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1.0 INTRODUCTION

1.1 Definition of a Project

- A specific set of activities or task that receive a fixed amount of money in a determined period of time to meet the proposed objective

- An undertaking that has a beginning and an end and is carried out to meet an established goal within cost, schedule and quality guidelines.

1.2 Stages in the Project Cycle of Donor Agencies

There are six main stages in the donor project cycle:

- **Country Strategy formulation**
  This provides a long term perspective on a donor aid program to a particular country and represents the broad strategy and priorities.

- **Country Program Development**
  This stage involves the identification and preparation of individual activities comprising the program. This is facilitated through sector studies and programming missions.

- **Project Identification**
  This stage involves the identification and initial assessment of individual projects within the context of an agreed country strategy and program. A preliminary project outline and logframe is prepared.

- **Project Design**
  This stage usually involves a pre-feasibility or feasibility study and the preparation of a design document. The logframe is finalized as is the work breakdown structure linking activities to outputs.
• **Project Implementation and Monitoring**
  This stage usually involves the preparation of a memorandum of understanding representing a government to government agreement on the project to be implemented; the negotiation of the contract with the executing or implementation agency; a revised implementation document if needed; annual workplans; and progress reports.

• **Project Completion and Evaluation**
  This stage involves the preparation of a project completion report. It also may require an end-of-project evaluation.

1.3 The LFA/WBS as a Common Tool for Design, Monitoring and Evaluation

The logical framework analysis and work breakdown structure are approaches that facilitate completing several stages in the project cycle. More specifically, they offer a common approach that provide clear linkages between:

• Project Design
• Project Monitoring
• Project Evaluation

This is accomplished by defining from the outset the activities related to each desired output and specifying what objectively verifiable indicators can measure the project's inputs, outputs, purpose and goal.
Figure 1

The Project Cycle at Donor Agencies

- Country Strategy and Program Formulation
- Identification
- Design + Approval
- Implementation and Monitoring
- Termination and Evaluation
- Project Completed
- New Project Cycle Starts
1.4 The Project Design Document

The project design document should include sections on:

- **rationale** (introduction and origin of project; developmental problem and relevance; priority to national government and to donor; target group and anticipated impact)

- **project description** (LFA + WBS stating goal, purpose, outputs, inputs and activities; total costs; location, duration)

- **project management during implementation**
  - project organization and management
  - implementation schedule
  - budget schedule
  - reporting and monitoring requirements

- **evaluation** (s)

- **cross sectoral issues** (women in development and gender equity; environmental sustainability)
2.0 **LOGICAL FRAMEWORK ANALYSIS (LFA)**

### 2.1 Historical Background

The logical framework approach to project design was developed for the United States Agency for International Development by the firm Practical Concepts in 1969.

It has been adapted by several bilateral and multilateral donor agencies and is used in some form by:

- African Development Bank (ADB)
- Australian International Development Assistance Bureau (AIDAB)
- British Overseas Development Aid (ODA)
- Canadian International Development Agency (CIDA)
- Food and Agriculture Organization (FAO)
- German Agency for International Development (GTZ)
- Japan International Cooperation Agency (JICA)
- Netherlands Ministry of Foreign Affairs, Directorate General for International Cooperation (DGIS)
- Norwegian Agency for Development Cooperation (NORAD)
- United States Agency for International Development (US AID)

### 2.2 Advantages of the Logical Framework

- It ensures that fundamental questions are asked and weaknesses are analyzed in order to provide decision makers with better information to approve new projects
It helps place the project within the larger context of a program or sector plan

It improves planning by highlighting linkages between project elements and external factors

It provides a better basis for systematic project monitoring and evaluation

It presents essential project information in a concise and clear fashion

It is relatively simple and easy to use. No special staff qualifications are needed

It distinguishes between what we can produce and the effects we would like to generate as a result of that production

It ensures continuity of approach when original project staff are replaced

It clarifies the extent and limits of responsibilities for project management

2.3 The Logframe Methodology

The logical framework methodology consists of identifying a hierarchy of objective statements regarding the goal, purpose, outputs and inputs (including activities) of a project. This is illustrated in Figure 2.

In the logframe methodology, the concept of causality, or cause and effect, is embodied. Examples of these causal linkages include:

- resource inputs used with activities to produce outputs
- outputs used to achieve the project purpose
- achievement of the purpose used to help contribute to the attainment of a higher order goal.

The basic premise in this hierarchy is that the achievement of each level is necessary (but may not be sufficient) for the achievement of the next higher level.
Figure 2
The Logframe as a Hierarchy of Objectives

<table>
<thead>
<tr>
<th>Important assumptions about linkages</th>
<th>linkages</th>
<th>Narrative summary</th>
<th>Objectively verifiable indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>If purpose, then goal</td>
<td></td>
<td>Goal</td>
<td>Measures goal achievement</td>
</tr>
<tr>
<td>If outputs, then purpose</td>
<td></td>
<td>Purpose</td>
<td>End-of-project status</td>
</tr>
<tr>
<td>If inputs (with activities), then purpose</td>
<td></td>
<td>Outputs</td>
<td>Output indicators</td>
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<tr>
<td></td>
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<td>inputs (including activities)</td>
<td>Personnel, equipment and activity schedules</td>
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</tbody>
</table>
However, factors beyond the control of the project planner and manager may affect the achievement of higher levels in the hierarchy. Thus, the linkage or progress from one level to the next is conditional on the continuing validity of the stated assumptions.

Goal

The goal is a generalized statement of intent. It represents the broad program or sector objective to which this project and other projects are expected to contribute. It identifies the overall development aim of a project.

Example of Goal Statement

“To improve the standard of living and quality of life for the people of Province X.”

Purpose

The purpose is the primary reason for doing the project and producing the outputs. It refers to the anticipated effect which is expected as a result of producing the project outputs. It describes the intended impact of the project on the direct beneficiaries, but is beyond the direct control of the project team since it relies on how the beneficiaries will make use of the project outputs.

Some donors (e.g., CIDA, US AID, The African Development Bank, and NORAD) insist there should only be one project purpose whereas others such as AIDAB accept that there can be several project purposes.

Example of Project Purpose

“To increase small farmer income in District Y of Province X.”

Project Outputs

Project outputs are the identified and measurable results expected from the provision of the inputs together with the execution of the activities. They are the results that should be guaranteed by the project team.
Figure 3

The Logframe Matrix

<table>
<thead>
<tr>
<th>Narrative Summary</th>
<th>Objectively Verifiable Indicators</th>
<th>Means of Verification</th>
<th>Important Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal:</td>
<td>Indicators of goal achievement</td>
<td>Statement of how data on goal are to be collected and measured</td>
<td>Assumptions for achieving goal targets</td>
</tr>
<tr>
<td>The broader (e.g., national level) objective to which the project contributes</td>
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<tr>
<td>Purpose:</td>
<td>Conditions that will indicate purpose has been achieved: end of project</td>
<td>How data on purposes will be collected and measured</td>
<td>Assumptions for achieving purpose</td>
</tr>
<tr>
<td>The primary reasons for the project</td>
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<tr>
<td>Outputs:</td>
<td>Magnitude of outputs</td>
<td>How data on outputs will be collected and measured</td>
<td>Assumptions for achieving outputs</td>
</tr>
<tr>
<td>The direct measurable results of the project</td>
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</tr>
<tr>
<td>Inputs:</td>
<td>Implementation target (type and quantity)</td>
<td>How implementation target will be monitored</td>
<td>Assumptions for providing inputs</td>
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<tr>
<td>The resources made available to the project</td>
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</tbody>
</table>
The outputs are the pre-conditions for achieving the project purpose. A project usually has 3 to 5 outputs needed to achieve the purpose.

