



Innovations within the International System of Agricultural Research System

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1. Introduction

58 public and private members worldwide have joined forces to form the Consultative Group on International Agricultural Research (CGIAR). Its objective is to ensure food security and combat poverty in developing countries while using natural resources in a sustainable manner. The CGIAR supports 16 agricultural research centers toward this purpose in Africa, Asia, Latin America and Europe backed by an annual budget of US\$ 330 million (1999).

Even before the CGIAR was founded in 1971 there had been spectacular successes on the part of the four international research centers existing at that time. The dramatic increases in production resulting from the "Green Revolution" in Asia were received just as enthusiastically as the real or supposed side effects accompanying them chastised. In terms of the reaction to praise and criticism, an outstanding feature of the CGIAR System already displayed itself early on: sensitivity with respect to the impacts from research, long-term planning as a response to crises and, in general, a high level of innovative capability and willingness to reform.

Over the course of the last three decades this meant for example:

- = During the 1970s: The spectrum of research topics is expanded as widely as the regional orientation;
- = During the 1980s: Sustainability and poverty orientation are taken up explicitly as objectives;
- = During the 1990s: A highly critical look is taken once again at objectives, content and organizational forms. One significant outcome are new partnerships with national and private-sector research institutions and NGOs.

As the 20th century came to a close, awareness increased that the CGIAR System was in need of a new vision. More recent developments have changed the conditional framework for work performed up till now. For instance, information technology and biotechnology have shifted the frontiers of that which is possible dramatically; private-sector agricultural research has many

times more resources at its disposal. At the same time, the problems to be solved have grown. Of the many key figures available, two should be noted: At present 1.2 billion people are living in absolute poverty, a figure that will hardly decrease over the next decade. Over the next 20 years there will be 74 million more people to be fed each year.

Preliminary strategic considerations that take the conditional frameworks and anticipated problems into account are targeted toward a reorientation of the CGIAR System:

- = A more intensive poverty orientation;
- = The increased usage of state-of-the-art scientific technologies and methods;
- = A regional prioritization in favor of Southern Asia and Africa south of the Sahara;
- = Research planning on a regional basis;
- = New forms of partnership and research funding;
- = New organizational forms in the implementation of research projects (task force approach).

This prioritization of the overall system will have impacts on the planning, implementation and evaluation of decentralized research projects. Solid prerequisites toward this already exist in many respects. The self-critical analysis that the vision for the CGIAR System is to be based upon for the next two decades should not conceal the substantial efforts that the System has already undertaken, efforts that are now capable of exhibiting their effectiveness. These include participative approaches for planning and technological development, interdisciplinary research experience, network-building, a clear output and impact orientation in research, as well as a mutual, flexible set of tools for planning.

The CGIAR System is an informal grouping of very different players. The donor group plays an important role thereby, one that goes far beyond that of mere funding. Donors are not only ac-

tively involved in the discussion on strategy and global steering, they also join in the decision-making on the conception and implementation of concrete research projects. They look after their responsibility for the effectiveness and efficiency of international agricultural research by effecting supporting activities - and, in doing so, toward the solution of poverty, food security and environmental problems worldwide. This brochure is intended to demonstrate examples of such support from a German viewpoint. In the process, reactions to ongoing processes and initiatives within the CGIAR System were tar-

geted, which in turn enabled a meaningful supplement through the communication of know-how. The approach documents a general principle of the CGIAR System: to achieve a sustainable impact using relatively little time and effort while working together as partners. Possibilities for similar forms of active support also exist in the future. Donors, and the general public they are obliged to, should interpret these positive experiences as a confirmation of the sense being made by a continuous support of international agricultural research.

2. Demands Placed on the Effective Management of International Agricultural Research

The objectives of the CGIAR System and, in turn, the roles attributed to the scientists acting within it, appeared to be relatively clear for a long time. Through their research, specialists working in their disciplines were supposed to be contributing to an advancement of the knowledge status in their specialty, which also meant developing innovations as well. Building upon the respective research status and their own preferences and competencies, applications for research were developed by the individual scientists and submitted to potential donors. These often dealt with highly specialized, pure research. Converting the innovations into a reality did not stand in the foreground, and was consciously left for the most part to other players involved (e.g. local research institutes or advisory extension services). Viewed in a more literal perspective, the impacts of such research were not recorded: Researchers' performance was measured on the basis of academic criteria (e.g. publications).

