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Consultative Group Meeting

Paris. May 24 - 26, 1982

Agenda Item 7

Attached is a copy of a paper entitled "Future Resource Requirements and Their Funding" (ICW/82/6).

The paper will be considered under Agenda Item 7 at the Consultative Group Meeting in May.

Attachment

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TAC Secretariat
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Chairman of Center Directors

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Chairmen of Center Boards
Center Directors
CONSULTATIVE GROUP ON INTERNATIONAL AGRICULTURAL RESEARCH

FUTURE RESOURCE REQUIREMENTS AND THEIR FUNDING

April 9, 1982
CGIAR Secretariat
The agricultural research supported by the CGIAR continues to prove its usefulness and effectiveness. It is becoming more and more widely recognized by the developing countries as a valuable source of technology in their efforts to increase agricultural production. This substantial international technical assistance activity continues to enjoy wide support and the donor members of the Consultative Group clearly give it high priority among their array of technical assistance activities. Nevertheless, funding the CGIAR program has become increasingly difficult in recent years. This is not because the donors give the CGIAR less priority, but because of the general budgetary constraints they face and because the purchasing power of the funds provided is reduced by the rapid increases in prices experienced by the international research centers in the developing countries where they carry out their programs. An added factor has been that the value of non-dollar contributions has diminished in dollar terms as the dollar has strengthened against many other currencies. This is a real problem -- not merely an accounting one -- since a substantial part of the centers’ expenditure is in dollars. The deterioration in funding is undermining the effectiveness of the centers’ work at the very time when the demand for their services is rapidly increasing. Consequently, there is a risk that progress towards the Group’s objectives will be slowed down or vitiated because of inadequate funding.
II. THE TRENDS

Declining System Growth

2. The activities supported by the CGIAR have grown rapidly over the last ten years. Real growth in total expenditure over the period 1972 to 1982 has been at the compound rate of 11.9%, but this overall figure fails to show the rapid tapering in growth. Between 1972 and 1982 expenditure on operations increased at the average annual rate of 15.4%. However, except for a jump in 1977, the trend in growth has been steadily downwards over the years. Between 1979 and 1980 it was 9.2%, between 1980 and 1981 it was negative (-0.9%), and between 1981 and 1982, depending upon the contributions actually received and exchange and inflation rates, it looks as if it will be 2.3%. These are global figures for all the centers; the growth patterns of individual centers vary significantly. In its early years a center grows rapidly as it builds up staff and its expenditures for capital are heavy, but once it is firmly established, the rate of increase tends to slow down, a tendency which, in the case of the older centers such as IRRI, IITA, CI\'P, CIAT and CIMMYT, has been made even greater because of underfunding in recent years.

Declining Growth in Contributions

3. The rate of growth in donors' contributions has also diminished over the years. In 1973 the growth in real terms was about 21% and in 1975 it rose to a high of almost 27%. But since then it has declined and in 1979, 1980 and 1981 has been barely 5%. Historically, this growth has come in two ways -- from "old donors", meaning donors which had contributed in earlier years, and from "new donors", i.e. donors joining in the year in question.

4. In the early years of the CGIAR a large proportion of the incremental resources flowing to the system each year came from new donors. In 1973, as might be expected, over half of the real increase came from new donors and in 1974 it was two fifths. In 1976 and 1977 about one-quarter of the annual increase came from new donors and as recently as 1980 (the year in which the OPEC Fund, Ireland, the Leverhulme Trust and Mexico joined the Group), over 18% of the increase came in this way, but in the two years since then contributions from new donors have been a smaller proportion of the total increase. Moreover, even as total annual increases in constant terms from all donors have declined, the proportion of total annual contributions coming from new donors has declined rapidly, as is shown in the table below:
## Contributions to CGIAR 1973-82
($ millions in constant 1981 dollars)

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount from all donors ($ millions)</th>
<th>From new donors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1973</td>
<td>52.10</td>
<td>5.21 10.0 57.6</td>
</tr>
<tr>
<td>1974</td>
<td>61.88</td>
<td>3.97 6.4 40.6</td>
</tr>
<tr>
<td>1975</td>
<td>78.55</td>
<td>3.03 3.9 18.1</td>
</tr>
<tr>
<td>1976</td>
<td>97.56</td>
<td>5.08 5.2 26.7</td>
</tr>
<tr>
<td>1977</td>
<td>112.98</td>
<td>4.21 3.7 27.3</td>
</tr>
<tr>
<td>1978</td>
<td>113.02</td>
<td>0.04 - 100.0</td>
</tr>
<tr>
<td>1979</td>
<td>118.51</td>
<td>1.94 1.6 35.3</td>
</tr>
<tr>
<td>1980</td>
<td>124.44</td>
<td>1.09 0.9 18.3</td>
</tr>
<tr>
<td>1981</td>
<td>130.61</td>
<td>0.50 0.4 8.1</td>
</tr>
<tr>
<td>1982</td>
<td>135.66</td>
<td>0.91 0.7 18.0</td>
</tr>
</tbody>
</table>

### The Effect

5. It is logical that as the average age of the centers in the system increases, there should be some maturation, and the average rate of growth in the system should decline. But it should be recognized that the functions of the centers and the character of their programs change with time, and as they increase their collaboration with the developing countries, new demands are placed on them which may well require some further increase in resources. It is difficult to judge the extent to which the decline in system growth is attributable to this process of ageing rather than to the decline in the resources available. It is clear, however, that in recent years -- and particularly in 1981 and 1982 -- the underfunding experienced has forced centers to cut back or defer activities and forego opportunities which the Group's Technical Advisory Committee and the Group itself judged to be of high priority and meriting support.

