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Institutions, Markets, Policy and Impacts

# **Strategic Partnerships @ ICRISAT**

## ***Global Partnerships for Strategic Impact***

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**International Crops Research Institute  
for the Semi-Arid Tropics**

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### ***Abstract***

This study formally examines the intricacies of public-private partnerships at ICRISAT in order to glean from experiences how best to effectively and efficiently develop strategic partnerships that work and to build a learning module on successful partnership management for ICRISAT staff and partners.

Public-private partnerships are examined in the light of institutional behavior and lessons learned, which facilitate/impede the exchange of potential pro-poor knowledge and technology. The focus is on three key issues: (1) the rationale for forging partnerships; (2) the benefits accrued; and (3) lessons learned from ongoing partnerships to harness more successful strategic ties in the future.

Collaborations between scientists of the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) were examined, especially working linkages between and among researchers based in international, regional and national organizations spread across Asia and Sub-Saharan Africa. Data and information were obtained through web- and email-based surveys across all the regional locations of ICRISAT. The resulting analysis characterizes public-private partnerships at ICRISAT and delves into factors that contribute to their success or failure.

These findings are critical to developing a learning module on the best practices in undertaking strategic partnerships at ICRISAT.

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## Abbreviations and acronyms

AAU	: Assam Agricultural University
ADF	: African Development Foundation
ADIB	: Association pour le Développement Intégré de Bignona
AICMIP	: All India Coordinated Maize Improvement Project
AICSIP	: All India Coordinated Sorghum Improvement Project
AME	: Agriculture Man and Ecology Foundation
ANGRAU	: Acharya NG Ranga Agricultural University
AOPP	: Association des Organisations Professionnelles Paysannes
APRLP	: Andhra Pradesh Rural Livelihoods Project
APAARI	: Asia Pacific Association of Agricultural Research Institutions
ARC	: Agricultural Research Centre
ARC	: Agricultural Research Council
AREX	: Agricultural Research and Extension Services
ARI	: Advanced Research Institutes
ARS	: Agricultural Research Service
ASEFER	: Appui aux Activités Socio-Economiques des Femmes Rurales
AVRDC	: The World Vegetable Center
BAIF	: Bharatiya Agro Industries Foundation
BAR	: Bureau of Agricultural Research
BARC	: Bangladesh Agricultural Research Council
BARI	: Bangladesh Agricultural Research Institute
BAU	: Birsa Agricultural University
BHU	: Banaras Hindu University
BRAC	: Bangladesh Rural Advancement Committee
BYPASS	: Bhopal Yuwa Paryavaran Shikshan & Samajik Sansthan
CAAS	: Chinese Academy of Agricultural Sciences
CAFOD	: Catholic Agency of Overseas Development
CARE	: Cooperative for American Relief Everywhere
CARP	: Council for Agricultural Research Policy
CBARDP	: Community Based Agriculture and Rural Development Programme
CBO	: Community-based Organization
CCS HAU	: Chaudhary Charan Singh Haryana Agricultural University
CDR	: Contribution au Développement Rurale
CERASS	: Centre d'Etude Régional pour l'Amélioration de l'Adaptation à la Sécheresse
CFC	: Common Fund for Commodities
CFCRC	: Chiang Mai Field Crops Research Center
CGIAR	: Consultative Group on International Agricultural Research
CIAT	: International Center for Tropical Agriculture
CIFOR	: Center for International Forestry Research



CIMMYT	:	International Maize and Wheat Improvement Center
CIP	:	International Potato Center
CIRAD	:	Centre de cooperation internationale en recherche agronomique pour le developpement
CLIMA	:	Centre for Legumes in Mediterranean Agriculture
CNFA	:	Citizens Network for Foreign Affairs
CNRA	:	Centre National de Recherche Agronomique/National Centre for Agronomic Research
COGGO	:	Council of Grain Growers Organizations Limited
COSOP	:	Country Strategic Opportunities Programme
CPD	:	Centre for Policy Dialogue
CRIDA	:	Central Research Institute for Dryland Agriculture
CRS	:	Catholic Relief Services
CSIR	:	Council for Scientific and Industrial Research
DARTS	:	Department of Agricultural Research and Technical Services
DOA	:	Department of Agriculture
DOR	:	Directorate of Oilseeds Research
EIAR	:	Ethiopian Institute of Agricultural Research
EMBRAPA	:	Empresa Brasileira de Pesquisa Agropecuária (Brazilian Agricultural Research Corporation)
EUCORD	:	European Cooperative for Rural Development
FA	:	Farmers Association
FAO	:	Food and Agriculture Organization of the United Nations
FCRDI	:	Field Crops Research and Development Institute
FCRI	:	Field Crops Research Institute
FFA	:	Federation of Farmers Associations
FORWARD	:	Forum for Rural Welfare and Agricultural Reform for Development
GAAS	:	Guizhou Academy of Agricultural Sciences
GBPAU&T	:	Govind Ballabh Pant University of Agriculture and Technology
GFAR	:	Global Forum on Agricultural Research
GVT	:	Grameen Vikas Trust
HAU	:	Haryana Agricultural University
HKI	:	Helen Keller International
IAR	:	Institute for Agricultural Research
IARC	:	International Agricultural Research Centres
IARI	:	Indian Agricultural Research Institute
ICAR	:	Indian Council of Agricultural Research
ICARDA	:	International Center for Agricultural Research in the Dry Areas
ICBA	:	International Centre for Biosaline Research
ICRAF	:	International Centre for Research in Agroforestry

