

**THE CONSULTATIVE GROUP ON INTERNATIONAL AGRICULTURAL RESEARCH
TECHNICAL ADVISORY COMMITTEE**

**RELATIONSHIPS BETWEEN CGIAR CENTRES AND NATIONAL RESEARCH SYSTEMS:
ISSUES AND OPTIONS**

**TAC SECRETARIAT
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RELATIONSHIPS BETWEEN CGIAR CENTRES AND NATIONAL RESEARCH SYSTEMS:

ISSUES AND OPTIONS

SUMMARY

This paper outlines current CGIAR policy on relationships between the Centres and national research systems and draws attention to the broader context in which the problems of strengthening national research capacity must be set. It distinguishes between two ways in which international organizations can contribute to strengthening national research systems. One, defined as "catalytic assistance", depends on strengthening relationships among institutions and thereby contributing to institution-building. The other, defined as "research assistance", involves direct assistance in the form of expertise and funding. The paper regards the former as a natural function of the CGIAR Centres and the latter as being more controversial.

It suggests three options for administering research assistance in association with Centre activities:

- by the Centres in a strictly limited manner;
- by the Centres through separately funded research assistance units; and
- by closer collaboration with development agencies or regional organizations.

Expression of Group preferences on these options is sought as a basis for formulating policy and for planning future strategies in greater detail.

The paper then looks at the possibilities for involving national research systems in international research to a greater extent than at present, and analyses the implications of undertaking a greater proportion of research funded by the CGIAR on a cooperative or contractual basis. It calls for a policy decision by the Group on whether or not there should be affirmative action in these respects.

Finally, it discusses the role of Centres with ecoregional mandates in helping to orchestrate CGIAR activities and, in this connection, raises the issue of ISNAR's future role within the System.

BACKGROUND

1. Purpose of the Paper

Much of the discussion surrounding the proposed expansion of the CGIAR has had implications for the System's priorities and strategies, on which TAC will be submitting a draft paper in October, 1991. However, at ICW 90, the Group asked TAC to elaborate its views on a number of key issues. In particular, several participants emphasized that strengthening national research systems could not be viewed as of secondary importance and that, in this context, the relationships between the CGIAR Centres and the national systems should be more explicitly discussed.

This paper forms the first part of TAC's response to the Group's request. The second part will be in the form of a policy statement to be included in the priorities and strategies paper. It could also be published as a separate document if the Group so desired. The present paper is written in the form of "issues and options" in order that views expressed by the Group at its mid-term meeting can be taken fully into account in preparing the policy statement.

2. Current CGIAR Policy

Currently, there is no comprehensive statement of CGIAR policy on the relationships between CGIAR Centres and national research systems in the developing countries. The policies applied by TAC in assessing Centre programmes and budgets are based on the series of policy documents that have come before the Group from time to time. Among these, the most relevant in the present context are the First Review of the CGIAR (1976), the Second Review of the CGIAR (1981), and the TAC paper on Future Priorities and Strategies (1986).

These documents are consistent in that they regard the CGIAR institutions, with the exception of ISNAR and IBPGR, as being primarily research institutions, but with additional roles in closely related aspects of training, information services and, in some instances, the dissemination of germplasm. They are also consistent in recommending that the Centres should not become directly involved in national research programmes, except when there is a clear need to do so, on a selective basis, in order to fulfil their mandates. For example, Centres have worked closely with national programmes in order to validate potentially important results, or as part of the process of developing new methodologies. They have been discouraged, however, from undertaking research specifically on behalf of national programmes.

None of these earlier documents has penetrated deeply into such questions as the extent to which Centres should or should not become involved in measures designed to strengthen national research systems. Nor have they discussed in detail the extent to which international research funded by the CGIAR might be undertaken by the national systems themselves, rather than by the Centres.

3. The Broader Context

Any discussion of the role of the CGIAR Centres in strengthening national research capacities has to be seen in the broader context of all the other factors involved. It must also take into account the contributions made by other external agencies. Within this broad array of other considerations and other actors, the CGIAR contribution can concentrate only on those aspects that its institutions are best equipped to tackle, recognizing that this will imply being selective in the use of the System's limited resources.

The great diversity among national research systems has also to be kept constantly in mind. The term national research system is used in this paper to include all those institutions in the public and private sectors, including universities, that are potentially capable of contributing to research related to the development of agriculture, forestry and fisheries. They vary greatly in their strengths and weaknesses in a multiplicity of ways and for a wide variety of reasons.

At the governmental level, they may be affected by such considerations as political instability, or an adverse policy environment. Their research capacity may suffer from deficiencies such as an insufficient number of trained scientists, the quality of their education, or the effectiveness of their leadership. The suitability of the environment to engender productive research may also vary enormously. Research may be inhibited by deficiencies such as a lack of adequate research facilities, lack of access to information, lack of prospects for career development, or unstable budgetary support.

Amidst this array of potential weaknesses, to describe some national research systems as "weak" and others as "strong" could have many different meanings. In this paper, the terms "stronger" and "weaker" are used in a very general sense to imply that the stronger are more likely, and the weaker less likely, to deliver a worthwhile research output, whatever the causes might be.

The existence of so many factors that potentially limit the strengths of national research systems, however, calls for analyses that reach far beyond the scope of this paper and policies that extend beyond the activities funded by the CGIAR. It might well be that the CGIAR is the most suitable forum in which these broader issues might, at some future date, be discussed. This paper is limited, however, to an analysis of a few key issues, the resolution of which is crucial for charting the future course of CGIAR activities.

ISSUES AND OPTIONS

4. International Research

International research is central to the activities supported by the CGIAR. Originally, the Centres concentrated on applied research designed to solve problems of wide applicability that were unlikely to be solved by developing countries on their own, in time to avert the threat of widespread hunger and deprivation. To concentrate the effort into a critical mass for each of a relatively small number of research areas was considered to be a more cost-effective use of resources than to spread them thinly over a wide range of institutions and problems.