Albeit, the reorientation and increasing beneficiary orientation in agricultural research in recent years has made fundamental changes necessary in both the objective of such research and in how the scientists view themselves:

= In development-oriented agricultural research, the **predominant goal** is to develop innovations for the beneficiaries (mainly smallholders with a low level of available resources) that, under given conditions, are directly applicable, effective, economically sensible and both ecologically and socially compatible. At the same time, the impacts of changed production quantities and prices on rural and urban consumers are also to be taken into

consideration.

The starting point for setting priorities in research are therefore the needs and potentials of different target groups which, in addition, have to be analyzed precisely.

= This results in it no longer being sufficient to produce new scientific findings through research performed from discipline to discipline. Moreover, plausible impact chains must be demonstrated and developed that display the research findings over the course of the various phases: from being put into a concrete form, being disseminated and applied, all the way to the positive benefits they generate. Even when the individual scientist can neither directly control the impacts of their work on the concrete living conditions of the target groups, nor make detailed predictions about such impacts, they do bear the responsibility for how their findings adapt themselves into a concrete problem-solving strategy. As such, usability and usefulness for the user is becoming a decisive criterion for success, and the yardstick in evaluating research.

= In doing so, research views itself as being merely a part of a comprehensive innovation system defined by a large number of factors. Accordingly, scientists are called upon to use a systemic approach in order to take both system complexity and dynamics into account. This means that components and factors can be contemplated in an isolated manner only to a

certain extent. Furthermore, problems must be addressed in an interdisciplinary manner, beyond the boundaries posed by disciplines. This raises the demand profile placed on the scientists, who for the most part were educated in a certain discipline and are now specialized. This is particularly evident in the field of integrated management of natural resources.

- = As such an approach can only be implemented successfully in conjunction with other players (e.g. National Agricultural Research Systems/NARS, consultancy, development agencies, NGOs, etc.), new ways of cooperating with partners are necessary. To achieve an effective and efficient research process it is necessary to combine the comparative advantages of the various players. The purpose: to make synergetic effects a reality. In addition, the degree to which beneficiaries are involved in the formulation of research questions and in the implementation of individual research projects must be increased substantially.

If one considers the role of scientists and research managers in such systems, it is quickly apparent that the development and impact orientation have resulted in a considerable expansion of those roles and requirements existing up till now. The following mandates must be fulfilled alongside the actual research itself:

- = Development and planning of applications toward the funding of research projects;
- = Participatory project management (planning, M&E);
- = Management of intercultural and interdisciplinary research teams;
- = Build-up and coordination of partnership relationships to other players in the impact chain.

To cope with this new challenge efficiently, both researchers and research managers require clearly defined scopes and procedures for their work that allow them to perform beneficiary and impact-oriented research within acceptable conditional frameworks. In doing so, the burden placed by project management is to be kept as low as possible, the scientific leeway as large as

possible. The following elements of an inherently consistent planning that integrates various levels could contribute to this:

1. A clear orientation and vision of the entire CGIAR System and the individual centers that clarifies research priorities and mandates, and which places them in relationship to the development policy goals. This orientation must be supplemented through periodically conducted participatory strategic planning within individual centers in order to ensure the consistency of goals between the system level, the center level and those of the research programs. On this basis the research priorities of individual centers (or of system-wide programs) can be defined, and the corresponding program structure operationalized. A planning framework of this type is necessary as the basis for designing individual research projects, and gives individual scientists and program directors the security of being strategically integrated.
2. A comprehensive project management system is necessary (e.g. Project Cycle Management - PCM) in addition to the determination of content within the research orientation. This system must include a logically conclusive planning method that permits the consistent formulation and transparent depiction of individual research programs. Objectives to which research findings are contributing, as well as concrete outputs, must be specified and made operational by means of verifiable indicators. Equally, the most important conditional frameworks, elements which are indispensable to a successful research and dissemination process, must be taken into consideration to the same extent.
3. A set of tools is to be integrated into the planning procedure for purposes of monitoring both activities and the use of resources, as well as those findings and impacts produced. This way planning (and its periodic adaptation), project monitoring and evaluation are being linked consistently.
4. An extensive and complex plan of action always involves the risk of bureaucratic rigidity and an overburdening of project