ICRISAT	:	International Crops Research Institute for the Semi-Arid Tropics
IER	:	Institute d'Economie Rurale du (Regional Agricultural Research Centre)
IFPRI	:	International Food Policy Research Institute
IIAM	:	Institute for Research in Agriculture of Mozambique
IICT	:	Indian Institute of Chemical Technology
IIIT	:	Indian Institute of Information Technology
IIPR	:	Indian Institute of Pulses Research
IIS	:	Indian Institute of Sciences
ISAR	:	Institut des Science Agronomique du Rwanda
IISS	:	International Institute for Strategic Studies
IIT	:	Indian Institute of Technology
IITA	:	International Institute of Tropical Agriculture
ILETRI	:	Indonesian Legumes and Tuber Crops Research Institute
ILRI	:	International Livestock Research Institute
INERA	:	Institut de l'Environnement et de Recherches Agricoles
INIBAP	:	International Network for the Improvement of Banana and Plantain
INRAN	:	Institut National de Recherche Agronomique du Niger
IPGRI	:	Bioversity International, formerly the International Plant Genetic Resources
IPR	:	Intellectual property rights
IRD	:	International Relief and Development
IRRI	:	International Rice Research Institute
ISABU	:	Institute of Agronomic Sciences of Burundi
ISAR	:	Institut des Sciences Agronomiques du Rwanda
ISRA	:	Institut Senegalais de Recherches Agricoles
ISRO	:	Indian Space Research Organisation
ITPGRF	:	International Treaty on Plant Genetic Resources for Food and Agriculture
IWMI	:	International Water Management Institute
JIRCAS	:	Japan International Research Center for Agricultural Sciences
JNKVV	:	Jawaharlal Nehru Krishi Vishwa Vidyalaya
JNTU	:	Jawaharlal Nehru Technological University
KARI	:	Kenya Agricultural Research Institute
KMS	:	Knowledge Management and Sharing
LCRI	:	Lake Chad Research Institute
LZARDI	:	Lake Zone Agricultural Research and Development Institute
MAU	:	Marathwada Agricultural University
MMSU	:	Mariano Marcos State University
MPKV	:	Mahatma Phule Krishi Vidyapeeth
MPUAT	:	Maharana Pratap University of Agriculture and Technology
MRS	:	Matopos Research Station
MSSRF	:	M S Swaminathan Research Foundation

MTA	: Material Transfer Agreement
NAIP	: National Agricultural Innovation Project
NARC	: Nepal Agricultural Research Council
NARES	: National Agricultural Research and Extension Systems
NARI	: National Agricultural Research Institute
NARO	: National Agricultural Research Organization
NARS	: National Agricultural Research Systems
NASARRI	: National Semi-Arid Resources Research Institute
NASFAM	: National Smallholder Farmers' Association of Malawi
NBAIM	: National Bureau of Agriculturally Important Microorganisms
NBPGR	: National Bureau of Plant Genetic Resources
NBSS&LUP	: National Bureau of Soil Survey and Land Use Planning
NCAP	: National Centre for Agricultural Economics and Policy Research
NCSU	: North Carolina State University
NGO	: nongovernmental organization
NNFU	: Namibian National Farmers Union
NPGRC	: National Plant Genetic Resources Centre
NRCPB	: National Research Centre on Plant Biotechnology
NRCS	: National Research Centre for Sorghum
NRSA	: National Remote Sensing Agency
NSTEDB	: National Science and Technology Entrepreneurship Development Board
ODI	: Overseas Development Institute
ORAP	: Organisation of Rural Associations for Progress
OUAT	: Orissa University of Agriculture & Technology
PARC	: Pakistan Agricultural Research Council
PAU	: Punjab Agricultural University
PCARRD	: Philippine Council for Agriculture and Resources Research and Development
PDKV	: Panjabrao Deshmukh Krishi Vidyapeeth
PPP	: public private partnership
PRP	: Protracted Relief Program
QDPI	: Queensland Primary Industries and Fisheries
R&D	: research and development
RAU	: Rajendra Agricultural University
SARI	: Sahelian Agricultural Research Institute
SAT	: Semi-arid tropics
SAUs	: State Agricultural Universities
SBU	: Strategic Business Units
SCRI	: Scottish Crop Research Institute
SRA	: Senegal Institute of Agricultural Research
SRI	: Stanford Research Institute

SSERC : Social Science and Environmental Research Centre  
SSIR : Social Science Research Institute  
SVVU : Sri Venkateswara Veterinary University  
TNAU : Tamilnadu Agricultural University  
UACT : Union of Farmers of the Circle of Tominian  
UAS : University of Agricultural Sciences  
UCB : Universidade Católica de Brasilia  
ULPC : Uman Locale des Producteurs de Cereales  
USDA : United States Department of Agriculture  
VAAS : Vietnam Academy of Agricultural Sciences  
WARDA : Africa Rice Center  
WASA : West Africa Seed Alliance  
WCUSS : Weaker Communities Upliftment Service Society  
WSU : Washington State University

## Introduction

International agricultural research is aimed at increasing food security and reducing poverty in developing countries. This is achieved through problem identification, research priority setting, and development of new technologies/knowledge, adaptation, dissemination, policy advocacy and capacity building. Traditional approaches that assumed a linear flow of technologies/knowledge from researchers to farmers through a public extension system failed to factor the intricate relationship between the heterogeneous actors along this continuum (Spielman 2005a).