During the thirty years that have elapsed since the first Centre became operational, however, there has been a major shift in circumstances and opinions. The research agenda has become much broader. Technological innovations have proved to be less widely applicable, or less easily adopted, than those originally developed for wheat and rice. Notwithstanding their diversity, the national research systems have gradually become stronger; and greater ease of communication, has made it feasible to link scientists and institutions in networks and so derive benefits comparable to those associated with the concept of a critical mass.

The Centres have responded to these changes in several ways. They have progressively adjusted their training programmes to meet the changing needs of national research systems. They have been heavily involved in decentralizing their activities and assisting national systems to do adaptive research. They have been active in promoting networks that exploit the

complementarities of national systems to do applied research; and they have increasingly changed the emphasis of their own programmes to do more strategic research to back-stop the research undertaken by national systems.

These changes have been accompanied by gradual changes in the ways in which donors provide funding for Centre activities. The use of bilateral funding for supporting Centre collaboration with national programmes has had the advantage of tapping sources of funding that would not otherwise have been available. It has also raised questions, however, of the extent to which Centres might reasonably be involved in providing direct support to national systems and in acting as implementing agencies for bilaterally funded projects.

Many of the issues that have arisen as a consequence of these changes have become even more prominent in discussing the expansion of the CGIAR. The issues are complex and interrelated, but most of them are captured in the following two questions:

- What should be the role of the CGIAR institutions in strengthening national research systems?
- What is the most cost-effective way of conducting international research?

Answers to both questions require thorough analysis of the relationships between the CGIAR institutions and national research systems.

5. Strengthening National Research Systems

5.1. The Special Role of ISNAR

Recognizing that limited capacity in national research systems was one of the key factors limiting their use of Centre outputs, the CGIAR created ISNAR in 1979. ISNAR assists developing countries to define their research goals and to increase their efficiency in achieving them. It aims to do so through enhancing their capacity to formulate policies and helping them to improve the organization and management of their research institutions. Its activities are divided into three closely interrelated programmes: advisory services, research, and training.

ISNAR is currently revising its strategy and undergoing an external review, the report of which will be presented to the CGIAR in 1992. Issues which the Review Panel has been asked to consider include:

- the extent to which ISNAR might become involved in helping to coordinate the financial contributions of the donor community insofar as they relate to strengthening national research systems;
- ways in which ISNAR might collaborate more closely with other CGIAR institutions in strengthening national systems; and
- the relationships between ISNAR and development agencies, such as FAO, and its relationships with regional organizations that also deal with research management and policy.

These issues and others that have been raised from time to time, such as whether ISNAR might assist in implementing the recommendations arising from its country review missions, are clearly germane to the substance of this paper. Indeed, no discussion of the role of the CGIAR in strengthening national research systems could possibly be complete without reflecting on ISNAR's future strategy.

While this paper focuses mainly on the other CGIAR Centres, some possibilities for additional ISNAR activities are alluded to later in the paper (Section 9). A more substantive discussion of ISNAR's future strategy might reasonably await the report of the external review and ISNAR's revised strategic plan. ISNAR's own view of its current role is given in greater detail in Appendix I.

5.2. The Role of the other CGIAR Centres in Strengthening National Research Systems

Individual scientists and research institutions collaborate in many different ways to undertake research. Any of these relationships can also involve an international organization, or a donor agency, not in the role of research, but in a facilitating or strengthening role. Because of the involvement of Centres in roles of this type, we have to distinguish among several different, but interrelated types of activity, some of which might be regarded as entirely legitimate for CGIAR Centres and others that have proved more controversial.

First, we can usefully distinguish between strengthening the relationships among the participants in collaborative research, and strengthening the research capacity of one or more of them. Examples of strengthening relationships in research may be seen in the ways in which many different international organizations seek to fulfil their mandates.

For example, most of the organizations operating under the auspices of the International Council of Scientific Unions (ICSU) function in this way. Typically, an ICSU organization acts as a catalyst to collaborative research by convening symposia, paying travel expenses, assisting to publish proceedings of conferences and, generally, encouraging or strengthening the relationships among the participants. The CGIAR Centres do likewise for the networks they support. To function effectively in these roles, the Centres have often outposted staff members to regional offices to act as liaison scientists, and in coordinating and consultancy roles.

Let us define this type of assistance as "catalytic assistance" - aimed at increasing the output through stimulating the reaction, rather than by augmenting one of the reagents. Strengthening the relationships among scientists and institutions in developing countries, and between them and the Centres, through catalytic assistance, has an important institution-building function. Through increasing the interaction among scientists with different backgrounds of experience, it helps to generate and diffuse new ideas, to give greater impetus and relevance to research programmes, and to keep scientists informed of new techniques and methodologies. In these respects, catalytic assistance can make important contributions to strengthening national research capacity.

Having defined this type of assistance as "catalytic", we must distinguish it clearly from other forms of assistance designed to augment national research capacity more directly. In practice, this type of assistance to national research systems comprises various forms of technical and financial assistance.

Most donors define technical assistance (or technical cooperation) as the provision of expertise that is a substitute for national expertise. It is sometimes difficult, however, to distinguish clearly between substituting for national expertise in a "technical assistance" role and working with national scientists in an "institution-building" role. In general, outposted Centre

scientists are regarded as fulfilling an institution-building role when they work with a group of countries, rather than with a single country. Working with individual countries on a strictly temporary or consultancy basis can also be regarded as a contribution to institution-building, especially if training or scientific exchange is involved.