### Inflation

6. The centers are necessarily affected by the economic situation in the countries in which they operate. They have to contend with local price increases including, in some instances, those mandated by the wage policies of the host governments. They have to remain competitive, which means they must meet domestic wage scales and also maintain salary levels for internationally recruited staff which will attract and retain highly qualified professionals in mid-career.

7. Price increases have perhaps been the most serious problem facing the research centers and the Group in recent years. Rates of inflation in the countries in which the centers carry out their operations have tended to be significantly higher than the rates of inflation in the industrialized countries from which most of the Group's resources come.
The situation differs from center to center depending upon where its principal activities are located, but taking the system as a whole it can be said that on average about 60% of the centers' expenditure is in developing countries and 40% is for goods and services, including the services of the internationally recruited senior scientific staff, procured in the industrialized countries. Since the centers do not sell the products of their activities, they have no way of passing on to consumers the increased cost of operation as is done by industry and commerce and, in some instances, by educational institutions.

3. It is obvious that the impact of inflation in the developing countries is of major concern to the centers. In some cases devaluation of the local currency has tended to compensate for inflation, but devaluations often do not occur soon enough and have often been followed by further domestic price increases. Thus even though the centers' resources are provided in foreign exchange, domestic inflation in the countries in which they work is likely to more than offset any advantage this might provide.

Conclusions

9. It can be seen from the foregoing that there are several trends at work. First, in the total resources provided by the members of the Group the significance of incremental resources from new donors has sharply declined. Second, the annual rate of increase of contributions of the majority of individual donors, expressed in constant terms has declined. Third, inflation has in recent years taken a serious toll. Maintaining the value of contributions in the currencies of the donors is a problem in itself, but contending with inflation in the developing countries has aggravated the problem for the centers. Over nine-tenths of the incremental increase in current resources has had to be applied to covering increasing prices, leaving less than one-tenth for real growth. Fourth, the dollar value of the large part of total contributions made in currencies other than dollars has, in recent times, declined.

IV. THE IMPLICATION FOR THE SYSTEM

10. The implication is that unless these trends change the Group is facing the prospect of a static or shrinking research system. This is a prospect so completely out of keeping with the developing countries' great need for the technology the CGIAR system was established to provide that the Group must urgently consider how to avoid such a regrettable outcome. This gives rise to several questions. Is there a basis for making a less grim assessment? Are the centers, for example, too "fat", and is there room for achieving substantial economies in their operation without reducing their effectiveness? What are the prospects for raising funds from new sources? Can the Group count on inflation abating? These questions are examined below.
Prospects of Savings through Increased Efficiency

11. While the original standards of some of the older centers, particularly building standards, may have been overly generous, it would be wrong to suggest that the centers are today extravagant or wasteful. International agricultural research of the kind sponsored by the CGIAR is inherently a high cost operation. The Group expects the international centers to exercise leadership in agricultural research and therefore it is essential that they have high quality staff. Senior staff are expected to be recruited internationally and this implies high cost. To fulfill their leadership role and demonstrate how high quality research should be conducted, the centers need to attract and retain the best qualified people whether recruited internationally or locally. The centers also need to have first class equipment and to observe high standards of maintenance. A large amount of international travel and substantial communications programs are essential for collaborating with the countries served by the centers and with other parts of the research community. To carry out their function effectively, the centers concerned directly with crops research need to be located in the environment they are serving; this results in the additional costs of being far from sources of supply. Finally, maintenance costs are high in tropical climates and in countries where technical skills are often in short supply. But there is also another important factor affecting their costs of operation. Research in many countries is carried out as part of a larger governmental or educational function and a large part of the overhead costs is directly or indirectly absorbed within the administrative budget of this larger activity. The international centers, however, are independent self-sufficient institutions and must cover all their overheads themselves.

12. Although the international research centers are thus inevitably involved in high cost operations, every care should be taken to ensure that there is no waste in their use of the resources provided to them. Whatever may have been the position previously, the cuts in expenditure forced by short funding in recent years have caused centers' boards and managements to scrutinize their activities carefully with a view to eliminating anything unnecessary. Indeed, the budget cuts have been so severe that they have forced the centers to defer activities which are well justified and would clearly be of benefit to the developing countries. They are deferring necessary maintenance and cutting research support. In 1974 personnel costs were 55% of operating expenditure, while in 1980 they had risen to 64%, which indicates the degree to which research support such as maintenance, equipment replacement and travel is declining.