Institutional innovations have emerged in response to the increasingly complex agenda of agricultural research. The agricultural innovation system is an integrated network of research and non-research, public and private organizations and farmers. Institutional innovation clearly has a role to play in reforming public sector agricultural research. If partnerships are to emerge as a major means of dealing with the new policy and research environment, the analytical principles of institutional learning could be crucial in designing a policy framework to foster such collaborative arrangements.

Public-private partnerships (PPPs) form the basis of potential opportunities for pro-poor agricultural research and development in developing countries. PPPs are defined as any joint effort between public and private entities in which each contributes to planning, commits resources, shares risks and benefits, and conducts activities to accomplish a mutual objective (Spielman and Grebmer 2006). PPPs are also defined as contractual arrangements between the public sector and a private sector party for efficient and effective delivery of technologies, infrastructure services or other basic services.

As pointed out by Spielman (2005b), partnerships between public research institutions, private firms, and civil society organizations offer a means of tapping the strengths of diverse actors and channeling knowledge and resources into areas where they can address complex development problems that are relevant to the needs of resource-poor farmers and food-insecure consumers. By exploiting the potential for research synergies, complementarities, scale economies and knowledge sharing among participants, partnerships can conduct more R&D initiatives, with greater chances of success, or at lower costs than public or private actors might otherwise expect when acting alone. Most importantly, public-private partnerships are valuable because they can bring private sector resources and expertise to bear on public research priorities in developing countries.

The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) is a non-profit, non-political organization that does innovative agricultural research and capacity building for sustainable development with a wide array of partners across the globe. Established in 1972, ICRISAT's mission is to help empower 600 million poor people in the semi-arid tropics (SAT) to overcome hunger, poverty and a degraded environment in the dry tropics through better agriculture (See Box 1 for ICRISAT's vision and research objectives). ICRISAT belongs to the Consortium of Centers of the Consultative Group on International Agricultural Research (CGIAR).

At ICRISAT, institutional innovations aimed at linking stakeholders for research impact include understanding and harnessing institutional arrangements that mobilize science for international development and synergizing the creative power of public sector agricultural research with the impact orientation of the private sector and civil society organizations. ICRISAT is committed to strengthening the capabilities and opportunities of developing country scientists, governments,

### **Box 1. ICRISAT Vision and Objectives**

**Vision:** ICRISAT recognizes that the participation of a range of institutions is critical to generate the required outputs to achieve shared goals. Therefore, ICRISAT's research work is closely attuned to, and integrated with partners' needs and priorities, supporting a mutual sharing of information and technology. ICRISAT has institutionalized a systematic and dynamic approach to building and maintaining strong partnerships.

**Objectives:** The threefold objectives of ICRISAT in harnessing partnerships through public-private synergy are to ensure: (a) that science at ICRISAT remains at the cutting edge; (b) that research is driven by an accurate understanding of the needs of its clients and the environment in target geographical areas; and (c) the rapid, direct and broadbased application of technical knowledge and research products in order to improve the lives of smallholder farmers, and protect the environment in the Semi-Arid Tropics (SAT) of Africa and Asia.

*Source: ICRISAT's Vision and Strategy to 2015, 2006*

civil society organizations and communities with the aim of developing innovations that will ensure food security. With persistent drought, land degradation and climate change as overarching constraints, farmers in the SAT face perennial risks in improving their productivity and livelihoods.

ICRISAT's core function of conducting research through partnerships is aimed at maintaining the highest standards of relevant research and to applying the research outputs to benefit society. Appendix 1 illustrates ICRISAT's global research themes.

This report is structured as follows. The next section describes the evolution of partnerships at ICRISAT and provides insights into ICRISAT's strategy for partnerships and the rationale for entering into them. The next section describes the survey methodology used to undertake this study followed by a discussion on the key findings and results. The lessons learned are presented next. The concluding section elucidates on how the results of the survey will be used to develop a learning module in collaboration with the institute's KMS unit.

## **Evolution of Partnerships at ICRISAT**

Collaboration lies at the heart of all ICRISAT's research. ICRISAT is committed to strengthening the capabilities and opportunities of developing country scientists, governments, civil society organizations, and communities. Its partnerships have proved invaluable both for ICRISAT and its partners. Had ICRISAT chosen to work in isolation, it would never have achieved as much as it has.

As noted by Hartwich (2007), partnership building is a dynamic process and not a static event. Referring to business partnerships between firms, public and business administration literature (Harrigan 1986, Hennart 1988, Kogut 1988, Oliver 1990 and Fernández 1999) argues that partnerships go through processes of creation and maturation involving a set of sequential steps.

Literature also identifies four phases in partnership building: the strategic decision to partner, the configuration of the partnership, the selection of partners, and the management of the partnership.

ICRISAT follows a similar line of thinking on partnership building by adhering to the three-stage framework of Hartwich (2007): the vision stage, whereby partners map their interests in the light

of existing opportunities; the action stage, whereby partners begin to collaborate and carry out joint activities; and the evolutionary stage, whereby the partnership adapts to changing realities.

This approach is very similar to the tri-sector partnership building initiative suggested by Warner (2003), which includes three phases. The first phase of partnership exploration emphasizes helping the partners to evaluate costs, benefits, and risks and conduct exploratory dialogues. This is followed by constructing the partnership, which involves building trust among the partners, communicating effectively, negotiating around common interests, developing a common vision, establishing the structure for collaboration, attributing resources and roles, and building capacity for implementation. The final phase of partnership maintenance involves measuring results and impacts, adapting to external and internal changes, and communicating to constituencies, along with furthering institutionalization and growth or phasing out.

