

Consultative Group on International Agriculture **CGIAR Information Service**

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From: The Secretariat

September 17, 1990
ICW/90/33

Consultative Group Meeting

October 29 - November 2, 1990
Washington, D. C.

Agenda Item 10

Review of the Resource Allocation Process

Attached is the Report of the task force which reviewed the resource allocation process of the CGIAR and a copy of the transmittal letter from the Executive Secretary of the CGIAR and TAC Chairman. This document is for consideration by the Group under agenda item 10.

Dr. J. McWilliam, Chairman of the Review Panel, will present the report. Upon the Group's review and approval, TAC and the CGIAR Secretariat will implement the recommended modifications to the resource allocation process. Adjustments to the 1991 CGIAR requirements, using the recommended interim mechanism for meeting funding gaps, are to be considered under Agenda item 11 "1991 funding requirements of the CGIAR."

Attachments

Distribution

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TAC Chairman
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TAC Secretariat
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Consultative Group on International Agricultural Research

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September 14, 1990

Mr. W. P. Thalwitz
Chairman
Consultative Group on International
Agricultural Research
The World Bank
1818 H Street, N. W.
Washington, D.C. 20433

Dear Mr. Chairman:

Review of the Resource Allocation Process

We transmit herewith the report of the Task Force chaired by Professor J. R. McWilliam which was appointed by us to review the CGIAR system's experience with the current resource allocation process adopted in 1987 and to propose further improvements to the process.

The report has been examined and endorsed by TAC. In transmitting this report to you, we wish to record our appreciation of the work carried out by the Task Force, and to support the broad thrust of its analyses and recommendations.

The Task Force confirms that the current resource allocation process is superior to past procedures. It has, however, identified some anomalies and weaknesses, and suggested how these might be addressed. Thus, the principles and proposals formulated by the Task Force are meant to strengthen the resource allocation process, thereby making it even more responsive than at present to the mission of the CGIAR and to the particular requirements of CGIAR centers.

The Task Force has proposed that the allocation of resources should be explicitly linked to the priorities and strategies of the CGIAR. We endorse this concept. The proposed linkage should provide the basis for an equitable balance between the demand for resources and their supply. A matrix for linking the system's priorities to Center allocations is under consideration by TAC, as part of its review of CGIAR Priorities and Strategies. TAC will make a progress report to the Group at ICW90 on that process. We consider that linking the allocation process to the system's priority structure, if feasible, will facilitate the handling of any annual mismatches between approvals and actual funding by effecting cuts proportionally across centers.

We endorse the proposal to change the terminology in describing programs from "essential/desirable" to "core/complementary." The proposed terms better describe the two-tier structure of CGIAR programs by removing the potential negative implication of the term "desirable" as being non-essential. The rationale for a two-tier structure is underlined by CGIAR's requirements for

an overall funding target for planning purposes along with choices for donors to fund programs of specific interest. Furthermore, while the entire program once approved, is worthy of financial support, funding uncertainties require that TAC identify higher and lower priorities for the CGIAR within the overall CGIAR program.

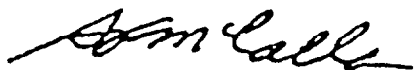
Accordingly, we accept the recommendation that core programs of individual centers be developed within specific funding limits corresponding to a realistic funding projection for the CGIAR. We have some hesitation about the corollary suggestion that the complementary programs should be financially unconstrained since that may, in the extreme, result in the distortion of the CGIAR priorities and strategies. This warrants further clarification in implementation.

We welcome the guidelines drawn up by the Task Force for implementing proposed revisions to the resource allocation process. These guidelines will be the subject of consultation among TAC, Centers and the CGIAR Secretariat prior to implementation.

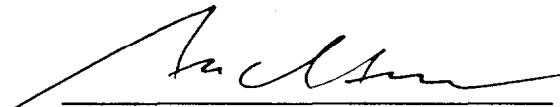
We support the proposed transition arrangements prior to the next round of resource allocations in 1992, including the recommendation that Center baselines should be adjusted for inflation as well as for capital needs. TAC and the CGIAR Secretariat are examining the specifics of these recommendations with Centers.

The report also suggests a mechanism to resolve mismatches between approvals and funding for 1991 and 1992. TAC has reviewed the mechanism in detail and we recommend its approval.

In summary, we recommend that the CGIAR should endorse the proposals of the Task Force to revise and strengthen the resource allocation process. These proposals would apply equally to all CGIAR Centers including any that might be incorporated in the system on the basis of the Group's decisions concerning a possible expansion of the system.



A. McCalla
Chairman, TAC



A. von der Osten
Executive Secretary, CGIAR

Consultative Group on International Agricultural Research

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August 30, 1990

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Mr. Alexander von der Osten
Executive Secretary
CGIAR Secretariat
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Re: Review of the CGIAR Resource Allocation process

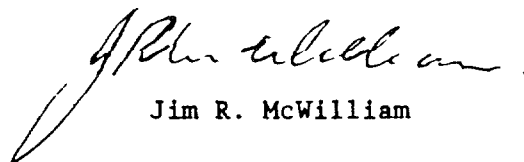
It gives me great pleasure to submit the final report of the committee which reviewed the medium term resource allocation process of the CGIAR introduced in 1987. The task that you assigned the committee, to review the process, suggest improvements in terms of principles and develop operational guidelines, was a complex one. The committee, which included TAC members, Center Directors and donor representatives, brought to the table substantial experience and insights. It was clear from early on that the medium term process was a significant improvement over the past practice of making annual decisions without a multi-year framework. Subsequently the committee spent most time on distilling the principles that would further enhance the process and constructing implementation guidelines which were sensible and met the needs of the CGIAR, TAC and centers. I hope we have succeeded in rising to the challenge.

I enjoyed the assignment. Sometimes it seemed as if things had changed significantly since the first review of the CGIAR, almost fifteen years ago. I am pleased to report that underneath the changes, the basic principles of center autonomy, choices for individual donors, lack of bureaucracy and above all a commitment to the CGIAR have flourished.

Ms. Abegaz of the CGIAR Secretariat and Ms. Lantini of the TAC Secretariat worked tirelessly on the many drafts of this report. The resource persons for the project, both of you and Dr. Monyo and Mr. Tadvalkar, provided counsel, advice and help when needed. Mr. Corea of the CGIAR Secretariat skillfully edited the final manuscript.

The report is that of the committee. Errors and omissions are, of course, mine.

Sincerely,



Jim R. McWilliam

RESOURCE ALLOCATION IN THE CGIAR

A Report to the CGIAR

on

**A Review of the Operation of the CGIAR's
Resource Allocation Process
and Recommendations for the Adoption of a Revised
Approach Based on TAC's Priorities Framework**

August 1990

Members:

Dr. J. McWilliam, Chair
Dr. D. Calloway, TAC
Mr. R. Clifford, World Bank
Dr. C. de Wit, TAC
Dr. R. Dudal, TAC
Dr. R. Gray, ILRAD
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Dr. A. Muhammed, TAC
Dr. G. Nores, TAC and CIAT 1/2/
Ms. M. Ter Kuile, CIDA
Dr. D. Winkelmann, CIMMYT

Resource persons:

Dr. J. Monyo, TAC secretariat
Mr. R. Tadvalkar, CGIAR secretariat

1/Special sub-committee only.

2/Member during 1989 while serving on TAC.

RESOURCE ALLOCATION IN THE CGIAR

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SYNOPSIS

This review was undertaken to determine the reactions of the centers, the donors and other stakeholders in the system to the CGIAR's allocation procedure and to assess its effectiveness as a management tool in allocating the system's resources. Based on this assessment, the report explores the requirements for a more effective resource allocation process for the CGIAR and outlines the improvements needed to achieve this. A description of how these changes would operate, based on the output of TAC's priorities framework is given, together with the details of how this improved allocation process would be used in allocating resources for the centers' medium-term plans (MTPs).

Assessment

Advantages: In principle, the new allocation procedure is seen by those involved to be a distinct improvement on earlier approaches to resource allocation. It is designed to link activities and priorities within centers and provides a longer-term and more stable financial horizon which is compatible with the nature of much of the agricultural research undertaken in the system. The allocation is intended to link the system-wide priorities and strategies with those of centers and is more comprehensive than previous allocations in that it provides an opportunity to analyze the total research program of centers every five years rather than operating at the margins as in the past.

The current procedures encourage program planning within and between centers with the primary emphasis on the relevance and priority of activities rather than on the funding sources. It provides an opportunity for more effective interaction between centers and TAC on substantive program issues and, although based on a five-year cycle, is also designed to function within the annual funding decisions of donors.

Shortcomings: In practice, the operation of the resource allocation process in developing the medium term plans and budgets of all thirteen centers was less successful. One of the main shortcomings was the lack of transparency in the process. Also because of the lack of explicit guidelines and the necessary decision rules based on CGIAR priorities the centers were unable to make realistic allocations in relation to the scale and content of the essential component of the total budget. The outcome, especially in the 1989 and 1990 allocations, in the absence of an agreed supply constraint, was an aggregate budget approved by the CGIAR which was significantly higher than the funds available from the donors.

Associated with this problem has been the use of the term "desirable" to describe that part of the total research program not classified as "essential." Both centers and donors were reluctant to accept this classification because it implies that these activities are in some way of lower priority or relevance. TAC also had difficulty in assessing the submissions of centers because of the heterogeneity in the methodology used to classify activities, which resulted in

a tendency for front-end loading of the essential activities, rather than a careful justification based on agreed criteria. This made it difficult to identify a linkage between priorities and programs. The centers on the other hand were also critical of TAC's alleged inconsistency in the allocation of resources because of the variation in nature and size of center programs, the extended timescale involved and the different standards adopted by the various allocation committees operating over the period.