Financial assistance, in the context of this paper, includes capital grants for laboratories, equipment, vehicles etc., as well as any funding designed to supplement the normal research budget of a developing country, or the emoluments of its staff. To keep the terminology as simple as possible, we use the term "research assistance" to include technical assistance, financial assistance, or any combination of the two, and use other terms only when it is essential for clarity.

"Research assistance", thus defined, is central to the issues discussed in this paper, because much of the controversy surrounding what the CGIAR Centres should or should not do hinges on the extent to which they should become involved in the provision of research assistance, or its administration within bilateral projects. Although research assistance gives direct strengthening to national research capacity, it does not necessarily do so on a sustainable basis.

As research institutions, the CGIAR Centres might be expected to make their main contributions to strengthening national research systems through scientific collaboration, and by providing the outputs of their work in the form of information and improved genetic material. As they were created to serve the needs of developing countries, however, they would also be expected to contribute to institution-building through training and other activities.

Their training activities would be expected to extend well beyond those associated with post-graduate degrees into specialized training courses for scientists at all stages in their careers, and to reflect changing needs and perspectives. They would also be expected to provide catalytic assistance to strengthen collaboration among scientists and institutions in every way that is possible and appropriate. Some or all of these activities might also involve the outposting of Centre scientists to work with groups of countries in the most important regions served by that particular Centre. All of these functions of the Centres are largely uncontroversial and are not discussed further in this paper, except to recognize their relevance in a range of different contexts.

None of the above measures can be effective, however, unless there is a certain minimum capacity within the national system to do research, as well as to establish effective linkages both with the Centres and with local producers through the extension services. Where this minimum capacity is lacking, the Centres have sometimes collaborated with bilateral donors in the provision of research assistance, rather than face the frustration of not being able to transfer the benefits of their work.

The issue of strengthening national research systems is very much broader, however, than finding appropriate mechanisms for administering research assistance. It involves all the considerations with which ISNAR and IFPRI, among many others, are especially concerned. Only the Group, itself, can determine the role it wishes to play in this whole area of activity. In particular, it must enunciate its preferences for the extent to which the Centres it funds should become involved in direct support for national systems, and the ways in which they might do so. Before considering options, however, there are other aspects of Centre relationships with national systems that have to be taken into account, because of their potential for contributing to international research.

6. Alternative Ways of Conducting International Research

The Centres are especially suited for doing those types of international research that require a relatively large group of experienced scientists working under ecological and socio-economic conditions of wide importance to developing countries. In contrast, some international research, in molecular biology for example, might be more efficiently done by contracting it to advanced institutions anywhere in the world.

There is increasing scope, however, for contributing to international research through collaboration among the stronger national systems, and between them and the Centres. Although existing Centres already have considerable experience in these respects, it is open to question whether this approach is being exploited to its full potential. There is a need to explore additional ways of harnessing the growing strengths of national systems to work for the common good.

In order to do so, there must be an agreed framework within which priorities can be widely agreed, different types of collaboration explored, and funding mobilized. To consider some of the possibilities in greater depth, however, it is first necessary to analyse different types of collaboration and how they relate to sources of funding.

6.1. Types of Collaboration

In any research relationship, whether between scientists or institutions, two of the fundamental considerations are: (i) "who calls the tune?" (i.e. who determines the aims of the research or defines the priorities); and (ii) "who pays?" (essentially, who provides the financial resources and through what channels).

In the continuum of possible relationships between two hypothetical institutions, "A" and "B", we see two extremes. In one, the aims of the research are mutually agreed by "A" and "B". They share the work; they fund their own participation; they share the results; and there is no net flow of financial resources, either from "A" to "B", or from "B" to "A". We define this type of relationship as "cooperative".

At the other extreme, "A" determines what the aims of the work should be and pays "B" to do it. This we call "contract" research, or a "contractual" relationship. In this relationship, "B" is usually described as the contractor (the one who does the work) and "A" the customer (the one for whom the work is done). If both "A" and "B" are research institutions, "A" could equally be a contractor for "B".

Clearly, there are many variations between these two extremes in the ways in which institutions collaborate with one another and we use the term "collaboration" in this general sense. Where these collaborative arrangements are neither wholly cooperative or wholly contractual, they usually contain elements of both. We can get a long way in analyzing the issues, therefore, if we think in terms of these two basic components, summarized thus:

- "cooperative research" - involves mutually agreeing the aims and sharing the costs;
- "contract research" - one party defines the aims and pays the costs.

These terms can also be used when several institutions are linked in a networking mode. The relationships can be described as cooperative, when the participants jointly define the aims and share the costs, or contractual, when a "customer" determines the aims and pays the other institutions to do the work. The customer could be a single institution or a group of institutions working collaboratively. Moreover, all these relationships can be further analyzed taking into account the two types of assistance already identified (section 5.2) namely:

- "catalytic assistance" - designed to strengthen relationships and thereby contribute to institution-building, and
- "research assistance" - designed to strengthen national research capacity more directly.

6.2. Cooperative Research

The motivation for cooperative research is primarily one of self interest. Individual scientists or institutions agree to participate so that the results of their own research can be interpreted within a broader context. For example, in the general fields of research in agriculture, agroforestry and forestry, the results of experiments are greatly influenced by seasonal conditions. Instead of attempting to validate results by repeating experiments over a large number of seasons, the experiments can be replicated over a broad geographical area, chosen so that the spatial variation in environment in one season is likely to simulate the temporal variation encountered at any one location over many seasons.

Although the results of each individual experiment are location specific, the conclusions can be generalized through pooling the results of all the experiments. Indeed, cooperative research of this type often includes research at three levels. For example, a group of countries might cooperate to evaluate their own varieties in a set of variety trials conducted in each country. In this instance, there will be a strong element of adaptive research in estimating the performance of the varieties at any single location; there will be an element of applied research in calculating the stability of the varieties over all locations; and there may be an element of strategic research in developing new mathematical models for estimating stability. Likewise, in many aspects of research on resource management, or production systems, the three levels of research are often represented in a set of experiments conducted cooperatively.