13. It seems unlikely that any extravagance or waste remains on a significant scale. The situation at each center will need to be kept under review, but it would be unrealistic to expect that savings from increased efficiency could be found each year on a scale to compensate for the kind of funding shortfalls experienced in recent times.
Prospects of Funds from New Sources

14. New donor countries come to mind as a possible source of additional funds, but the prospects are limited. The membership of the CGIAR now comprises all of the important aid donors except for Saudi Arabia, Kuwait and other Gulf States, and it should be noted that even these contribute to the CGIAR by way of their large contributions to IFAD and the OPEC Fund, which are now important donor members of the Group. Several developing countries have become donor members in recent years and their contributions are very welcome, but the largest sources of new money have been the multilateral institutions such as the EEC, IFAD and the OPEC Fund, and now that they have joined, there are no more large institutions of this kind which could become members. It is hoped that some more developing countries will join the Group as donor members, but the amounts they can contribute, while useful and welcome, will not be enough to meet more than a small proportion of the annual increases in resources the system needs.

15. Private foundations have historically been a very important element in the CGIAR. The international agricultural research system was started by private foundations before the existence of the CGIAR and the support of the Rockefeller Foundation, the Ford Foundation, Kellogg Foundation and, more recently, the Leverhulme Trust has contributed very effectively to the success of the system as it has been developed by the CGIAR. However, while foundations bore the full cost of the international centers before the Consultative Group was established, their financial contribution is now quite small, partly because of the financial constraints they now face and partly because it is their policy to pioneer innovative programs rather than to sustain them indefinitely. Except for the Leverhulme Trust in the United Kingdom, the only private foundations that have provided support to the CGIAR have been American institutions. There are, however, foundations in other countries devoted to the support of charitable, educational and scientific endeavors and the question arises to whether some of these, individually or in groups, could be persuaded to become donor members of the CGIAR. This may be an area worth exploring and it would be useful if the members of the CGIAR could give advice and help.

16. It has also been suggested that in both North America and Europe there are church organizations that have an increasing interest in supporting agricultural development in the developing countries and that we should try to get them to become contributors to the CGIAR. Up to now little has been done to sound out their interest, but it may be desirable to explore these possibilities also and here again the help and advice of the members of the CGIAR could be very useful.

17. Finally, there is the question of whether there are industrial companies which, either directly or through charitable foundations established by them, would wish to support the work of the international centers. There have, in the past been occasional contributions for limited purposes, usually in the form of special projects and sometimes made in kind rather than money, but the total amount of money provided by the industrial sector has been very small. Large companies in industries
related to agriculture — such as the fertilizer, seed production and pesticide industries, particularly those which have an interest in agriculture in developing countries — might be willing to lend their support. The Ford Foundation has made some exploration of the possibilities in the US and has offered to share its findings with the Secretariat and help the Secretariat in exploring the matter further. However, from what has been learned already, it would appear that the prospects of large amounts of money are not very good. It also has to be recognized that the dominating motive of private industry in providing financial support is self interest, and it is not clear how this would come into play in an institution whose motive is solely to help the developing countries increase and improve their agricultural production.

18. In sum, while the prospects of obtaining contributions from the private sector should be explored, it would probably be unwise to count on obtaining a substantial amount of incremental funding from these sources.

19. Funds could be raised by centers selling services, but this is questionable. Each of the international centers has some earnings, part of which come from the temporary investment of idle funds, but part from the sale of the products of their experiment farms. It has been suggested that the centers might increase their earnings by charging for their services. For example, at present the centers are selective in determining whether and how much they charge for training and it is conceivable that they could ask the developing countries to bear a larger share of the cost. This has not been examined in any systematic way for the system as a whole, although no doubt individual centers have given it serious thought. It would have to be determined, possibly only by experiment, whether the effect of charging for this service would be to reduce the number of applications for training or possibly to make it more difficult for the centers to offer training to the particular persons they thought could make best use of it. Another way of increasing income would be to charge for the use of facilities at the centers for conferences, seminars, symposia, and the like, but the amounts involved would be small.

20. A more difficult question is whether it would be possible to sell the technology developed at the centers. This is a question both of policy and of practicability. The international centers, though independent in character, essentially operate in the public sector. Moreover, they form one link in a chain of research activities stretching from basic research at one end to application of technology in the farmer's field at the other. Their work is facilitated by the host countries in which they are located, in terms of land provided to them, the privileges and immunities they may be granted, and their use of the germ-plasm collections of their host countries. They also collaborate and exchange germ plasm with many other institutions in both developing and developed countries. The new varieties and the technology developed by the centers have up until now been freely available to all. To charge for them would be a distinct change in policy and would entail practical questions about patents and the terms of sale. The basic products of a research center are new knowledge and technology, things which are difficult to price. Moreover, it seems out of character for institutions which have been established to serve the developing countries, and which operate on grant funds provided for this purpose, to charge their client countries for the services they supply.
21. Conceivably there might be certain side activities which the centers could take up which would yield by-products, services or goods, which they could sell. Seed production and multiplication is an example. Translation and publication might be another. On the whole though, it would not seem that this commercialization of the centers' activities would earn much of a profit -- not enough to warrant the significant change in their character which it would entail, a change which would contain the risk that the centers' research function would be subverted.

