

ICRISAT'S STRATEGIC PLAN  
FOR TECHNICAL COOPERATION

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Report of the  
Working Group on  
Technical Cooperation (Technical Assistance)

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## Contents

Executive Summary	
Introduction	1
Mission Statement	1-2
Technical Cooperation	2-3
Strategic Plan for Technical Cooperation	3-4
Coping with Change	4-6
Appendix	7-10
A. Relative Importance of Different Elements of TC	7
B. TC Strategy Expanded	7-10

## Executive Summary

A priority agenda for ICRISAT is to cooperate with National Agricultural Research Systems (NARS) to foster, facilitate and conduct research on mandate crops, agricultural resources, technologies and institutions towards assuring a better livelihood for the rural peoples of the semi-arid tropics, and a sustained development of their countries. The overall objective of this technical cooperation is to promote research and the development of available manpower in NARS so that improved technologies get adopted expeditiously.

ICRISAT's mission of technical cooperation is aimed at upgrading skills through training and short-term deputation of NARS scientists to its research centers, and by speeding the solution of specific problems by collaborative research. Further, ICRISAT has launched regional networks to facilitate research information exchange and to strengthen research related linkages. Data and research materials including elite germplasm are freely exchanged by ICRISAT with NARS; we encourage exchange of scientists and technical staff, and provide direct assistance in specific cases e.g., specialized material or consultancy visits.

ICRISAT's strategy for the years ahead in technical cooperation will be flexible; our response would vary with the research and development capabilities and needs of NARS. We aim to strengthen NARS research both in the areas of applied and adoptive research, so that ICRISAT scientists can concentrate on issues related to research for the development of improved and innovative technologies.

**Report of the Technical Cooperation (Technical Assistance)  
Strategic Planning Working Group**

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**1. Introduction**

The term technical cooperation (TC) was chosen by the group to replace the original "technical assistance" after considering a wide range of options that would better indicate the partnership between NARS, ICRISAT, and mentor institutes (MI's) in developing and disseminating new technology. In doing this it was realized that a pure technical assistance component exists in TC. We believe TC also includes feedback to ICRISAT from NARS in activities that are mutually important for strengthening both ICRISAT and NARS agricultural research and development.

Discussions revolved around the major premise that TC's main purpose is to find ways that ICRISAT can work with NARS to eventually strengthen the ability of NARS to do research. Thus the strategic plan developed suggests ways that ICRISAT might act in order to exploit the complementarities among NARS, MI's, other institutes and ICRISAT.

**2. Mission Statement**

The group identified the following major items for ICRISAT's mission: ICRISAT's task is to work with NARS

- to foster, facilitate, and conduct research on mandate crops, agricultural resources, technologies, and institutions:

- toward assuring a better livelihood for people dependent on resource - poor, rainfed agriculture in the semi-arid tropics, and
- to lead to the sustained development of their countries.

It was also suggested that:

ICRISAT will have achieved its mission when the NARS of the developing countries in the SAT can meet their countries' research needs without the cooperation of ICRISAT.

Based on these suggestions the following modified mission statement was proposed (the heavy print indicating changes from the original statement in the Approach Paper:

The rainfed SAT and other resource poor regions growing ICRISAT mandate crops must be made more productive and their agriculture more profitable and sustainable. Only then can people in these regions have better lives and contribute effectively to national development. ICRISAT will foster, facilitate, and conduct research on mandate crops, agricultural resources, technologies, and institutions. This research will aim to increase the productivity, versatility, and stability of ICRISAT's mandate crops, and suggest appropriate ways of using its crops in existing and improved farming systems options. Emphasis will be given to the judicious use and management of natural and human resources. ICRISAT will undertake this mission in partnership with NARS and with other institutions. ICRISAT while sharing research with NARS will encourage NARS to accept increasing research responsibility so that NARS can solve their specific problems and quickly provide technology to their farmers. ICRISAT will adjust its research to meet the shifts in research responsibilities within the partnership.