**Example of Outputs**

- Increased rice production
- Functioning fertilizer and high yield variety rice seed distribution system in place
- Farmers trained
- Functioning credit system in place

**Project Inputs and Activities**

Project inputs are the resources made available to the project and may include people, equipment or finance. Project inputs, together with project activities, allow the achievement of outputs.

An activity is an action which is necessary to transform given inputs into planned outputs within a specified period of time. Project monitoring is based on observation of the execution of activities.

**Example of Project Inputs and Activities**

**Donor:** $.............

- Technical Assistance/Consultants $.............
- Equipment $.............
- Supplies $.............

**Activities:**

- Design distribution system
- Construct storage facilities
- Train staff
- Recruit farmers
- Develop training facilities and materials
- Conduct training
- Hire credit specialist
- Develop credit system procedures
- Train credit staff
Vertical Logic

The vertical logic (see Figure 4) is based on the principle of causality from inputs to goal. There are three causal links from a project's inputs to its ultimate goal:

- between activities and outputs
- between outputs and purpose
- between purpose and the ultimate goal.

The cause and effect linkages may be expressed in terms of “if...then” statements.

The inputs should be considered both necessary and sufficient to achieve the outputs. Outputs should also be necessary to achieve the purpose, but are usually not sufficient. Similarly, the achievement of the purpose is necessary, but usually not sufficient to achieve the broad goal. Other complementary projects may also be necessary to achieve the goal.

The Critical Assumptions are conditions that must exist if the project is to succeed, but which are not under the direct control of the project. They represent elements of uncertainty or risk. Where the risk is considered excessive, the project planner may wish to eliminate the assumption by including that area of concern in the project as an activity over which there is some control and certainty.

The hypothesis required by the Logical Framework Analysis at each level of the project is that all the items in the project necessary to achieve the results at the next higher level plus the assumptions made explicit about factors outside the project constitute the necessary and sufficient conditions to produce the results at the next higher level.

Horizontal Logic

The horizontal logic identifies and measures the results to be produced by the project at the various levels in the hierarchy.

There is a narrative summary of the goal, purpose, outputs and inputs.
Figure 4

The Vertical Logic In The Project

Goal

Purpose

Outputs

Inputs

Assumptions met

Assumptions met

Assumptions met

Assumptions met
The **objectively verifiable indicators** are the direct or indirect measures which verify the achievement of an objective. The indicators define the performance standard to be reached. They are the means for establishing what conditions will signal successful achievement of the project objectives in terms of:

- target group (*for whom*)
- time (*by when*)
- quantity (*how much*)
- location (*where*)
- quality (*how well*)

Indicators provide a basis for monitoring and evaluation. Due to the importance of the project purpose, the set of indicators at this level have been given the special name "End-of-project status."

Once the indicators are formulated, the sources of information to use them must be specified. The **means of verification** indicate:

- what information is to be made available
- in what form; and
- who should provide the information
Steps in Formulating the Indicators

Objective:  *Increased agricultural production*

- Identify indicator
  (e.g., *increased rice yield*)

- Specify target group
  (e.g., *small farmers cultivating 3 ha or less*)

- Set quantity
  (e.g., *500 small farmers increase yields by 50%*)

- Specify time frame
  (e.g., *between June 1993 and June 1994*)

- Set location
  (e.g., *district X*)

**Sample Phrasing of Indicator:**

500 small farmers in district X (cultivating 3 ha or less) increase their rice yield by 50% between June 1993 and June 1994, maintaining the same quality of harvest as the 1992 crops.
3.0 **Work Breakdown Structure** (WBS)

3.1 Definitions

*The WBS is both:*

- a systematic process of breaking down a project into hierarchical levels of work, gradually reducing the scope and complexity of the work packages.

- a graphic description of a project

The elements or the first level activities are the large discrete work packages of a project that are defined in terms of the project's outputs.

The second level activities are smaller specific work packages that must be executed within a specific time frame and financial limit.

The WBS facilitates the design and management of project that are defined in terms of result-oriented work packages that can be identified, costed, scheduled, organized, implemented, monitored and controlled.

A sample format for a WBS is shown in Figure 5.
Figure 5
Example of a Work Breakdown Structure Linking Project Activities to Project Outputs

Program Goal

Project Purpose

First Level Activities (Output related)

Second Level Activities

Project Management

- Revise design based on donor suggestions
- Finalize contract with donor
- Administers subcontracts with other consortia partners
- Submit progress reports to donor
- Participate in project evaluation
- Submit end-of-project report to donor
3.2 Linkage of the LFA

Project designers should first complete a LFA for the project. The outputs specified in the LFA become the link to the WBS and form the elements or first level activities that must be successfully completed in order to attain the project purpose. The linkage between the LFA and WBS is shown in Figure 6.

3.3 Advantages of the WBS

The Work Breakdown Structure links activities to specific outputs. It provides the basis for project management by activity. Breaking a project down into discrete work packages of activities provides the following advantages:

- the same activity groupings are used for design, reporting, monitoring and evaluation
- the responsibilities and accountability implementing various work packages is clarified
- control of the project throughout project implementation is facilitated by comparing actual activities (in financial, quality, and schedule terms) with planned activities
- the one page graphical presentation of the project provides donors with an easily understandable overview of the entire project.
4.0 MANAGEMENT ISSUES ADDRESSED IN PROJECT DESIGN

4.1 Organization, Roles and Responsibilities

The project designer must provide a clearly defined organizational chart for managing the project. This should identify reporting lines between the various major participants as well as those between the organization designated as the executing agency and the donor agency. A sample organization chart is shown in Figure 7.

Each project should have a designated Project Coordinator who will be held accountable for coordinating the delivery of the project.

Should several organizations be cooperating in a consortia for the execution of a project, there should be a clearly designated lead organization which will have overall responsibility with the donor for contracting, implementation and reporting. The lead organization or executing agency will sub-contract the other collaborating partners to provide specific services.

The roles and responsibilities for each consortia member must be clearly defined.

4.2 Implementation Schedules

The project designer should prepare an implementation schedule for each first and second level activity identified in the Work Breakdown Structure.

The easiest way to graphically illustrate the commencement, duration and termination of each activity is in the form of a Gantt chart. An example of an implementation schedule in the form of a Gantt chart is shown in Figure 8.
Figure 7
Sample Project Organization Chart

Donor Agency HQ

CIAT Office of Director General

CIAT Office of Deputy Director General/Research

CIAT Deputy Director of Finance and Administration

CIAT Project Development Office

CIAT Program Leader/Unit Head Responsible

CIAT Project Support Office

Associate Director/Institutional Relations

Institutional Research Partners

Financial Analysis and Reporting

Monitoring/Evaluation

CIAT Project Coordinator

Communication lines Reporting lines

CIAT Senior Research Staff
**Figure 8**

Sample Gantt Chart for Proposal Implementation Schedule of Activities by Quarter

<table>
<thead>
<tr>
<th>Activity</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 TRAINING</td>
<td></td>
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<tr>
<td>110 Conduct needs analysis</td>
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<tr>
<td>120 Prepare training materials</td>
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<tr>
<td>130 Deliver training workshops</td>
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<td>200 RESEARCH</td>
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<td>210</td>
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<td>220</td>
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<tr>
<td>300 PROJECT MANAGEMENT</td>
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<tr>
<td>310 Finalize contract with donor agency</td>
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<td></td>
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<tr>
<td>320 Finalize sub-contracts with institutional partners</td>
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<tr>
<td>330 Prepare Annual Work Plans</td>
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<tr>
<td>340 Participate in Project's Annual Steering Committee Meetings</td>
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<tr>
<td>350 Submit semi-annual project technical and final progress reports</td>
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<tr>
<td>360 Participate in end-of-project evaluation</td>
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<tr>
<td>370 Submit end-of-project report to donor agency</td>
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</tbody>
</table>
The implementation schedule identified in the project design facilitates the process of monitoring and evaluation because it provides the planned schedule against which actual progress in implementation can be compared.

