

Document No.:	
Distribution:	General
Date:	16 October 1998

**International Centers Week 1998
October 26 - 30
Washington D.C.**

Shaping the CGIAR's Future

Proposed Logical Framework for the CGIAR System

As agreed at MTM98, TAC has prepared a proposal for a logical framework to identify data essential for the evaluation needs of the CGIAR and to develop best practice guidelines. It will be discussed, in parallel session, under agenda item 4 – CGIAR Research Agenda

The proposal will be introduced by the TAC Chair. He will also convey the Committee's recommendations on next steps for making the framework operational. At the conclusion of the discussion, the session chair will summarize the decisions reached.

Proposed Logical Framework for the CGIAR System

TAC Secretariat

Food and Agriculture Organization of the United Nations

September 1998

Table of Contents

	Page
1. Introduction	4
2. Relation between Logframe at Centre Level and at CGIAR System Level	5
3. Generic Considerations	8
4. Proposed CGIAR System Logframe	10
4.1 Synopsis of Proposed CGIAR System Logframe (September 1998)	10
4.2 Indicators for CGIAR Goals	10
4.3 Indicators for Intermediate Goals	11
4.4 Indicators for Purposes	11
4.5 Indicators for Outputs	12
5. Outlook: Open Questions and Tasks Ahead	15
 Annex 1: Developmental Hypotheses	 17

Proposed Logical Framework for the CGIAR System

1. Introduction

By 1996, it was widely recognized that the CGIAR's description of its work was no longer consistent with frameworks used by others, including those who financed the System. For example, lines of work were described in terms of inputs rather than outputs and the classification system was deemed less useful than alternative approaches. In effect, better practice was now available. Interest mounted in reassessing and, perhaps, remodelling the format then in use.

In the autumn of 1996, TAC initiated a series of discussions and workshops to review the existing classification scheme for CGIAR research activities and to develop a logical framework ("logframe") in support of research planning and impact assessment. In order to ensure a broad spectrum of expertise and perspectives, a cross section of actors and experts both from within and outside the CGIAR System was invited to participate in this development. At each stage, feedback from the centres was sought and incorporated. Progress reports were circulated by TAC, following workshops in Feldafing, Germany, in February 1997 and 1998. The process was explicitly designed as a consultative one.¹

The present document sums up results at a decisive stage - the concept is ready for step-by-step implementation. At the same time, TAC wants to reaffirm the notion that the framework is open to further improvement and adaptation. While not all questions can be answered simultaneously on the basis of a clear logical framework, solutions can be incorporated in a collaborative and constructive manner.

The logframe discussed here clearly reflects the change away from an activity/input to a project/output focus. It offers a higher degree of transparency in linking outputs to goals than in the past. The positive effects of these changes will include better coordination and management within the System and within the centres, more effective participation of NARS and others, and greater accountability to members and other stakeholders.

Among its characteristics, the logframe requires the development of a clear, tightly drawn logical relationship between outputs, purposes, and the ultimate goals of the System. In the case of the System's more basic research, the framework must recognize that its outputs will be directed as inputs to other projects which, in turn, move toward the attainment of the same goals. One benefit of these characteristics is that impact assessment and performance evaluation can be more effectively integrated and utilized. Taken together, the logframe should further strengthen

¹While TAC served as organizer and convener, inputs were made by many members of the CGIAR and of its Finance and Oversight Committees as well as IAEG, Centre Directors, Board Chairs, CGIAR Secretariat, NARS and a number of outside experts. TAC gratefully acknowledges support received from the Government of Germany and from DSE.

priority setting by the System, by centres, and by members. As well, it will assist members' efforts to be accountable to their constituencies.

Applying the logframe described here for future research planning should not be an additional burden for researchers and managers. In due course, it will replace the present approach(es). While it would be unrealistic to believe that a logframe reduces the overall time to be devoted to research planning, it is safe to assume that the final product can be delivered more efficiently. As well, reporting about implementation and achievements will be greatly simplified. Finally, once basic principles and conventions are established, it will support creativity and encourage new ventures by providing a clear framework for their entry into the research agenda.

To sum up, the rationale for adopting the logframe approach at System, centre and project level is:

- 1 to increase transparency at all levels for members by establishing clear logical relationships between inputs, expected outputs, and impact to be achieved;
- 2 to aid scientists at the centres as well as their collaborators in partner organizations to better plan, implement and evaluate research efforts;
- 3 to provide a meaningful and concise way of aggregating projects both at the centre as well as System level;
- 4 to streamline research management instruments.

