significance at formative stage.

observable trend that food production was rising on large farms but not on small farms this should be an area to be given special attention to determine the extent to which this was true, the reasons therefor, whether it appears to be likely to continue, the impact in social and economic terms and measures needed to improve small farmer performance. If in another case there was reason to believe that water-logging was occurring, a special focus of attention to this issue should be called for and should examine its extent, causes and remedial measures required. A lagging credit repayment record would be a cause for special attention to that issue relating not only to the administration of the credit program but also whether other elements were inhibiting farmer profitability, production, etc., or whether social attitudes were the basic cause. Such special problems will emerge in particular situations and deserve some unusual attention in an evaluation. It will be incumbent on the project officer/evaluation designer to highlight such issues wherever possible. It is equally incumbent on the team charged with the evaluation to sense key problems even if not highlighted in the scope of work and give them appropriate attention.

\*Starred items of particular significance at formative stage.



## V. TEAM COMPOSITION

### A. Team Representation

An evaluation should involve all the major participants in the funding, implementation, and administration of the project. This derives from the concepts that: 1) an evaluation is a learning process and, 2) follow-up action will be required on the recommendations and that process is more likely to be successful if it is based on participation in the evaluation by those responsible for the action. Only if those responsible for the implementation of the project have played an active role in its assessment, are they likely to fully understand why and how important it is to make indicated changes. In addition, knowledgeable persons normally engaged in the operational phases of the project are frequently in a position when stimulated by the evaluation process to have significant insights into the project's problems. In a complex project they may participate actively only in the evaluation of the component of the project in which they are engaged. Their participation is nevertheless valuable to the evaluation and to the follow-up process.

In the case of an irrigation project, the following agencies should be involved directly in an evaluation although some may be only part-time participants in the evaluation process:

#### 1. Host country

a. Agency with overall responsibility for management of the project, e.g., the Ministry of Irrigation or an independent body such as an authority specifically for the project.

b. Agencies with specialized functions, e.g.,

- (1) Extension (Ministry of Agriculture)
- (2) Research (Ministry of Agriculture)
- (3) Credit (agriculture and rural credit bank)
- (4) Inputs (fertilizer distribution company)
- (5) Health (Ministry of Health)
- (6) Education (Ministry of Education)

- c. Construction contractor
- d. Management and training consultant contractor

2. AID

- a. Project Officer
- b. Mission Evaluation Officer
- c. Mission Engineer
- d. Construction contractor
- e. T.A. contractor

3. Other donor(s)

Representative(s) as required.

4. AID/W

Specialists as required.

5. Evaluation contractor

Specialist as required.

B. Expertise Required

In preparing a scope of work and determining the expertise needed for an external evaluation of a complex irrigation project, it is essential to weigh the following factors:

- 1. Importance of the project to Mission strategy;
- 2. Importance of the project to national development goals; and
- 3. Seriousness of perceived problems inhibiting project's achievement of major outputs and purpose.

If the project is of key importance in relation to 1. and/or 2. above, and there appear to be significant project problems, a comprehensive review will certainly be indicated. In most projects of the type concerned, this can generally be expected to be the case. For this reason a balanced team of outside evaluators will normally be a requirement and a variety of specialists will need to be included. Perhaps the key factor for a perceptive and successful evaluation is a Team Leader with extensive background in irrigation but who also has three other key capabilities:

1. Demonstrated ability to identify the central problems in a development project and to pinpoint the root causes;
2. Capacity for integrating the various special issues into a clear relationship to the larger purpose and goal; and,
3. Providing leadership in relating to all the major factors in the project and in preparing an integrated final report.

Such a leader is an important asset in any evaluation. The specialists who make up the balance of the team should reflect:

1. The major emphasis of the particular project.
2. Key problems believed to be emerging as perceived by the project manager.

It is probable that a pattern can be projected because most major irrigation projects have a number of problems in common.

The most likely team composition would be as follows:

1. Team-leader/agriculturalist

-- a senior agronomist or agricultural economist with broad field experience in irrigation agriculture and successful leadership of analysis/evaluation and an established ability to write;

2. Senior soil scientist

-- with extensive knowledge of the problems of irrigation/drainage and soil management and ten or more years experience, including five years in developing countries;

3. Irrigation engineer

-- specialist in water management and control and irrigation O and M with ten or more years of experience, including at least five years in developing countries at management level in major irrigation projects;

4. Agricultural economist

-- with at least five years experience in developing countries in assessing the costs and benefits of irrigation projects at the micro-economic level;

5. Rural Sociologist

-- with at least five years experience in developing countries in the implementation and/or analysis of social organization, benefits, and impacts of irrigation development programs.