4.3 Budget

The project designer must prepare the budget to cover the entire implementation period. It is preferable to show the budget broken down by both activity and standard object of expenditure as shown in Figure 9. Providing an activity-based budget facilitates monitoring and evaluation because it enables a comparison of actual versus planned expenditures for work packages that are directly linked to the project's outputs.

The project designer should ensure the budget includes:

- cost projections by standard object-of-expenditure (e.g., personnel, travel, supplies and services, document acquisitions, vehicle leases, indirect costs)
- cost projections by major activity (e.g., field research, training, policy development and information dissemination)
- cost projections by year of project and a grand total
- costs separated for executing agency and for sub-contracts with collaborating partners
- provision for indirect costs (e.g., 25%)
- provision for inflation (state assumption of inflation rate and indicate budget figures are stated in current $)
- rationale or underlying assumptions for each major budget item (e.g., costs for salary and benefits per full-time senior staff members; post doctoral fellow; research associate, research assistant, secretary, etc.)
Sample Budget Format
DONOR - GRANT NUMBER - AND PROJECT NAME
BUDGET BY ACTIVITY FOR THE YEAR —
IN US$ DOLLAR

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Activity I</th>
<th>Activity II</th>
<th>Activity III</th>
<th>Activity IV</th>
<th>Activity V</th>
<th>Activity VI</th>
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<tr>
<td>GRAND TOTAL</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
4.4 Monitoring and Reporting

Based on discussions with the donor agency, the project designer should specify the reports which the executive agency must submit to the donor. Project reporting is activity based and normally includes:

- annual work plans
- semi-annual or annual financial and technical progress reports
- end-of-project report

4.5 Evaluation

The project designer must identify whether mid-project and/or end-of-project evaluations are both planned and budgeted.

The project designer should also prepare a one page evaluation matrix specifying how the issues of rationale, effectiveness, efficiency and impact can be addressed in an evaluation. A sample evaluation matrix is shown in Appendix B and illustrative evaluation questions are shown in Appendix C.

The preparation of an evaluation matrix in the design stage facilitates later evaluation because it identifies what types of information must be collected throughout the implementation of the project.
5.0 CROSS SECTORAL DESIGN ISSUES

5.1 Women In Development (WID) and Gender Equity

Most donors attach priority to strengthening the full participation of women as equal partners in the development process. This is assumed to be fundamental to the achievement of sustainable development. In the case of small farm agriculture women play a role in all major activities including planting, fertilizing, weeding and harvesting.

Project designers must ensure that gender equity issues are addressed in the design and evaluation of development projects.

WID should be viewed as a policy and set of guiding principles that pervade all development activities. It is a cross-cutting issue in that it cuts across sectors, countries and donor aid instruments.

Women should be explicitly identified as part of the target group for the project. Gender disaggregated baseline data (pre-project) should be established. Project activities must be analyzed as to their potential to effect segments of the population in either a positive or negative manner. Results and impact must be analyzed in a way that can address gender equity issues.

The project design should explicitly identify which of the following groups of women are included as agents or beneficiaries of the project.

- female government officials
- female community leaders
- female poor
- female farmers
- female children
- female consumers
5.2 Environmental Issues

The project design document should specify:

- what are the environmental impacts
- how will negative impacts be minimized, controlled and monitored.
6.0 APPENDICES

6.1 Examples of Logframe Matrix and WBS
PROJECT MATRIX DESIGN CHECKLIST

These 29 steps will help you evaluate the strength of your project design. The Checklist has been tested in hundreds of projects over the past 17 years. In our opinion, it is the best checklist in existence. Put every MPDE Project Matrix design to this rigorous test.

1. □ The project has one Project Objective.
2. □ The Project Objective is not a reformulation of the Outputs.
3. □ The Project Objective is outside the management responsibility of the project.
4. □ The Project Objective is clearly stated.
5. □ All the Outputs are necessary for accomplishing the Project Objective.
6. □ The Outputs are clearly stated.
7. □ The Outputs are stated as results.
8. □ The Activities (components) define the action strategy for accomplishing each Output.
9. □ The Goal is clearly stated.
10. □ The if/then relationship between the Project Objective and Goal is logical and doesn't skip important steps.
11. □ The Assumptions at the activity level do not include any conditions precedent. (These are required before Activities (components) can begin).
12. □ The Outputs plus the Assumptions at that level produce the necessary and sufficient conditions for achieving the Project Objective.
13. □ The Project Objective plus the Assumptions at that level describe the critical conditions for achieving the Goal.
14. □ The relationship between the Activities and the Outputs is realistic.
15. □ The relationship between the Outputs and the Project Objective is realistic.
16. □ The relationship between the Activities (components) and Inputs/Resources is realistic.
17. □ The vertical logic among Activities (components), Outputs, Project Objective and Goal is realistic as a whole.
18. □ The Indicators at the Project Objective level are independent from the Outputs. They are not a summary of Outputs but a measure of the Project Objective.
19. □ The Project Objective Indicators measure what is important.
20. □ The Project Objective Indicators have quantity, quality, and time measures.
21. □ The Output Indicators are objectively verifiable in terms of quantity, quality, and time.
22. □ The Goal level Indicators are objectively verifiable in terms of quantity, quality, and time.
23. □ The Inputs described at the Activity (component) level define the resources, (people, materials, time, cost), required for accomplishing the Project Objective.
24. □ The Means of Verification column identifies where the information for verifying each Indicator will be found.
25. □ The Activities (components) Identify any actions required for gathering Means Of Verification.
26. □ The Outputs define the management responsibility of the project.
27. □ When reviewing the Project Matrix, you can define the evaluation plan for the project.
28. □ The Project Objective Indicators measure the project impact to be sustained.
29. □ The Output strategy includes a description of the project management systems.
### LOGICAL FRAMEWORK ANALYSIS

<table>
<thead>
<tr>
<th>NARRATIVE SUMMARY</th>
<th>OBJECTIVELY VERIFIABLE INDICATORS (OVI)</th>
<th>MEANS OF VERIFICATION (MOV)</th>
<th>IMPORTANT ASSUMPTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>GOAL</td>
<td>INDICATORS THAT GOAL IS BEING ACHIEVED</td>
<td>SOURCE OF CONFIRMATION DATA</td>
<td>ASSUMPTIONS FOR ACHIEVEMENT OF GOAL</td>
</tr>
<tr>
<td>LONG-TERM IMPACT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PURPOSE</td>
<td>INDICATORS THAT PURPOSE HAS BEEN ACHIEVED</td>
<td>SOURCE OF CONFIRMATION DATA</td>
<td>ASSUMPTIONS FOR ATTAINMENT OF PURPOSE</td>
</tr>
<tr>
<td>WHAT THIS PROJECT ACHIEVES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OUTPUTS</td>
<td>MAGNITUDES OF OUTPUTS DATES OF ACHIEVEMENT</td>
<td>SOURCE OF CONFIRMATION DATA</td>
<td>ASSUMPTIONS FOR PRODUCTION OF OUTPUTS</td>
</tr>
<tr>
<td>MAJOR RESULTS WHICH TOGETHER PRODUCE &quot;PURPOSE&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INPUTS</td>
<td>QUANTITIES - COSTS - TYPES</td>
<td>SOURCE OF CONFIRMATION DATA</td>
<td>ASSUMPTIONS FOR PROVISION OF INPUTS</td>
</tr>
<tr>
<td>RESOURCES FROM BOTH COUNTRIES FOR THIS PROJECT</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**WALSH AUTOMATION**
ILLUSTRATION OF VERTICAL LOGIC

Vertical logic attempts to describe the logical presentation of differing levels of objectives (Narrative Summary) of a project as well as external factors (Important Assumptions) which could influence their achievement.