With a mission to help the poor of the semi-arid tropics through *Science with a Human Face* and partnership-based research for development to increase agricultural productivity and food security, reduce poverty, and protect the environment in semi-arid production systems, ICRISAT's R&D efforts aim to develop new varieties and address the issue of food security. In order to ensure that the Institute's research work is well targeted and effective in meeting the needs of its clients, and that it is ultimately applied to achieve the goals of the institute, ICRISAT's Governing Board approved a policy on Technology Exchange in 1998 focusing on the development and maintenance of partnerships. This is done through collaborative research and by providing high quality, unbiased and timely information to anyone ranging from policy-makers to local communities and agriculture-related industries to research scientists.

ICRISAT recognizes that building capacity is a two-way process. While ICRISAT's partners benefit from its scientists' expertise and the tools and resources that the Institute can provide, many of its research projects benefit greatly from the skills, knowledge and ground-level experience which its partners bring to the table. If the research conducted by ICRISAT and its partners is to have real impact, then it must be widely disseminated. ICRISAT has taken a proactive approach to developing partnerships with private sector companies (including profitmaking state and national seed corporations), foundations, and trusts to jointly deal with the main constraints to agribusiness development through the identification of priorities and joint investments in key research areas. Partnerships/arrangements are developed considering the synergies and complementary expertise between ICRISAT and other sectors (both private and public) including farmer associations.

## **Strategy for Partnerships**

The Institute's operations are conducted in close collaboration with a range of partners -- both conventional {national agricultural research and extension services (NARES) and Advanced Research Institutes (ARIs)} and new arrangements {nongovernmental organizations (NGOs) and the private sector} across Africa and Asia, the national agricultural research system (NARS) being ICRISAT's most immediate and intimate partners. In coordination with NARS, ICRISAT fosters its relationships with NGOs, farmers' organizations, and private sector partners, sister CGIAR Centers, advanced research institutions, and other key partners. Donors -- more accurately described as development investors -- are also crucial partners who help define priorities and provide the means to address them. Box 2 highlights the strategy adopted by ICRISAT in its pursuit of collaborative research.

### **Box 2. ICRISAT's Partnership Strategy**

ICRISAT's strategy is to form partnerships with government, nongovernmental, and private sector organizations in developing countries, and to help link these partners to advanced research institutes worldwide. ICRISAT acts as a bridge, broker, and catalyst, articulating a vision for the future that will make a difference to the lives of people in the SAT. This it does by helping advanced research institutions adapt and deliver their novel techniques and information, and leveraging emerging technologies of the developed world to benefit those in the developing world. This type of partnership is particularly important to realize the potential of new opportunities in biotechnology and informatics, and in emerging areas such as environmental science, climate change, and Intellectual Property Rights (IPR). The increasing trend toward privatization, decentralization, and competitiveness has led to new institutional arrangements in agricultural research and development.

Four interrelated types of partnerships are prominent in ICRISAT:

**Network support and participation.** Networks provide a channel for NARS to pool their talents and resources for mutual benefit, and an efficient vehicle for technology sharing. ICRISAT acts as a catalyst and contributor of strategic inputs, such as enhanced germplasm, information and training.

**Joint research projects to tackle specific problems and development objectives.** Examples include joint missions to rescue endangered landraces and watershed-based research and impact assessment. National partners are increasingly playing a leading role in the applied aspects of these projects.

**Leveraging emerging technologies of the developed world.** This is meant to benefit those in the developing world. ICRISAT acts as a catalyst, bridge, and scientific contributor by helping advanced research institutions adapt and deliver their novel techniques and information to solve pressing problems of the SAT.

**Professional development** of national scientists to suit specific needs through research fellowships, specialized training courses, and the dissemination of information.

## **Rationale for the Survey**

How have partnerships evolved at ICRISAT in terms of actors and their roles, relationships/principles of engagement, learning and levels of success? The traditional research paradigm on which CGIAR centers have operated is one of strategic research which then gets passed on to national research systems for adaptation and eventual dissemination to farmers. There has always been the expectation of research spillovers from one region to another. The model being proposed for the CGIAR is to have a few "global centers" together with regional centers. This model is in response to perceived weaknesses associated with the existing model. ICRISAT has incorporated elements of both approaches at different times in its history. In the early 1990s, there was a strong regional element which was discarded in 1996 only to be partially reinstated. The question we need to ask is whether as an institute we are clear about the model we are pursuing and how we should realign our research agenda and management structures, among others, to ensure clarity about the direction we take.



To have a complete assessment of the current state of partnerships within ICRISAT, an electronic survey was conducted to elicit insights into the various partnerships developed at ICRISAT so far.

## Methodology

The data and information on strategic partnerships at ICRISAT was collected in two phases. In the first phase conducted in May 2008 by the KMS unit, a web-based survey was done using Question Pro. This was followed by an email survey in September 2008 by GT-IMPI and KMS. This survey was intended for all scientists and staff with projects (completed and ongoing) involving joint efforts with various institutions. The questionnaire (Appendix 2) used in this survey was targeted at 132 scientists based at ICRISAT's Asia, Eastern and Southern Africa (ESA) and West and Central Africa (WCA) locations. The response rate was very low (13.66 %) due to problems in internet connectivity, loss of files, and inability to save the file. Table 1 summarizes the response rate of the web-based survey.