6. Survey statistician

-- with extensive experience in the assessment of data requirements and collection of data for economic and social benefits/cost analysis in a developing country setting,

The team should include at least two women, one of whom should be the rural sociologist or the agricultural economist with particular experience in assessing the role of women and the impact of the project on women and the households of which they are a part.

The evaluation team will play the major role in the evaluation (but working with designated representatives of the implementing agents) and receive technical guidance from the Director of the USAID Mission (or his designee) and from the head of the Host Country agency primarily responsible for project execution. Administrative guidance will be provided by the Director of the USAID Mission or his designee. The evaluation team members will interact with and draw on the knowledge of all those engaged in the project (both USAID and Host Country personnel, including contract staff).

## VI. METHODOLOGY AND PROCEDURES

### A. Introduction

For an in-depth evaluation of a major project involving a variety of components, it is reasonable to project about six weeks for the evaluation. For a less complex project, four weeks may be ample. In all probability, some data collection should be initiated in advance even if there has been a reasonably good body of data and information assembled at the design stage and during implementation. For this purpose, the team leader, the agricultural economist, and/or the rural sociologist and a statistician/data collection specialist may be needed for two to three weeks in advance of the rest of the team. Their task will need to be specified so as to target critically needed data as leading indicators of progress (e.g., food production, yields, and sales data) or problems such as soil salinity, water logging or water table data, and outputs such as training completed and construction accomplished as indicators of adherence to planning schedule. If it is a matter of checking and filling in gaps, one to two weeks lead time may be sufficient. If the need is for providing a substantial amount of data completely lacking, a somewhat longer effort may be required prior to arrival of other team members.

### B. Briefing

The basic work of the team should involve a careful review of the planning and design documentation. These documents should be assembled and made available to the team in advance with few exceptions. Interviews with planning and senior implementation managers should also be undertaken prior to the field work. The team should elicit the views of all these persons regarding any topics which were foreseen at the project planning stage as likely to present problems (e.g., salinity and water-logging, soil quality and tilth characteristics, farmer organization and collaboration or water management). This should be compared and contrasted with the project manager's perceptions of the issues. The duration of these interviews should be estimated (a matter of two to four days in all probability).

### C. Field Work and Draft Report Preparation

A period of two to three weeks of intensive field visits, interviews, technical analysis, etc. should be provided for the various specialists operating separately in their areas and developing detailed notes, data, and information. During this period, there should be bi-weekly meetings chaired by the team leader in which information is exchanged and hypotheses and/or tentative conclusions are reached. By the end of this period (three to four weeks after the start of the

evaluation), a first draft of the report should be formulated and circulated informally to the project manager and others most directly concerned with this project and the evaluation report. The draft should then be discussed, issues aired, questions or gaps highlighted. Any final information needed would then be gathered and a final draft report submitted at least three working days before a full dress meeting is held for discussion with senior managers and policy personnel of the USAID and Host Government with the full team still assembled to respond to questions.

#### D. Final Report Preparation and Content

The team leader should then be prepared to spend up to ten work days possibly with one other team member preparing and editing the final version of the report.

Both at the final draft stage and for the final version of the report, special attention must be given to the executive summary. It should present in clear, concise form those issues and problems which are of the greatest importance in relation to the project's success in achieving its purpose in such areas as:

##### 1. Management and administration

- o financial
- o organizational
- o personpower and personnel

##### 2. Resource deployment, availability, and performance

- o equipment
- o staff
- o water delivery/water use efficiency

##### 3. Progress in achieving outputs

- o construction
- o service delivery
- o input availability
- o equitability of distribution

##### 4. Achievement of project purpose

- o production progress
- o institutional development/maturity
- o social impacts

5. Major success or failures (general)

For each problem area highlighted a very brief paragraph should specify the nature and seriousness of the problem and in addition, there must be a series of brief statements regarding recommended corrective actions with citations of the portion of the report where the problem and the recommended actions are more fully discussed.