**IMPORTANT ASSUMPTIONS**

Project Goal

**NARRATIVE SUMMARY:**

THEN Project goal

IF Purpose

THEN Purpose

**DEVELOPMENT PROGRAM HYPOTHESIS**

Purpose

IF Outputs

THEN Outputs

**DEVELOPMENT PROJECT HYPOTHESIS**

Outputs

IF Inputs

**IMPLEMENTATION HYPOTHESIS**

Inputs

**INITIAL ASSUMPTIONS**

Preliminary conditions necessary for the project to function.

To the extent that related projects of the same program also contribute to goal achievement.

To the extent that certain important conditions external to the project do not interfere with achievement of the purpose.

To the extent that certain important conditions external to the project do not interfere with the production of outputs.
## Project Design Summary

### Objective(s)
- Small Farmer rice income increased in Northeastern Region.
- Small farmer rice production increased in Northeastern Region.

### Important Assumptions
- Inflation doesn't exceed 12% per year.
- Sufficient "luxury" goods available for farmers to spend "Disposable" income.
- Farmers protected from unscrupulous merchants.

### Magnitude of Outputs

<table>
<thead>
<tr>
<th>Measure of Goal Achievement</th>
<th>Means of Verification</th>
<th>Important Assumptions</th>
</tr>
</thead>
</table>
| 1. Average farmer income raised from 100 baht per year in 1976 to 130 baht per year in 1978. | 1a. Sales & Market price figures.  
2a. As for 1 above. | 1. Price of rice does not fall below X baht/ton in 1977, and X baht/ton in 1978.  
2. Market absorbs all increased production each harvest.  
3. No spoilage or waste occurs in marketing/storage system. |
| 2. Small farmer income raised from 70 to 110 baht in same period. | 1a. Harvest Records: Dept. of Ag. extension agents surveys.  
2a. Review & Analysis by DOA experts.  
3a. Credit system records.  
3b. Survey of farmers for program satisfaction | |
| 3. Rice harvested by small farmers in 1978 is of better or equal quality (XX cracked) to rice harvested by same farmers in 1976. | 1a. Project records.  
2a. Project records, extension agent survey.  
3a. Project A/C records.  
3b. Extension agent reports.  
3c. Check survey by project manager.  
3d. Ag. extension agent reports. | 1. Extension agents correctly supervise farmer application of fertilizer.  
2. 10 inches of rain falls between May and October each year.  
3. Price of soya seed stays at 1976 levels so farmers will stay with rice project and not convert to soya. |

### Objectively Verifiable Indicators

<table>
<thead>
<tr>
<th>Conditions that will indicate purpose has been achieved: End of project status.</th>
<th>Means of Verification</th>
<th>Important Assumptions</th>
</tr>
</thead>
</table>
| 1. 30,000 farmers (owning 7 rai or less) increase rice yields by 50% between October 1976 and October 1978. | 1a. Harvest Records: Dept. of Ag. extension agents surveys.  
2a. 1976 DOA records.  
3a. Credit system records.  
2. Market absorbs all increased production each harvest.  
3. No spoilage or waste occurs in marketing/storage system. |
| 2. Rice harvested by small farmers in 1978 is of better or equal quality (XX cracked) to rice harvested by same farmers in 1976. | 1a. Project records.  
2a. Project records, extension agent survey.  
3a. Project A/C records.  
3b. Extension agent reports.  
3c. Check survey by project manager.  
3d. Ag. extension agent reports. | |
| 3. 95% of Farmers buy HYV seed for 1977 planting season. | 1a. Project records.  
2a. Project records, extension agent survey.  
3a. Project A/C records.  
3b. Extension agent reports.  
3c. Check survey by project manager.  
3d. Ag. extension agent reports. | |

### Outputs

<table>
<thead>
<tr>
<th>Magnitude of Outputs</th>
<th>Implementations Target (Type and Quantity)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Functioning fertilizer and high yield variety rice seed distribution system in place.</td>
<td>1a. 10 distribution centers constructed by 12/78.</td>
</tr>
<tr>
<td>2. Farmers trained.</td>
<td>b. X tons fertilizer and X unit seed distributed to target group by 12/78.</td>
</tr>
<tr>
<td>3. Functioning credit system in place.</td>
<td>c. 96% of all purchases paid for within 2 months of purchase.</td>
</tr>
</tbody>
</table>
| 1a. Design distribution system.  
2a. Construct storage facilities.  
3a. Train staff. | 2a. 3,000 farmers trained by 12/78.  
2b. 96% of those trained use new planting and cultivating techniques appropriately. |
| 2a. Recruit farmers.  
3a. Develop training facilities and materials.  
3a. Conduct training. | 3a. 3,000 baht issued in credits to 25,000 small farmers by 1978, by 30 credit area offices |
| 2a. Recruit farmers.  
3a. Develop training facilities and materials.  
3a. Conduct training. | b. Default rate does not exceed 2% of total loans. |
| 3a. Hire credit specialist.  
b. Develop system procedures.  
3b. Train staff. | c. Credit terms acceptable to local farm leaders. |

### Inputs

<table>
<thead>
<tr>
<th>Implementations Target (Type and Quantity)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a. 6 manmonths $15,000 baht 600,000 etc., etc.</td>
</tr>
</tbody>
</table>

### Project Purpose:

Small farmer rice production increased in Northeastern Region.
**PROJECT DESIGN SUMMARY**

**LOGICAL FRAMEWORK**

**NARRATIVE SUMMARY RESUME**

**OBJECTIVELY VERIFIABLE INDICATORS INDICATEURS OBJECTIVEMENT VERIFIABLES**

**MEANS OF VERIFICATION MOYENS DE VERIFICATION**

**IMPORTANT ASSUMPTIONS SUPPOSITIONS IMPORTANTES**

---

**Program or Sector Goal**

The broader objective to which this project contributes is to contribute to the improvement of agricultural productivity in Bangladesh.

**Objectives of the project**

- Measures of Goal Achievement
  - Production of rice and wheat higher than the 13 million tons produced now annually.
  - Production of jute more than the 65 million bales produced now annually.

**Conditions that will indicate purpose has been achieved**

- Plant with design capacity of 561,000 MT of urea per annum, operating at 50% of capacity in first year (11-85 to 10-86), rising to 90% in third year.

**Magnitude of Outputs**

- Production of 100 tons per hour package type natural gas fired steam boilers to produce superheated steam at a pressure of 100 kg/cm² (1420 psi) and a temperature of 400°C (752°F), complete with stack, piping, instrumentation, and all auxiliary equipment.
- Scope subject to final design and subsequent agreement amongst donors on final allocation of funds to components.

**inputs (Canadian component only):**

- **Steam generation facility** to generate steam for ammonia plant start-up, urea plant process purposes, and electric power generation in an associated captive power plant.
- Other distinct plant components (e.g., ammonia storage facilities) and other equipment and materials.

**Outputs (Canadian component only):**

- **Ammonia plant** and urea plant.
- **Auxiliary steam generation facility**.

**Implementation Target (Type and Quantity)**

- **Steam Generator (Type and Quantity)**
  - **A. 1.226.5 million**
  - **B. 2.7 million**
  - **C. up to 3.5 million**
- **Other Equipment and Materials**
  - **A. 1.226.5 million**
  - **B. 2.7 million**
  - **C. up to 3.5 million**

**Assumptions for achieving goal targets**

- No major crop damage due to flood, droughts, or cyclones.
- Delivery of related inputs (irrigation, seeds, chemicals) less than 1981/82 levels.
- Distribution of area in Bangladesh effective.