management with administrative tasks. In general, an approach must therefore be chosen that allows for a flexible and creative application in special, individual cases, and which distributes management responsibility according to the principle of subsidiarity.

Planning procedures alone can only act as tools that aid in managing complex processes and projects. The necessary authoritative competencies toward implementing such projects are multifaceted and call for a different type of researcher profile. Besides specialized academic capabilities, management and competency in social areas are becoming increasingly important factors for effecting projects successfully. There are basically three fields of competency:

= In terms of *competency in an academic specialty*, it is particularly the aspects of interdisciplinarity and research methodology that bear considerable weight. These pose a challenge that is not to be underestimated, one that is not yet able to be fulfilled completely and with certainty in all cases.

= A sufficient competency in management and leadership is central in bringing together the research groups and teams working on complex interrelations effectively, in guiding them and in safeguarding an efficient project management. This refers not only to executive positions: All researchers must have a good understanding of systems approaches and process management in order to achieve common goals.

= Competency in communications and social areas are gaining significance when it comes to forming intercultural partnerships involving numerous players on different levels, and in terms of making progress with teamwork.

Developing competency in all these fields represents a major challenge for both scientists and management within the CGIAR System. These competencies cannot be built up through externally controlled activities, they must be accepted and promoted from within the system.

3. Donor Input Toward Supporting Agricultural Research

3.1.1. General principles regarding donor support

First of all: Donors make those financial resources available to international agricultural research that are necessary in order to cope with the diverse tasks of the 16 centers. In light of the dimension of the problems to be solved, whether or not this occurs to a sufficient extent is not the topic of this brochure. Instead, the focus here is being given here toward placing those approaches in the forefront that show how the productivity and competency of the CGIAR System, given limited resources, can be maintained and increased through targeted support.

Mutual vision

The fact that all players view themselves as being obligated to a mutual system of objectives - a world in which people are better fed, are not as poor, and in which natural resources are also being maintained for coming generations - is a

matter of fundamental importance. The initiative toward expansion or an intensification of the catalogue of objectives has often come from NGOs and governmental organizations. By doing so they have made a substantial contribution toward international agricultural research not taking place in the proverbial "ivory tower".

Partnership with equal rights

Donors, and industrial countries in particular, are only one of the groups of players within the CGIAR System. Despite widely differing financial inputs, the decision-making processes concerning strategies, objectives and priorities mainly occur through a consensus of opinion. In turn, this means that a major prerequisite has already been set: that the solution of thematic problems stands in the foreground.

Catalyzer function

The basis and innovative power behind the CGIAR System are the national and international scientists. Problem-solving solutions are

the result of *their* research and development activity. Organizational forms and the interplay with and between other players must be designed in such a way that this work can take place efficiently and effectively. This occurs best when internal system processes are supported, not when solutions drawn up externally are forced upon the system.

3.1.2. Individual donor support using Germany as an example

The examples of "priming the pump" described in the following in which Germany played an active role as donor demonstrate that even limited support is certainly capable of showing meaningful impacts. However, the only reason why these efforts were fruitful were because they picked up on initiatives that already existed, and because they corresponded to the current needs within the CGIAR System at that time.

Highly qualified and strongly motivated scientists work at the international agricultural research centers. How **competency in an academic specialty** can be exchanged in an interdisciplinary manner, and expanded, is shown by the example "Participatory Conference Design".

Competency in management and leadership includes the monitoring of planning and evaluation processes. Doing this requires an adapted set of tools. Two examples can be used to illustrate how "priming the pump" from the donor side was able to initiate or support a self-reliant process within the CGIAR System.