22. Finally there is the question of resources obtained for "Special Projects." Since the beginning, centers have undertaken activities lying outside their core programs which are funded separately, often from donors' funds allocated to bilateral aid programs for particular countries rather than to multilateral programs like the CGIAR. It is often thought that in times when funding for core programs is hard to come by, some relief may be found by setting up certain activities as extra-core projects so as to attract funds available for such purposes. The facts are that while the amounts obtained for special projects have been increasing from year to year, they have remained steady as a proportion of total funding (core and extra-core) at 12-13%. It would appear, however, that the character of special projects is changing and many of them are now virtually indistinguishable from activities which are normally included in core programs. Thus efforts to obtain special project money have not improved the basic funding situation. On the contrary, where an activity which is essentially of a core nature is funded as a special project the effect is to reduce the base for calculating the contributions of the United States and the World Bank (25% and 10% respectively of total contributions to core programs) thereby depriving the system of funds these two donors would otherwise be prepared to provide.

Inflation

23. Inflation lies at the root of the CGIAR's funding problems. In 1979 the Group expressed its intention of doubling its resources in current terms by 1984, thereby achieving average annual real growth of about 10%. In today's circumstances this doubling can still be reached with slight delay, but it will buy only a small amount of real growth. As already said, inflation in the developing countries where the centers spend 60% of their money is even more of a problem than inflation in the developing countries. While it is possible inflation may ease, it would be a mistake for the Group to count on it. On the contrary, the only wise course is to plan on the assumption it will continue.

Conclusion

24. The conclusion is that the prospects of significantly increasing resources through further savings or increased earnings by the centers and from new sources of contribution are not good, though all reasonable prospects should be explored and new ideas examined. Moreover, inflation will continue to drive up the cost of operating the centers. Consequently unless there is some change in the trends discussed above and more resources can be supplied, the grim assessment that the Group is facing a
static or shrinking research system must stand. The inevitable conclusion is that the Group must look to its present membership for all but a minor part of the new resources the system needs for the modest growth required to maintain its vitality and effectiveness.

IV. POLICY ON GROWTH

25. For some time the Group has been faced with the issue of what its policy on growth should be. The first Review of the CGIAR tentatively addressed it and came to the conclusion that the three year period 1977-1979 should be one of consolidation during which no new centers should be added to the system. None were. It was then discussed by the Group in a preliminary way at its May 1979 meeting when it was considering IFPRI’s application to join the system. At that meeting virtually all members felt that the system could not continue to grow as rapidly in the future as in the past, but a clear consensus on a growth policy did not emerge on that occasion. The Secretariat was asked to prepare a five-year indicative plan for the Group’s consideration at its meeting the following November based on specific assumptions about growth. The plan provided to the Group limited the growth of the “established centers” to no more than 3% collectively, but allowed higher rates of growth for centers still under development and provided for some additions to the activities supported by the Group. This five-year plan (covering the period 1980-1984) was accepted for working purposes with the understanding that it would be revised and extended annually in the light of the evolving needs and reasonable estimates of the availability of resources. Considering the importance given to agricultural research by most of the leading aid-giving countries, as evidenced in the communique emanating from the Tokyo Economic Summit meeting, and by the UN Conference on Science and Technology for Development in 1979, the Group agreed that the amounts provided to the CGIAR should, in current terms, double by 1984 to about $250 million in that year.

26. By the time the Group considered in November 1980 a revision of the first five-year plan to cover the period 1981-1985, many donors were facing serious economic strains and the Group seemed more uneasy about accepting the rate of increase envisaged in the revised plan, which was already lower than the rate in the 1980-1984 plan. Nevertheless, it was accepted for planning purposes and it was agreed that the Second Review Committee should address the question of growth and propose a revision of the five-year plan for the period 1983-1987. In its report to the Group the Committee recommended a plan containing again somewhat less growth than in the earlier plans. Its underlying principles were that there should be no real growth in operational expenditure except to bring all existing centers to an approved level and standard of operation, to accommodate one new activity in 1983 and another in 1985, and to permit a modest acceleration of specific research activities provided that half the resources required would come from reducing expenditure on existing programs. To these operational requirements would be added the capital expenditure necessary for the centers to carry out their programs efficiently and effectively.
27. These principles, which are discussed in more detail below, constitute a policy on growth. They were accepted by the Group at its meeting in November 1981 and thus the Group in effect adopted the policy on growth recommended by the Committee. The Committee also recommended that planning should take into account future price increases and that the resources provided by the members of the Group should be adequate to ensure in each year that these price increases were covered as well as the modest increases in requirements contemplated in the policy on growth.

28. The Committee elaborated the principles and translated them into specific elements for constructing the five-year plan for the period 1983-1987.

The Five-Year Plan, 1983-1987

29. In keeping with the principle that there should be no growth in operations except to bring centers to an approved level and standard of operation, the Review Committee recommended that there should not be any assumption that centers should grow indefinitely. The Committee did not favor the concept of a pre-determined optimum size for any particular center, but suggested that the centers should expand, contract or change their methods of operation according to the needs of the work and to the resources available. Consequently, in proposing the elements of a five-year plan the Committee did not include any provision for incremental growth of centers once fully established.

30. Along with the recommendation that all centers should be brought to an approved level and standard of operation, the Committee recommended that all centers should be provided with sufficient resources to establish and maintain the physical plant and equipment necessary to carry out their mandates.

31. The Committee recommended that there should be specific provision for funding part of the additional cost of carrying out categories of work suggested by the Committee in such areas as strengthening the multi-disciplinary approach to commodity programs in order to accelerate progress and exploit breakthroughs on the major problems limiting yield, quality and the adoption of technology; increasing use of collaborative networks; and strengthening strategic research on appropriate topics.