Issues and Suggested Improvements

This assessment of the strengths and shortcomings of the resource allocation process has been a useful exercise. It has helped define the issues and suggested ways in which the allocation procedures might be improved for use in allocating resources for the second series of medium term plans and budgets for all centers, which is due to commence in 1992.

There are a number of issues which are important for the improvement of the allocation procedure in the CGIAR. These are particularly significant because of the special nature of the CGIAR system and the complex manner in which funds are provided for its operation.

Terminology: The two terms used in clasifying the centers' programs, "essential" and "desirable" have been confusing. It is proposed that they be replaced by the terms "core" and "complementary," which better describe the center programs.

Priorities Framework: The basis for an effective resource allocation process should be the availability of a comprehensive priorities framework which establishes in quantitative terms, the relative emphasis to be given to the various research and research-related activities in the system and the centers. These outputs are the result of an interactive priority-setting process, involving decisions based on transparent assumptions made on the basis of both quantitative and subjective judgements.

The product of such a process is a matrix indicating the target relative distribution of resources across activities, which is the interface needed for a resource allocation process. This has the potential to optimize the use of scarce resources to support the highest priority and cost effective projects.

Partitioning of Center Programs: The partitioning of the total research program of centers into core and complementary components has been necessary as a management tool to evaluate competing demands for limited unrestricted funds and to favour the more effective use of these funds for CGIAR purposes. It also provides the mechanism for integrating central planning at the system level and catering to aspects of donor preference.

The important criteria that help to identify the appropriate projects in the core portfolio include: congruence with the CGIAR priorities and special concerns of poverty, strength of NARS, and sustainability; international

character; and absolute or comparative advantage. These projects also should be undertaken with greater efficiency at a lower cost and provide a higher payoff. Core research tends to be of longer duration and requires a continuity of funding, and hence, should have first call on CGIAR funds. Together these research projects, along with communications, information and training programs and the general administrative and support services represent the core program required to carry out the functions of an effective international center.

The aggregate of these programs represent the core funding requirements presented annually for donor support. It is important that the system's request is credible and represents a responsible request to donors and also to the World Bank which, as donor of last resort for the system, bases its contribution to the centers on this budget request. The complementary program on the other hand, is much less constrained, and can provide opportunities for donors to exercise their individual preferences.

Scale and Efficiency: The capacity of the center to undertake research at an appropriate scale needed to achieve the planned outputs is integral to the question of choices. Scale in this case relates to projects and refers to the level measured in SSY (senior staff years) or dollars at which the project is operated. It should be above the critical mass, but below the level at which added cost exceeds the value of added gain. Scale in this sense is important in achieving research efficiency and when aggregated over projects provides an estimate of the size of a given research program.

Matching Demand and Supply: Although there is general support for a demand driven approach by centers in seeking funds from donors, it is important, as the growth in the supply of donor funds slows, that the system presents a request to donors based on a more rigorous analysis of needs and a more responsible appreciation of the likely supply of funds. For this reason, TAC's analysis of center MTPs, although largely focussed on the relevance and priority of activities and programs, must in future also consider the supply constraint when recommending individual center MTPs for approval by the CGIAR. To achieve this the growth-curve of the CGIAR core programs over time should parallel the predicted growth in the supply of funds with a $\pm 5\%$ margin for error.

Sequencing the Allocation Process: Because of the work involved and the need to link the allocation process of individual centers with their external reviews, it is necessary to sequence the evaluation of centers' MTPs. It should be possible to complete this MTP allocation process in two to three years and at the same time couple this with the evaluations from recent external and management reviews of the same centers. The reviews now undertaken, using the new strategic format, could provide an independent validation on a number of aspects of the center's MTP, including the congruence of programs and priorities, the quality, balance and scale of the projects and programs and the justification for the core and complementary components of the plan and budget.

Guidelines for the Operation of a Revised Allocation Process

The objectives and operation of the revised allocation process are given against the background of the current allocation process to highlight the points of departure and the advantages obtained in matching priorities and programs at the center and system level and achieving a more reliable matching between the approved budgets of centers and the supply of donor funds. The key to this improvement is the imminent provision of a priorities framework which is expressed as a matrix of the desired allocation of the systems resources in proportional terms for the core component of centers' programs.

The operational steps in the proposed process are described and a possible sequencing of the second round of MTP reviews proposed. To bridge the period required before the improved allocation process can be implemented, transitional arrangements for managing funding gaps for 1991 and 1992 and rebasing budgets to overcome variances in inflation estimates and capital costs are proposed.

Conclusions

The adoption of the revised allocation proposal as described in this report should provide the centers and TAC with a more effective and rational procedure for resource allocation. In future with greater competition for resources and uncertainty about the supply it will be increasingly important to make choices of research activities based on a priorities framework in which the assumptions made are transparent and the judgements are expressed in quantitative terms. It is equally important that these judgements be accepted and utilized by those who provide the resources and the research scientists in the centers whose activities will be influenced by them.

PART I - EVALUATION OF THE RESOURCE ALLOCATION PROCESS AND

IDENTIFICATION OF IMPROVEMENTS

Chapter 1. INTRODUCTION

1.1. In 1987, the CGIAR revised its resource allocation process by adopting a review of the medium-term plans (MTPs) of all centers as the basis of resource decisions covering a five-year period in addition to the traditional annual budget adjustments. The new approach was designed to overcome a number of shortcomings in the existing annual allocation process and was used to approve the programs and budgets of all 13 CGIAR centers during the period 1987-1989. In 1990 and through to the end of 1992, all 13 centers will be operating under the new system.

1.2. This longer-term program and financial plan for centers grew out of the recommendations in the Second Review (1981) of the CGIAR. The principles incorporated in the present system were developed in the Financial Management Study^{1/} presented to the group in 1986. The revised allocation process was expected to provide centers with a longer term planning horizon and to be closely linked with the priorities and strategies of the CGIAR system as a whole. It was intended to be comprehensive, so that it could be applied to the entire program of centers; and it was designed to operate within the framework of annual funding commitments by donors. The process would enable the centers to present the CGIAR with a clear statement of their financial requirements in relation to their program objectives. This, in turn, would provide donors with a better longer term picture of the financial requirements of the system, and the centers with an opportunity to undertake forward planning in a more stable financial environment.

1.3. One important feature of the new system is that the total program of each center is reviewed. The program of each center consists of two components: (a) essential and (b) desirable. "Essential" activities represent a high priority for the CGIAR, and are considered essential to fulfilling the objectives of the CGIAR and of the center concerned. These activities are international in character, and the center has a comparative advantage to undertake them at a lower cost. "Desirable" activities consist of research that complements the essential research, in keeping with broader global and donor priorities while also fulfilling the centers' objectives, and for which the center has the skills and the capacity to carry out these activities on station or in collaboration with the national agricultural research system (NARS) or developing countries. In general, essential activities are those requiring continuity and hence are longer term and have first call on the CGIAR system's unrestricted funds, i.e., funds not subjected to specific guidelines by donors. Desirable activities on the other hand may last less than five years and are largely supported by restricted funds, i.e., funds

^{1/} Budgeting, Financial Management and Reporting in the CGIAR. (Report prepared by R. Clifford.) CG/86/05 and CG/86/05a dated March 14, 1986.

whose use is restricted by donors for stated purpose. Activities which do not satisfy the criteria of either category are regarded as inappropriate.

1.4. The separation of centers' activities into these two components has become necessary because of the reduced rate of growth (1-2% real) of the unrestricted donor funds which are usually pledged at International Centers Week (ICW), the annual meeting of donors held in October/November. The purpose of specifying an essential component of each center's total program and budget is to give the center greater funding stability and provide the system with an effective financial management tool, at a time of financial uncertainty.

1.5. These principles were adopted by CGIAR at ICW 86^{2/}. TAC, in collaboration with the centers, translated them into a set of operational guidelines to launch the first round of resource allocations under the new process in 1987. It was agreed that at the end of the cycle in 1989, a retrospective review would be undertaken to identify concerns and shortcomings and to suggest ways by which these should be addressed. Consequently, a review panel was commissioned by the CGIAR Executive Secretary and the TAC chair. The panel consisted of TAC members, representatives of donors and center directors, and an independent chairman. The chair of TAC and senior staff from the secretariats acted as resource persons during the course of the review (for details of the review panel and those assisting see Annex 1). The review panel met three times: in October 1989 at Davis, California; in January 1990 at Washington, DC; and at the TAC Secretariat in Rome in August 1990. In addition, a special coopted subcommittee met in July to assist in designing operational procedures in response to recommendations made in the review report.

^{2/} Progress Report on the proposed approach to Resource Allocation in the CGIAR - CGIAR, October 1986.

Chapter 2. ASSESSMENT OF THE NEW ALLOCATION PROCESS

2.1. A paper (ICW/89/20 August 31, 1989) prepared for ICW89 summarized the outcome of the first round of the new resource allocation process, and set out the approved medium-term programs and budgets of all centers, each covering a five-year period. The schedules for the reviews of the program and budget proposals of individual centers covering the period March 1987 - July 1989 are given at Annex 2. Most centers required two presentations at TAC meetings to obtain approval for their MTP.

2.2. Centers received a set of guidelines for preparing their medium term programs and budgets.^{3/} This document provided instructions on a format for presentation, including expected outputs, scale of operations, cost structure, and financial requirements, including capital and plans for financing the various components of the program. The centers were asked to indicate the priority associated with the various activities that made up their program, but except for ensuring congruence with the broad priorities and strategies of the CGIAR, no guidance was provided to assist centers in quantifying their priorities. The financial guidelines contained estimates of an annual inflation of about 3% and an assumption of up to 2% annual real growth in funding. These were assumptions for the CGIAR as a whole and individual centers were free to make their own estimates.

a. Advantages

2.3. In general, all those associated with the system consider the new allocation process to be a distinct improvement on past experience. The current arrangement links priorities to programs and provides a longer-term horizon, which is more compatible with the nature of agricultural research. The centers appreciate being relieved of much of the burden of preparing annual budgets and the donors see the process as more transparent than its predecessors, and therefore more credible.