Modern international agricultural research is dialogue-oriented. The realization that **communicative competency** can also be learned led to a demand for support concerning moderation.

3.2. Example: Participatory Conference Design

The German Foundation for International Development (DSE) organizes international conferences in numerous fields concerned with development cooperation. Regarding the international, development-oriented agricultural research sector, here too the DSE also offers an important forum for the exchange between sci-

entists and decision-makers through the Center for Food and Agriculture (ZEL). In doing so it functions as a transmission belt in an international context between research and the conversion of knowledge obtained through research.

The extent of DES input here is not comprised of the inclusion of their own research findings. It is rather the support given to didactic-methodological preparation, and through professional, external moderation and visualization in the course of implementation.

At the same time, these events constitute examples of partnerships between one or more CGIAR centers and local institutions, mainly those from the national agricultural research system sector. In this way the partnership approach being aspired to in agricultural research is also being tested and effected for the dimension concerning information processing and dissemination.

The conferences and meetings during the last five years that had been based upon this goal and plan of action can be divided roughly into three areas:

Many years of experience in participatory conference design allow for a **soundly-based, specialized international policy dialogue**. A series of regional conferences deals with the areas of conflict between increasing production, reducing poverty and sustained resource management, the magic triangle efficiency, equity and environment. On the basis of a global concept and new scientific knowledge, the point here is to display options for action and formulate strategies that enable these agricultural policy development priorities to be satisfied simultaneously. Up till now, solid recommendations have been drawn up for a number of special agro-climatic zones (such as the arid regions of Western Asia, marginal locations in Africa south of the Sahara, or mountain regions in Southern Asia).

General topics that are of great significance for future agricultural research, and are often being addressed as **global initiatives** within the CGIAR, form the subject matter of international meetings and planning workshops. The role of the DSE here often concretely includes support in the planning of future initiatives, e.g. toward the preservation of biodiversity via in-situ conservation, or the researching of interactions between soil, water and nutrients. The spectrum of topics thereby is not closely restricted to techni-

cal production aspects, it most certainly includes the socio-economic dimension of agricultural research as well, for instance through questions on smallest-scale loans or the consequences of globalization.

A further emphasis is formed by the support given by the BMZ in the didactic conception and organization of large-scale events in which efforts are made to strive toward **setting strategic courses** for topics and plans of action in **international agricultural research and rural development**. Examples of this are the "Global Forum for Agricultural Research" (2000) or the conference on "Vision 2020" (2001).

Without a doubt, the work done by the DSE has contributed toward intensification of the interaction between various function-bearing agencies in German and international agricultural research, and to the emphasis on development orientation.

The participatory approach with its strong emphasis on a moderated dialogue and active work in small groups has become the standard in many cases, and has meanwhile nearly reached the stage of being expected by many people as a matter of course. The pure presentation of academic lectures is being replaced more and more, or at least supplemented, by a real dialogue and the elaboration of concrete plans of action addressing special parties in research and politics.

Contacts, mutual research projects and a further networking of German and international agricultural research with both one another, and with the political and implementational levels, are long-term effects that often have their origins in events for which the German side bears a major portion of the responsibility. Albeit, a systematic analysis of these impacts remains to be done - not least of all due to the considerable methodological difficulties associated with it, and due to the necessary resources.

3.3. Example: Conceptual support in the introduction of new planning approaches (Logical Framework)

Crisis situations not only make strengths and weaknesses more apparent, they also accelerate solution processes. The continuous expansion of

CGIAR mandates over the first two decades led to grave financial bottlenecks in the 1990s. The result was that the System reacted to these by investigating, among others, a thematic discussion on the future priorities in agricultural research. In doing so it rapidly became clear that: A new perspective in viewing the research process was just as necessary as a set of tools for research management tailored to CGIAR needs.

The new perspective, also characterized internally as a "change of paradigm", meant a turning away from activity-oriented research planning in favor of a planning in which desired outputs and impacts formed the starting point. The planning approaches necessary to achieve this were already being applied in individual research centers for some time. The problem was that this had not resulted in a conception that would have been binding for the entire CGIAR System.