In the developed countries, cooperative research of this type may involve organizations in both the public and private sectors. It is often organized under the auspices of an international organization or scientific society, and may involve no external input of funding whatever. Frequently, all the participants fund their own attendance at meetings and share the organizational and analytical work among themselves. In other instances, catalytic assistance may be provided by the organization acting as the umbrella for the cooperation.

In the developing countries, only a small proportion of research institutions could muster the financial resources to operate without the external injection of, at least, catalytic assistance. In many instances, however, even the provision of catalytic assistance would not be enough. There might well be many national institutions which would like to participate but could not do so without some additional funding, defined here as research assistance.

In section 5.2 we saw that research assistance might be necessary to enable a national research system to make use of the outputs of a Centre. Here, we recognize that research assistance might be necessary to enable a national system to participate in cooperative research. Similar considerations might also apply to contract research.

6.3. Contract Research

The main advantage of contract research is that it provides a means of exploiting specialized capabilities or special circumstances and, consequently, of doing research in a cost-effective manner. In the context of the CGIAR, the principle of contracting to institutions, in both the developed and developing countries, has already been applied by the Centres to take advantage of any special skills, or particular environmental conditions within a national system that could be used to further the purpose of the international programme.

With respect to the developing countries, such contracts provide opportunities for making use of well-trained personnel, giving them greater motivation and helping generally to strengthen national research capabilities. The direct costs involved might be less than would be involved in doing the work at an international Centre, but the administrative costs of awarding contracts, monitoring their progress, and evaluating their success tend to be high, especially when large numbers of small contracts are involved.

Another disadvantage is that contract research precludes the involvement of the weaker national systems. Even those with well-trained scientists might not be able to undertake contracts because of the lack of basic facilities for laboratory or field research. Consequently, many potentially important institutions in terms of the ecosystems they represent, might be excluded from undertaking contracts unless they could also be provided with research assistance.

6.4. Implications for the Future

The foregoing analysis highlights several issues. It raises questions of linking international research more closely to research assistance when required to enable the weaker national research systems to benefit in several different ways. Research assistance may be necessary to enable them to use the outputs of the Centres, to participate in cooperative research activities, or to undertake contract research.

It also raises the question of the relative importance that the CGIAR should attach to different mechanisms for conducting international research. Cooperative research requires well-funded national systems. Contract research targets the institutions or individuals best suited to undertake the work. Both are complementary to the evolving concepts of global and ecoregional activities, as well as to the increasing focus of Centre programmes on strategic research.

7. Linking Centre Activities to Research Assistance

Although there is general recognition of the need for research assistance to national institutions to reinforce Centre activities, a recurring issue in the CGIAR has been the extent to which the Centres themselves should become involved in providing and administering it. In the past, even when Centre involvement in research assistance has been considered to be legitimate, there has been some uncertainty about the criteria that should be applied for limiting its scale and for ensuring a sense of equity in the way it is disbursed among recipient institutions.

These issues were analyzed in both the First and Second Reviews of the CGIAR, but they have continued to cause misunderstanding and controversy. Some further clarification is therefore necessary in order to identify the choices that need to be made before the CGIAR's future policy on these matters can be formulated.

Many of the important considerations relating to research assistance are implicit in the following two questions:

- What are the advantages and disadvantages of Centre involvement in research assistance?
- What mechanisms should be adopted by the CGIAR for the provision and administration of development assistance linked to the work of its own institutions?

7.1. Involvement of Centres in Research Assistance

One of the main advantages of Centre involvement in research assistance is that it permits the Centre to extend its working relationships to a greater number of developing countries, thus facilitating the transfer of its technology and giving valuable feedback to its research programmes. Moreover, Centre staff are motivated by the opportunities provided for greater impact of their work. These are some of the justifications that Centres offer for becoming involved in activities that might otherwise be regarded as the role of development agencies, not of research institutions.

There may also be significant budgetary advantages to the Centre, in that some of the work it might otherwise commission from its core budget can be supplemented through what is essentially a research assistance project. There have been many examples of Centres achieving wider evaluation of their genetic material in this way, or of testing and developing new practices or production systems.

There have undoubtedly been numerous occasions when involvement of Centres in research assistance derived from bilateral funding has benefited both the Centre's research programme and the national systems, but there are also dangers in these relationships that tend to become greater as the Centre's involvement in them increases. Indeed, over-involvement in bilateral projects, whether with individual countries or in a networking mode, can have distorting effects on both the Centre and the national systems.

For example, staff appointed as international scientists may have their productivity eroded through heavy routine administration. Pressure from individual donors to implement particular projects may distort the Centre's priorities. A Centre might seek participation in bilateral projects primarily to increase its budget or to achieve impact. This could distort the priorities of the developing country. Centres can become over-committed, resulting in the recruitment of staff for technical assistance, who have little more experience than the national scientists, and do not command their respect. In one or more of these ways, the credibility of the Centre might be undermined.

Although all Centre involvement in bilateral projects now comes under the scrutiny of TAC, it has been difficult for TAC to make adjustments to those projects that have already been agreed. Furthermore, from the donor's point of view, these grants are not fungible. To reject them would therefore mean depriving the developing countries of badly needed resources to strengthen their national research systems. Even classifying the projects as "complementary" and not "core" may cause problems for both the donors and the Centres. There is a limit, therefore, to the extent to which TAC can prevent the distortion of priorities, unless it were to take a more hardnosed attitude, which might well be regarded as unnecessarily obstructive by all concerned.

From the donor's point of view, implementation of the research component of a bilateral development project by a Centre might present the easiest option. As well as being best placed to provide the technical input, Centres are often better placed than donor agencies to recruit personnel for technical assistance and to provide them with logistical support.