### 3. Technical Cooperation

Linkages between ICRISAT and NARS have been greatly strengthened in recent years by the establishment of ICRISAT regional programs and

networks. NARS will be further strengthened through partnership in research and development by a TC framework that provides for:

- upgrading research and technical skills.
- a more effective interface for identifying problems and prioritizing research needed.
- allocating resources to support this research aimed to generate sustainable agricultural and agro-allied industrial systems.
- channeling the flow of analysis and synthesis of information between NARS, mentor institutions, and IARCs to direct research attention to the most urgent researchable problems.
- identifying research and development activities that can be transferred to NARS from the IARCs where NARS have a comparative advantage.

#### 4. Strategic Plan for Technical Cooperation

The purpose of the strategic plan is to provide a framework for innovative and productive collaborative programs between NARS, ICRISAT, and MIS that will focus on ICRISAT's mission. Thus ICRISAT will continue to play an essential and central role in bilateral, regional, and global research in its mandate areas and crops.

ICRISAT's overall objective in Technical Cooperation is to promote research and development of agricultural and agro-industrial production such that the NARS develop expertise and increase their abilities to meet their own needs without ICRISAT's input.

4.1 ICRISAT's technical cooperation will develop manpower, collaborate in development of technology, evolve links among research groups and among scientists, provide assistance, and move and exchange technology and information. These can be outlined in six elements:

4.1.1 Upgrading skills: to improve the capability of NARS to do research and carry on development their staff can come to ICRISAT for specialized short courses and short term deputations when the need is identified.

4.1.2 Collaborative assistance and support: to speed the solution of specific problems faced by NARS, assistance can be given through the pooling of resources and manpower for collaborative research, and when needed donor supported bilateral research.

4.1.3 Networks: provide links among NARS, ICRISAT, MI, and other regional and international institutions and their scientists to use more effectively existing staff and facilities to strengthen NARS research. These links are formed through activities such as collaborative research, workshops, and monitoring tours. Networks form a part of the ICRISAT framework to facilitate all TC elements.

4.1.4 Exchange of scientists and technical staff: to allow in-depth involvement and upgrading of research capabilities of both NARS and ICRISAT, scientists from NARS are seconded to ICRISAT to become an integral part of the research effort for periods of about one or two years. Likewise scientists from ICRISAT move into NARS research programs as need is identified.

4.1.5 Direct assistance: Direct response to specific requests by NARS to meet identified needs such as special material, or consultants for specific tasks. As NARS become better at identifying their needs such requests can be expected to increase.

4.1.6 Literature and data: this includes information synthesis, retrieval, collation, and dissemination and also data base compilation, analysis, and exchange. The library and documentation services at ICRISAT are being strengthened to meet this demand.

## 5. Coping with Change

By the year 2000 and after, ICRISAT, if it has been effective in implementing its mission, will have completed portions of its tasks in

applied and adaptive research in collaboration with the NARS. Where necessary these tasks will be carried on by the NARS. In southern Africa for example SADCC aspires to self-reliance in the regional activities that ICRISAT is involved in so we are planning in the long-term to assist it to take these over. This strategy will lead to a more dynamic ICRISAT response to the external environment including NARS aspirations and donor requirements.

Despite this shifting responsibility to NARS it is expected that ICRISAT will continue to fill a need in many NARS whose government policies continue to deemphasize agricultural research. ICRISAT's strategy will therefore need to cope with strengthening NARS on one hand and static or declining NARS on the other. ICRISAT's strategy should be to develop a close liaison with each country so as to be aware of its problems and strengths. By knowing the specific needs of each NARS, ICRISAT can then develop an appropriate regional approach or program. With the regional programs firmly based on NARS needs, then the regional programs can be used to develop a strong and affective global approach. This from the bottom up approach is in the opposite direction to that often used by ICRISAT in developing policies for its organization.

The strategic plan should be flexible to address the consequences of major changes. For example changes are expected in the SAT, regional, and world supply and demand for ICRISAT's mandate crops, the competitiveness of the farming systems associated with these crops, the technological trends in the external and internal environment, and individual country's needs, views, objectives, policy, and agricultural development. Our strategy must be to be prepared to respond to these changes.