2.4. The current procedure encourages program planning with primary emphasis on the relevance and priority of research rather than on funding sources. It provides an opportunity for the CGIAR system to analyze the entire programs of centers, rather than operate at the margins as in the past, and permits a more effective interaction between centers and TAC on substantive program issues. The five-year time horizon helps to stabilize funding for the essential activities, but at the same time allows a justification of total programs every five years. The concept of reviewing the total program also provides a useful check on the relevance of what have been called "special projects" based on restricted funds, without encroaching on the responsibility of the boards or the independence or entrepreneurial skill of the directors general.

2.5. Although it has not been possible to review the medium-term programs and budgets of all centers simultaneously, the current process, spread over three

^{3/} Guidelines for preparing medium-term program budgets and associated funding requirements - CGIAR Secretariat, January 30, 1987.

years, does give a valuable total picture of the system. It helps identify duplication and overlap between and among centers, as well as the extent of inter-center collaboration.

b. Shortcomings

(i) Centers

2.6. One of the main difficulties in the new allocation process identified by centers was that of classifying activities as "essential" or "desirable". This was because of the lack of an agreed methodology that could be applied by all centers. Moreover, because the term "desirable" when used as an alternative to "essential," acquired a pejorative connotation, most centers tended to describe the great majority of their activities as essential. Another reason for centers preferring the category of essential was the hope that they would receive core funds, which are more flexible and require less time to obtain and to administer.

2.7. Other problems as seen by centers include the difficulty in defining scale, both for activities and for the centers' research as a whole, and the need to expand the list of standard descriptors of activities to be used by centers in analyzing their programs. In general, there was support for the operation of the allocation process within centers, but many center directors felt that its application across centers left much to be desired. The process did not fully achieve the desired linkage between programs and priorities and despite efforts to "level the playing field" this was not achieved. Comments about centralization and bureaucracy were muted and most centers accept the need for greater "leadership" in these issues by TAC.

(ii) Donors

2.8. Donors expressed several concerns about the outcome of the first round of the allocation process. They were dissatisfied with the classification "desirable" because it carried the impression of lower priority or less relevance than what was "essential," and this could influence their funding decisions. They found that the new format for presenting the approved funding requirements of centers (essential budgets) does not identify the three elements - unrestricted "core", restricted "core" and additional extra "core" funded projects. This detail is helpful for donors who make their own allocations to centers on the basis of a percentage of the unrestricted "core" budget. (The terminology used here is from the earlier allocation process.) Additional detail in the budget presentation would readily overcome this problem. Finally the donors were disappointed to find that in both 1989 and 1990, the sum for approved essential budgets under the new system of allocation, was significantly higher than the funds available from donors. As a result ad hoc adjustment procedures were required to reduce center budgets to match the available resources. There is general agreement that TAC's assessment for resource allocation should focus on research activities, but the donors suggest that TAC, or the CGIAR Secretariat, should also build in a "supply" constraint (based on the growth in donor funding) so that the annual requests from centers match the available funds more closely and are seen to

be responsible and realistic with respect to the current tight funding situation.

(iii) TAC

2.9. TAC's problems with its new system stemmed from the uneven and inadequately documented cases presented by centers to justify the classification of their activities and the overall program and budget requests. In the absence of specific guidelines, the centers used a range of different criteria to assess their own activities (see Table 1) and to define the essential and desirable portfolios of their budgets. The lack of a common framework for assessing priorities made it difficult for TAC to question or validate the centers' own allocations and in particular, the inclusion of activities in the essential component.

Table 1: Numbers of Centers Using the Various Criteria to Classify Activities as Either Essential or Desirable

Research Capacity Staff		Scale		Special Advantage		Int/CG	Funding	Term	Output	Program
Critical mass	Quality skills	Size	Geography coverage	High payoff	Lower cost	Mandate	Type Security	Of Staff	Criteria	Nature type
5	2	3	4	2	1	13	4	2	3	1

2.10. Another problem of consistency in the allocation of resources across centers has been the inability of TAC to review all centers' medium term programs and budgets in a single year. This is because of the volume of work involved and because of the need for TAC's allocation to follow the logical sequence of strategic planning, external reviews and preparation of the MTP. The staggered sequencing of the resource allocation reviews led to some problems and claims of inconsistency and lack of equity in the allocation of resources to centers.

(iv) Other issues

2.11. A comparison of the annual percentage increase in real terms of the essential budget requests of the centers reviewed by TAC over the period 1987-1989 is presented at Table 2. The data are difficult to analyze, as the percentage increases are based on essential budgets that vary in size by a factor of 2 to 3, and hence the actual funds involved are considerably different. What is evident, however, are the large differences between individual centers in all three years and a marked decline in the growth of budgets after the second year. The first element is confounded by those centers that had been held on a no-growth regime for several years and had a "catch-up" provision, and also the large requests for capital that were provided in some budgets. The decline over time is a reflection of the difficulty of anticipating needs three to five years down the road and may not reflect the true position in those years.

Table 2: Approval Annual Real Change (%) Essential Funding

<u>Reviewed in 1987</u>	<u>88</u>	<u>89</u>	<u>90</u>	<u>91</u>	<u>92</u>	<u>93</u>	<u>94</u>
IFPRI	8.7	4.8	0.2	3.1	0.8		
ILRAD	4.6	4.4	0.4	1.6	1.4		
ISNAR	17.6	11.2	9.2	1.4	1.4		
CIP	-	9.7	-9.0	-	-		
<u>Reviewed in 1988</u>							
IBPGR		-	0.2	-	0.2	-	
ILCA		4.3	3.9	4.1	0.3	0.0	
CIAT		5.5	1.9	0.2	0.2	-0.8	
IITA		6.9	-1.2	2.0	2.8	0.2	
ICRISAT		3.3	2.2	1.0	2.0	0.7	
<u>Reviewed in 1989</u>							
WARDA			63.0	21.0	-2.6	2.1	-8.2
IRRI			13.9	-2.0	-0.1	-0.8	-0.9
ICARDA			8.2	6.6	-0.3	1.2	-1.3
CIMMYT			5.4	7.8	2.0	-0.8	0.1

2.12. Three other issues emerged from the first round of the new scheme of resource allocation:

- With non-synchronous five year budgets there is a need to be aware of the future implications of current budgets by using rolling five year projections, so that TAC is aware of the implications of decisions made today on the continuing commitments which were made in the past.
- All budgets should be expressed in current-year dollars using the official inflator for the previous year. Where problems arise for centers with different local rates of inflation and/or devaluation problems, these should be discussed separately with the CGIAR Secretariat.
- There is a need to provide a separate funding mechanism for centers to support major capital developments and repairs to infrastructure that represent discrete costs as against the regular recurrent costs for research. This issue has now been taken up by TAC's Standing Committee on Resource Allocation.

Chapter 3. CONTEXT FOR THE RESOURCE ALLOCATION PROCESS

a. Setting the Conditions

3.1. The recent emphasis on strategic planning in the CGIAR and the efforts by TAC to develop a more quantitative approach to priority setting are response to the need to enhance the system's decision making capacity in the face of increasing international competition for resources. The expansion of existing center programs as a result of pressure to undertake new activities and the prospect of more centers entering the CGIAR system has increased the urgency for TAC to improve the resource allocation process.

3.2. The first step in this process is for TAC to ensure that the goals, strategies and priorities of the CGIAR system are reviewed regularly and modified so as to accommodate changes in the external environment that may influence the objective of self-reliance in developing countries. The centers must assist by ensuring that their priorities are congruent with those of the System and by specifying more precisely the anticipated outputs of their research. Donors could thus be assured that the ex ante choice of commodities and regional research priorities are the most appropriate for achieving specified goals. This change to output orientated research is essential if centers are to respond effectively to their clients' requirements.

3.3. TAC's role in monitoring the research programs of centers and approving their program and budget requests for CGIAR funds has evolved along with the CGIAR system. The early independence of the centers has given way to a greater corporate sense in which TAC's task of assessing the relevance and balance between the competing demands of centers is accepted as constructive and necessary.

3.4. To retain this spirit of corporate responsibility and self discipline, the centers have accepted the need for accountability, whereby the impact of research has to regularly assessed, and for improved efficiency, which produces the maximum return for each dollar of donor funds invested in international agricultural research. Centers must achieve these results within a management system that is flexible, permitting the center to adapt to changing circumstances, and one that is conducive to innovation and creativity, which are essential for good research.

3.5. The resource allocation process, therefore, must meet several criteria. These include the need to:

- guarantee the relevance and quality of the center's research program and the congruence between its goal, priorities and strategies and of the larger CGIAR system in which it operates;
- maintain respect for the autonomy of centers and donors in negotiating projects that reflect donor preferences, provided these do not divert the center from its agreed goals;

- retain the flexibility and openness of the system to encourage innovative and entrepreneurial activities;
- ensure that the growth in the essential budgets of the center's funds is responsible and within the range of core funds available from donors.

3.6. The development of an acceptable and consistent approach to resource allocation within the limits set by the availability of resources will require a more disciplined approach to the assessment of research priorities within a center's total activities. This will involve a range of measures based on CGIAR and donor preferences, including the nature of the research, the comparative and absolute advantage of the center, the existence of other suppliers including the NARS, and the possible measurement of returns on investment. Other factors will include the consideration of specific decision making criteria to ensure that the center's research activities respond to the major concerns of the CGIAR - such as poverty alleviation, returns to research investment, and sustainability - and other concerns expressed by donors and clients. Priorities must also be assigned to activities such as communication, training, and the development of research capacity through collaboration.