**Assumptions for achieving goal targets**

- Project commissioned prior to plant commissioning (1980 coordinated project).
- Skilled manpower available to manage and operate plant.

**Assumptions for achieving goal targets**

- Final equipment specifications & ratings do not materially change from those envisaged in the conceptual design - actual specifications & ratings will be subject to the process licence selected & final design by the General Contractor.
- A supply of natural gas in adequate quantity and quality delivered to the plant.
- An adequate supply of suitable treated water for boiler feedwater & minimum of 3 bill. kg/annum plant services.

**Assumptions for achieving goal targets**

- LUP's monthly progress reports, quarterly unaudited financial statements, annual audited financial statements.
- 4-monthly project review missions.
- Linkage with AID and COM.

**Assumptions for achieving goal targets**

- No undue delays in project execution.
- Efficient personnel with requisite skills assigned by UOM to the project.
- Rate of inflation not materially higher than anticipated.
- All necessary funds for local costs provided promptly by UOM.
- Sufficient foreign exchange allocated to project by other donors, and remain available to the project.
**Project Title and Number:** PAKISTAN - WAPDA MAINTENANCE TRAINING

**Programme or Sector Goal:** The Broader Objective to which this Project Contributes:
- To contribute to the optimal development and efficient utilization of Pakistan's power transmission systems.

**Past Reports:**
- Training instructors are retained and generate statistics to continue improvement.
- 500 KV systems show negligible transmission loss.
- Maintained system operations have decreased occurrence of system failure.

**Project Purpose:**
To ensure that a capability exists within WAPDA for the Maintenance of 500 KV and 220 KV transmission systems.

**Conditions that will Indicate Purpose has been Achieved:**
- An on-going maintenance training school that has produced graduate trainees for two years following the end of the Canadian on-site participation.
- A minimum of 100 students graduated over this time period.
- 500 and 220 KV maintenance systems are in operation.

**Outputs:**
- 500/220 KV maintenance training school;
- trained maintenance staff;
- trained instructors;
- 500/220 KV maintenance system.

**Magnitude of Outputs:**
- one school (fully operational);
- 20 protection/implement training graduates;
- 24 electrical maintenance graduates;
- 45 transmission line graduates;
- 5 maintenance instructors;
- maintenance procedures, schedules, and manuals.

**Implementation Target (Type and Quantity):**
- project approved by October 1, 1981;
- training school facilities completed January 1982;
- training begins January 3/82;
- training completed December 3/81;
- evaluation completed June 1984;
- four follow-up visits completed January 1987.

**Assumptions for Achieving Output Targets:**
- generating capacity continues to grow;
- technical capability to maintain existing and future 500 KV transmission systems at level approved in design;
- trained maintenance staff are retained in Pakistan in sufficient numbers to effect a proper maintenance system.

**Assumptions for Achieving Purpose:**
- trained instructors are retained at the school for sufficient time to permit the training of additional instructors;
- adequate trainees can be found who are capable enough in English;
- proper management of maintenance resources made available to the field;
- Pakistan's financial contribution will be available on a continuing basis for the maintenance and operations of the school;
- 500 KV system operational and sufficient spare available for function.

**Assumptions for Providing Inputs:**
- availability of sufficiently qualified WAPDA trainees and instructors (including the use of English);
- availability of Pakistan's financial contribution schedules;
- WAPDA funding approval;
- Canadian Consultant to fulfill.
Table 1. Sample Logframe

Project Name: **Maize Research Project**

<table>
<thead>
<tr>
<th>Narrative Summary (NS)</th>
<th>Measurable Indicators (OVI)</th>
<th>Means of Verification (MOV)</th>
<th>Important Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goal:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agencies use new maize varieties in Striga infected areas of sub-Saharan Africa</td>
<td>1.1 10 projects using new varieties and extension service recommendations data by 12/1996.</td>
<td>1.1 Documentation, extension bulletins, national agricultural surveys.</td>
<td>(Goal to Supergoal) 1 Price policies, infrastructure and extension support spread and use of technology.</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average yields increased by 20% compared to non-Striga projects by 1998.</td>
<td>1.2 Production of maize in Striga infected research areas increased by 40% by 12/1994.</td>
<td>1.1 On-farm research studies End of Project research reports.</td>
<td></td>
</tr>
<tr>
<td><strong>Purpose:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Striga-resistant maize varieties for use in sub-Saharan Africa created.</td>
<td>1.3 Production of maize in Striga infected research areas increased by 40% by 12/1994.</td>
<td>1.1 On-farm research studies End of Project research reports.</td>
<td>(Purpose to Goal) 1 Funds and mechanisms available to adapt maize varieties for local production. 2 Farm inputs including tools &amp; fertilizers available on local market.</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Striga-resistant maize varieties identified.</td>
<td>1.1 2 hybrid, 2 composite, and 4 open varieties identified by 12/1992.</td>
<td>1.1 Research reports, peer review, publications.</td>
<td>(Output to Purpose) 1 Research approach remains most feasible means of reducing losses from Striga infestation. 2 Research program is well managed and provides peer review.</td>
</tr>
<tr>
<td><strong>Outputs:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Striga-resistant maize varieties identified.</td>
<td>1.1 2 hybrid, 2 composite, and 4 open varieties identified by 12/1992.</td>
<td>1.1 Research reports, peer review, publications.</td>
<td>1 Research approach remains most feasible means of reducing losses from Striga infestation.</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seed multiplication capacity of selected sub-Saharan seed companies increased.</td>
<td>2.1 National seed company producing 200 mt of certified maize annually by 12/1994.</td>
<td>2.1 Seed company records, monitoring mission reports.</td>
<td>2 Research program is well managed and provides peer review.</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Striga research capacity of selected sub-Saharan research institutes increased.</td>
<td>3.1 2 maize breeders, 2 weed scientists, 1 agronomist and 1 plant biochemist trained by 2/1995.</td>
<td>3.1 Project progress reports training records, institute personnel records.</td>
<td>3 National seed company is functioning at 80% capacity.</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information network for Striga researchers established.</td>
<td>4.1 Research methods/ results disseminated through semianual network reports &amp; conferences from 1994-1996.</td>
<td>4.1 Network newsletters and mailing lists, reports on conferences.</td>
<td>4 Trained staff continue to work for research project.</td>
</tr>
</tbody>
</table>
Project Name: Maize Research Project (continued)

<table>
<thead>
<tr>
<th>Narrative Summary (NS)</th>
<th>Measurable Indicators (OVT)</th>
<th>Means of Verification (MOV)</th>
<th>Important Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Obtain IITA hybrid lines.</td>
<td>Inputs/Resources:</td>
<td>1.1 Research proposals, peer review plan, project disbursement records.</td>
<td>1 Constraints have been adequately analyzed and researchable problems identified.</td>
</tr>
<tr>
<td>1.2 Plant test plots.</td>
<td>Technical assist.</td>
<td>2 Project planning documents &amp; disbursement records.</td>
<td>2 Peer reviewers competent and process is timely.</td>
</tr>
<tr>
<td>1.3 Harvest &amp; measure yields.</td>
<td>researchers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.4 Analyze &amp; report results.</td>
<td>Prog. leadership</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1 Institutional assessment.</td>
<td>Network coord.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.2 Define equipment needs.</td>
<td>Peer reviewers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.3 Procure &amp; install equipment.</td>
<td>Equip/supplies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1 Training assessment.</td>
<td>Operating funds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.2 Identify trainees.</td>
<td>Total</td>
<td>3.1 (same as above)</td>
<td>3 Results from requisite research available.</td>
</tr>
<tr>
<td>3.3 Conduct training.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.1 Form secretariat.</td>
<td></td>
<td>4.1 (same as above)</td>
<td>4 Research program funding is for 8-10 years.</td>
</tr>
<tr>
<td>4.2 Establish membership.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.3 Produce newsletter.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.4 Conduct conferences.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.5 Publish findings.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Indicators**