**Table 1. Response from the web-based survey.**

Region	Number of scientists
Total scientists targeted across all 3 regions – Asia, ESA and WCA	132
Total responses received	18
Asia region	13
ESA region	2
WCA region	3

Source: Web-based survey on partnerships, ICRISAT 2008.

In the implementation of the second phase, an email survey was conducted by GT-IMPI and KMS, which was more successful. The survey questionnaires (Appendix 3) were designed to assemble basic information on the purpose of partnership, partners, outcomes, duration, benefits, lessons learned and best practices adopted in the PPPs. The survey was conducted among all scientists in the SAT of Asia and Africa who have completed and ongoing projects implemented through joint efforts with various collaborators. The objective was to understand the dynamics of partnerships and the benefits accrued by the parent organization. The survey also aimed at studying the lessons learned from public-private partnerships to develop a learning module for ICRISAT staff and partners on Successful Partnership Management.

## Survey Responses

The survey was conducted among all the scientists in ICRISAT (Africa and Asia regions) and information was gathered on the various partnerships developed since 2000. As seen from Table 2, the overall response to this survey was 84%. In Asia region, there was 100% response from two Global Themes i.e., GT-CI and GT-IMPI. The total response rate across the regions shows that Asia had the highest (89%), followed by ESA (79%) and WCA (76%). It was also observed that majority of respondents from Africa (ESA & WCA) belonged to GT-CI, followed by GT-IMPI.

It was also noted that the non-respondents were mostly new staff without any significant partnerships or those no longer associated with the institute during the survey period. The rate of non-response from all regions was highest from other departments (43%), followed by GT-AES

**Table 2. Response (%) to the survey conducted across all regions, by global themes, 2009.**

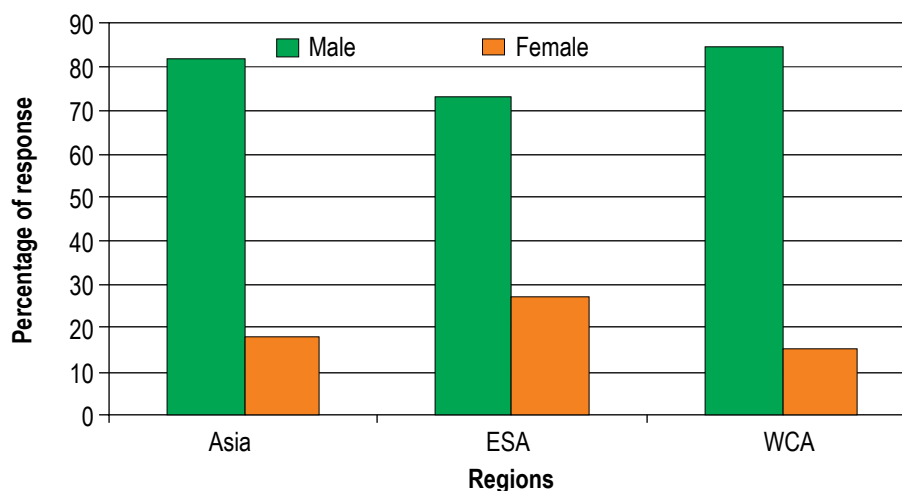
Global Themes	Asia		ESA		WCA		All regions	
	R	NR	R	NR	R	NR	R	NR
CI	56	0	21	3	18	3	95	5
BT	68	16	11	5	0	0	79	21
AES	24	33	32	8	20	8	76	24
IMPI	40	0	40	10	10	0	90	10
Others*	57	14	0	14	0	14	57	43
Total	49	6	22	6	13	4	84	16

R – Respondents; NR – Non-respondents.

\* KMS and Office of the Deputy Director General.

(24%). However in Asia, non-response was highest in GT-AES (33%), followed by GT-BT (16%) and others (14%).

From the frequency analysis (Figure 1) of gender-wise participation in the survey across regions, it was observed that 80% of the males and 20% of the females responded to the survey. Across the regions, the response from males was highest from WCA (85%) followed by Asia (82%) and ESA (73%). In the case of female respondents, ESA (27%) led, followed by Asia (18%) and WCA (15%).



*Figure 1 Frequency of responses by gender, across regions*

## Key Findings and Results

Data collected from the web-based and email-based surveys was collated and analyzed to understand the elements of public-private partnerships in the context of ICRISAT's research agenda of empowering the poor through innovative agricultural research and capacity building for sustainable development.

## Partners

Agriculture in the SAT faces gigantic challenges due to the lack of technological and institutional innovations and the unfinished transformation of subsistence agriculture. ICRISAT adopted Integrated Genetic and Natural Resource Management (IGNRM) as its overarching research strategy (see Box 3) to attain scientific excellence and relevance in agriculture in the semi-arid tropics, focusing on key livelihood and income opportunities to improve the well-being of the poor with equity, multi-disciplinarity, sustainability and community participation as core principles.

### **Box 3. Integrated Genetic and Natural Resource Management (IGNRM) – ICRISAT’s powerful integrative strategy**

IGNRM is a powerful integrative strategy of agricultural research that seeks to maximize synergies among the disciplines of biotechnology, plant breeding, agronomy, agro-ecosystems and social sciences. In pursuing IGNRM as its overall strategy, ICRISAT recognizes the need for greater focus, thematic-regional integration, and multi-stakeholder and multi-level partnerships in mobilizing science and technology for the poor.