It might also be easier for the Centre to administer the funding. Indeed, for some donors this may be the only viable option. While some donors have mechanisms for administering small grants, either through their own technical assistance activities, or through their embassies or high commissions. Others, apparently, have not. Some find it particularly difficult to administer the small amounts of funding involved for each participating country in a networking activity. This is one of the reasons why they call on the Centres to do it for them.

However, the administration of bilateral projects carries overhead costs which the Centres have not always fully recovered from the bilateral donor. Consequently, to a greater or lesser extent, such costs represent a drain on the Centre's core funding, which may be seen by other donors as inappropriate.

The dangers outlined above arise primarily when the Centre responsible for a given area of research, also provides the research assistance needed for the wider involvement of national systems in those same areas of research. Instead of responding to demand, there is a temptation for Centres to promote their own areas of research, and for countries to look upon the Centres as donor agencies, rather than as research institutions. This would argue for the administration of research assistance to be separated from the research activities, themselves.

7.2. Options for Providing Research Assistance

Centre boards have defined their own criteria by which they limit Centre involvement in research assistance. The actual extent of involvement has varied both among Centres and over time. It has depended partly on perceptions of what is necessary to fulfil the Centre's mandate, and partly on the attitudes of donors. If the Centres are to operate primarily as research institutions in future, however, they will have to continue to limit their involvement in research assistance and, to achieve this, they will be heavily dependent on their donors exercising restraint.

This is one option. It might be regarded as the status quo option but, in reality, it would require extensive revision of the programmes of some of the Centres. Some of the established Centres and some of the newly-admitted or proposed ones are either more heavily involved, or projected to be more heavily involved, in research assistance than would be consistent with the policy outlined above.

Recent discussions at Group meetings, however, have cast doubt on the extent to which donors wish Centre activities to be limited in this way. While TAC has frequently advocated regarding the Centres primarily as research institutions, only the donors can decide their future. If there is a desire to link Centre activities more closely to research assistance, an alternative approach would be to give more explicit recognition to this need, and to modify the structure of some or all of the Centres accordingly.

A second option would therefore be to establish a research assistance agency as a separate unit at some or all of the Centres. It could come under the control of the Centre board but have a separate budget and be entirely self-funding, by charging appropriate overhead costs on all the research assistance it administered. The research assistance could then be managed by full-time specialists, instead of by international scientists on a part-time basis, as often happens at present.

The research assistance unit could draw on Centre programme staff on a paid consultancy basis, thus maintaining the integrity of the core funding. Some restructuring of existing Centres along these lines would not be difficult. In some instances, it would amount to little more than re-organizing the units that already exist at some Centres, which currently operate under such titles as "international cooperation programmes".

A third option would be to explore more actively the possibilities of working in collaboration with other organizations, such as development agencies and regional organizations. There are some precedents for this general mode of operation. For example, although IBPGR is a special case among CGIAR institutions in that it has been administratively part of FAO, its financial assistance to developing countries has traditionally been administered through the FAO regional offices, thus relieving IBPGR scientists of these responsibilities.

These three options are not necessarily mutually exclusive. All of them might have a place in certain circumstances. It is important, however that the Group's preferences should be clearly understood so that appropriate policies can be formulated and strategies planned.

8. International Research in the Future

Successful international research is entirely dependent on the strengths of the institutions that participate in doing it, regardless of whether they are nationally or internationally constituted. Moreover, adoption of the results is primarily dependent on the strengths of the national research and extension systems. Involving national systems in international research is attractive because it potentially offers opportunities both for contributing to the aims of the international research and of simultaneously strengthening the national institutions. Success in either respect is heavily dependent, however, on strong research leadership and adequate mechanisms for monitoring progress. It is also dependent on the countries wanting to devote some of their staff to international research which, in the national context, might not be of highest priority.

In moving into new areas of research, such as forestry, and giving greater emphasis to other aspects of research, such as resource management, the CGIAR is in a strong position to build on the experience already gained in collaborative research with national research systems. The main issues relate to the extent to which the CGIAR should attempt to meet its goals through promoting research in national and regional institutions, as distinct from doing it in its own institutions.

One option would be to do more research through cooperative networks. As we have seen, however, to involve developing countries more widely in cooperative research would be dependent not only on the provision of catalytic assistance, which the Centres are well- equipped to do, but also on linking the research more closely to research assistance, which they are less well-equipped to do under their present structures. A prerequisite to giving greater emphasis to this option within the CGIAR System, therefore, would be the formulation of a definitive CGIAR policy on the provision and administration of research assistance.

Another, but not mutually exclusive, option would be to do more research through contracting to national systems in the developing countries. Contracts could either be restricted to those institutions that already have the capacity to undertake them; or they could be extended to institutions that would require some additional research assistance.

As far as the administration of contracts is concerned, some re-organization would be necessary for those Centres not already involved to a significant extent in this type of activity. Moreover, additional thought would have to be given to various other implications of a move in this direction, such as the mechanisms for determining priorities for contract research, equitable ways of awarding contracts, and the need to avoid overloading national systems with work that might not conform to their own, national priorities.

The experience already gained by the Centres in these respects could be used as a basis for formulating more detailed strategies for affirmative action on contract research, should this be the Group's wish. For example, IRRI has recently devoted a great deal of thought to the principle of forming "research consortia". IRRI defines a consortium as "a limited number of national and international institutions formally organized to collaborate in research, training and technology generation designed to meet mutually agreed objectives". It thus falls broadly into the category of cooperative research as defined in this paper. Built into it, however, is a component of contract research for carefully identified projects at key sites, from which the results will have regional or

global significance. The work will be guided by a steering committee, with IRRI providing a coordinator and sometimes, but not always, seeking the funding and administering it jointly with the participating members.