3.7. The use of outputs as a basic measure of the performance and quality of center activities must be balanced by a better definition of the inputs, in terms of personnel, equipment and the institutional support required to achieve these. This is necessary to assess overall research efficiency, and to obtain a measure of the scale of operation required to achieve the desired output. When costed, these inputs also provide the building blocks for the budget, which will vary depending on the nature of the research and the special circumstances pertaining to the host countries of the individual centers.

3.8. Any assessment of research priorities must be based on some definable measure of research output, achieved or expected. This output is linked in the center to a discrete activity or activities in the form of a project or a series of projects grouped in a program.

3.9. Research and related activities within the CGIAR centers have now been standardized and listed under nine major categories. Individual categories such as crop productivity are further divided into activities and provide a common terminology for all research undertaken by centers. These standardized research activities should be the logical components of the building blocks (projects), which individually or grouped into programs provide the basis for assessing the size of a center's total program.

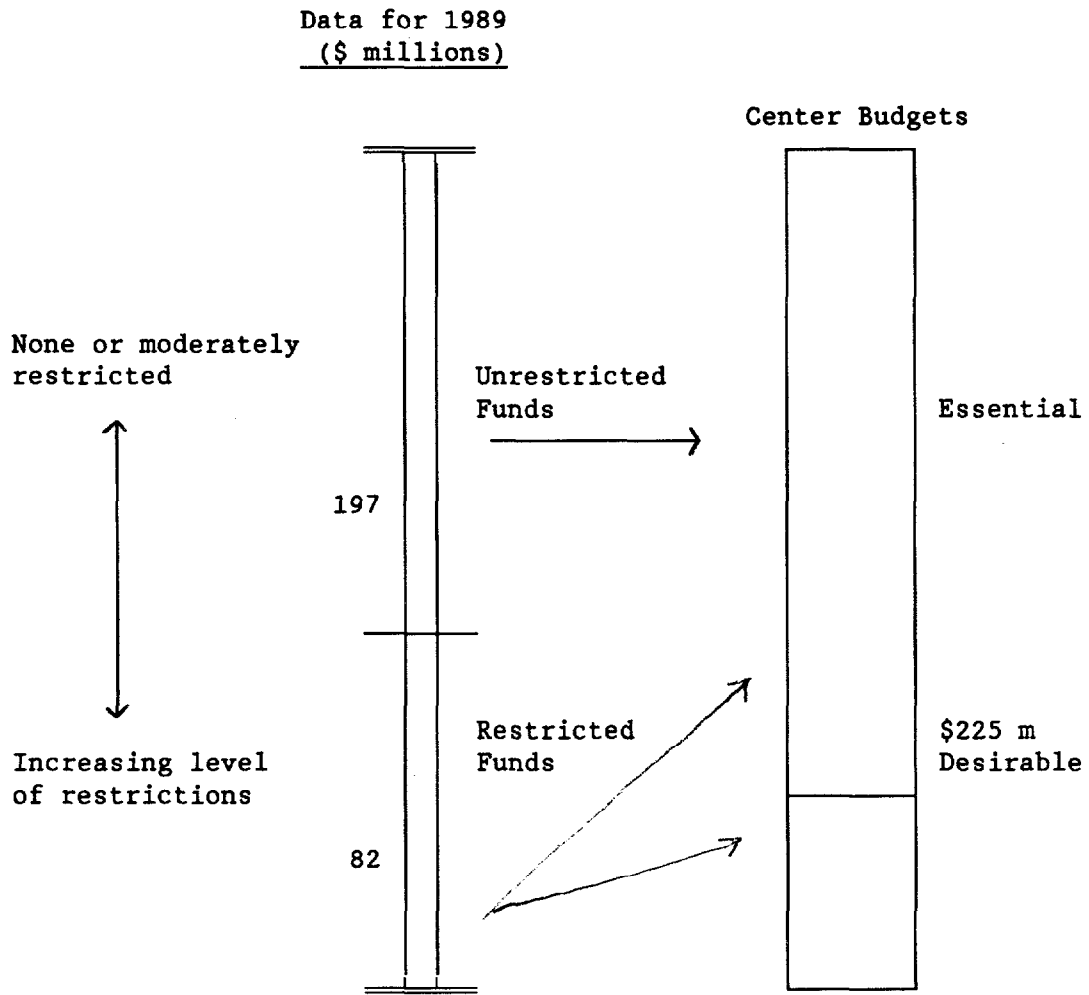
3.10. Output/input information based on projects will help centers develop acceptable criteria for setting limits on the size and cost of the essential and total activities of the centers. If these limits can be devised, it will provide TAC with a valuable mechanism for managing the resources of the system. It will also enable more comparable essential budgets to be developed for all centers as the basis for the allocation of resources in the medium term budgets.

b. Rationale for Partitioning Center Programs

11. The division of the total research program of centers into essential and desirable components (each made up of projects) provides a management tool to evaluate competing demands for limited resources while maintaining center/donor autonomy in funding decisions. It also serves to capture the notion of ranking priorities within the centers' research activities. Another reason is the nature and allocation of the funds provided each year for the CGIAR centers. This is illustrated in Figure 1. The two important sources of funds are the unrestricted funds, which in 1989 constituted 70 percent of the total supply and the remainder, which are restricted funds, i.e., restricted by the donors to expenditure on particular activities.

3.12. On the demand side, however, the difference between these two components is determined by the nature and focus of the research and not necessarily by the source of funds, i.e. the essential (or core as suggested in 4.14) projects are those which rank highest in terms of the CGIAR priorities. These have been developed by TAC and approved by the CGIAR as the focus for the group's unrestricted funds. However, because certain projects which fall into the "bilateral" portfolio of donor agencies might also qualify as essential, the funding of such projects may be derived from the category of restricted funds (see Figure 1). It is the aggregate of these funds over all centers that constitute the TAC and CGIAR approved budget presented each year to the donors for funding. It also provides the budget request on which the World Bank, as donor of last resort, bases its contribution.

Figure 1: The Source of Funds for CGIAR Center Budgets



3.13. The desirable (or complementary as suggested in 4.14) activities are those which may rate lower in terms of CGIAR priorities and criteria but represent other priorities of a global or regional nature of interest and importance to donors and others. In general they expand and complement the essential activities of a center and are normally supported by unrestricted funds.

3.14. In applying this approach to the first round of the current resource allocation process to centers, the procedures and criteria for classifying activities as essential or desirable were not well established. The essential category thus tended to be blown. As a result, the approved budgets of the CGIAR in the last two years have been well in excess of the funds available from donors.

3.15. For the second round of allocations a more definitive method of characterizing the essential projects of all centers will be available based on system priorities, balance and other criteria. However, the key determinant will be the aggregate level of resources the system receives for essential programs which will be set by the anticipated supply of funds. This will acknowledge that the complementary projects have a somewhat different priority and expectation in relation to their access to unrestricted funds, but this does not imply that they are driven by donor priorities.

c. Capacity and Scale

3.16. The question of the capacity of the center to undertake the proposed activities and the appropriate scale or size needed to achieve these objectives is integral to the discussion of making choices. This relates to the presence of appropriately skilled staff in the center. It also relates to the existence of or ability of the center to acquire the necessary facilities to undertake the work, either in the laboratory and/or in the field and the interest, motivation and availability of staff to participate.

3.17. The scale of a project (the unit of research) refers to the level at which the project is operated. This level should be above the critical mass, but below the level at which added costs exceed the value of added gains. Knowing the most appropriate scale of projects can assist in defining the resources needed to undertake a given research portfolio, e.g. the essential component of a center program.

3.18. The most appropriate scale for a unit of research is therefore conditioned by a number of factors. These include the nature and complexity of the problem, the critical mass of scientific talent necessary to achieve output, the existing state of knowledge and the skills available. Projects that lie below the critical mass in most circumstances should not be supported. Economies of scale can be achieved by sharing the services of particular scientists (e.g. pathologists or entomologists) across several activities, or through external collaboration where the full extra cost is partly carried by the partner institution.

3.19. Most centers have adopted the convention of expressing scale in terms of \$ costs and senior staff or scientist years (SSY), which integrates the costs associated with their salaries, on-costs and research support. Because the average cost of senior scientists varies so widely among centers (in 1988 values varied from US\$223 to US\$416 million), these costs may be of limited value in comparisons across centers, although they can provide a valid measure within a center and also give further information on the level and priority of the research. With the move to project budgeting in many centers, the individual project which has its own staff complement and budget would appear to be one of the most convenient units of research for determining scale and costs. Last but not least, the scale of the total program of a center represents the aggregation of the individual units of research and their cost. To this must be added the staff and facilities and costs involved in the provision of central services and administration at the center and the value of similar services provided at any other off-station facilities.

3.20. A final point to note is who is involved in examining scale issues. Within a center, the scale of individual projects should play a critical role in decision making. While TAC has a specific interest in the scale of a center program, TAC is not interested in micro-managing the centers and therefore is likely to examine scale issues at a project level only as an exception.

Chapter 4. SUGGESTED IMPROVEMENTS IN THE RESOURCE ALLOCATION PROCESS

4.1. Having reviewed the current resource allocation process, identifying its strengths and weaknesses, it would be appropriate to develop some principles and proposals for strengthening the process. These are further expanded in more operational terms in Part II.

a. Priorities Framework

4.2. The basis of an effective allocation process is the establishment of a comprehensive priorities framework which sets down in quantitative terms the relative emphasis to be given to the various research categories and activities. These priorities influence both the nature and quantum of the allocations and in this way bring about close congruence between the emphases of the CGIAR system and the objectives and output of the research undertaken by the centers.

4.3. The task of establishing priorities and strategies for the CGIAR has been virtually a continuous process since the inception of the system in 1971. A special TAC standing committee is currently undertaking a detailed re-examination of priorities and strategies in the context of the review of non-associated centers, and the possible expansion of the CGIAR.