The main report must contain hard data to the maximum extent possible to support its conclusions. These should be collected from existing reports or during the evaluation itself. The data and an analysis thereof should provide clear support for the conclusions. The recommendations should be supported in all cases by a discussion describing the manner and degree to which the recommended actions may be expected to correct the observed problems.

## VII. LEVEL OF EFFORT

The scope of work should present a complete estimate of level of effort required to carry out the evaluation in terms of both time and costs and indicate the probable or preferred sources for the services required. In many instances it will be useful to include a commercial or institutional contractor from the host country to carry out a portion of the scope as well as providing for the services of a team from the U.S. In our example the structure of a budget may be illustratively set forth as follows:

### U.S. Contract Services

#### Personnel Services

	<u>Person Days</u>	<u>Costs</u>
Team Leader/agriculture	xx	xxx
Irrigation Engineer	xx	xxx
Social Scientist	xx	xxx
Agricultural Economist	xx	xxx
Rural Sociologist	xx	xxx
Data Analyst	xx	xxx
 Total U.S. Personnel	 xx	 xxx
 Other Direct Costs		
Travel and Transportation		xxx
Allowances (per diem)		xxx
Support and Miscellaneous		xxx
 Total Other Direct Costs		 xxx
Total U.S. Services and Support		xxx

#### Host Country Contract Services

Personnel ( __ person days)		xxx
Travel and Transportation		xxx
Allowances		xxx
Support and Miscellaneous		xxx
Total Host Country Services and Support		xxx
 Grand Total		 xxx



In general it will be valuable to have the evaluation costs built into the overall project budget and where that has been properly provided for the funding will be covered. It may have been omitted or under-estimated in which case Project Development Services (PDS) funds, local currency or other available funds may have to be provided to supplement project funding. The funding source must be clearly spelled out not only in the authorizing/funding document but also shown in scope of work as well.

## VIII. REPORTING REQUIREMENTS

### A. Format of the Report

A well-structured evaluation report will consist of the following components:

- o Executive Summary
- o Basic Project Document Face Sheet
- o Statement of Conclusions and Recommendations
- o Main Report
- o Annexes

Briefly, these sections of the report should be set forth with the following proportions and content:

### B. Executive Summary

This section of the report should very succinctly summarize (in two single-spaced pages) the purpose of the project and of this evaluation; major factors influencing the project (policies, constraints); elements of success and major difficulties; the principal conclusions of the evaluation and the main recommendations. The Executive Summary should not present detailed supporting information, but should leave the reader with a clear, succinct view of the issues, problems, and status of the project, and what the evaluators conclude are the main actions requiring executive consideration and determination concerning the project. In this instance, since the project is only partially implemented, the actions are likely largely to be concerned with the manner of further project development.

### C. Basic Project Identification Face Sheet

See sample format Section I above. It should contain all elements to clearly identify the project and its documentation, participants and timing of key events.

### D. Conclusions and Recommendations

The conclusions should succinctly state the judgments reached by the evaluators on each issue, the recommendations for action proposed, and who is expected to take each proposed action (i.e., agency and section responsible) wherever possible.

#### E. Main Report

This should be a complete, self-contained document with pertinent background on the project, description of major elements of the project, issues identified and considered, analytical approaches used, conclusions and recommendations. It should be organized in a manner to provide a well-integrated view of the project, its status, progress, problems, and/or failures. The report should also contain the rationale and justification for all conclusions and recommendations so that the reader can make a judgment of their validity.

#### F. Annexes

The annexes should include most or all of the following topics as well as any other details on significant questions examined which are too voluminous to be in the main report:

1. Scope of Work of the Evaluation
2. Description of the methodology and approach
3. Sites visited
4. Persons contacted by name, agency, and title
5. Observations regarding issues to be kept under surveillance or included in a subsequent evaluation
6. Recommendations regarding future evaluations for this or other projects.

#### G. Report Submission Arrangements

The requirements regarding the timing of the submission of the draft and final versions of the report should be clearly spelled out in the scope of work. Generally, a preliminary draft should be called for and submitted for review while the whole team is in position to participate in its review and revision. A draft final report should also be submitted and reviewed while most team members are available. The team leader should be required to submit the final version of the report in accordance with professional standards prior to departure from the field post.

Debriefings of the team should be required. During the analysis phase, these might be held informally at bi-weekly or similar intervals. At the time of submission of the preliminary draft report and of the final draft report, formal debriefings should be required.