One factor that ICRISAT should plan to retain in face of change is a coordination role of the information and genetic material of its mandate crops. Thus in TC ICRISAT will always be in a position to be the depository for information and material, or at least know where the information and material can be obtained, for ICRISAT's mandate crops and region.



Fortunately, we have experience at ICRISAT in terminating research areas as we have made major moves and changes in southern Africa and West African locations. We should examine and analyze these experiences and document the steps involved. By so doing, we will be able to assure ourselves and our staff that the institute will live up to its own values and standards in coping with the changes that our strategic planning exposed as important and needed.

## Appendix

### A. Relative Importance of Different Elements of T.C

In order to pool our perception of the priority of elements of technical cooperation given in para 4, a group exercise based on using a decision making process was carried out. The results are shown in the attached flow-diagram. In this exercise the 8 committee members [Level 2] considered the importance of each element [Level 4] from the point of view of ICRISAT's relation with private NARS (PNARS), government NARS (GNARS) including Universities, and mentor institutions (MI) [Level 3]. The members rated the importance of ICRISAT's relationship with the 3 groups of institutions. Not surprisingly GNARS was the highest with PNARS the lowest (Fig.1). The average rating for the six activities put them in the order shown in para 4.1 of the main report, upgrading skills, collaborative assistance, networks, exchange of scientists, direct assistance, and literature and data exchange (Fig.2). Our group provided a very small sample but the exercise is indicative of the priority that the group attaches to various elements of T.C. that can be generated using this approach.

### B. TC Strategy Expanded

The following sections expand on the strategies needed to support the elements of TC given in the previous section.

#### B.1 Financial Assistance to National Cooperative Research

While ICRISAT should not be seen as a grant giving or aid agency many of the TC activities can only happen if financial assistance is provided. Because facilities and staff are usually already in place for manpower development and collaborative research activities, a small amount of funding can have a large effect. Funding is essential for NARS scientists participation at workshops, in training, and for secondment to ICRISAT in such programs as visiting scientist. Small flexible funding for supplies or labour to break bottlenecks is essential for the success of many collaborative experiments.

Very little core funding is or should be available for direct financial assistance. Therefore if collaboration with NARS is to increase funding to support this collaboration must come more and more through involving special funding by donors. It should be recognized that this funding can strengthen the ICRISAT as well as the NARS component of collaboration. The extra input by ICRISAT to handle these funds must be included in the agreements. This type of special funding can be important to ICRISAT at a time of falling donor participation in core funding of the CG centers.

Examples of the special funding now being used at ICRISAT is the ADB funding for the AGLN and the Sri Lanka - ICRISAT pigeonpea production project. Other examples are special funds provided through the AIDAB-CGIAR-ACIAR grants, and the special funding by UNDP for a meeting to discuss the NARS needs and priorities for on-farm research on legumes. Another source of assistance has been fund supplied by donors such as FAO and Peanut CRSP for NARS participation in training and workshops.

## B.2 Networks

A productive way to be responsive to NARS needs is through effective networks. The use of networks can be expected to expand but they must be organized so that they do not overload NARS. If networks are too successful ICRISAT must be careful that its commitments to these networks do not threaten ICRISAT's other activities. One strategy which can reduce the overload on NARS is to coordinate our activities with those of other IARC's having similar mandates. For example, AVRDC with mungbean and soybean, and IITA with cowpea, all work on grain legumes. One way would be to adapt the practice used elsewhere, for example ICRISAT's sorghum program at CIMMYT and ICRISAT's chickpea breeder at ICARDA, and station staff from other IARC's at ICRISAT to bring them into close contact with ICRISAT's activities. Examples could be an AVRDC, IITA, or IRRI scientist at ICRISAT. Included in this consideration would be the stationing of staff from other regional and international institutes, and MIS at ICRISAT. By being at ICRISAT these scientists would also have the chance to develop elite material and technology for their crops that are more

appropriate to the Asian region than they could from their "home" locations. Thus legume workers in NARS who have responsibilities for many crops will have their needs met through a single contact point.