4.4. Some details of this are spelled out in Part II of this report (paras 5.5 - 5.9.) which employs an interactive approach and makes good use of existing partial econometric models, quantitative data bases, and descriptions of other relevant factors by drawing on the collective judgements within the CGIAR system. These judgements are modified by the special considerations of the CGIAR for equity, sustainability, etc., and are based on the balance of research activities disaggregated over agroecological zones and commodities when appropriate.

4.5. The product of TAC's priority analysis will need to be a forward projection of the relative distribution of core resources across center activities. In effect, the centers would be provided with a template to guide the dimensions and shape of their future core programs and budgets.

4.6. It is obvious that in defining the system's priorities a number of vectors must be used, some quantitative, some subjective. However, the assumptions made about critical relationships (parameters) must be transparent, so that they can be challenged and justified. The ultimate judgements that emerge must also be expressed in quantitative terms and be explicit so that decisions can be made on the basis of those judgements.

4.7. From the above it is obvious that a range of assessments will be needed to assist with the next round of resource allocation. There should be opportunities for TAC to interact with centers in whatever way proves to be the most effective to obtain detailed information on each center's activities, such as:

1. The congruence between the center's goals, strategies and priorities and those of the CGIAR, following the revision as proposed by TAC.
2. The distribution of activities and commodities (whenever relevant) in terms of continental agroecologies; and information on the socioeconomic, climate and environmental constraints and other factors, such as the strength of NARS, that influence the outcome of research projects undertaken in these zones.
3. Efficiency criteria based on the estimated cost of delivering the product and the marginal efficiency criteria relating to the likely incremental returns to additional investment.
4. The likely distribution of the benefits of research between the producers and consumers in developed and developing countries, and the possible trade-offs which may be involved in establishing alternative priorities involving equity and sustainability.
5. Existence of likely spillover effects, indicating how widely the results of research on an agricultural commodity in a particular region is applicable to other regions, thereby achieving a possible multiplier effect.

4.8. An important point to make is that centers will need clear instructions and assistance from TAC in conducting an assessment and analysis to establish their own priorities. An alternative approach would be for centers to provide TAC with detailed information of the type listed above about their program, according to some standard format, and let TAC carry out the priority analysis and negotiate the content and balance and then develop their own program based on TAC's assessment of the priorities and other issues. However it is done, the process must be transparent so that both centers and TAC can understand how decisions are made.

b. Partitioning of Center Program

4.9. The two classifications used in the first round of the current resource allocation process - essential and desirable - were first recommended to TAC in the report of the CGIAR study on budgeting, financial management and reporting, completed in 1986. It was anticipated at the time, that the centers would have difficulty in classifying activities into these two categories, because of the lack of a quantitative measure and of clear guidelines for differentiating between individual program activities. This proved to be the case during the first round of resource allocation.

4.10. A repetition of this situation in the second round could be avoided if the centers are provided with an explicit and uniform description of what constitutes an essential activity and distinguishes it from a desirable activity.

4.11. Some characteristics of essential activities in centers are^{4/}:

- high priority activities, congruent with CGIAR priorities, adequate weighing for the CGIAR criteria including poverty, sustainability, strengthening of NARS, equity, growth and sustainability and concerns for any particular agroecological regional or geographic focus;
- international in character, which implies activities that have relevance for many countries;
- absolute or comparative advantage, in that the activity cannot be undertaken by other national or international organizations, or that it can be done more effectively at the center;
- cost advantage and high payoff;
- activities that require continuity, that is, those that tend to be longer term;
- activities that are efficient, that is provide a high return in relation to their input.

4.12. Projects in the essential category represent a basic portfolio necessary for an international center to carry out its functions effectively. In addition to research activities, essential projects must include communication, information and training facilities, staff, and the general administrative services which are essential for the efficient operation of the center. Funding for these activities should have a five year horizon, and they should have first call on CGIAR funds.

4.13. The projects classified as "desirable" by centers are also priority projects. Although they may not be at the level of essential projects in relation to CGIAR priorities, they are important in terms of global or regional priorities as judged by donors. They are selected to complement and expand the depth and coverage of the essential projects either on station or in collaboration with NARS and advanced research institutions. All desirable projects are supported by restricted funds and can be of long or short duration. They provide an opportunity for centers to exercise their entrepreneurial skills in developing new and innovative projects and for donors to express their own preferences, provided that these are broadly consistent with the mandate and objectives of the center's program.

4.14. To overcome the general perception that the "desirable" projects are less worthy of support than those classified as essential, it is suggested that the terms desirable and essential be dropped and replaced with new terms that more accurately describe them. The panel suggests replacing "desirable" with "complementary" and "essential" with the core. This is a term that has been much used in the CGIAR, and the intention is to restrict its use to describe the group of projects formerly described as "essential." It should

^{4/}Cited in footnote 1 earlier.

be made clear that all projects in the core and complementary components of the center program are expected to be of high priority and that the difference between the two components is largely in the nature of the priorities (CGIAR vs individual donor) ascribed to the activities and in some cases, the restrictions placed on the use of funds.

c. Matching Demand and Supply

4.15. The development of carefully defined core budgets for all centers, identified on the basis of the nature and priority of the research activities, but also with a full appreciation of the likely availability of CGIAR funding, will go a long way to achieving a better match between the supply and demand of resources for centers. There is strong support for a demand driven approach by centers to keep extending the calls for support from donors without exceeding credible limits. At the same time the system must operate responsibly and it may be necessary for TAC to place a limit on the aggregate sum to be approved by the CGIAR each year. This should be established explicitly, either by providing guidelines to individual centers or setting the limit during the TAC review of proposed MTPs.

4.16. These actions should avoid the inevitable ad hoc adjustments to center budgets experienced during the last few years and they should provide a more realistic forward projection for centers, thus providing for rational planning. In the short term, the problem of demand for CGIAR funds by centers exceeding the amount available from donors will continue unless some action is taken to limit core budgets.

4.17. This would allow TAC during the second round of the resource allocation process (assuming that a priorities framework and an explicit set of criteria for defining the core projects is available) to make valid comparisons between centers based on their core projects and budgets. This is a necessary precondition to enable centers to grow by adding activities that are dependent on and complementary to the existing activities. The proposed comparison will also be valuable if any decline in CGIAR funds make it necessary to make modest reductions in center budgets. Under these conditions a simple across the board reduction applied to all center budgets could be the most efficient and equitable approach.

4.18. The allocation procedure described, based on a five-year plan and budget, is essentially a longer-run analysis. In addition to this, all centers also need to develop a set of short-run contingency options to cope with the inevitable variations in their annual budgets. These plans should distinguish between "fixed" and "variable" cost items to provide flexibility in response to funding shortfalls without prejudicing the essential activities of the center.

d. Sequencing the Allocation Process

4.19. There are obvious advantages in scheduling TAC's resource allocations to follow soon after the review by the center of its strategic plan and following the external program and management reviews (EPR and EMR). The external reviews are now more strategic and are designed to consider priorities and

issues such as critical mass and impact, and to use these to help suggest the scale of a center's five year program and budget. This information will be of assistance to the center in preparing its medium-term plan and could also be of assistance to TAC in conducting their assessment. For reasons of timing, TAC's assessment of the MTP for each center must be completed before mid-year in the fifth year of the budget cycle. This gives time for it to be approved by the CGIAR at their ICW meetings in Washington and to be fully operational the following year. An optimum sequence of events leading to the development and approval of a center's medium-term plan and budget is set out in Table 3.

4.20. All this assumes that the center's external review process is synchronized with the five year program and budget cycle (MTP) and that during each five year period, all centers can cycle through the sequence of events listed in Table 3. To bring the timing of the external reviews, which is currently on a five or six year cycle into sequence with the resource allocation cycle (MTPs) of centers, will require some adjustment. Having both the review and the resource allocation processes on the same cycle would allow the centers to focus on this activity during the last year of each cycle of their MTP.

Table 3: Sequence of Events in the Development and Approval of a Center's MTP

Year	Month	Organization	Action Required
1 to 3	April	Center	Presentation of annual program and budget as per MTP for approval by TAC and CGIAR
4	Aug-Sep	Center	Review and revision of existing strategic plan.
	Oct-Dec	Center	Preparation of draft of new MTP.
5	Jan-Mar	TAC and CGIAR	Conduct of EPR and EMR.
	April	Center	Finalize MTP.
	June	TAC	Review and approve MTP.
	November	CGIAR	Approve MTP.

PART II

Chapter 5. GUIDELINES FOR THE CGIAR REVISED ALLOCATION PROCESS

5.1. This section of the report outlines the steps required to implement the recommendations in Part I for improving the allocation procedure for the system. To provide the context for the discussion, the characteristics of the existing allocation process and the proposed improvements are encapsulated. This is followed by a more detailed presentation of the sequential steps required to implement the process and the interim procedures that will be required to manage the allocation in the transition period, prior to the full implementation of the improved procedures.

The Allocation Process in the CGIAR

5.2. The nature of the process is determined by the unique structure of the CGIAR which consists of an informal group of donors, development institutions and fixed-term representatives. On the basis of advice by TAC, the CGIAR makes collective judgements about the activities to be funded. The activities are carried out by independent centers supported by the CGIAR. The actual funding process is bilateral between the donors and the centers, with the World Bank playing a balancing role by bringing the funds allocated to the centers close to the levels approved by the CGIAR. This diffuse decision-making process requires that the resource allocation process operate at several levels at different times in the overall allocation cycle:

- (i) At the most aggregate level, TAC reviews the overall program of the CGIAR and proposes the priorities that should be followed over the next 10 to 20 years to guide the allocation of resources to meet the specified objectives.
- (ii) Centers use this priorities framework to develop their own longer-term strategic plans.
- (iii) Centers next develop specific five-year operational plans (medium-term plans - MTPs), derived from their strategic plans. The MTPs describe the center's research, research related and institutional support activities and their funding requirements. The total consist of core and complementary components (see 4.16 above). The proposed MTPs are reviewed by TAC and recommended for approval by the CGIAR. The approval of the MTPs by the CGIAR (authorization stage) constitutes an intent to support the programs and not a funding commitment by individual donors.
- (iv) Funding commitments are made annually by most donors, based upon collective CGIAR approval at ICW of the funding requirements for the next year. Payments follow during the course of the implementation year (appropriations stage). This description of the funding process uniformly applies to unrestricted funding commitments (about 2/3 of the total). Restricted funding commitments, especially when supporting projects, are often made for a multi-year period and at any time of the year. Typically, complementary projects are

supported by restricted funds, while core projects are supported by both unrestricted and restricted funds.