ICRISAT’s partners include International Agricultural Research Centres (IARCs), national agricultural research systems (NARS), Advanced Research Institutes (ARIs), State universities and colleges, nongovernmental organizations (NGOs), private companies, farmers associations and Community-based Organizations (CBOs) and donors, among others. Some donors like TATA and the Bill & Melinda Gates Foundation (BMGF) have actively participated in projects. TATA, for instance, facilitated networking among stakeholders in the TATA-ICRISAT watershed project (Shambu Prasad 2006), with each partner contributing specialized skills or comparative advantages in a particular area.

Majority of the responses indicated that ICRISAT partnerships (Figure 2) are highest with the NARS (30%) followed by those with State universities and colleges (17%) and IARCs (14%), across all the regions and global themes. Further studies can be undertaken to capture the relationship dynamics to understand the perceived strength of partner relationships as well as the strength of dominant partners.

**International Agricultural Research Centres (IARCs):** IARCs are the other sister CGIAR centers such as International Rice Research Institute (IRRI), International Maize and Wheat Improvement Center (CIMMYT), International Institute of Tropical Agriculture (IITA), International Center for Tropical Agriculture (CIAT), International Potato Center (CIP), International Livestock Research Institute (ILRI), Bioversity International, formerly the

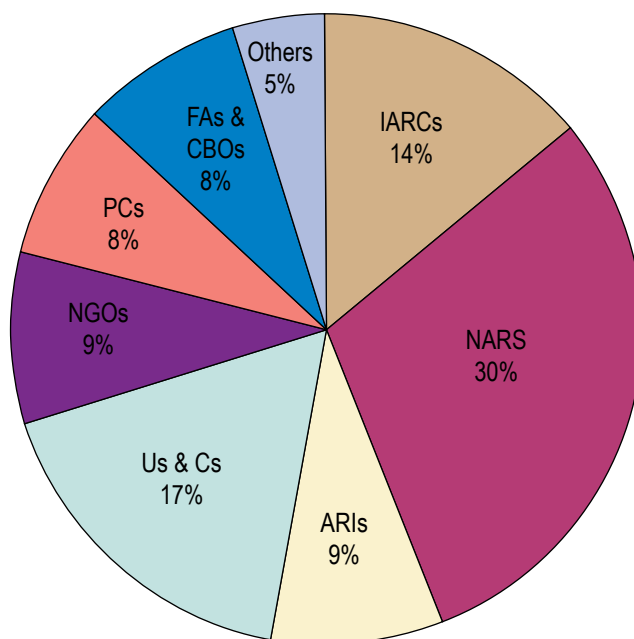


Figure 2. ICRISAT’s collaboration with various partners.

International Plant Genetic Resources Institute (IPGRI), Africa Rice Center (WARDA), International Center for Agricultural Research in the Dry Areas (ICARDA), International Food Policy Research Institute (IFPRI), World Agroforestry (ICRAF), International Water Management Institute (IWMI), International Network for the Improvement of Banana and Plantain (INIBAP) and Center for International Forestry Research (CIFOR). Responses from the survey have shown that ICRISAT has collaborations with almost all sister CGIAR centers. The partnership between ICRISAT and ICARDA is of a similar nature because both are tipping the scales in the same direction – towards the poor farmers of the semi-arid and arid areas of Asia and Africa. For example, ICARDA and ICRISAT have been working closely on chickpea research. The other international agriculture research centers involved are The World Vegetable Center (AVRDC), International Centre for Biosaline Agriculture (ICBA), Bioversity international and Council of Grain Growers Organizations Limited (COGGO).

**National agricultural research systems (NARS):** NARS and their regional fora are the most immediate and intimate partners that ICRISAT continues working with. In coordination with NARS, greater attention is also paid to relationships with universities, NGOs, farmers organizations, and private sector partners, who are often highly effective channels of technology refinement and delivery. Analysis of the survey data revealed that ICRISAT's crop improvement program has the highest number of partnerships with NARS across Asia and Africa. The list of NARS associated with the institute is presented in Table 3. It may be noted that GT-CI pursues a global approach with a regional focus. Since each region has to cater to many countries having varied agro-climatic zones, the emphasis has been on enhancing and strengthening partnerships with national programs where mandate crops are important for national food and nutritional security. Strengthening NARS crop improvement programs and capacity building of partners is a priority, especially in SSA, but also in some of the weaker NARS in Asia. As per survey results, it was clear that GT-CI has strong networking and working links with NARS partners spread across Asia and Africa.

**Advanced Research Institutes (ARIs):** ICRISAT is a small voice in an increasingly complex arena of agricultural and rural development. It is working and developing relationships not just at the community, village, district or national levels but goes beyond to harness regional and global partnerships. In pursuit of this agenda, ICRISAT also collaborates with advanced research institutes in order to enhance and update technical knowhow and to build the capacity of all stakeholders with information and knowledge sharing. This also includes the wide spectrum of poor farmers and all other stakeholders in the semi-arid tropics. Responses from the survey revealed that ICRISAT has ties with the following advanced research institutes: Centre de cooperation internationale en recherche agronomique pour le developpement (CIRAD), Indian Space Research Organisation (ISRO), National Remote Sensing Agency (NRSA), Scottish Crop Research Institute (SCRI), Japan International Research Center for Agricultural Sciences (JIRCAS), Centre for Legumes in Mediterranean Environments (CLIMA), Cornell University, Max Plank Institute, Washington University, Oxford University, University of Wisconsin, University of California, University of Georgia, Water Net Research, Indian Institute of Technology (IIT), and Indian Institute of Chemical Technology (IICT).