In the second column of the logframe, indicators specify what type of evidence could be taken as a sign of achievement of objectives. Indicators should be defined in the same degree of detail as the objectives in the narrative summary column. They should be stated in terms of quantity, quality and time (and sometimes also in terms of place and cost). For example, an output indicator could be improved pest management practices distributed to one-quarter of the farmers in the area.
### Example Logframe matrix

#### Summary Logframe

<table>
<thead>
<tr>
<th>Objective level/code</th>
<th>Narrative summary</th>
<th>Verifiable indicators</th>
<th>Means of verification</th>
<th>Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goal</strong></td>
<td>An improved standard of living and quality of life for the people of Western Province</td>
<td>Primary school graduates</td>
<td>Department of Education records</td>
<td>That the people will use the improvements in health conditions to improve their living conditions and quality of life</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Secondary school graduates</td>
<td>[Department of Health] Records and KAP health surveys</td>
<td>[Assumptions]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>University graduates</td>
<td>[Assumptions]</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>KAP indicators (knowledge, attitudes and practice)</td>
<td>[Assumptions]</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Water supply quality and quantity meet national standards</td>
<td>[Assumptions]</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Use of Water Systems</td>
<td>Records maintained by Water Users Association</td>
<td>[Assumptions]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Revenue raised from users of the Health Service</td>
<td>Records maintained at Health Centres</td>
<td>[Assumptions]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>People's acceptance of Malaria control spraying</td>
<td>Malaria control spray records</td>
<td>[Assumptions]</td>
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<td></td>
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<td>[Assumptions]</td>
<td>[Assumptions]</td>
<td>[Assumptions]</td>
</tr>
<tr>
<td>Objective level/code</td>
<td>Narrative summary</td>
<td>Verifiable indicators</td>
<td>Means of verification</td>
<td>Assumptions</td>
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<td>----------------------</td>
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</tr>
<tr>
<td>**Purposes **(Component Objectives)</td>
<td></td>
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</tr>
<tr>
<td>1 Component: To develop sustainable water supplies for the people of Western Province</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2 Component: To develop a manageable rural health service accessible to all in Western Province</td>
<td></td>
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</tr>
<tr>
<td>3 Component: To reduce the incidence of malaria in children in Western Province</td>
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<tr>
<td>4 Component: To efficiently and effectively manage the Community Health Project for the achievement of defined implementation targets and project objectives</td>
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<tr>
<td>5</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Verifiable indicators</th>
<th>Means of verification</th>
<th>Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viable village water/ environmental health committees</td>
<td>Village survey and/or Village Health records</td>
<td></td>
</tr>
<tr>
<td>Operating health services</td>
<td>Department of Health records</td>
<td></td>
</tr>
<tr>
<td>Mobilisation of voluntary health workers</td>
<td>Village survey and/or village records</td>
<td></td>
</tr>
<tr>
<td>Incidence of malaria in children</td>
<td>Department of Health records</td>
<td></td>
</tr>
<tr>
<td>Project management efficiency and effectiveness indicators</td>
<td>Project Reports</td>
<td></td>
</tr>
<tr>
<td>Participation of target: communities in defining and implementing small scale: water and health plans at: community level</td>
<td></td>
<td></td>
</tr>
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</table>
### Component Logframe

<table>
<thead>
<tr>
<th>Objective level/code</th>
<th>Narrative summary</th>
<th>Verifiable indicators</th>
<th>Means of verification</th>
<th>Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPONENT: WATER DEVELOPMENT COMPONENT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 COMPONENT OBJECTIVE</td>
<td>To develop sustainable water supplies for the people of Western Province</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OUTPUT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>New or rehabilitated wells in 160 villages</td>
<td>New and rehabilitated wells in the 160 villages</td>
<td>Village water record system for the Province in the Department of Health</td>
<td>That the villages having been involved in the planning and design of water supplies will contribute to their operation and maintenance</td>
</tr>
<tr>
<td>ACTIVITIES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1.1</td>
<td>Survey existing wells and other water sources</td>
<td>Number of surveys and their location</td>
<td>Survey record maintained by the Department of Health</td>
<td>That planning will take place following this survey</td>
</tr>
<tr>
<td>Objective level/code</td>
<td>Narrative summary</td>
<td>Verifiable indicators</td>
<td>Means of verification</td>
<td>Assumptions</td>
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</tr>
<tr>
<td>1.1.2</td>
<td>Conduct resistivity tests and determine numbers of wells</td>
<td>Number of tests and their location</td>
<td>Resistivity records maintained by the Department of Health</td>
<td>That there will be at least one well in each village</td>
</tr>
<tr>
<td>1.1.3</td>
<td>Carry out construction and rehabilitation works</td>
<td>Implementation activities, Village involvement</td>
<td>Review of implementation schedule maintained by the Department of Health, Village contracts negotiated and kept by the Department of Health, Water User Association records</td>
<td>That the construction will be carried out by contract with the villagers with the project providing the equipment</td>
</tr>
<tr>
<td><strong>OUTPUT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2</td>
<td>Village technical staff trained in pump and well maintenance</td>
<td>Trained technical staff</td>
<td>Water User Association records</td>
<td></td>
</tr>
<tr>
<td><strong>ACTIVITIES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.1</td>
<td>Identify local people for training and determine existing skills</td>
<td>Technical people in the villages</td>
<td>Records in the Department of Health</td>
<td>That there are people in the village with a background suited to skills training</td>
</tr>
<tr>
<td>Objective level/code</td>
<td>Narrative summary</td>
<td>Verifiable indicators</td>
<td>Means of verification</td>
<td>Assumptions</td>
</tr>
<tr>
<td>----------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td>--------------------------------------------</td>
<td>----------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1.2.2</td>
<td>Plan content of courses</td>
<td>Course outlines</td>
<td>File in Department of Health</td>
<td>That the courses are appropriate to the needs and skills of village level technicians</td>
</tr>
<tr>
<td>1.2.3</td>
<td>Set up training facilities</td>
<td>Training complex within the Department of Health</td>
<td>Observation</td>
<td></td>
</tr>
<tr>
<td>1.2.4</td>
<td>Conduct courses</td>
<td>Courses in accordance with planned implementation</td>
<td>Records in the Department of Health</td>
<td></td>
</tr>
</tbody>
</table>

**INPUTS**

**Personnel**

- Technicians x 2
- Hydrogeologist x 1
- Groundwater Engineers x 2
- Drilling Adviser x 1
- Training Specialist
- Well Maintenance Specialist

**Procurement**

- Motor Cycles
- Vehicle
- Resistivity Equipment
- Office Equipment
- Drilling Rig
- Well Casing and Screens
- Hand Pumps
- Hand Tools
- Pump Manuals
- Training Equipment

**Training**

- Survey Training on Site
- Resistivity Short Course
LINKS BETWEEN THE LFA AND THE WBS

LOGICAL FRAMEWORK ANALYSIS

WORK BREAKDOWN STRUCTURE

GOAL

PURPOSE

OUTPUTS
1. FISH PLANT COMPLEX
2. FISHING VESSELS
3. TRAINED PERSONNEL

INPUTS

---

SMALL FISHING INDUSTRY AT CORAL POINT

---

100 BUILD A FUNCTIONING FISH PLANT COMPLEX
200 PROVIDE SUITABLE FISHING VESSELS
300 TRAIN PERSONNEL
400 MANAGE THE PROJECT
Work Breakdown Structure for Establishment of Project Design Office
(Activitys Linked to Outputs)