2. Relation between Logframe at Centre Level and at CGIAR System Level

A number of centres have logframes which are in line with that presented here. In order to fully realize the potentials of the logframe approach, the planning processes of the System and the centres must be congruent and both must be consistent with CGIAR goals. This requires a tight logical relation between the logframe of a particular centre research project, the centre logframe and the strategic logframe for the System as a whole (see diagram). In order to reduce possible miscommunication, use of a common terminology is absolutely essential.

What follows here largely describes the System-level logframe. Even so, implications for centre-level logframes are noted. Moreover, design of the System logframe started from the precept that it must be able to accommodate centres' logframes.

RELATIONS AMONG LOG FRAMES: SYSTEM, CENTRE, AND PROJECT

Logical frameworks will cover each of three major levels. The most detailed will be those at the project level. For each centre, the projects can be aggregated into that centre's logframe. In turn, the centre logframes can be aggregated into the System's logframe. At each step, of course, detail will be reduced. At the same time the resulting conceptual framework will support relevant decision making.

CGIAR System Logframe

Mission = overall raison d'etre for the CGIAR System	
Goal = overall benefits for target population / environment	Indication Description of development hypothesis
Intermediate Goal = direct benefits for beneficiaries	Indicators to specify / measure achievement of intermediate goal
Purpose = utilization of outputs by direct clients of CGIAR System	Indicators to specify / measure achievement of purpose
Outputs = products (tangible/intangible) delivered by the System	Indicators to specify / measure achievement of outputs

Centre Logframes

Project Logframes

Terminology

- 1 **Goals:** Overall benefits for the target population which define the overarching goals of the CGIAR. The chain connecting outputs for which the CGIAR is responsible to its goals is long, but well articulated. Even so, many factors will influence goal attainment and measuring a change which is unequivocally attributable to CGIAR outputs is notably difficult.
- 2 **Intermediate Goals:** Direct benefits resulting from the uptake of innovations which include outputs from the CGIAR.
- 3 **Purposes:** Utilization of the CGIAR outputs by those who receive them.
- 4 **Outputs:** Defined products (tangible / intangible) delivered by projects, for which the CGIAR is responsible, but which are generally produced together with partners.
- 5 **Indicators:** Performance standards with observable characteristics which permit monitoring the achievement of outputs, purposes and goals.
- 6 **Milestones:** Key intermediate targets necessary for achieving and/or delivering the outputs of a centre project within an agreed timeframe.
- 7 **Assumptions:** Conditions which strongly influence the attainment of outputs, purposes, and goals, but which are outside the influence of the CGIAR.

All outputs of the CGIAR System are produced through centre research projects. Centre outputs are those for which the CGIAR is responsible, but to which others may contribute. Each output contributes to one or more System outputs.

The same relation holds true for the purpose level and the level of intermediate goal, given that centre and System logframes feature the same central concepts (outputs, purposes, goals, and indicators) and related definitions. The justification of a project proposal will therefore depend on the plausibility and probability with which project outputs will contribute to the achievement of the project's purpose as well as to the purpose and goals of the CGIAR System as a whole.

The general indicators used to describe and measure the achievements at the System level must be able to encompass indicators specified by the centres at the project level. At the System level, however, indicators are necessarily more abstract than at the centre level as they must cover a multitude of different projects.

Indicators for centre project logframes can be and necessarily must be more specific with respect to:

- 1 the qualitative dimensions specifying the focus of a particular project
- 2 the formal criteria including (wherever feasible and meaningful)
- 3 clearly defined direct user groups and ultimate beneficiaries
- 4 quantitative targets
- 5 region / location
- 6 time frame
- 7 The degree of detail needed for each indicator is determined by its utility as a management tool, i.e., it must be detailed enough to support effective decision making. Precision levels

may therefore vary between types of projects (e.g. basic versus applied research) and corresponding planning parameters (e.g. more detailed at output, than at intermediate goal level).

Indicators at the System and at the centre level interact:

- 1 Indicators will thus evolve/mature over time as the iterative process of parallel development of the project and System logframes goes on, each contributing to and adjusting to the refinement of the other.

Note that within centre logframes, detailed planning which identifies the main activities required in order to produce the project outputs is useful. Here, milestones play the role of indicators. Formulated for each activity, these allow the management and monitoring of the implementation of project activities. Milestones are therefore important tools for project steering at centre level. However, at the CGIAR System level, as no such steering is done, these details are not required. Therefore, activities and their corresponding milestones are not included in the CGIAR System logframe.