- (v) Centers implement the agreed plans based on the actual resources made available during the year.

5.3. These operational guidelines describe the medium-term allocation process, i.e., the authorization and appropriations process. As noted in Chapter 2, the existing process described above needs strengthening. For this the process needs to be redesigned so that it:

- provides a framework for decision making which explicitly links allocation decisions to CGIAR priorities;
- introduces ex-ante supply constraints on core programs;
- clearly defines the center program building blocks; and
- makes the justification and review of center proposals effective and explicit.

Description of the Revised Resource Allocation Process

5.4. Because the linkage of resource allocation to priorities and strategies is a key feature of the proposed redesign, the section below first summarizes the approach that is being taken by TAC in the development of a priorities framework which provides the basis for the application of the revised resource allocation process. This is followed by a description of objectives and operation of the revised allocation process.

(a) Priority Setting

5.5. The process of priority setting that is under consideration by TAC will provide the basic information for the revised allocation procedures. This information is provided by a matrix describing the distribution of core resources over nine CGIAR goal-related categories of research activities in 18 agroecological zones of the developing world.

5.6. The nine categories are resource conservation and management, crop, livestock, fish and forestry productivity, commodity conservation and utilization, human linkages, socio-economics and policy and institution building (strengthening NARS). The productivity related categories are further disaggregated into individual commodities. Congruence and goal-related equity considerations form the basis for an initial distribution of resources within the matrix. The relative distributions over the continental agroecological zones are subsequently modified by considering the distribution needs of the poor, sustainability of production, likely returns to investment in research, demand for agricultural products, production possibilities, strength of the NARS and other sources of research input.

5.7. Relative emphases within each zone over the nine categories are established by considering, among others, deforestation, soil constraints and

erosion hazards, human nutritional problems, the needs of the poor, socio-economic and policy constraints, the need for institutional building and the spillover of research results between agroecological zones.

5.8. This interactive approach makes good use of existing partial economic models, quantitative data bases and problem descriptions and the information and collective judgements within the CGIAR system. An advantage of the model is that each of the judgements must be made explicit. This ensures that these judgements are actually made and permits the analysis of sensitivity of the priorities to the values assigned to each of the parameters. This, in turn, leads to clarity in the elaboration of goals, assumptions and priorities.

5.9. The product of this priority setting exercise is a matrix with target values for the relative distributions of resources among activities and across ecological zones. This matrix provide the link between setting priorities and allocating resources. Typical matrices used are illustrated in Annex Table 1 (disaggregated by categories and agroecological zones (AEZs)) and Annex Table 2 (by commodity and AEZs).

(b) Objectives and Operation of the Revised Allocation Process

Objectives

5.10. Before describing the specific steps and the roles and responsibilities of TAC, centers and the CGIAR it is useful to re-state the main objectives of the redesign.

- (i) The allocation process is being redesigned to improve the match in program terms between the "top down" priority setting by TAC and the "bottom up" preparation of program proposals by individual centers. The redesign should also improve the match in financial terms between the approved budgets of centers and the supply of donor funds. For this matching to succeed the terminology used throughout the system must be clearly defined and unambiguous and a move in this direction has been made (see Annex 3).
- (ii) In addition, the redesign must take into account two seemingly conflicting aspects of the CGIAR's operation: long-term "central" planning in setting the direction of the CGIAR and operational center/donor autonomy in actual implementation. This is overcome by limiting central planning to the distribution of resources for the core component of center budgets. Complementary projects should be consistent with the system's mission and goals but are not constrained by the financial limitations imposed through the core planning process.

Operation

5.11. The new medium-term allocation process which will operate from 1992 involves a series of steps:

- (i) The point of departure in this process is the priorities framework which is expressed as a matrix of the desired allocation of the system's resources in proportional terms for the core projects component. The matrix provides disaggregation by activities, across agroecological zones and by individual commodities over a five and ten year horizon.
- (ii) The matrix is compared with the actual distribution of resources for activities disaggregated as above for all centers. The end result of this comparison is the desired target for each center at the end of the five-year period.
- (iii) The target percentage for individual centers of total system resources is expressed in financial terms by projecting the funding level at the end of the five-year period. In this way, a funding constraint is incorporated in the process. This target funding level at the end of the period will imply a directional change from the present actual level. TAC therefore also reviews the implied rate of change and suggests possible options. (See Figure 2.)
- (iv) Given this information, centers prepare MTPs which separate core and complementary projects, and indicate the differences (if any) between the guidelines and their proposals. In addition they also indicate the rate at which they intend to reach the target allocation.
- (v) TAC reviews center MTPs and either approves, suggests modifications, or does not accept the proposals for readjustment (up or down) of individual components of the core.
- (vi) In such a review and analysis of center MTPs, TAC uses the priorities framework and also is guided by the recommendations and suggestions made by the external program and management reviews ideally scheduled to report to TAC 3-12 months before the MTPs.
- (vii) Once center MTPs are approved by TAC and subsequently by the CGIAR at the following ICW, they are implemented at the beginning (January 1) of the next financial year. If supply from donors is higher or lower than estimated, provided the difference is not large, across the board adjustments can be made.

5.12. All centers MTPs cannot be reviewed by TAC simultaneously because of the size of the task involved, and the need to link the external reviews (EPR, EMR) to the application of TAC priorities framework. However, the simultaneous provision of forward targets for activities for all centers to guide the allocation process does provide a global view which serves as road map for the development of core projects and budgets of all centers. Any new center joining the CGIAR would also progress thorough the allocation process at an appropriate time.

5.13. These steps involved in the application of the revised allocation process are set out in the form of a timetable in Table 4. Further detail of the above procedure follows.

Figure 2: Resource Allocation Procedures
Core Component

Center X

Actual

Relative Distribution (SSY,\$)

Activities/AEZ's/Crop

TAC Priorities

Relative Distribution

Activities/AEZ's/Crop

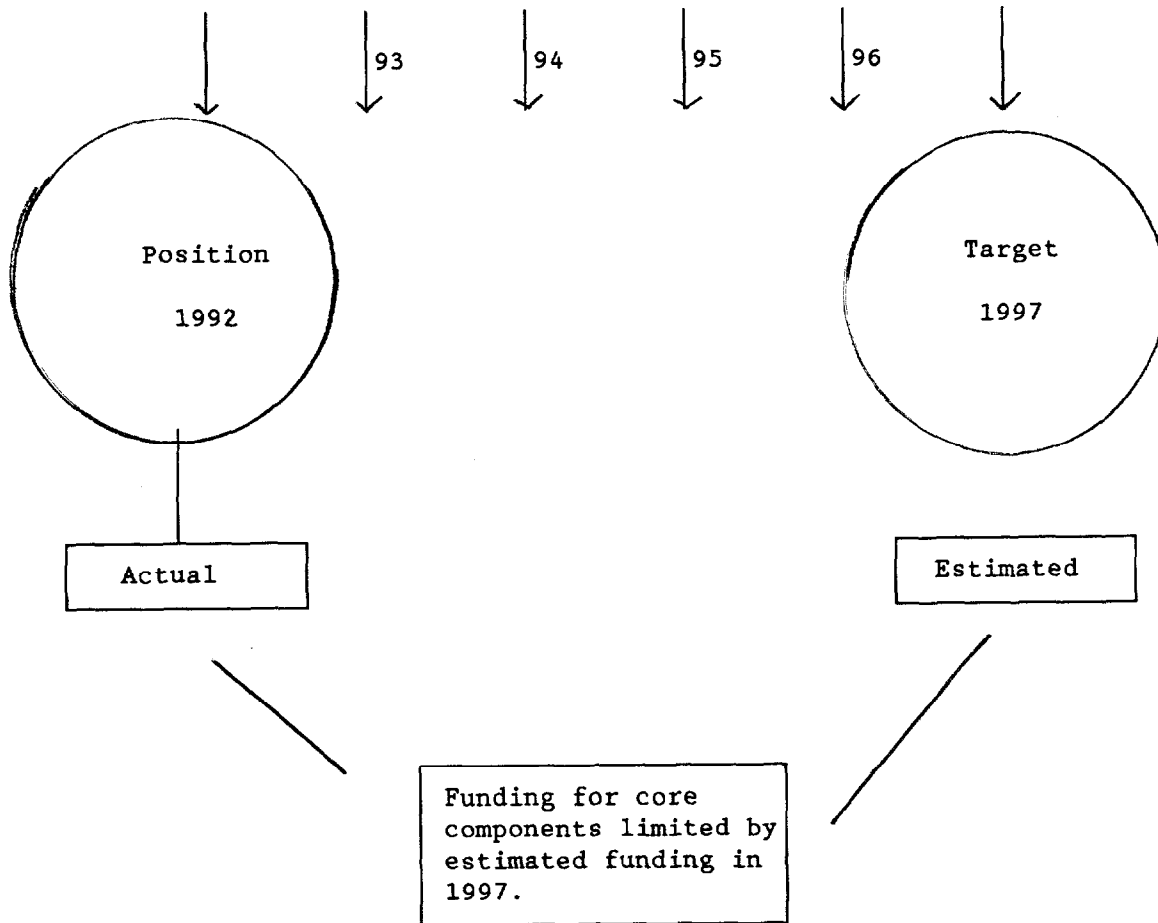


Table 4: An indicative schedule of the steps in the revised allocation process

<u>Steps</u>	<u>Responsibility</u>	<u>Timing</u>
1. Defining the framework	TAC *	June 1991
Establishing analytical matrix	(centers)	
Developing needs analysis		
Assigning target percentages (Horizon:1997 and 2002)		
Approval	CGIAR *	ICW91
2. Setting target allocations (Horizon:1997)	TAC	June 1991
Assigning target percentages		(Oct 91)
Setting CGIAR funding assumptions		
Assigning funding figures		
Approval	CGIAR	ICW91(May92)
Annual extension of horizon to 2000	TAC	July
3. Sequencing and Guidelines	TAC	March 92
4. Center proposals (1993-97 to 1996-2000)	Centers *	1992-95
Total program plans	(including	
Two part programs	BOT)	
Justifying program elements		
Justifying cost structure		
Justifying new capital		
5. Review of center proposals	TAC	July 92-95
Program consistency		
Program justification		
Financial parameters		
Complementary programs		
Impact on system		
Approval	CGIAR	ICW92-ICW95
6. Implementation		
Annual review	TAC (Centers)	July
Review of est. funding of programs	TAC	October
Annual approval	CGIAR	ICW
Annual funding	Donors	
Program implementation	Centers	
Periodic review	TAC (CGIAR)	Periodic
7. Review of second round	TAC	1996-97