To Establish an Operational Project Design Office

**Outputs**
- Management
  - Prepare Annual Work Plan
  - Establish interface with Project Support Office, Graphics Arts and Writing/Editing; clarifying responsibilities
  - Obtain support staff services
    - PDO Research Associate
    - Bilingual Secretary
  - Establish file system for proposals and follow-up
  - Establish monthly status report on completed, in-progress and pending proposals

- Trained Staff in Project Design
  - Conduct needs analysis among CIAT leaders/Unit Heads
  - Prepare draft workshop training materials
  - Pilot test draft workshop training materials with program leaders and assistants
  - Revise workshop training materials
  - Offer workshop to interested CIAT HQ staff
  - Convert workshop training materials to distance education format for use by national partners
  - Provide workshops to key national partners re consortium proposals

- Program Proposals Revised and Submitted to Donors
  - Establish and circulate proposal preparation guidelines
  - Document internal proposal approval procedures
  - Prepare and circulate to program leaders a model proposal
  - Establish calendar of projected proposal workloads by program
  - Work with program staff preparing specific proposals on an as required basis
  - Work with national partners in preparing consortia proposals

- Donor Documentation and Data Base Completed
  - Follow up with donors on outstanding proposals
  - Collect proposal guidelines, Annual Reports, Sector policy papers from key donors
  - Establish donor data base re proposals
  - Review donor reports and prepare overviews of donor priorities and policies
  - Circulate donor overviews to CIAT program staff and donors
  - Visit donor representatives based in Bogota embassies
  - Attend CGIAR Centers' Week and visit WB, IDB, USAID and NY Foundations
  - Visit European and Asian donors to complete donor documentation needs
**Program Goal**
To attain self-sufficiency in food production in the Great Lakes Region of Africa

**Project Purpose**
To increase the productivity of beans through cooperation in a regional network for research and training

---

**Operational Network Coordination established**
- Coordination services for Network to be provided by CIAT during first 2 years
- Network procedures manual to be developed by CIAT
- Recruit local Network coordinator
- Train local coordinator during phase over period
- Develop institutional options for future network coordination beyond this phase

**Completed research sub-projects in bean improvement**
- Conduct research in:
  - higher yielding varieties of beans
  - promotion of climbing beans
  - management practices for reducing losses to diseases and insects
- Publish reports on research findings
- Dissemination of research findings through regional seminars

**Institutional Strengthening and Trained National Scientists and Technicians**
- Organize workshops on participatory research
- Organize workshops on communications training
- Prepare didactic material
- Provide on-the-job training for scientists and technicians
- Train local coordinator in technical reporting to donor
- Participate in specialized regional workshops in Africa
- Publish reports of seminars and regional conferences

**Project Management**
- Revise design base on donor suggestions
- Finalize contract with donor
- Provide administrative support including purchase of equipment
- Coordinate annual multi-disciplinary regional workshops
- Prepare annual workplans
- Prepare/submit annual progress reports to donor
- Participate in project evaluation

---

**Project Network**
- Coordination services for Network to be provided by CIAT during first 2 years
- Network procedures manual to be developed by CIAT
- Recruit local Network coordinator
- Train local coordinator during phase over period
- Develop institutional options for future network coordination beyond this phase

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- Conduct research in:
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---

**Figure 2. Work Breakdown Structure of Project Activities**
Work Breakdown Structure of Project Activities

**Program Goal**
To increase the season and area of bean production in developing countries where chilling limits production

**Project Purpose**
To develop methodologies for genetic transgenic *Phaseolus* beans with improved chilling tolerance

**First Level Activities** (output related)
- Development of genetic constructs for chilling tolerance (at Hamburg and Hannover)
  - Construction of antisense DNA
  - Construction of genetic systems
  - Test on gene expression
  - Training

**Second Level Activities**
- Development of bean transformation techniques and transgenic bean plants (CIAT and Hannover)
  - Conduct trials with *Agrobacterium* mediated transformation
  - Conduct trials with particle bombardment-mediated transformation
  - Plant regeneration
  - Testing tissues and plants for transformation
  - Training

- Trained developing country scientists (CIAT)
  - Conduct training on transformation techniques
  - Conduct training on regeneration techniques
  - Conduct training on safe greenhouse testing
  - Conduct training on safe field testing (eventually)
Con’td
Work Breakdown Structure for Project Management

Management

CIAT
- Revise design based on BMZ suggestions
- Finalize proposal documents
- Finalize contract with BMZ
- Coordinate training
- Prepare/submit annual progress reports to donor
- Participate in project evaluation
- Prepare End-of-Project Report

BMZ
- Finalize approval of research proposal
- Finalize contract
- Approve and respond to progress reports
- Conduct project evaluation
Work Breakdown Structure of Project Activities

Program Goal
To improve the nutritional and economic well-being of rice growers and low-income consumers in the Caribbean through sustainable increases in rice production and productivity

Project Purpose
To strengthen and consolidate national rice research, training and development programs in the Caribbean through a network that becomes administered by its members

First Level Activities (output related)

Germplasm Enhancement
- Introduce and create genetic variability
- Support local breeding and screening
- Support research on resistance/tolerance to local stresses
- Conduct research on grain quality market related traits
- Coordinate breeders' workshops

Integrated Crop Management
- Evaluate appropriate machinery
- Promote use of improved cultural practices
- Integrate pest management alternatives
- Assess technical and economic inefficiencies/constraints
- Develop crop rotation possibilities
- Research on gender implications of ICM

Training and Technology Transfer
- Support local rice production courses
- Coordinate in-service training, workshops, and conferences
- Carry on cascade training
- Support advanced degree training
- Support information exchange mechanisms

Second Level Activities
Cont'd
Work Breakdown Structure for Project Management

Transfer of Network Coordination to Member Countries
- Transfer database to CRIN members
- Train CRIN scientists on managing the Network
- Identify options (including some user pay) for future network financing

Institutional Strengthening
- Provide equipment for specialized labs (grain quality and milling)
- Provide field experimental equipment
- Provide germplasm conservation facilities
- Provide seed storage and processing facilities
- Provide biological control facilities
- Provide data processing facilities
- Provide library and documentation facilities

Management
- Revise design based on donor suggestions
- Finalize contract with donor
- Finalize sub-contracts
- Provide administrative support including purchase of equipment
- Coordinate regional courses and workshops
- Prepare annual workplans
- Prepare/submit semi-annual progress reports to donor
- Participate in project evaluation
- Prepare End-of-Project Report
Work Breakdown Structure of Project Activities

Program Goal
To improve the nutritional and economic well-being of rice growers and low-income consumers in the Caribbean through sustainable increases in rice production and productivity

Project Purpose
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- Provide data processing facilities
- Provide library and documentation facilities

Management
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- Finalize contract with donor
- Finalize sub-contracts
- Provide administrative support including purchase of equipment
- Coordinate regional courses and workshops
- Prepare annual workplans
- Prepare/submit semi-annual progress reports to donor
- Participate in project evaluation
- Prepare End-of-Project Report
Agenda of Workshop on Project Design

1.0 INTRODUCTION

- CIAT context for increased emphasis on projects
- Characteristics of projects
- The project cycle

2.0 DONOR APPROACHES TO PROJECT DESIGN

- Background to the LFA approach
- Who uses the LFA approach
- Advantages of the LFA approach

3.0 CONCEPTUAL FRAMEWORK

- Hierarchy of input-output relationships
- Project boundaries and Narrative Summary
- Beginning Project Status - End of Project Status
- Objectively Verifiable Indicators
- Means of Verification
- Critical Assumptions
- The Log Frame Matrix
  - Grouping outputs and activities
- The Work Breakdown Structure

4.0 OTHER DESIGN ISSUES

- Management issues
- Women in development (gender issues)
5.0 THE PROJECT DESIGN DOCUMENT

- Rationale
- Project Description
- Project Management

6.0 PRACTICAL EXERCISE
MEMORANDUM
PDO-067-93

TO: Management Committee Members
Unit Heads

FROM: Robin H. Ruggles
Project Development Officer

DATE: May 13, 1993

SUBJECT: "Suggested Format For Project Outlines"

Pleased find attached the suggested format for the project profiles you are in the process of preparing.