All of these options for future ways of conducting international research, as well as for providing research assistance, apply not only to the work of existing CGIAR Centres, but also to those under consideration for the future, including a new institution for forestry. They also have implications for the evolving concepts of global and ecoregional activities. Before future strategies can be planned in detail, therefore, there must be a stronger CGIAR consensus on the direction of future policy in these respects. Some consideration must also be given to the growing complexity of CGIAR operations as viewed from the standpoint of the national systems.

9. The Need for Orchestration of CGIAR Activities

9.1. The Nature of the Problems

From the viewpoint of the national system seeking help, the number of Centres operating in a single region may be a source of confusion. Which Centre does it approach for help on research with a farming systems perspective, for example, the design and analysis of field experiments? Any of the commodity Centres or resource-management centres could help with these problems, or with a wide range of similar, non-specific problems. The country might well not know which Centre to approach and there might even be competition among the Centres for an invitation to work with the country concerned.

Another problem is the need to avoid placing too great a burden on national systems, through independent approaches made to the same institution by several Centres. This problem has been raised many times, especially in the context of Africa. It is partly associated with the number of networks being created and partly with the opportunities the national programmes now have for receiving development assistance.

As a consequence, the increasing calls on the time of national scientists are not necessarily determined by their own national priorities. The driving force may be supply, rather than demand. Furthermore, active promotion of cooperative and contract research by the Centres might serve only to aggravate the problem, unless it is recognized and avoided.

As far as cooperative networks are concerned, if they are to be successful and sustainable, there is no viable alternative to a demand-driven system in which the countries themselves define the problems and determine the priorities. It is the orchestration of CGIAR involvement in all these activities to which further thought must be given and appropriate action taken.

9.2. The Ecoregional Concept

The concept of ecoregional activities has been developed partly to meet these needs. Although many of the operational details have still to be worked out, it is envisaged that Centres with ecoregional responsibilities would thoroughly get to know and understand the needs and priorities of the countries in the region they serve. They would work towards a set of relationships in which priorities for collaboration with national research systems would be determined by regional or sub-regional associations of countries, institutions, or scientists, organized either under the umbrella of a political entity, or through an officially-approved steering committee.

Contractual relationships required to fulfil the research requirements of either an ecoregional mandate, or a commodity mandate, could be facilitated by the same consultative procedures and so avoid a conflict of priorities. Programmes of research assistance would likewise be tuned to national priorities and administered according to agreed CGIAR policy.

Through its close relationships with the countries in the region, the Centre with the ecoregional mandate would automatically become the lead Centre for CGIAR collaboration with national systems. Other Centres would be encouraged to work closely with it, primarily because this would become the easiest route for working with the national systems, not because the other Centres would have to submit to being "coordinated" by it. Ultimately, coordination will be achieved only through the developing countries, themselves, by integrating their "demands" from the multiple sources available, including those lying outside the CGIAR family.

If the CGIAR wishes some of its Centres to become more explicitly involved in research assistance, those with ecoregional mandates would be prime candidates for assuming this role. It would also be easy for them to administer any research assistance in the region associated with the programmes of Centres with global commodity mandates, since the intention is that they would act as hosts for outposted staff from these Centres.

With the further development of these and other ideas on ecoregional activities it may also be desirable to re-consider ISNAR's role within the CGIAR System. ISNAR's original mandate envisaged two functions in addition to those in which it is now primarily engaged. One was for it to act as an "honest broker" to put national systems in touch with donors, and the other was to help in linking the Centres more closely to national research systems. Whether ISNAR broadens its current mandate or not, there is clearly a case for it to keep closely in touch with the ecoregional concept and to consider opportunities for its operational involvement in this type of activity.

10. Conclusion

This paper has attempted to clarify key issues on which there has been some confusion in the past. In doing so it presents some hard choices for the CGIAR. It will not be possible to develop detailed strategies for the future, however, unless the Group can form a strong consensus on what its policy on these issues should be.

ISNAR'S OWN VIEW OF ITS CURRENT ROLE

ISNAR has always had a complex mandate which has made it difficult to get consensus on its role. Among its functions it has:

- Generation of knowledge about the state of NARS and the way they function.
- Development and adaptation of management tools for strengthening NARS.
- System-building in NARS.

As one moves from the first to the third category, one moves from the production of "public goods" to the production of "private goods". The production of knowledge about NARS is available to all those who are interested in strengthening them, and the use of that knowledge by one does not detract from the ability of others to use it as well. This is an appropriate activity of an institute in a research system. The application of that knowledge in the development and adaptation of management concepts, tools, and approaches has both public and private goods aspects. The system strengthening that goes on in a collaborating NARS is private in the sense that ISNAR staff can only work in one country at a time, even though the lessons and approaches are later adapted for others. Once the tools are more generally available, the provision of advisory services to particular NARS is characteristic of good technical assistance: it addresses priorities of particular systems and builds capacity in the country, but it is private in the sense that the benefit is immediately felt by the NARS in question.

We have noted in our present strategy and medium-term plan documents that ISNAR must be involved to some degree in all three types of functions to fulfill its mandate. The problem is that donors with different agendas would like to see an ISNAR with different mixes of these activities. Since our relations with NARS, as well as with donors, are different in the performance of each of these functions it is not surprising that there are some difficulties interpreting our mandate.

There are different roles that have been seen for ISNAR. Our basic operating principle has been that ISNAR works through NARS to help them to become more efficient and more effective, to develop the capacity and the processes to set priorities and make choices, including choices among sources of technical and financial assistance.