* Notes: TAC - TAC assisted by the two secretariats.

Centers - Center management and BOT.

CGIAR - The group. Donors - CGIAR donors.

(c) Details of the Revised Resource Allocation Process

5.14. The operational details of the revised allocation process are outlined below. These follow the sequence that begins with TAC setting of target allocations, based on the priorities framework, and sequencing of center MTPs, followed by the centers preparing MTPs and TAC reviewing the proposals and finally, the process of implementing the MTPs. The details of these steps are outlined below:

Setting Target Allocations - (TAC)

5.15. TAC translates the system aggregates into core allocation for individual centers as follows:

- (i) The existing (1992) core components are aggregated in the framework to produce a current distribution to compare with the desired distribution for 1997 recommended in the priorities analyses.
- (ii) Comparing the two indicates the directional changes required from the existing distribution. For example, if the percentage for a category needs to rise (decline) this can be reflected by increasing (decreasing) the allocations in the individual center cells. New institutions approved in the expansion of the system are also included in the analysis.
- (iii) Before making a final determination of these changes, TAC assures itself that the differences in the two distributions are, in fact, consistent with their perception of system priorities.

5.16. The final step is translating the percentage assumptions into money figures for 1997.

- (i) The detailed allocations are derived from a CGIAR total funding assumption for the core component, thereby incorporating a funding supply constraint in line with past trends and future expectations.
- (ii) TAC reviews the results based on the magnitude of change needed from the level of operations in 1992, special circumstances of centers, institutional realities, regional priorities etc., and develops a set of center funding figures for the core program in 1997. Annex tables 1 and 2 provide a layout of this structure. (As described later in the section on transition arrangements, the 1992 base funding figures will include technical adjustments for inflation and uniform treatment of capital.)

5.17. In the intervening period of about five years before the funding allocations are globally set again, the target allocations are annually reviewed by TAC and rolled forward one year. This facilitates consideration of center MTPs during the interval.

Sequencing - TAC

5.18. At the start of the second round in 1992, TAC announces the 1997 funding targets and the proposed time distribution for consideration of the second round of MTPs. A tentative sequencing scheme is shown in Table 5 which indicates that a majority of the second-round review of the five-year programs could in fact take place over a 24-month period.

Table 5: Tentative Sequencing of External Reviews and MTPs for the Second Round of CGIAR Resource Allocation

	Last Year of MTP	Last External Review (to CGIAR)	Next External Review (to CGIAR)	Indicative		
				TAC Analysis	CGIAR Approval	Next MTP Time Horizon
<u>Existing Centers</u>						
ILRAD	1992	1986	1992	1992	ICW92	1993-97
ISNAR	1992	1986	1991	1992	ICW92	1993-97
IFPRI	1992	1984	1990	1992	ICW92	1993-97
CIAT	1991/93	1990	to be schdled.	1992	ICW92	1993-97
IBPGR	1992	1985	1991	1992	ICW92	1993-97
CIP	1992	1990	to be schdled.	1992	ICW92	1993-97
IITA	1993	1990	to be schdled.	1993	ICW93	1994-98
(alternate)					(could advance 1 year)	
ICRISAT	1993	1986	1991	1993	ICW93	1994-98
(alternate)					(could advance 1 year)	
ILCA	1993	1986	1992	1993	ICW93	1994-98
(alternate)					(could advance 1 year)	
WARDA	1994	1986	1993	1994	ICW94	1995-99
(alternate)					(could advance 1 year)	
IRRI	1994	1987	1993	1994	ICW94	1995-99
(alternate)					(could advance 1 year)	
ICARDA	1994	1988	to be schdled.	1994	ICW94	1995-99
CIMMYT	1994	1989	to be schdled.	1994	ICW94	1995-99
<u>CG Expansion (notional)</u>						
Forestry				1992	ICW92	1993-97
Vegetables				1992	ICW92	1993-97
Fisheries				1992	ICW92	1993-97
Irrigation				1992	ICW92	1993-97
Others				1992	ICW92	1993-97

Center Proposals - (Centers)

5.19. Centers prepare MTPs for their total operational plans consistent with their own strategies. Note that while the funding figure is derived by TAC by assuming a certain activity distribution within a center, centers are free to propose a different distribution. Also the proposed rates of change towards the 1997 funding targets should be negotiable. The proposals are presented across three dimensions:

- (i) By management structure, i.e., research, research related, management and administration.
- (ii) By a program management structure (i.e., management and administration allocated to the individual research and research-related programs) sub-divided by the nine system-wide categories and as needed (e.g., for commodity improvement programs which are sub-sets at the system level of a single category called crop productivity) for activities within the categories.
- (iii) By aggregate programs allocated by the four major geographic regions. Annex Table 3 provides a tentative presentation scheme.

5.20. The MTPs are presented in two parts: core and complementary. The core projects are constrained by the guideline allocation while the complementary projects are not. Centers make explicit in relation to the proposed programs (not the detailed internal program units or projects) the four factors used by TAC in setting the allocation. Centers justify the overall cost structure assumptions such as expected changes in spending patterns, relationship of "overhead" expenses and their projected evolution, capital stock replenishment assumptions, etc. Requirements for new capital are presented separately and linked either to emerging research needs (e.g. biotechnology) or institutional needs (campus or off-site expansion, etc.).

Review of center proposals - TAC

5.21. Centers are expected to propose MTPs within reasonable bounds of the CGIAR program and financial framework. This is an important responsibility for the center Boards. Nevertheless, in reviewing the center proposals TAC uses a "checklist" along the following lines:

- (i) The total program (core and complementary) must be coherent and consistent with CGIAR priorities and strategies.
- (ii) All proposed activities should meet the tests of CGIAR advantage in undertaking them (see criteria in 4.13)
- (iii) The core component should be within the guidelines allocation in financial terms and consistent in program terms. If it is not, points of divergence must be explicitly rationalized.

- (iv) The complementary component must also be consistent with the direction of the CGIAR research although not constrained in financial terms.
- (v) Financial assumptions must be explicit and consistent with system assumptions.

Implementation

5.22. Once approved by the CGIAR, the MTPs are implemented by the centers based on the actual availability of funding.

5.23. The new feature of ex-ante funding limits set five years in advance highlights the need for periodic fine tuning by TAC in response to center requests for mid-course corrections. The need for an annual review is further underlined by the annual funding structure of the CGIAR, which requires that the approved five-year programs (authorizations) be annually resubmitted to the CGIAR for approval at ICW and funding thereafter (appropriations).

5.24. The existing practice of an annual program and funding review by TAC, underpinned by a program and financial examination by the secretariats, at the mid-year meeting of TAC is an appropriate mechanism to meet this need. The review provides a forum for centers to propose changes to respond to new research opportunities and institutional/financial factors. The format of the review remains as currently practiced and does not become a detailed budget examination of marginal changes as was the case before the CGIAR adopted the medium-term allocation process.

5.25. The priority matrix sets essential core budgets in the context of anticipated funding. However, in actual practice there will be small divergences between supply and demand. These divergences can be accommodated by making small across the board adjustments as done previously. To ensure that TAC has the opportunity to reconfirm these adjustments or consider further changes in case this divergence becomes significant, TAC, at its meeting prior to ICW, can briefly reexamine the impact of likely funding levels on the program. This step eliminates the need for special CGIAR committees, such as the one set up to deal with the 1990 funding/budget gaps.

5.26. In case of changes in institutional circumstances or new research discoveries or funding difficulties (consistent underfunding) that have a fundamental impact on a center's program and operations TAC can request the preparation of a new program proposal midway during a five-year approval period.

(d) Transition Considerations

5.27. To assure a smooth transition in 1992 to the redesigned process, which has several new features such as linkage to priorities and funding limits that will be effective only in 1992, several issues need to be resolved in the interim. They are:

- (i) mechanisms for dealing with the budget/funding gaps until the second round is completed;
- (ii) options available to centers whose existing approved programs extend to 1994 in view of the fact that 1992 decisions may indicate changes in direction;
- (iii) selection of the 1992 budget/funding figure (base budget) used in developing the system-wide "baseline" from which changes are made to arrive at the 1997 recommended allocation (para. 5.15.)