The format asks for a description of the required core competence, the partners, rationale and innovativeness. This is accompanied by two annexes (i.e., the Logical Framework Matrix and the Work Breakdown Structure) which provide the project description.

We can discuss any suggestions for improvement at next week's workshop.

Attachment

File: PDO 4.16.S
PROJECT PROFILE

Title:

Proposed Donor:

CIAT Project Coordinator:

Consistency With CIAT Mid-Term Plan & Strategic Priorities:

Opportunities for CIAT Inter-Program Cooperation:

CIAT Core Competence:

Institutional Collaborating Partners and their Comparative Advantage:

- NARs
- NGOs
- regional bodies
- other international centers
- universities

Developmental Rationale/Need:

- Identification of the problem and its importance to the developmental needs of the country or region
- Intended Beneficiaries (target group)
- Anticipated impact
- How will this research help people
Relevance to National Priorities
(Evidence that the proposed research topic is considered a priority by the NAR and the national ministry of agriculture and/or planning)

e.g., Consistency with their 5 year Plan

Relevance To Donor Priorities:
reference to the donor sector or country programming strategy, if available

Innovativeness:
(What is new or innovative and how does the proposed research represent a significant departure from other work in this area?)

Project Description:

Figure 1
Provide one or two page attachment of logical framework matrix showing goal, purpose, outputs, inputs and major activities, objectively verifiable indicators, means of verification and critical assumptions

Figure 2
Provide one page attachment of Work Breakdown Structure linking activities to outputs and purpose/goal.

Total Project Budget:

Proposed Type of Funding:
○ Unrestricted Core ○ Restricted Core ○ Complementary

Implementation Period:
## Logical Framework Matrix for Project Design

<table>
<thead>
<tr>
<th>Narrative Summary</th>
<th>Objectively verifiable indicators</th>
<th>Means of verification</th>
<th>Important Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Program goal:</strong></td>
<td>Measures of goal achievement:</td>
<td>The way that the indicators can be objectively verified</td>
<td>Assumptions for Achieving Goal</td>
</tr>
<tr>
<td>The reason for the project, the desired end toward which the efforts are directed (program or sector goal), and for which the project is a logical precondition</td>
<td>Conditions which will indicate that the goal has been achieved</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Project Purpose:</strong></td>
<td>Conditions that will indicate that the purpose has been achieved: End of project status</td>
<td>The way that the indicators can be objectively verified</td>
<td>Assumptions for Achieving Purpose</td>
</tr>
<tr>
<td>That which is expected to be achieved if the project is completed successfully and on time. The &quot;real&quot; or essential motivation for producing outputs</td>
<td>The objectively verifiable condition which is expected to exist if the project achieves its purpose. The signs which will indicate that the project is a success</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Outputs:</strong></td>
<td>Magnitude of Outputs</td>
<td>The way that the indicators can be objectively verified</td>
<td>Assumptions for Achieving Outputs</td>
</tr>
<tr>
<td>The specific kind of results that are expected from good management of the project inputs</td>
<td>The parameter and magnitude of the results and the projected completion dates</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Inputs and Activities:</strong></td>
<td>Resources and Expenditures for each activity:</td>
<td>The way that the indicators can be objectively verified</td>
<td>Assumptions for Providing Inputs</td>
</tr>
<tr>
<td>Resources and activities necessary to produce the outputs</td>
<td>The types and cost of resources for each activity</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Example of a Work Breakdown Structure Linking Project Activities to Project Outputs

Program Goal

Project Purpose

First Level Activities (output related)

Second Level Activities

Project Management

- Revise design based on donor suggestions
- Finalize contract with donor
- Administer subcontracts with other consortia partners
- Submit progress reports to donor
- Participate in project evaluation
- Submit end-of-project report to donor
TO: Management Committee Members
   Unit Heads
FROM: Robin H. Ruggles
       Project Development Officer
DATE: May 13, 1993
SUBJECT: "Training Module on Project Design"

Pleased find attached a training module on project design which goes into considerably more detail on the LFA/WBS approach than did the CIAT Guide you recently received.

You will notice in the Appendices that there are examples and supporting notes on the LFA and WBS from various donors (e.g., US AID, CIDA, AIDAB, ODA) and from actual CIAT special projects previously submitted.

Sections 2 and 3 of the module provide the conceptual framework for designing projects whether they be for internal review or for outside presentation to donors. A few other sections (e.g., sections 4 and 5) deal with design issues that are primarily of interest to donors.

We will be focusing on Sections 2 and 3 during next week's workshop.

I hope you find the material helpful.

Attachment
MEMORANDUM
PDO-062-93

TO: Management Committee Members
Unit Heads

FROM: Robin H. Ruggles
Project Development Officer

DATE: May 12, 1993

SUBJECT: "A CIAT Guide to Project Identification, Design, Approval and Administration"

The attached guide has incorporated suggestions made at last September's Management Committee meeting and has been reviewed by the three Management Committee members assigned for that task.

Since CIAT is now moving quickly to a project orientation for its "total program" there will, no doubt, be additional suggestions in the next few months that can further improve the document.

At this stage, it should be viewed as a Working Document and we will plan on incorporating further revisions.

Many donors have adopted the Logical Framework Analysis/Work Breakdown Structure approach to project design. There are, however, a number of differences in project design terminology used by the various donors. The CIAT guide uses the US AID project design terminology since US AID was the agency that first developed the LFA approach. Other donor agencies subsequently modified the US AID version.

A separate training module on project design will soon be distributed. This provides greater detail on the LFA/WBS approach to project design.

Attachment
Dr. Nores announced at last week's Principal Staff meeting that CIAT will immediately begin planning its "total program" activities in a series of suggested projects that reflect the core expertise of the Institute and that are consistent with the general directions outlined in the Mid-Term Plan.

We are pleased to invite you to participate in a half-day workshop on project design to be given to different CIAT groups on Monday and Tuesday in the Sala Tairona.

Because of prior travel commitments, the Resource Management Leaders and DDG will all take the workshop on Monday, May 17th. The list of participants for each of the two workshops and the agenda are provided in the attachments.

A background "working paper" entitled "A CIAT Guide To Project Identification, Design, Approval and Administration" is being distributed to you this week. Section 2 of this Guide has a few pages devoted to project design.

The Workshop will focus primarily on project design using the Logical Framework Analysis/Work Breakdown Structure approach. A training module on project design will be distributed to you. This module will go into more detail than what is provided in the Guide.

The Workshop will be repeated for other CIAT staff in the coming months.

I look forward to seeing you at next week's seminar.

Attachments
Workshop on Project Design

Participants!

Monday, May 17 /93
8:00 - 12:00
- Jacqueline Ashby
- Rupert Best
- Tony Espino
- Gilberto Gallopin
- Fritz Kramer
- Filemón Torres
- Raúl Vera
- Mark Winslow

Tuesday, May 18 /93
8:00 - 12:00
- Jesús A. Cuellar
- Elizabeth Goldberg
- Tom Hargrove
- Rigoberto Hidalgo
- Peter Kerridge
- Francisco Morales
- Douglas Pachico
- William Roca
- Jorge Saravia

Place:
Sala Tairona

Workshop Facilitators:
Robin Ruggles
Gerardo Hábich