Faced with this situation - and having received incentive from the GTZ - the German side made an attempt toward a systematization and standardization of planning approaches within international agricultural research. Upon invitation from the BMZ and the DSE, the Technical Advisory Committee (TAC) of CGIAR organized an initial workshop in Feldafing in February 1997. The goal was to transport the existing classification scheme for research activities into a "CGIAR Logical Framework", and by doing so to define the basic structure of an output and impact-oriented agricultural research planning. In particular, it was intended that this process moderated by the German side clarify to what extent experiences using the "Objective-Oriented Project Planning" tool are able to be utilized creatively for research planning.

The workshop's success - agreement on a hierarchy of goals for the CGIAR System on the basis of previous content - was due above all to the fact that the 15 high-echelon participants all represented major groups of players within the System. The inclusion of all levels and the free exchange of opinions and experiences was also characteristic of the entire course of events occurring afterward.

A consultation and coordination process directed by TAC with great enthusiasm took place during the year that followed on the basis of the workshop findings. A second Feldafing Workshop was prepared utilizing electronic media, but which also relied on conferences and work groups whose objective was a further develop-

ment of thematic content - especially with respect to the definition of indicators. The BMZ and DSE functioned as sponsors for this workshop as well. In the end, an expanded document into which the findings from a renewed round of feedback had been inputted was approved by the participants at an International Centers Week in Washington, D.C. in 1998 (see Appendix).

It is remarkable that the first workshop had hardly come to a close, yet the introduction of the Logical Framework was no longer being interpreted as a pure donor interest factor. Discussion, parts of which can certainly be deemed controversial, was conducted within the CGIAR System, and in particular in and between the centers themselves. Their input was essential not only for a shaping of the framework that did justice to the practices involved, but above all toward achieving a widespread acceptance. This became clear when the TAC commissioned the drawing up of recommendations intended to make concept conversion on the center and project levels easier. Here too there were decisive tips from research in practice.

Meanwhile all research centers are held to implementing and communicating their planning in compliance with the standardized approach agreed upon. At the same time, work is being done within the CGIAR System on additional management tools that are compatible with the Logical Framework concept. The goal of all these measures is to rationalize administrative and management expenditures in order to create more leeway for scientists for their true mandate - research toward solving problems desperately in need of solutions.

3.4. Example: Involvement in the (further) development of a stronger impact orientation in agricultural research

The demand for more effectiveness has continued to take a more and more prominent position in discussions over the last few years. It is not enough to facilitate individual activities and produce output as long as it has not been ensured that they are actually making a contribution toward achieving the desired changes in development policy. A higher level of effectiveness is also one of the declared goals in the agricultural research sector; no argument exists as to the ne-

cessity of systematic "Impact Monitoring". Numerous external studies were either initiated by individual research centers or organized by the CG System.

Albeit, special difficulties result from the complex impact chains from research to direct benefits for producers and consumers, from the long periods of time before measurable effects arise, and from the large number of exogenous factors influencing the effectiveness of agricultural research.

A regional conference took place in Eastern Africa in the fall of 1999 to anchor the position of impact monitoring as a management tool more strongly. This conference was conducted in cooperation with the European Consortium for Agricultural Research for the Tropics (ECART), with the regional forum for agricultural research in Eastern and Central Africa (ASARECA), and with the CTA (Technical Center for Agricultural and Rural Cooperation ACP-EU). As a member of ECART, the GTZ had taken charge of organization. By contributing conceptual inputs, collaborating on preparations and moderating the event they played a decisive role in shaping the discussion.

One central outcome of this is to set evaluation priorities more on the immediate impacts for the beneficiaries of research output. In turn, however, this job is to be passed on to research management as a task to be performed regularly. This is intended to strengthen the relevance of evaluation findings as reflected in actions taken, as well as guarantee "learning loops" in the implementation and adaptation of research programs. This approach is characterized by a substantially tighter meshing of planning with monitoring & evaluation.