**State Universities and Colleges:** ICRISAT places its capacity building component on an even keel with its research. Capacity building is implemented by the Learning Systems Unit (LSU) of KMS and is the forum by which partners are kept abreast of an innovation and its up-scaling. Most often, the different learning activities become the means for honing learner-participants' skills for

**Table 3. ICRISAT's partners in the NARS, by theme and region. (Figures in parentheses indicate the frequency of responses.)**

Asia	ESA	WCA
<b>GT-Crop Improvement</b>		
AICMIP, India (2)	CRS	ARC, Nigeria
AICSIP, India (2)	DARTS, Malawi (2)	CSIR, Ghana
ARE, Tanzania (2)	EIAR, Ethiopia	IAR, Nigeria (2)
ARS, USA	IIAM, Maputo	IER, Mali (4)
BAR, Philippines	KARI, Kenya (2)	INERA, Burkina Faso (4)
BARC, Bangladesh (2)	LZARDI, Tanzania	INRAN, Niger (4)
BARI, Bangladesh	NARI, Tanzania	ISRA, Senegal (2)
BIUSDA, USA	NARS in ESA	LCRI, Nigeria (3)
CAAS, China (2)	NARS, Ethiopia	NARS, Mali
Department of Agricultural Research, Myanmar (3)	NARS, Kenya	NARS, Niger
Department of Agriculture, Andhra Pradesh, India	NARS, Malawi	
Department of Agriculture, Karnataka, India	NARS, Mali	
EMBRAPA (2)	NARS, Mozambique	
FCRDI, Sri Lanka	NARS, Niger	
FCRI, Thailand	NARS, Nigeria	
ICAR, India (9)	NARS, Tanzania	
IER, Mali (2)	SARI, Tanzania	
IIPR, India (2)		
ILETRI, Indonesia		
ISRA/CERASS, Senegal		
KARI, Kenya (4)		
MMSU, Philippines (2)		
NARC, Nepal (5)		
NARO, Uganda		
NASSARI, Uganda		
NBAIM, India		
NBPGR, India		
NCSU, USA		
NPGRC, Tanzania (2)		
NRCS, India (2)		
PARC, Pakistan		
PCARRD, Philippines (3)		
QDPI, Australia		
SRA-CNRA, Senegal		
SRI, China (2)		
UCB, Brazil		
VAAS, Vietnam (2)		
WSU, USA		

Continued...

**Table 3.** Continued.

Asia	ESA	WCA
<b>GT- Biotechnology</b>		
AICPMIP, India	ARC, Sudan	
ARI, India	EIAR, Ethiopia (2)	
BARC, Bangladesh (2)	IER & UB, Mali	
CRIDA, India	ISABU, Burundi	
Dept of Biotechnology, India	KARI, Kenya (2)	
DOR, India	LCRI, Nigeria	
EMBRAPA	NARI, Eritrea	
IARI, India	NARO, Uganda	
ICAR, India (3)		
IIPR, India		
JIRCAS, Japan		
NBPGR, India		
NRCPB, India		
NRCS, India (3)		
NBSS&LUP, India		
<b>GT- Agroecosystems</b>		
CAAS, China	AREX , Zimbabwe (2)	EIAR, Ethiopia
CRIDA, India (5)	EIAR, Ethiopia	IER, Mali
DOA, Thailand (3)	IIAM, Mozambique	INERA, Burkina Faso
GAAS, China	IISAR, Rwanda	INRAN, Niger (2)
IISS, India	KARI, Kenya	KARI, Kenya
NBPGR, India	MRS, Bulawayo	
NBSS&LUP, India	NARO, Uganda	
VAAS, Vietnam (3)		
<b>Global Theme - Institutions, Markets, Policy and Impacts</b>		
CARP, Sri Lanka	AREX, Zimbabwe	IAR, Nigeria
CFCRC/DOA, Thailand	NNFU, Namibia	IER, Mali
CPD, Bangladesh	Ministry of Agric, Department of Agric Research and Specialist Services	INRAN, Niger
CRIDA, India	ISRA, Senegal	
GAAS, China		
IIT, India		
NCAP, India (3)		
PARC, Pakistan		
VAAS, vietnam		
<b>Other departments (KMS&amp; DDG-R office)</b>		
ICAR, India		
NSTEDB, India		
Technology Development Board, India		

productive engagements. Participation in ICRISAT's learning activities paves the way for crafting 'new' partnerships and networks that help participants acquire support for joint R&D work and for their professional advancement. The list of universities and colleges with whom ICRISAT has links and collaboration is given in Table 4. The Institute has contributed to the capacity building requirements of eight regions globally. In South Asia, India has the highest number of partnerships, which is not surprising due to the Institute's proximity to agricultural universities and colleges. However, there are also collaborations with universities in USA and Germany.