32. Finally it recommended that the five-year plan should provide for any new activities which the Consultative Group decided to add to the existing system.

33. The Committee translated these principles into specific elements of a five-year plan. The elements were:

(a) basic operational requirements comprising:

(i) operations at the 1982 level; and

(ii) the estimated increases necessary to bring all existing centers to an approved level and standard of operation;

(b) capital requirements, including the requirements for ICARDA’s building program;
(c) a provision for accelerating programs as described above; and

(d) a provision for two new activities, one to begin in 1933 and a second in 1985.

34. The Committee combined these elements into a proposed five-year plan, expressed in constant 1982 dollars. This plan was put before the Group at its meeting last November. The recommended plan provided for an average annual real increase in total gross requirements of 2.2% over the five years 1983-87. As said above the principles underlying it were agreed on by the Group. However, the Group felt that in the light of the pledges made for funding in 1982 the figure in the Committee's plan for "operations at the 1982 level" of $167 million was too high. The Secretariat was asked to revise the plan in accordance with the prospects for contributions in 1982 and thereafter, but using the same concepts as in the plan proposed by the Committee.

35. With respect to financial requirements in 1982 the Consultative Group also had before it recommendations from TAC and the Secretariat on the program and budget of each center. For each there were two recommendations -- one on the assumption that contributions by the donors in 1982 would be adequate to fund the system in accordance with the five-year plan approved for planning purposes in November 1980, and the other on the assumption that contributions would be no higher than $163 million, a level which would necessitate a five percent reduction in the programs and budgets of the centers as put forward by them for approval. The Group conditionally approved the budgets at the reduced level subject to the availability of funds. Following the pledging, it appeared virtually certain that funding would be well below this level. TAC was asked to review the centers' programs and budgets once again and to recommend how the likely short-funding should be allocated. TAC carried out this exercise at its meeting in March 1982 the results of which are being reported on separately.

36. In revising the 1983-1987 plan the Secretariat has had to start with a figure for the level of operations in 1982. However, it will not be possible until later in the year to estimate with some precision what the level of funding in 1982 will actually be. Not only are some donors' contributions not yet finally determined, but the value of contributions, in terms of the US dollar, fluctuates and it will only be towards the end of the year that a reasonable estimate of their value for the year as a whole can be made. Meanwhile, for purposes of revising the five-year plan, the Secretariat has taken the level of donors' contributions in 1982 at $149 million, which was the total of the amounts the donors indicated at the November meeting or shortly thereafter they expected to contribute in 1982. Based on TAC's review of 1982 programs and budgets in March 1982 and on the centers' own estimates of the allocation of their resources between operational and capital expenditure, the Secretariat has revised the Review Committee's recommended five-year plan, taking as the point of departure operational expenditure in 1982 estimated at $145 million. This is not only a sharp reduction from what was proposed by the Review Committee, but is substantially below the total of the operational portions of the reduced budgets recommended by TAC and conditionally approved by the Group in November. The comparable figure in the Review Committee's recommendations was, as mentioned above, $167 million and in the TAC recommendations for budgets at the reduced level $159 million.
Severe reductions in funding of this order raise serious issues for the centers. The two rounds of budget cutting which have had to take place to bring the centers' budgets into line with likely funding in 1982, have together amounted to 13.5% for the system as a whole, and more for some centers. Cuts of this size coming on top of the cuts which had to be made for 1981 cannot be absorbed by taking temporary or tactical measures without seriously affecting the effectiveness of a center's program. They have brought things to the point where, until substantially more resources can be obtained, strategic rather than tactical decisions must be taken by the centers as to what kinds of activities, what programs and what opportunities will have to be foregone. The decision of the Group to lower the base of the five-year plan recommended by the Review Committee means that the lower level of operations forced in 1982 will have to be reflected over the five-year period 1983-1987 of the revised plan, thus making a review of priorities by all centers all the more necessary. TAC's views on each center's program, as expressed in both annual and quinquennial reviews, will be essential in this process.

38. The revision requested by the Group is given below. It is in the same format as table 10.1 in the Report of the Review Committee.
Revision of Five-Year Plan Recommended by the Review Committee  
(Constant 1982 $ Millions)

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>a) Basic Operational Requirements</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2. Estimated increases to bring all existing institutions to an approved level and standard of operation</td>
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<td>6</td>
<td>10</td>
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<tr>
<td>Sub-total</td>
<td>148</td>
<td>151</td>
<td>155</td>
<td>161</td>
<td>165</td>
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<tr>
<td>b) Capital Requirements</td>
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<tr>
<td>3. Estimated capital requirements, excluding part of the building requirements of ICARDA</td>
<td>10</td>
<td>10</td>
<td>8</td>
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<td>6</td>
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<tr>
<td>4. Remainder of ICARDA building requirements</td>
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<td>Sub-total</td>
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<tr>
<td>c) Additional Elements</td>
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<tr>
<td>5. Provision for accelerated programs (see text)</td>
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<td>3</td>
<td>5</td>
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<td>6. New activities:</td>
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<tr>
<td>(i) Water Management</td>
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<td>5</td>
<td>5</td>
<td>4</td>
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<tr>
<td>(ii) A Second Activity</td>
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<tr>
<td>Sub-total</td>
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<td>4</td>
<td>9</td>
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<td>12</td>
</tr>
<tr>
<td>d) Grand Total</td>
<td>161</td>
<td>168</td>
<td>175</td>
<td>184</td>
<td>184</td>
</tr>
</tbody>
</table>