3. Generic Considerations

In developing the logframe, several concepts and phrases were common to descriptions of outputs, purposes, and goals or to indicators. Some of these emerged from the CGIAR's poverty alleviation and resource conservation goals, others from the System's concerns for efficiency. Still others came out of the formal considerations of logframe analysis. It was decided to lay out these generic considerations in one place rather than to repeat them in virtually each description of outputs, purposes, and goals.

The development hypothesis on which this logframe's lines of cause and effect are based is the following: that research on technology and policy will lead to the use of improved methods and inputs, that these will increase productivity, that increased productivity will lead to higher incomes and ultimately to less pressure on natural resources, and that these outcomes will contribute to achieving CGIAR goals. Centre assumptions will vary from output to output and will, ultimately, be a part of the formal description of centre outputs.

It is understood in what follows that the outputs are focused on productivity, resource conservation, and the needs of the poor. Given the System's goals, outputs will be international public goods, often tending to be intermediate goods; importance will be given to gender, especially as it relates to alleviation of poverty among poor, rural women; and sustainability will have its role in improved systems. The outputs from basic research and from much of the germplasm collection and categorization will have a longer pathway to objectives, but are nonetheless targeted, and fit equally well within the logframe. Outputs will usually involve collaborative work with a broad range of partners both from within and outside the CGIAR community and frequently will include participation with farmers. Finally, it is understood that others, e.g., NARS, will develop their work from an array of outputs, only some of those from the CGIAR. However, given that this presentation deals with the CGIAR, outputs for which it is responsible are featured.

As for formal consideration in logframe analysis, given that centre projects will include information on timeframe, estimated magnitude of payoffs, probabilities of success, geography/region of application, and other quantitative measures where relevant, these dimensions - all available from centre project descriptions - could be aggregated across Centre outputs to characterize System performance. At times it will be useful to do so.

At the System's level, some assumptions are made which condition success: adequate and stable funding for the CGIAR System, adequate and stable funding for collaborating NARS, continued commitment of relevant actors at all levels to goal achievement, the existence of viable local institutions for knowledge transfer, relatively stable global/regional/national political and economic conditions. At project level, these assumptions must be elaborated in greater detail and be the objects of monitoring and evaluation.

At a more specific level, and probably varying in their concordance with facts from place to place, are assumptions about producer access to knowledge about improved technology and policy, about the availability of required inputs (e.g. to improved seeds), and about producers' motivation to adopt the technologies to which CGIAR outputs contribute. This last is largely in the hands of research systems, especially NARS. The others are a part of the external environment and will vary from country to country. Centre decision making will be influenced by NARS observations on these issues. At the System level, unless there is solid evidence to the contrary, decision making acts as if there is no reason to select one sector over another or one commodity over another because of differences in access to knowledge or inputs.

Finally, the descriptions that follow frequently refer to users and to products and information being accessible. Users are both direct and ultimate, and range from NARS to farmers and consumers, depending on the hierarchy of ends. Accessible products are those which are available in a timely way and in an appropriate format. They are useable if they take into account the knowledge, resources and motivation of potential users. It is understood that the latter are not static but may be positively influenced by the quality of CGIAR outputs.

4. Proposed CGIAR System Logframe

4.1 Synopsis of Proposed CGIAR System Logframe (September 1998)

Goals	1. Poverty is alleviated, especially for the most vulnerable groups.						
	2. The environment is protected.						
	3. Sustainable food security is achieved.						
Intermediate Goals	Productivity of resources in Agriculture, Fisheries and Forestry is increased and the sustainable management of natural resources is improved.						
Purposes	1. NARS develop improved production systems which will effectively raise productivity while conserving biodiversity, land and water.						
	2. Performance of NARS and regional programmes is improved.						
	3. Improved policies involving CGIAR outputs are put into practice.						
	<u>Note:</u> a) Purpose attainment is supported through direct contribution from the following outputs :						
	<table border="1"> <tr> <td>Purpose 1:</td> <td>outputs 1, 2, 3</td> </tr> <tr> <td>Purpose 2:</td> <td>outputs 1, 2, 3, 4, 5</td> </tr> <tr> <td>Purpose 3:</td> <td>output 4</td> </tr> </table>	Purpose 1:	outputs 1, 2, 3	Purpose 2:	outputs 1, 2, 3, 4, 5	Purpose 3:	output 4
Purpose 1:	outputs 1, 2, 3						
Purpose 2:	outputs 1, 2, 3, 4, 5						
Purpose 3:	output 4						
	b) Outputs for which CGIAR is responsible contribute significantly and measurably to purpose achievement.						
Outputs	1. Germplasm and germplasm improvement techniques for priority crops, livestock, trees and fish are enhanced and made accessible to NARS and other partners.						
	2. Germplasm of selected species and their wild relatives for priority crops, livestock, trees and fish are collected and managed, and procedures for germplasm conservation are developed and made accessible to NARS and other partners.						
	3. Management practices and research methodologies for sustainable production systems and for natural resource conservation and use are accessible to NARS and other partners.						
	4. Improved policy analyses and techniques for policy formulation and public management are accessible to NARS, policy makers and the development community.						
	5. Knowledge and expertise for enhancing the performance of research and related institutions are accessible to relevant users.						