As a direct consequence, a project from Technical Cooperation was identified that will be advising national agricultural research systems in the region on the institutionalization of a stronger impact orientation for agricultural research, thereby also serving to enhance the conversion of CGIAR research findings into reality.

At the same time, the workshop findings flow into the internal CGIAR discussion process, a process that receives impetus from the Standing Panel on Impact Assessment (SPIA) within the TAC. The first steps occurring up till now in which German scientists have participated were a concept paper and the moderation of a confer-

ence involving the CGIAR centers.

In the process, discussion within German development cooperation is thereby being closely linked to conceptional development within the CGIAR System. This too results in an emphasizing of the development orientation in agricultural research, and on the change of responsibility for researchers.

3.5. Example: Moderation and advisory consulting of planning processes

A final example of CGIAR promotional support from the German side is the spot support being given to individual project plans, which often resulted in more extensive consultancy toward strategy and concept developments.

For instance, a project proposal from the International Center for Research in Agroforestry (ICRAF) met with great interest at the BMZ, but was accorded pre-conditions due to non-compliance with the operational planning form. Promotional support was to be given only in conjunction with a Stakeholder and Planning Workshop to be held at the beginning of the research project. This workshop was supported on the German side through moderation (GTZ). The success of this activity with respect to participatory planning and support of the active dialogue,

as well as to communication and partnership with the NARS partners, instigated ICRAF to demand the same type of support for several strategic plans for regional programs, albeit this time paying for support themselves. The successes of these workshops and planning approaches - improved cooperation with NARS and a clear development orientation - gave added impetus to ICRAF toward pushing ahead with concept development in this manner too. For instance, a concept framework was created for their own development department that builds the basis for all project applications to donors. This framework safeguards the strategic consistency and complementary nature of various projects: from the drawing up of applications to targeted research facilitation, all the way to monitoring & evaluation and a clear outward representation vis-à-vis all other parties.

Together with conceptional expert consultancy and the advisory assistance given to the processes for certain programs, the original German contribution to planning and moderation "primed the pump". It has meanwhile led to participatory planning and moderation becoming a standard tool for ICRAF, one that has strengthened the development orientation. In addition, the communication between donor and research center has been intensified. The different ideas and worlds belonging to researchers and development managers were able to be made transparent through moderation's mediating role. Similar experiences were able to be gained at other research centers (e.g. CIAT, WARDA, ICRISAT, CIFOR).

4. Conclusion: Future Role and Focuses of Donor Support

On the overall CGIAR System level, donors are committed to those objectives already mentioned:

- = ensuring food security for the world's population,
- = reducing poverty and
- = utilizing natural resources in a sustainable manner.

It is this commitment to development policy that is generating an impact on the general public in the donor countries themselves. However, the viewpoint may very well be less widespread that these objectives can only be achieved when

scientists obtain optimal conditions toward developing the new knowledge necessary. Alongside ensuring a basic financial set-up for innovative research, the goal lies with donors of steadily increasing both the effectiveness and efficiency of the CGIAR System. This centrally entails assuming co-responsibility for an effective designing of work at the agricultural research centers. Although, as one group of players among the members, the donors do set regulative conditional frameworks - this does not mean "control" as such, but more of a solidarity-based support.

The research process is being co-designed in a wide variety of ways through thematic input from the donor side: in the course of discussions

on strategy, through academic conferences and in the evaluation of project applications. At the same time, the examples listed above have shown that an important contribution toward achieving objectives can also be made through active support of both research management and the exchange of information on different levels within the CGIAR System.

Donors act in the interest of the centers in achieving development policy goals. From the viewpoint of the scientists working at the centers and within partner organizations, the transparency of this commitment represents an important condition for innovative, efficient and effective research. This is valid on the one hand for the respective specific objectives of a given donor, whereby varying priorities are not only conceivable, they are even desirable. In view of both the great number of donors and the increasingly mixed financing of projects, the purpose is also to increase transparency concerning

organizational/administrative matters. For example, a standardization of application and reporting procedures would be a great help here - and one that centers have been calling for time and again.