39. This revision is in concept the same as the plan proposed by the Review Committee. The principal change is in the level of operations for 1982, but there are several other marginal changes to reflect more recent information. The average annual rates of real growth are:
### Total growth:

<table>
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<tr>
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<th>1983-87</th>
</tr>
</thead>
<tbody>
<tr>
<td>All activities</td>
<td>3.8</td>
<td>3.4</td>
</tr>
<tr>
<td>Thirteen existing centers only</td>
<td>3.0</td>
<td>2.4</td>
</tr>
</tbody>
</table>

### Growth in operations only:

<p>| | | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Thirteen existing centers</td>
<td>3.2</td>
<td>3.5</td>
</tr>
</tbody>
</table>

For 1983 there is no provision for "accelerated programs;" the existing centers have said that given the extreme financial constraints with which they are faced, they are not in a position to make use of this provision next year. Similarly there is no provision in 1983 for the addition of a program on Water Management. Based on information provided to it by several of the larger donors, the Secretariat has assumed that additional funding above the requirements of the five-year plan could become available to cover the start-up expenses of this initiative if it is approved by the Group. In recommending a water management research institute to the Group, TAC has stipulated that the Group should adopt it only if, in the future, the necessary funds would be additional to what would otherwise be provided for the existing thirteen centers. It is included in the last four years of the plan on this assumption.

40. The five-year plan is expressed in constant 1982 dollars. Conversion of the projections to current dollars for the years 1983 and 1984 has been done on the basis of the weighted average of estimated price increases for all centers taking into account the distribution of their expenditure in the countries in which the centers operate and in the industrialized countries, price increases in the countries of operation, price increases in the industrialized countries and fluctuation in the values of currencies. An increase in working capital has been built in. Estimates of the gross system requirements in 1983 and 1984 in current terms are given below. For 1983 the system-wide rate of price increase is estimated at 14.5%. For 1984, there are two estimates -- one based on the same 14.5% rate of price increase and the other on 13.5%.
Revision of Estimated Financial Requirements for 1983 and 1984 in Current Dollars (Millions)

<table>
<thead>
<tr>
<th></th>
<th>Constant 1982 Dollars</th>
<th>Current Dollars</th>
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<tbody>
<tr>
<td></td>
<td>Fixed Rate of Price Increase</td>
<td>Declining Rate of Price Increase</td>
</tr>
<tr>
<td>1983 (a) Operations</td>
<td>148</td>
<td>170</td>
</tr>
<tr>
<td>(b) Capital</td>
<td>13</td>
<td>14 1/3</td>
</tr>
<tr>
<td>(c) Additional elements</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>(d) Total</td>
<td>161</td>
<td>184</td>
</tr>
<tr>
<td>1984 (a) Operations</td>
<td>151</td>
<td>198</td>
</tr>
<tr>
<td>(b) Capital</td>
<td>13</td>
<td>20 1/10</td>
</tr>
<tr>
<td>(c) Additional elements</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>(d) Total</td>
<td>168</td>
<td>223</td>
</tr>
</tbody>
</table>

1/ Including incremental working capital.

41. The question for the Group to decide is whether this revised plan properly reflects its aspirations, policies and intentions. This issue is discussed in the next section.

Suitability of Five-Year Plan

42. In keeping with the recommendations of the Review Committee the revised plan basically reflects a "no growth" policy for centers once they are established at an approved level and standard of operation. The average annual growth in total requirements of 3.4% in real terms over the next five years is the modest amount needed to bring centers up to a common standard; to accelerate a limited number of programs; and to add one or two new activities, such as, water management research and training (conditional on incremental funding being obtained). New activities and innovations in the programs of the centers are to be funded largely through reducing existing activities. The provision for "accelerated programs" is very small, representing over the period only 1.6% of total expenditure. It levels out in 1986 and thus declines slightly thereafter as a proportion of the total.

43. A five-year plan adopted by the Group should be consistent with attaining the Group's objective of helping to provide the developing countries with the technology they need to become self-sufficient in food. As said in the Report of the Review Committee, the CGIAR has already made impressive contributions to the development of technology augmenting the production of food and "there is clearly an urgent need for it to continue to do so in the future." The CGIAR system complements and supports
national research programs. As they grow stronger, they may well draw more heavily on the help the centers can provide. It should be an objective of the Group to meet this demand. A plan as modest as the one outlined above represents the barest minimum effort needed to work toward the Group's objectives, and a larger effort is almost certainly required if the CGIAR is to have an impact on food supply in the developing countries large enough and soon enough to meet their rapidly increasing needs.

The Near Term Outlook

44. The Plan is expressed in terms of the system's gross requirements. Net requirements will be about 2% less. The modest but essential growth implied in the Plan can be achieved only if the resources available to the Group for the core programs of centers grow in real terms annually between 3-4%. "Real terms" in this context means real terms in the economies of the developing countries in which the centers operate, taking into account the rates of inflation experienced in them. For 1983 and 1984, based on estimates of inflation in the developing countries and the prospects of devaluation of their currencies, this rate of real growth implies an annual increase in total gross expenditure on core programs of about 20% in current terms.