4.2 Indicators for CGIAR Goals

Indicators measuring poverty alleviation and natural resource conservation are notoriously difficult to attribute to specific causes. Even so, tightly integrated theoretical and empirical results argue that productivity increases, the indicator for intermediate goals, are a necessary condition for increased income and that this, with high probability, leads to poverty alleviation.

(See *CGIAR Priorities and Strategies for Resource Allocation During 1998-2000*, Chapter 3 and references, TAC Secretariat, May 1997.) The reduction in adverse environmental impact, the maintenance of production potential and of biological diversity all contribute to resiliency of biological systems.

4.3. Indicators for Intermediate Goals

Intermediate Goal: Productivity of resource use in agriculture, fisheries and forestry is increased and the sustainable management of natural resources is improved.

Illustrative indicators include:

Indicator 1: Adoption by producers of specific improved technology, higher yields, higher total factor productivity, increased production, lower relative product prices, and higher relative wages and employment in agriculture and associated industries.

Indicator 2: Adoption by producers of specific improved technology, pesticide use down per unit of output, lower sediment and other emission levels in runoff, insect diversity is maintained, soil organic matter is maintained, stability of yield trends.

4.4. Indicators for Purposes

Purpose 1: NARS develop improved production systems which will effectively raise productivity while protecting biodiversity, land and water.

Indicator 1: Germplasm, germplasm improvement practices, and germplasm conservation practices from CGIAR outputs utilized within the programmes of NARS are demonstrably better than earlier materials or practices.

Indicator 2: CGIAR outputs are utilized by NARS and extension systems to develop production systems which are demonstrably productivity increasing and resource conserving.

Purpose 2: Performance of NARS and regional programmes is improved.

Indicator 1: CGIAR outputs have a visible role in orienting the work of NARS and Regional Research Organizations towards the concerns of their stakeholders as demonstrated by a correspondence between a consensus-based strategy prepared by NARS and effective implementation.

Indicator 2: NARS and Regional Research Organizations enjoy stronger support of national governments and their own stakeholders evidenced by:

- an increased level and composition of government support;
- added support from non-public stakeholders and users;
- stable support of other partners;
- increased operating funds for researchers;

increased ability to retain human resources.

Indicator 3: NARS development of technology which meets producers' needs is enhanced.

Indicator 4: NARS are demonstrably more involved in the management, material support, and scientific achievement of Regional Research Organizations and other forms of horizontal and vertical co-operation.

Purpose 3: Improved policies incorporating CGIAR outputs are put into practice.

Indicator 1: Evidence exists that options and consequences from CGIAR policy and public management research are being taken into consideration by relevant decision makers when making changes in rules and policies.

Indicator 2: Selected options employing CGIAR outputs have been adopted and codified in the form of rules, regulations, laws, etc.

Indicator 3: Policy restrictions on the management of sustainable production systems have been alleviated.

4.5. Indicators for Outputs

Output 1:	<i>Germplasm and germplasm improvement techniques for priority crops, livestock, trees and fish are enhanced and made accessible to NARS and other partners</i>
Indicator	
1.1	Accessible germplasm materials meet NARS standards in terms of productivity, stability, agronomic traits and user needs and are at a stage of development suitable for their intended use.
1.2	Techniques and the corresponding relevant information which allow faster, more efficient and more reliable germplasm improvement, are accessible to users. <i>(Aspects of quantity, time and location/region will have to be specified for each project separately.)</i>