- Broker between donors and NARS (or, in the extreme coordinator of donor assistance to NARS). Given the complexity of the coordinating task described above, there was no opposition to the decision to remove the broker function from the ISNAR constitution.
- Execution of technical assistance projects. While ISNAR has a comparative advantage in cooperating on issues of policy, organization and management, it does not have a comparative advantage in the execution of complex system/building projects. ISNAR has taken a very cautious approach to engaging in pure technical assistance activities.

First, there are other organizations that have the necessary critical mass and that are better set up administratively and legally to provide technical assistance, personnel and backstop them in the field. Second, ISNAR's cooperation with the NARS through partnership is at a policy level, higher than that reached by the normal technical assistance expert or consultant in an executing role. (ISNAR excludes the taking of line positions in a NARS.) Finally, with a small staff, our multiplier is greater if we keep our specialists available for a wider range of functions and countries.

- Intermediary between NARS and IARCs. Our basic principle has been that it is not in the interests of the NARS to have an ISNAR which is perceived as the broker of IARC activities. If ISNAR is doing its job in strengthening NARS they are able to do this for themselves; if ISNAR assistance is required, it cannot be perceived as the representative of IARC interests versus other institutions capable of assisting NARS. ISNAR must remain an "honest broker". However, we are looking at ways and means to assist IARCs in becoming more effective in their relationship with NARS.

The above comments go beyond the needs of the paper at hand and anticipate further discussions of these issues. However, we felt they were relevant points that highlight these issues also for the external review and for the CGIAR strategy and priorities exercise.

CONSULTATIVE GROUP ON INTERNATIONAL AGRICULTURAL RESEARCH

EXPANSION OF THE SYSTEM

Extract from "Summary of Proceedings and Decisions"

CGIAR Mid-Term Meeting 1991

Paris, France, 21-23 May 1991

Expansion of the System

Extract from "Summary of Proceedings and Decisions" CGIAR Mid-Term Meeting held in Paris, France on 21-23 May 1991

At ICW'90, the Groups decided to expand and restructure the CGIAR system, in terms of research themes as well as the inclusion of additional centres. Several agenda items at the May 1991 Mid-Term Meeting followed on from those decisions.

The Group endorsed proposals for further expansion - as, for instance, in agroforestry/forestry research - but placed on record the need to examine medium-term funding prospects and their implications more closely.

Several references were made to the funding situation in open session. Funding problems were described more starkly at informal discussions where some delegates reported on the difficulties they face in protecting contributions to the CGIAR from their institutions.

The need to redeploy the system's resources, so that new directions could be taken in research programmes, was stated by many donors, but no particular set of prescriptions was endorsed.

Ecoregional Mechanisms

Mr. McCalla introduced a TAC report on an ecoregional approach to research, prepared in response to requests from donors.

In their consideration of systemic restructuring at ICW'90, the Group endorsed a recommendation from TAC that in a restructured system, CGIAR-supported research should fall into two clusters: global activities and ecoregional activities.

The Groups asked, however, for a TAC report elaborating on the nature of ecoregional activities and the mechanisms by which they would be carried out. The message he heard when the matter was previously discussed, Mr. Thalwitz told the Mid-Term Meeting, was "it seems like a good idea, but we don't know exactly what it means".

The TAC report submitted to the Mid-Term Meeting was meant to fill that gap, Mr. McCalla indicated. It outlined the characteristics of an ecoregional approach without going into operational detail or questions of implementation. The next step, he said, would be for institutions in the CGIAR to respond as to how they might go about adopting the approach outlined by TAC.

CIAT, in an innovative move, had already taken a first run at how its activities could be redefined, to bring in the ecoregional emphasis. He felt it was useful, therefore, to discuss the TAC report and the CIAT presentation in juxtaposition - matching precept with practice.

TAC's proposal was that the global research activities of the CGIAR should be complemented by an increase in research focussed on agroecological zones, regionally defined. TAC had coined the term "ecoregional" to describe such research.

The proposed ecoregional approach provided an innovative means for expanding research on resource management while maintaining an emphasis on improved agricultural productivity. TAC believed that this approach would also improve the interactions between CGIAR centres and the NARS.

TAC used the term resource management in a broad sense as set out by its report of 1988 on sustainability. Thus, "resource management" covers cultural and human resources inputs, fertilizer and pesticides, and natural resources.

TAC's examination of research on resource management was set in the context of threats to the sustainability of agriculture. Building on CGIAR experience, TAC felt it was now necessary to integrate resource management and productivity concerns, to combine human and technical dimensions, to adopt an integrated systems approach, and to link policy formulation with technology development.

Mr. McCalla drew the Group's attention to three characteristics of the proposed ecoregional approach.

First, it would rationalize efforts made by the CGIAR to strengthen national programmes because it would reduce the extent to which competing demands were placed on their scarce resources.

Second, TAC had proposed a fully decentralized model of research on resource management, and rejected the need at this time for a global coordinating mechanism or centre for research on soil, water, fertilizer, etc.

Third, the model proposed would strengthen CGIAR collaboration with multilateral agencies as well as with advanced institutions in developing and developed countries.

TAC recognized, Mr. McCalla said, that there were financial implications in what was proposed. These had not been addressed, because they could be examined as part of the consideration of priorities and strategies and the five-year planning horizon for resource allocation.

Commenting on the TAC report, Mr. Thalwitz said that what was required from the Group was a judgement on whether the principles expounded by TAC were acceptable and should be further developed to dovetail with the overall agenda of CGIAR priorities and strategies.

If that was the case, TAC could move into the next phase of outlining how the ecoregional approach would become operational in the CGIAR as a whole. That assessment would necessarily have to take funding claims and needs into account.

A strong consensus emerged in the discussion that followed for acceptance of the ecoregional approach as proposed by TAC. In terms of their own experience, individual or institutional, as well as in terms of current realities, delegates were convinced that the CGIAR had no option but to deal with resource management issues.