45. It is difficult to estimate with any certainty what the level of contributions will be even in the year ahead. Based on soundings of a selection of donors, the Secretariat normally makes such an estimate in time to be used at the summer meeting of TAC when the centers' programs and budgets are reviewed. This is done during May and June, too late to be taken into account in this paper. However, based on indications by donors at the meeting of the Group last November and other preliminary information, the present estimate of total contributions for 1983 is between $170 and $175 million based on exchange rates of last November. The net requirements of the system in accordance with the revised Plan will be about $180 million. The implication is that total contributions will, as a minimum, need to be between $5 and $10 million more than presently estimated. This amount would rise or fall depending upon whether, by next November, the dollar has appreciated or depreciated against the other currencies pledged, in comparison to where they stood in November 1981. In April the dollar had appreciated significantly. This is more of a gap than can be counted on to be covered by new donors, consequently the bulk of it will have to come from existing donors.

The Policy Issue

46. The 1983 position points clearly to the central issue facing the Group. Since the amount which can be found from new sources is small and uncertain, the only practical policy is that existing donors collectively provide enough additional resources each year to cover price increases experienced in the developing countries plus a minimum of 3-4% in current terms to provide for the minimal amount of growth in net requirements in the Plan. This implies a total increase in current terms of about 20% in both 1983 and 1984 from the existing donors collectively to cover the centers' net requirements. Since some donors may be faced with temporary financial constraints, the donors who are capable of doing so may need to provide somewhat higher increases.
V. THE NEED TO AUGMENT RESOURCES

47. It is now acknowledged virtually everywhere that the development of agriculture should be a priority activity within aid programs. Agricultural development, particularly in the poorer countries, is seen to be the prime engine of economic development. It is also recognized that research to develop new technology is fundamental for accelerating agricultural development. The case for international agricultural research was cogently made by the CGIAR Review Committee. Among other things it said:

"...The most important way of increasing and stabilizing food production in the developing countries is through improving land productivity and ... this, in turn, is dependent on agricultural research and the transfer of technology....Although technological change in agriculture can do nothing to solve the problems of famine caused by human action, it can sometimes contribute to solving the problems caused by natural catastrophes. The effects of droughts can be alleviated by irrigation from reserve supplies of water, for example, while flood control and the prevention of soil erosion can also play a part. But it is through improving the food intake of those segments of society that suffer from malnutrition that technological change can fulfill its most important and general role. Technology can increase the productivity of resource-poor farmers, thus increasing their capacity to feed themselves and generate additional income. Research and the derived technology can also contribute to increases in the overall production of the agricultural sector and thus augment the quantities of food marketed in the cities, with the possibility of decreases in the price of food and increases in the real incomes of the rural and urban poor. These are the potential contributions that research can make. They encompass both the resource-poor farmer and the low-income segments of society, thus emphasizing the duality of purpose of the research undertaken by the CGIAR System as well as the need for flexibility in the definition of its priorities."

Given the need, it is essential to maintain, or even to raise, the priority of international agricultural research and thus to ensure that it will obtain the share of scarce resources it deserves. The time has come for each donor specifically to address anew this question of the priority to be given to the CGIAR among the many claimants for its aid resources. Many of them have large programs of aid for agriculture in the developing countries. The success of the projects they finance is often dependent on the introduction of new technology. The program of the CGIAR can justifiably be seen as an important component of the research and development necessary to support the large investments being made by donor countries and institutions in agriculture in the developing countries. In examining anew the priority to be given to the needs of the CGIAR some donors may wish to consider whether there are within their aid budgets
sources of funds as yet untapped for the CGIAR which could be brought into
play to support the Group’s activities. For example, funds available for
technical assistance in bilateral programs might be used to support
collaborative research and networks forming parts of the programs of the
centers, or funds in either bilateral or multilateral aid programs reserved
for training could be used to meet the costs of training at the centers.

48. There can be no question that the needs of the developing
countries call for an effort of at least the size set forth in the
five-year plan above. The basic question for the Group is whether this
objective is acceptable and attainable. Is there today enough support for
the CGIAR to ensure a commitment of this character and if not, are there
special measures which should be taken to strengthen this support? This is
not to say that special efforts have not already been made. The Chairman
of the Group and the Secretariat, with the help of Center Directors,
various donors, and others, have made major efforts to bring in new donor
members and get present donors to increase their contributions. Both the
Bank’s former president, Mr. McNamara, and now Mr. Clausen, have intervened
with potential and existing donors on the CGIAR’s behalf. The importance
of the CGIAR program has been put before the Economic Summit Meetings in
both Tokyo and Ottawa.

49. Even though the CGIAR’s needs are modest in compara-
tion to the
total amount of official aid provided by members of the Group, perhaps
further special measures are needed. One would be for all members of the
Group to accept a collective responsibility for raising funds and to
participate more actively in this process in the various organizations and
fonia of which they are a part. Another suggestion that has been made is
that having completed 10 successful years, it would be timely for the CGIAR
to put its needs before the heads of the aid agencies of the principal
donors at a suitable occasion (the periodic “Tidewater Meeting” is an
example). A further suggestion is to get several prominent persons of the
kind who served on the Brandt Commission to espouse the cause of the CGIAR
and solicit support. It would be useful to know whether the members of the
Group feel that measures of this kind are necessary, and if so, what other
ideas they may have.