Budget/funding gaps:

5.28. The mechanism for filling the gap between center requirements and CGIAR funding must be responsive to many factors such as equity among centers, support for approved priorities etc. The examination of the process used by TAC (Chapter 2) appears to confirm that TAC judgements changed over time and hence the approved levels cannot be the sole basis for matching available funds with the center needs, i.e. the gap cannot be allocated proportionate to approvals. On the other hand, completely ignoring the approved levels and allocating the system funding increase to all centers would also be unfair considering the great efforts by the centers and TAC in preparing and reviewing the programs. Under the best of circumstances all center proposals should be reviewed again in detail to ensure uniform evaluation. This is likely to happen, although prospectively, in response to the priorities analysis, i.e. simultaneous determination of 1997 levels for all centers. However, the proposed linkage to CGIAR priorities means that the framework cannot be operational until 1992 or when 1993 budgets are being considered. In the meanwhile, for 1991 and 1992, a gap filling mechanism is needed which utilizes the approved programs.

5.29. The proposed solution is somewhat mechanistic but responsive to the two counter currents mentioned above. In the first instance, the gap in 1991 is of the order of \$40-50 million or almost 20%. The same is likely for 1992. The proposal is to allocate the estimated funding increase between 1990 and 1991 (say 4%) in proportion to the shares of individual centers in approved CGIAR increase between the two years. This recognizes the incremental priorities to the extent made possible by the funds available. To address the equity question the maximum increase to any center would not exceed 150% of the system increase (i.e. 6% if the system increase is 4%).

Approvals up to 1994

5.30. This transition question is relevant to eight out of the thirteen CGIAR centers which are operating under approved programs extending into 1993 and 1994. On the one hand, in view of the time and effort invested by each center in developing and defending the five-year program, it would be less than desirable for these centers to embark on developing a new program in the fourth (four centers) or fifth year (four centers). On the other hand, the priorities analysis available in 1992, reflecting a constrained environment, will set target allocations for 1997 which will almost certainly project a directional change, decline or increase, in the core funding for some centers.

Furthermore, it is unlikely that the existing approved programs of the centers will be fully funded simply because they are too ambitious.

5.31. Given these hard realities, it may be best if the centers themselves choose between two possible alternatives:

- (i) Alternative No. 1: Center funding for years 1993 and 1994 is held at the "base" level and increased mechanically by the overall funding increase of the system.
- (ii) Alternative No. 2: Center requests for earlier consideration of a revised MTP.

Base Budgets

5.32. The base budget issue is one of "equity" among centers in terms of a 1992 "baseline" which is standardized for inflation, in the light of actual experience and uniformity in treatment of maintenance and new capital in center budgets.

- (i) Although centers faced with inflationary cost increases have been annually compensated from the stabilization mechanism, a comprehensive examination of actual inflation trends in relation to the budget rates has not been done in the past several years. As a consequence, some centers seem to feel that their budgets are not correctly denominated in relation to others. It would be useful to determine these variances so that all centers will have a consistent budgeting base before starting the second round. The CG secretariat is preparing such a comprehensive analysis.
- (ii) Secondly, it is necessary to adjust the "baseline" for new capital provisions approved in the first round since they are likely to be different during 1993/97. In addition, while the first round of proposals included well thought out capital replenishment plans, it would be desirable that all centers use a consistent basis to determine prudent capital replenishment provisions. This would ensure that the necessary capital replenishment takes place even in a constrained funding environment. The CGIAR secretariat is preparing a comprehensive review of capital which will help to establish a consistent basis for these arrangements.

PARTICIPANTS IN THE PANEL MEETINGOctober 19-20, 1989 - Davis CaliforniaResource Persons (TAC and CGIAR)

Jim McWilliam (Chair)	Alex McCalla
Don Winkelmann	Alexander von der Osten
Ross Gray	John Monyo
Raoul Dudal	Ravi Tadvalkar
Gustavo Nores	
Amir Muhammed	
Martha ter Kuile	
Richard Clifford	

January 8-10, 1990 - CGIAR Secretariat, Washington DCResource Persons (TAC and CGIAR)

Jim McWilliam (Chair)	Alex McCalla
Doris Calloway	Alexander Von der Osten
Raoul Dudal	John Monyo
Ross Gray	Ravi Tadvalkar
Amir Muhammed	
Martha ter Kuile	
Don Winkelmann	
Richard Clifford	

August 24-25, 1990 - TAC Secretariat, Rome, ItalyResource Persons (TAC and CGIAR)

Jim McWilliam (Chair)	Alex McCalla
Doris Calloway	Alexander Von der Osten
Raoul Dudal	John Monyo
Amir Muhammed	Ravi Tadvalkar
Ross Gray	
Don Winkelmann	
Martha ter Kuile	
Cornelis de Wit	

Special Sub-Committee Meeting on Priorities

July 9-10, 1990 - CGIAR Secretariat, Washington DC

Alex McCalla
 Alexander von der Osten
 Jim McWilliam
 Robert Herdt
 Gustavo Nores
 Don Winkelmann
 Ravi Tadvalkar

SCHEDULE OF RESOURCE ALLOCATION PROCESS

Center	Date Last External Review	TAC 42 Rome Mar-87	TAC 43 Nairobi Jun-87	ICW 87 WN/DC Oct-87	TAC 44 WN/DC Oct-87	TAC 45 Rome Mar-88	Mid-Term Berlin May-88	TAC 46 Hyderabad Jun-88	TAC 47 WN/DC Oct-88	ICW 88 WN/DC Oct-88	TAC 48 El Batan Mar-89	Mid-Term Canberra May-89	TAC 49 Rome Jul-89	ICW 89 WN/DC Oct-89	Term of 5 year P&B
ISNAR	1985	TAC (1)	TAC (2)	CGIAR											1988-92
IFPRI	1990	TAC (1)	TAC (2)	CGIAR											1988-92
ILRAD	1986		TAC (1)	CGIAR											1988-92
CIP	1989		TAC (1)		TAC (2)	TAC (3)	CGIAR								1988-92
IBPGR	1985		TAC (1)		TAC (2)	TAC (3)	CGIAR								1989-93
ILCA	1986					TAC (1)		TAC (2)		CGIAR					1989-93
CIAT	1989					TAC (1)		TAC (2)		CGIAR					1989-93
IITA	1990					TAC (1)		TAC (2)		CGIAR					1989-93
ICRISAT	1990							TAC (1)	TAC (2)		TAC (3)	CGIAR			1989-93
WARDA									TAC (1)		TAC (2)	CGIAR			1990-94
IRRI	1987										TAC (1)		TAC (2)	CGIAR	1990-94
ICARDA	1988										TAC (1)		TAC (2)	CGIAR	1990-94
CIMMYT	1988										TAC (1)		TAC (2)	CGIAR	1990-94

(1) First presentation to TAC

(2) Second presentation to TAC

(3) Third presentation to TAC

CGIAR: TAC endorsement sent to CGIAR and 5 Year Program and Budget Approved

Some Definitions and Explanations

Categories and activities: The work of the CGIAR is organized in discrete activities which in turn are grouped into nine categories.

Project: A project is an operational research unit. It has an objective output expectations and resources assigned to it. A single project can often include more than one activity from the same or different categories. Groups of related projects constitute a program and in some cases a single large project can also be referred to as a program.

Scale: Scale relates to projects and refers to the level, measured in SSY or in dollars, at which the project is operated. This level should be above the minimum critical mass (defined as that level of inputs whose cost is just less than the value of output) but below the level at which added costs exceed the value of added gains. Knowing the desirable scale of projects can assist in defining the resources needed to undertake a given research portfolio, e.g. the core projects in a center.

Expected returns: Under the most ideal circumstances, each project within the CGIAR program would have a expected rate of return. If that were possible then all projects could be ranked in order of the rate of return, making the task of selecting between competing needs relatively simple. For example, the CGIAR could have a target rate of return below which it would be inappropriate to undertake the research. Due to the lack of the necessary data and information as well as definitional problems e.g. in resource management programs, such analysis is not possible for the CGIAR. However, whenever feasible, it can be helpful in sharpening certain priority choices within a center.

Agroecological zones: The definitions used by TAC include continental agroecological zones (a total of 18) which are described largely in terms of climatic factors. These can be further disaggregated on a country scale or aggregated up to a global scale. The classification of regions into mega environments by some centers is based on different parameters, but data from mega environments can be converted to the appropriate agroecologies. Because of the value of agroecological classification for priority analysis, centers should provide this information for their own and TAC's priority setting exercises.

Units of account: The basic units for measuring inputs are senior staff years (SSY) and dollars. While there are legitimate reasons for not adopting a uniform definition of SSY for all centers, in general, senior staff mean internationally recruited and compensated professionals employed by a center.

Since the most expensive resource is the internationally recruited and compensated scientist, typically international staff is a valuable unit of account as it provides a costing and in addition, a measure of the scientific input. The variation in costs of SSYs in different centers limits their value for cross-center comparisons. In presenting the program by management units, all international staff including administrators should be counted. Operational costs needed to support the work of the center are typically assigned to the international staff input unit. When developing dollars costs by activity all administrative support staff are allocated to the research and research related programs.

CGIAR Resource Allocation Framework
Presentation of Individual Center Proposals

Table 3a: Proposals By Program Units

	<u>Past yr.</u>	Year 1	Year 5
<u>Program 1/</u>				
Commodity program (Project 1 ... Project n : Not displayed)				
Other program				
Training and Communications				
Institution Building				
Management and administration				
Inflation				
Total operations				
Maintenance capital				
New capital				
Total requirements				
Of which: Own resources				
<u>CGIAR Funding requirements</u>				
<u>1/Research support allocated to research.</u>				

Table 3b: Center Proposals By Activity Categories 1/
(another annex cross tabulates category by AEZs or region)

	<u>Past yr.</u>	Year 1	Year 5
Category I.				
Category II. commodity1				
Category III.				
Category IV.				
Inflation				
Total operations				
Maintenance capital				
New capital				
Total requirements				
Of which: Own resources				
CGIAR Funding requirements				

1/ Program units from table 3a cross tabulated, using projects and activities, to categories.