Output 2:	<i>Germplasm of selected species and their wild relatives for priority crops, livestock, trees and fish are collected and managed, and procedures for germplasm conservation are developed and made accessible to NARS and other partners</i>
Indicator	
2.1	For CGIAR-mandate species a sufficient number of accessions to represent genetic diversity of species and wild relatives are conserved and managed <i>ex-situ</i> according to CGIAR policy as well as evolving international standards and agreements with respect to acquisition, storage, characterization, documentation, regeneration and distribution.
2.2	Other priority species (as determined by scientific need) are conserved and managed <i>ex-situ</i> according to international standards and agreements with respect to acquisition, storage, characterization, documentation, regeneration and distribution.
2.3	Appropriate strategies, techniques and relevant information with regard to reliable, efficient and effective <i>ex-situ</i> germplasm conservation are accessible to users.
2.4	Improved methods and tools for assessing and monitoring critical processes and functions

within and between ecosystems that affect the *in-situ* emergence and maintenance of biodiversity have been researched and tested with users.

2.5 Strategies and guidelines for *in-situ* management of biodiversity in agricultural, forest, aquatic and rangeland ecosystems have been developed and tested with users.

(Aspects of quantity, time, and location/region will have to be specified for each project separately.)

Output 3:

Management practices and research methodologies for sustainable production systems and for natural resource conservation are accessible to NARS and other partners.

Indicator

|3.1 Productivity-increasing, resource-conserving practices are accessible to NARS and other partners which have the demonstrated capacity to:

a) Increase or sustain and stabilize productivity of agriculture, aquatic and forestry production.

As illustrated by the ability to: produce larger quantity and/or higher quality products, reduce year-to year production variability, improve safety in use of inputs, increase output per unit of labour, shift farms towards a market driven economy, make maximum use of biological methods to enhance productivity, reduce the impact of factors that limit production, or make available post harvest processing and marketing methods to add value to raw products and reduce post harvest losses.

b) Conserve and make better use of natural resources and reduce degradation of or improve water, soil, and air quality.

As illustrated by the ability to: reduce soil loss, increase soil quality, increase water use efficiency, improve water harvesting in arid and semi-arid ecosystems, maintain water tables, hold chemical loading to low levels, maintain surface and groundwater standards at locally acceptable levels, maintain air quality, reduce greenhouse gas emissions, properly manage effluents from agricultural, forestry and aquatic systems, make improved use of low quality water for aquaculture, or maintain genetic diversity in agricultural, forestry, and aquatic systems.

c) Enhance the quality of life.

As illustrated by the ability to: reduce drudgery, provide increased quality and quantity of food for families, increase farm gate income, create new employment opportunities.

3.2 Reduce the direct and indirect adverse effects of agriculture on the health of producers and their communities.

3.3 Research methodologies are developed and accessible for regional organizations and networks of NARS that enhance collaborative and participatory development of integrated management practices for agriculture, forestry, and aquatic systems.

As evidenced by: broader utilization of emerging research methods such as biotechnology, agroecology, GIS, and modeling (production and hydrologic, inter alia participatory research); better extrapolation of knowledge and technology from research sites to agroecologically equivalent production areas; improved regional co-operation through better design and execution of research conducted at multiple sites; or

improved technology transfer among NARS.

Note: The relative emphasis of indicators and outputs will vary according to specific outputs and approaches for individual projects.

Output 4:	<i>Improved policy analyses and techniques for policy formulation and public management are accessible to NARS, policy makers and the development community.</i>
------------------	--

Indicator

- | | |
|-----|--|
| 4.1 | The effects of various policies on agricultural, forestry, fisheries production and trade, on resource management, poverty and income distribution as well as on consumer behaviour have been estimated and communicated to users, especially those directly engaged in policy making. |
| 4.2 | Policy options in well defined circumstances which concern the political and economic conditions necessary to achieve poverty alleviation, resource management, and sustainable food security have been formulated and targeted for specific users. |
| 4.3 | Tools and techniques for improved policy analysis and public management of water, watersheds, irrigation systems and common property are developed and made accessible to users. |

Output 5:	<i>Knowledge and expertise for enhancing the performance of research and related institutions are accessible to relevant users</i>
------------------	--

Indicator

- | | |
|-----|---|
| 5.1 | The understanding of the processes of research policy formulation and of institutional development has been increased through research and synthesis of experience and made accessible to users. |
| 5.2 | Guidelines and training materials in areas such as; planning and priority setting, organizing research and working with partners, generating financial and political support from stake holders, monitoring progress and evaluating impact; have been developed and made accessible to NARS and Regional Research Organizations together with strengthening their capacity to provide training and institutional development. |
| 5.3 | Technical and professional staff of partner organizations have received specialized training in areas where the CGIAR System has specific expertise and comparative advantage, in response to requests from NARS. |
| 5.4 | The integration of NARS, Regional Research Organizations and other partners in the emerging global agricultural research system has been facilitated by supporting the negotiation of agreements and the establishment of partnerships and networks, as well as through the institutionalization of information flows. |