VI. CONSEQUENCES OF INADEQUATE FUNDING

50. It is highly important to the progress of agriculture in the
developing world that the Group make a collective commitment to support its
research system on the scale proposed in the revised Plan. To do otherwise
is to allow the system to become static or shrinking. This would have
glave consequences. As pointed out by the Review Committee, inadequate or
declining funds would necessitate deferring capital expenditure, deferring
staff replacements, postponing the planned development of programs and
cutting allocations for such things as travel, workshops and training. All
of these, the Committee said, would rapidly impair the effectiveness of the
work of the international agricultural research system. Tightly
constrained budgeting over a period of years leads to inertia, a lack of
flexibility, declining staff morale and failure to respond positively to
the needs of the countries that the system is intended to serve. The
Committee went on to say that "with no expansion of the older centers, there is a real danger that they would no longer be able to attract onto their staffs the most competent young scientists at the forefront of new thinking and at the most innovative stages of their careers. Furthermore, although we endorse the principle of giving the centers every incentive to eliminate the least productive aspects of their expenditure, in reality there might be little more that they could cut. The nature of the work is such that some of the programs must expand in order to maintain the progress already made. These circumstances are particularly applicable to those programs in crop improvement concerned with breeding for resistance to pests and diseases."

51. Lowering the base for the revised Plan already forces each center to re-examine and probably change its priorities. Failure of contributions to keep up with inflation and minimal growth would necessitate more far-reaching system-wide reductions, including the selective elimination of whole programs, or the phasing out of a center as a whole so that those remaining might prosper. Such sweeping changes would make it incumbent on the Group to decide, with the advice of the Technical Advisory Committee and the centers concerned, what the order of priority for eliminating programs should be. In this the Group would have to choose between two basic options: the first would be to maintain the established centers at about their present level while halting the growth of the developing centers and adding nothing new to the system, and the second would be to eliminate programs (or entire centers) selectively to permit the newer centers to be developed to the common standard while maintaining the quality and effectiveness of all centers retained. If the Group felt that some other solution would be preferable, it would need to enunciate clearly what the policy should be.

52. Such a decision for a static or diminishing system would also mean much more rigorous evaluation of the present balance in the use of the Group's resources. The Group and its services, TAC and the Secretariat, would have seriously to consider such things as:

- The proportion of total resources devoted in one way or another to increasing livestock production.

- Within commodity crops (for example, roots, tubers or cereals) the proportion to be devoted to each crop (for example, potatoes, barley, triticale or upland rice).

- The degree to which international research should be conducted on narrow specialities (for example, farm machinery) or research tending to be country specific (for example, farming systems or the state of economic constraints to the adoption of new technology).

- The evolving and changing pattern of centers in terms of their functions (for example, the increasing amounts of germ-plasm management, network management and training) as is already happening at IRRI, and ascertaining whether these changes give scope for reducing the demand for resources.
The question of whether the increasing strength of national programs implies that they may be able to take over some of the present activities of the international centers, or whether it implies that they will require even greater services from the international centers.

53. Questions such as these -- and there may well be others -- would need to be examined by the Technical Advisory Committee. In its most recent paper on priorities ("TAC Review of Priorities for International Support to Agricultural Research" dated March 1979) there is much useful analysis which could be addressed to the prospects of a static rather than a growing system. But whatever TAC's advice would be, the Group in the end would have to decide what policy would be suitable for a system designed not to grow but to continue at about its present size or somewhat less.

54. Considering the funding situation already facing it, if the Group were to decide not to adopt the proposed Plan, policy decisions of this kind would have to be taken very soon.

VII CONCLUSION

55. The Technical Advisory Committee has recently completed a review of the 1982 programs and budgets of the thirteen existing centers and has made recommendations about how they should be further reduced from what was conditionally approved in November 1981 so as to fit within the funds likely to be available this year. A separate report on this exercise is being made. The centers are in the process of constructing their programs and budgets for 1983 in accordance with the guidelines provided to them by the Secretariat last December. Drafts of the program and budget papers which they will be submitting to the Group in September have been prepared for review by the Secretariat and TAC. TAC will meet in June at which time it will make a detailed review of the centers' proposals and will make recommendations to the Group. As mentioned above, the Secretariat will provide for that meeting an estimate of the likely level of donors' contributions in 1983 to be taken into account in TAC's recommendations.

56. The Group is now at a critical point. It is essential for the centers and TAC to know in time for their June meeting what should be the basis for their planning for 1983 and beyond. The revised five-year plan, as requested by the Group, is presented in this paper for its consideration. This is a minimal plan. The CGIAR system and the countries it serves deserve more generous support, but if that is not feasible, the Group should at least adopt for the system as a whole a policy of minimal growth for the purposes identified by the Review Committee and reflected in the revised five-year plan. To do otherwise would be to settle for an inadequate system and would necessitate strategic reductions in the programs supported by the Group.