### B.3 Staff Exchange

Another strategy to cope with the need for change is to move ICRISAT staff into NARS for one or two year periods. Equally important to this strategy is the transfer of NARS staff into ICRISAT to fill the positions so vacated. This has the advantage of placing some older well experienced ICRISAT staff where they can make an important contribution to strengthening a NARS. This might be part of a collaborative project with ICRISAT. The movement of a NARS scientist to ICRISAT means the research responsibility of the ICRISAT scientist may not be curtailed, the NARS scientist can bring new ideas to ICRISAT, and the association with a multidisciplinary team can help the NARS scientist. When the ICRISAT scientist returns he too will have a broader understanding. It is one way to deal with the vexing problem of an aging staff at ICRISAT.

Equally important is the transfer of ICRISAT Technical Assistants to NARS for specific tasks and a similar transfer of TAs from NARS. Not only would such a strategy strengthen ICRISAT and NARS staff and bring in new ideas, it should also improve staff morale.

Such a strategy would need to be built into projects if it required outside special funding.

### B.4 Upgrading Research Quality

ICRISAT can play a role in helping to upgrade the level of accuracy and repeatability of NARS collaborative field trials by becoming more involved in training to upgrade research station management. This has already been successfully started in the SADCC regional program, the FDO at ICRISAT can provide similar training for the Asian region.

Similarly to help in transfer of technology to the NARS and more support needs to be given to providing adequate seed of new superior cultivar. This involves more research on seed production methods and maintenance of quality and in providing the necessary training and financial help to make sure adequate good seed is provided to farmers.

## B.5 Prioritizing Needs and Developing Plans

A strategy is required to balance the bilateral and multilateral responsibilities of networks and ICRISAT's regional and global responsibilities for research and TC. This may be best handled by consciously developing for individual countries within selected regions a strategy and plan based on bilateral contacts. This will allow planning according to the priority of mandate crop problems in each country, the country research capability, their government policies, and donor requirements. An example is the Mali program. These bilateral arrangements can then be logically grouped in multilateral regional arrangements such as the SADCC regional program.

Such a strategy can also lead to the identification and design of projects in conjunction with NARS in order to meet their specific needs. An example is the pigeonpea production project being developed for Sri Lanka. This project is designed to identify the consumer and farmer need, identify technology to meet the needs, demonstrate and disperse the technology, and provide research backup.

## B.6 TC Administration

Another strategy to consider would be to make the coordination of TC and networks under the DDG's office so that the activities of the various networks are more coordinated. This would help reduce the number of separate ICRISAT contacts in each country. This does not necessarily mean that network responsibility be separated from the programs but could take the form of an advisory or coordinating committee of ICRISAT staff organized by the DDG.

Flow - Diagram  
**STRUCTURE OF TC-SPWG DECISION MAKING PROCESS**  
 Best TC Activity  
 Mix