A highly significant point of approach for future donor activities is the discussion on impact monitoring and measurement, one being advanced enthusiastically by many players in the CGIAR System. An excellent chance is being given here to increase the efficiency of assigned funding within the CGIAR System through both commitment to content and sustained support. The publishing of findings will simultaneously create a solid basis toward enabling effective public relations work to be performed in the donor countries themselves. The public's acceptance of generous support given to agricultural research will rise proportionately to the ability to document the step-by-step achievement of the highly-set goals.

Annex: The "Logical Framework" for the CGIAR System

The Logical Framework Approach ("Logframe") was developed during the 1970s in the USA in order to design project planning consistently and realistically. Numerous bilateral and multilateral organizations have taken up the Logical Framework Approach and are utilizing it. On behalf of the BMZ, the GTZ has played a pioneering role in this respect by operationalizing the process character of planning, implementation and evaluation in a practicable form, and by emphasizing the principles of participation and transparency while doing so. Since the beginning of the 1980s 'Objective-Oriented Project Planning' (ZOPP) - a modified variation of Logframe - has been the binding element in planning procedures for technical cooperation projects being supported by a German agency.

The Project Planning Matrix constitutes the "heart" of Logframe. This matrix summarizes the project's central elements in tabular form. In the process, a clear relationship is built between the

= immediate objectives and ultimate development goals,

= direct (material and immaterial) outputs and the most important activities in achieving them,

= central success indicators, including (quantitative) goal stipulations for all planning parameters,

= most important external factors indispensable to the project's success.

A Logframe was elaborated within the course of a planning procedure for the CGIAR System that reflects current emphases in research and places them in conjunction with the development policy objectives of international agricultural research. This planning on the system level thereby forms the framework for a more concrete planning of individual centers and special research projects. Modifications on one of the three planning levels consequently lead to adaptation of both objectives and planning on the other levels. In other words, no one-sided "top-down" or "bottom-up" plan of action is foreseen. What is foreseen is a tightly-woven, mutual meshing of strategic planning and detailed results in order to ensure flexible and consistent planning on the different levels.

Five **results** ("Outputs") being aspired to by international agricultural research within the

¹ Compare: "Project Cycle Management (PCM) of the GTZ" (Eschborn 1998) and "Objective-Oriented Project Planning - ZOPP" (Eschborn 1997),

framework of the CGIAR System include the

- = germplasm and germplasm improvement techniques for priority crops, livestock trees and fish;
- = collection and preservation of germplasm of selected species and their wild relatives for priority crops, livestock, trees and fish together with procedures for germplasm conservation;
- = management practices and research methodologies for sustainable production systems and for natural resource conservation;
- = improved policy analyses and techniques for policy formulation and public management;
- = knowledge and expertise for enhancing the performance of research and related institutions.

Three **immediate program objectives** ("Purposes") relating to the usage of such outputs by national players are being aspired to as a consequence of these results. These consist of

- = the self-reliant researching of improved production systems via national agricultural research institutions,
- = an increased productivity of the national and regional research systems,

- = the effecting of policy recommendations and a more effective and efficient agricultural policy.

For its part, achieving these purposes will contribute toward making a higher **development objective** ("Intermediate Goals") a reality:

An increased productivity of resources in agriculture, fisheries and forestry and the sustainable management of natural resources.

This way international agricultural research is making a contribution toward achieving the primary objectives ("Goals") of combating poverty, ensuring food security and protecting the environment.

The outputs, purposes and intermediate goals are quantified by precise indicators that supply the basis for a systematic monitoring of the implementation of activities in agricultural research and those impacts generated by them. These will make it considerably easier to conduct a rational discussion of the cost/benefit relationship posed by the CGIAR System.

Albeit, a quantification of the overall inputs being expected from the CGIAR System is not yet available at present. This can only take place on the basis of targets set for individual components, and on the synergetic effects they generate. A corresponding assessment will only then be possible, and necessary, when all of the centers and those programs transcending them have converted a Logframe-aided planning procedure relying on a standardized system of objectives and indicators into active use.