5. Outlook: Open Questions and Tasks Ahead

The proposed System level logframe discussed here reflects present priorities and the current research portfolio of the CGIAR – but in a different framework. This framework will only be useful if it remains dynamic, changing as conditions change. Improvements and changes will result from an iterative process of successive approximations involving projects, centres, partners and the System. Once research projects have been reclassified and indicators at project level have been identified, the dynamic process can proceed.

The fact that the outputs of the present logframe are defined as the amalgamation of all research project outputs should provoke a discussion on synergies. Is the System more than the sum of its parts? If yes, how exactly can we express and measure this?

A first practical task will be the Systemwide introduction of the logframe approach. TAC proposes that portions of the vocabulary of the logframe be introduced with the 2000 centre programme and budgets. For example, what are currently called undertakings and activities will be identified as outputs. The fuller implications for financial planning (e.g. the reclassification of projects, the development of centre and project indicators and linkages with impact assessment, with accounting, and with financial reporting) would be introduced in 2001, permitting ample time for further exchange and, if desired, professional support.

The logframe does not replace **priority setting** but it is a powerful tool to make the process more transparent to all stakeholders. A clearer common understanding of the potential results of investments in research projects may lead to streamlining and shortening the process of finding a consensus between members, centres and TAC. At present, no change in the overall process of priority setting is suggested. However, a prerequisite for utilizing the logframe as a tool will be regrouping and compilation of centre projects according to different criteria (e.g., region, commodity, beneficiary groups, financing agreements, etc.). The use of standardized indicators and the inclusion of key information for project outputs and purposes will allow such flexible queries. Moreover, maintaining such information at the project level will permit a period of overlap between the new and old classification systems, allowing centres, members, and NARS to continue to assess the extent of resource shifts in response to changing opportunity.

The relationship between the logframe and **monitoring and impact assessment** is more direct. In fact, indicators and milestones are formulated expressly for evaluation purposes. Important for meaningful monitoring and impact assessment will be the further refinement of indicators. This can be done on the basis of centre/project level indicators. The combined system of milestones and indicators (output to intermediate goal level) provides a mechanism for short-term adjustments as well as medium- and long-term evaluations. In terms of responsibility, an organizational solution will have to be found which, at System level, closely links the monitoring of scientific integrity and relevance with the assessment of benefits for intermediate and ultimate users (impact).

In time, **budget procedures** and **reporting** will be made fully compatible with the logframe approach. Especially with regard to reporting it is hoped that the acceptance of the System's

logframe by all stakeholders will ultimately lead to a more uniform reporting system acceptable by different funding sources.

The expansion of the logframe approach to the areas alluded to above does not pose any conceptual problems. The over-riding principle for finding and institutionalizing practical solutions must be simplicity and usefulness to management. The challenge will be to develop efficient instruments that allow ever more effective management of key issues. As well, such instruments must be compatible with centre and with System requirements and allow flexibility at centre level.

Annex I: Developmental Hypotheses

Logframes necessarily rest on assumptions about what will transpire in the external environment surrounding the enterprise. The CGIAR logframe, and those of the centres and projects, are based on a group of hypotheses about how the work of the centres or their projects is connected to the goals of the CGIAR. Commonly, such hypotheses are examined or assessed for their validity, i.e. for their conformance with facts.

The crucial hypotheses connecting work with goals in the case of the CGIAR are presented in Section 4.2 - Indicators for CGIAR Goals. Briefly, they start with the claim that research on technology and policy is an important source of productivity increases, that increased productivities are crucial to increased real incomes, that through direct and indirect routes increased real incomes lead to higher national incomes, and that, with high probability, higher national incomes result in a reduction of poverty. These connections, or lines of cause and effect, rest on tightly integrated theoretical and empirical results and, except for the last step, are part of the conventional wisdom in the development community. The last step, that of connecting national income to poverty reduction, has been strongly supported by recent empirical work undertaken by the World Bank. (See Chapter 3 of *CGIAR Priorities and Strategies for Resource Allocation During 1998-2000*, TAC Secretariat, May 1997, for further comment and a partial bibliography.)

In time, TAC will further review these and other hypotheses related to poverty, in particular as a part of its work on the next round of priority setting for the CGIAR.