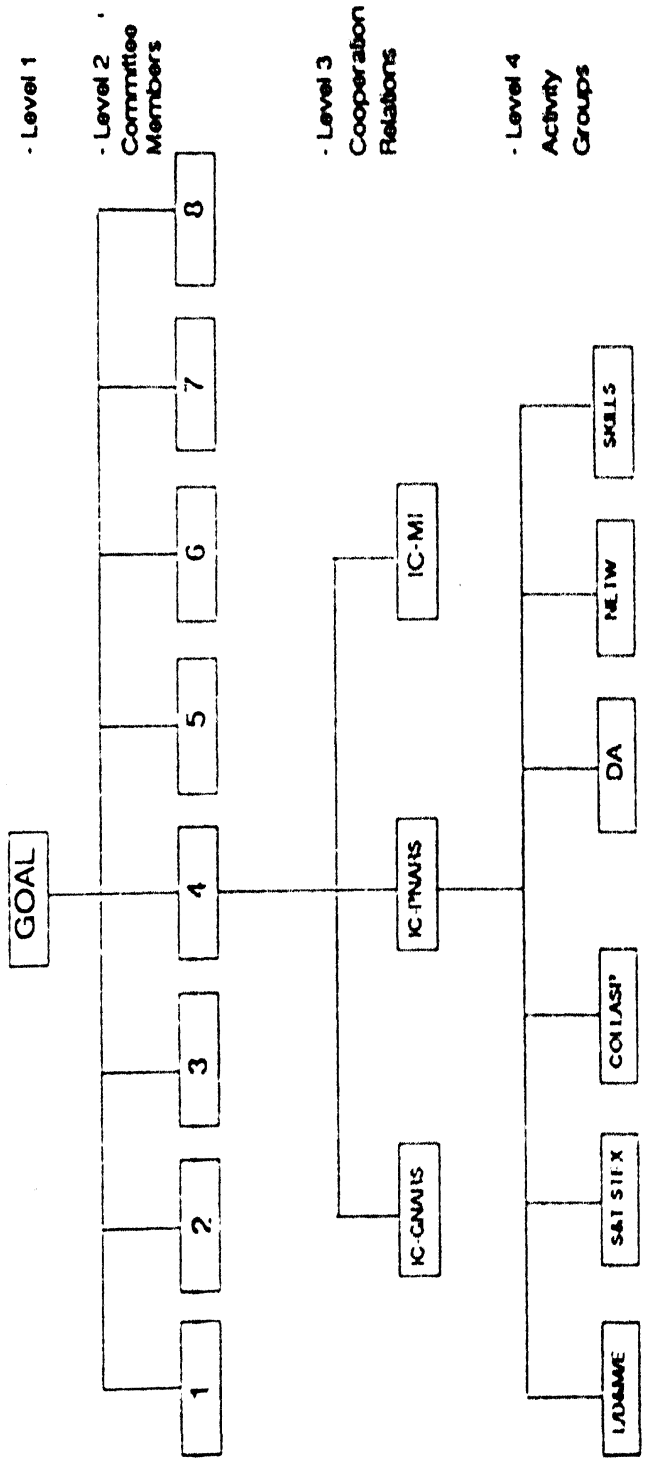
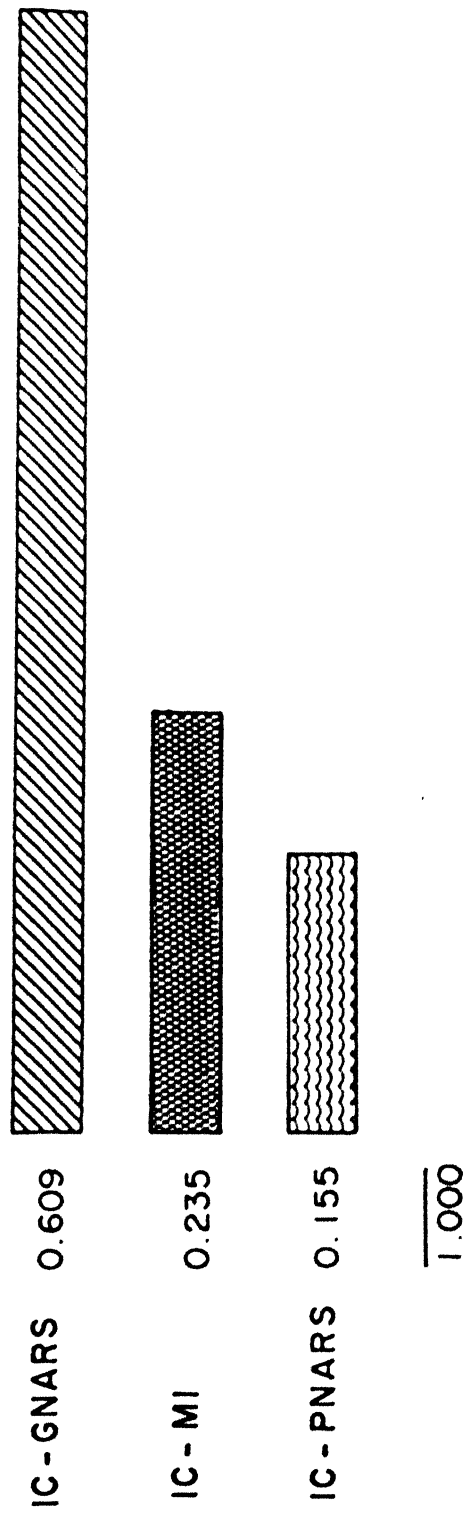
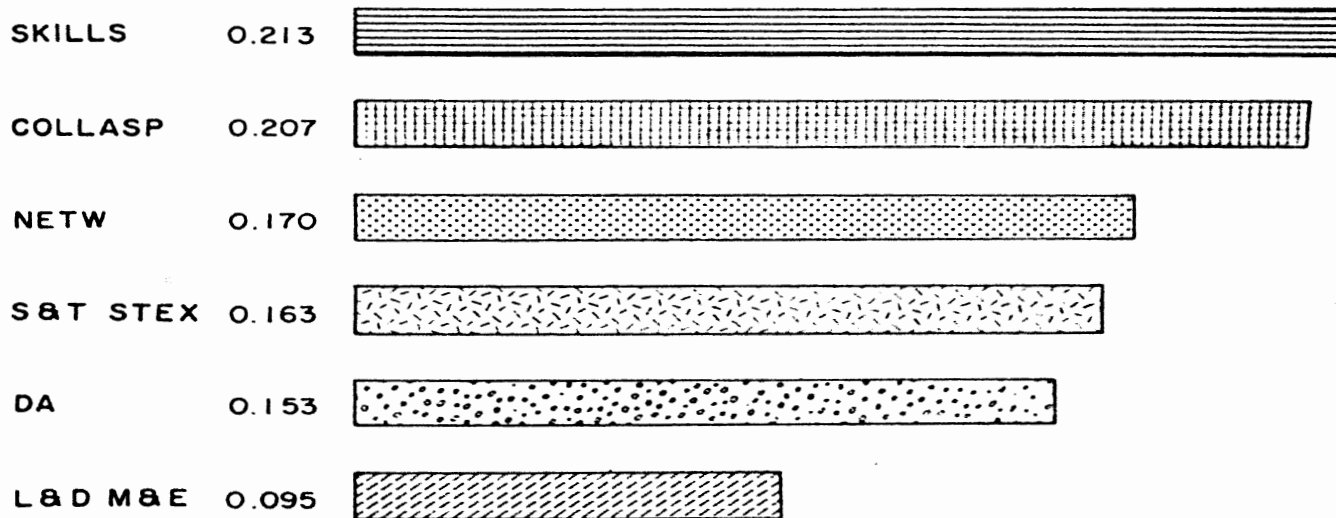


Figure 1. SYNTHESIS OF LEVEL 3 NODES WITH RESPECT TO GOAL  
BEST TC RELATIONS MIX



IC-GNARS : ICRISAT - GOVERNMENT MARS COOPERATION  
 IC-MI : ICRISAT - MENTOR INSTITUTION COOPERATION  
 IC-PNARS : ICRISAT - PRIVATE RES. INST. IN DC COOPERATION

Figure 2. SYNTHESIS OF LEVEL 4 NODES WITH RESPECT TO GOAL  
BEST TC ACTIVITY MIX



1.000

SKILLS : UPGRADING OF SKILLS  
 COLLASP : COLLABORATIVE ASSISTANCE AND SUPPORT  
 NETW : NETWORKS, VISITS, TOURS, AND WORKSHOPS  
 S&T STEX : SCIENTISTS AND TECHNICAL STAFF EXCHANGE  
 DA : DIRECT ASSISTANT  
 L&D M&E : LITERATURE AND DATA MANAGEMENT AND EXCHANGE