The world faced a very real threat of environmental degradation, and international agricultural research centres were therefore obliged to build a realistic resource management emphasis into their research programmes. TAC's proposal was welcomed as a move in the correct direction.

While broadly endorsing TAC's proposal, the Group cautioned that a step-by-step approach should be taken in this area. Some centres had dealt with resource management in the past and their experience should be taken into account. So should the experience of advanced institutions in member countries. Some of them had a substantial record of effort and achievement which could be tapped.

The need to consult closely with NARS as the implementation process got underway was considered particularly important. Genuine partnership with NARS was necessary for the success of the ecoregional approach.

Throughout the discussions, the point was made that the changed emphasis in research could not take place without a real redeployment of resources within the system. If the system could not bite that bullet, they could not proceed with systemic restructuring.

Finally, Mr. Thalwitz invited further communication among all parties, so that these views could be woven into TAC's further deliberations.

Relationships with National Agricultural Research Systems (NARS)

The Group received a TAC options paper on the principles and practices that affect and could shape future policy connected with relationships between CGIAR centres and national agricultural research systems.

Mr. McCalla reminded the Group that the TAC paper had two origins. The first was a discussion document on the subject which was discussed at the Hague Mid-Term Meeting (May 1990) but not brought to a conclusion.

The second was TAC's expectation, as stated in its paper on "Expansion of the CGIAR System" (ICW'90), that national systems would grow over time, thereby requiring a change in the role of the CGIAR.

Discussing that proposition, donors suggested that they needed more guidance and information. They sought explicit proposals for action by the CGIAR and CGIAR centres to strengthen national systems.

The paper prepared for the Mid-Term Meeting was the first part of TAC's response to that request. In the second part, views expressed at the Mid-Term Meeting would be worked into the priorities and strategies paper which TAC would present at ICW'91.

If the Group so wishes, TAC could prepare a separate policy paper distilling the positions on which agreement was reached at the Mid-Term Meeting, but preferred the first option.

The paper under discussion sought to clarify some of the issues that had caused confusion in the past, Mr. McCalla said. It outlines existing policy, indicates the broader context in which CGIAR policy must be set, outlined the special role of ISNAR, and identifies key issues around which future policy must be built.

The paper set out two forms of support to NARS: catalytic assistance, which was a form of institution building; and research assistance, which involves direct assistance by way of expertise, funding, or both.

TAC considered catalytic assistance a natural function of CGIAR centres. Research assistance, however, was controversial, giving rise to concerns about the extent to which CGIAR centres should become executing agencies for bilateral projects.

The paper set out three options for administering research assistance in association with centre activities. These options were, first, by the centres in a strictly limited manner; second, by centres through a separately funded research assistance unit; or third, by closer collaboration with development agencies or regional organizations.

These options were not mutually exclusive, Mr. McCalla said, but called for a consensus from members as the basis for future policies and action.

The paper went on to examine possibilities for involving NARS in international research to a greater extent than at present. The role of CGIAR centres engaged in ecoregional work, and ISNAR's future role were other key issues highlighted in the paper.

Mr. John Walsh (Director General, ILCA), Chairman of the Centre Directors Committee, said that CGIAR centres were perhaps in advance of the TAC paper, both in thought and deed.

The centres have grown to realize that prospects for their own effectiveness would be very poor unless they could work in partnership with strong national systems.

The centres had, therefore, developed working relations with NARS, for instance, through training and by sharing information. Collaborative research was taking place, and had the potential for great success, Mr. Walsh said.

Having come thus far, the question to be decided was how much further the centres should go. Should they, for instance, provide for participation by NARS in the governance of international centres?

The centres were alive to these issues, and were pursuing them. Relations between centres and NARS were under constant review and subject to periodic change.

Throughout the discussion, there was complete support for the principle that partnerships between CGIAR centres and NARS should be strengthened and deepened. They were both part of the global research system, and true complementarity between them would enhance the reach and impact of agricultural research.

It was agreed, as well, that ISNAR was an important link in this process. As the CGIAR-NARS relationship deepened, it would be necessary for ISNAR's responsibilities to be re-examined and, if necessary, modified.

There was no uniformity of views, however, about how precisely the CGIAR-NARS relationship should proceed. Some delegates suggested that this was inevitable because there was a great diversity among national systems. The most appropriate form of support would therefore vary.

Moreover, the requirements of NARS, the kinds of strengthening they required, and the most appropriate forms of partnership that could be forged between them and the CGIAR could be viewed from many different perspectives.

Assessments in each of these categories would probably differ, depending on the perspective from which they were viewed. Uniformity of approach could remain elusive, as a result.

Financial arrangements that would be required for CGIAR centres to assist national systems were exhaustively discussed. Cautions were expressed against the possibility of international centres being turned into agents of bilateral funding institutions. The need to maintain a separation between different categories of centre funding figured prominently in the discussion.

The point was made that while recognizing the absolute necessity to strengthen NARS, international centres should remember that their strongest comparative advantage was as a set of research centres.

Responding to the wide range of comments, Mr. McCalla said that there was clear agreement on the need for the CGIAR-NARS relationship to be continuously strengthened, but that this should be done on a case-by-case basis.

ISNAR's role, he said, could be examined in the context of its programme and management review. Other issues raised at the discussion would form part of TAC's next iteration of CGIAR priorities and strategies.

Concluding the discussion, Mr. Thalwitz said that the Group should not consider a lack of consensus as failure because there actually was a lot of commonality in what had been said.

They were all agreed that CGIAR was obliged to strengthen NARS, not out of some moral compulsion, but as a matter of pragmatic necessity.

He suggested that in approaching the question of how to fulfil this obligation, the CGIAR should think in terms of criteria, rather than of policies. That was a practical approach, which could take account of differences, and ensure that the objectives of CGIAR-NARS collaboration were fulfilled in different ways, in different contexts.