**Table 4. Universities and colleges with whom ICRISAT has collaborations, by global theme and region. (Figures in parentheses indicate the frequency of responses.)**

Asia	ESA	WCA
<b>GT-Crop Improvement</b>		
ANGRAU, India (4)	ANGRAU, India	University of Georgia, USA
BAU, India	Iowa State University, USA	Iowa State University, USA
BHU, India	UAS, India	
GBPAU&T, India		
HAU, India		
JNKVV, India (2)		
MAU, India (2)		
MPKV, India		
PAU, India		
PDKV, India		
RAU, India (2)		
SAUs, Bangladesh		
SAUs, India		
SAUs, Nepal		
SVVU, India (2)		
UAS, India (5)		
University of Georgia, USA		
University of Hohenheim, Germany		
<b>GT- Biotechnology</b>		
AAU, India (2)	Kenyatta University, Kenya	
ANGRAU, India (3)	Makerere University, Uganda	
CCS HAU, India	Nairobi University, Kenya	
Devi Ahalya University, India	University of Hohenheim, Germany	
Hokkaido University, Japan		
IIIT, India		
IIS, India		
PAU, India		
TNAU, India		
UAS, India		
University of Delhi, India (2)		

Continued...

**Table 4.** Continued.

<b>Asia</b>	<b>ESA</b>	<b>WCA</b>
University of Florida		
University of Georgia, USA		
University of Western Australia, Western Australia		
Yamaguchi University, Japan		
<b>GT- Agroecosystems</b>		
ANGRAU, India	Makerere University, Uganda	Botswana College of Agriculture, Botswana
JNKVV, India (2)	Midlands State University, Zimbabwe	University of Copenhagen, Denmark
JNTU, India	Sokoine University of Agriculture, Tanzania	North West University, Potchefstroom
KhonKaen University (KKU), Thailand	Sokoine University of Agriculture, Tanzania	
MPUT, India		
UAS, India		
<b>GT- Institutions Markets Policy and Impacts</b>		
ANGRAU, India (3)	Iowa State University, USA	
Brown University, USA	University of Amsterdam, Netherlands	
Cornell University, USA		
PDKV, India		
Harvard University, USA		
OUAT, India		
Oxford University, USA		
Purdue University, USA		
TNAU, India		
UAS, India		
University of California, USA		
University of Guelph, Canada		
University of Pennsylvania, USA		
University of San Francisco		
<b>Other departments (KMS&amp; DDG Office)</b>		
TNAU, India		

**Nongovernmental Organizations (NGOs):** Publicly funded extension in many countries is under funded. The vacuum is increasingly being filled by community-based organizations (CBOs) and nongovernmental organizations (NGOs). Within the NGO sector, there is a consolidation taking place as many of the smaller NGOs have failed to achieve impact and their management structures, especially accounting and reporting, are poor. The emergence of “mega” NGOs with strong links to their countries of origin coupled with well-developed fund raising machinery and political support provide an opportunity for ICRISAT. These NGOs are hungry for new ideas but often lack the technical skills to effectively utilize their funds. Table 5 presents a list of NGOs with which ICRISAT is closely working . This list came from the survey.



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**Table 5. Nongovernmental organizations across Asia and Africa partnering with ICRISAT.**

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<b>Asia</b>	<b>Africa</b>
AME & NGOs, India	CARE; CARE International, Malawi
Centre for World Solidarity, India	Catholic Relief Services (CRS), Tanzania
FFA-Hyderabad- India, AP	CNFA, Washington, DC, USA
FORWARD, Nepal (2)	CRS, church organizations
Holy Cross Krishi Vigyan Kendra, India	HKI, Mali
Jharkhand Ram Krishna mission, India	TechnoServe, Washington, DC, USA
Grameen Vikas Trust (GVT), India	CAFOD, Harare
PROVA, India	CARE, Harare
SATHI, Nepal	CRS, Harare
Sehgal Family Foundation	Namibian National Farmers Union, Namibia
Rural Development Trust, India	Save the Children, Harare
BAIF, India (3)	National Smallholder Farmers Association of Malawi, Malawi
BYPASS, India	ORAP, Zimbabwe
Pradhan, India	PRP, Zimbabwe
WCUSS, India	The Netherlands Development Organization (SNV), Bulawayo
	CNFA, Pioneer
	ADF, Niamey
	EUCORD, Mali
	Réseau Environnement Développement Contribution au
	Développement Rural (CDR), Niamey
	Sasakawa Global, Mali
	Self, Washington, DC, USA

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**Private Companies:** The private sector is a relatively new partner of ICRISAT. National governments and donors are increasingly looking to the private sector to take over many of the roles that government has withdrawn from, but the public sector still harbors a negative attitude towards the private sector.

The relationship between ICRISAT and private sector companies, especially in India, has evolved over time. ICRISAT has trail-blazed partnerships with seed companies, foundations and trusts. In the past, ICRISAT has played a nurturing role to the fledgling seed industry and provided breeding material, often through informal networks. As private sector seed companies grew, they started to develop significant research and development capabilities of their own. ICRISAT scientists soon recognized that the Institute's traditional relationship with the national public sector, though important, was no longer the sole route to farm-level adoption of improved cultivars. The private sector, being close to the hybrid seed merchants and farmers, has a better and integrated perception of farmers' choice and needs. This realization was all the more pertinent as the succession of funding shocks in ICRISAT and other CGIAR centers were accompanied by increased scrutiny of the impact of international agricultural research. Based on this, ICRISAT recognized private sector seed companies as valuable research partners and a good source of funds for research on hybrid cultivar development and seed production. This led to the conceptualization and initiation of ICRISAT's Sorghum and Pearl Millet Hybrid Parents Research Consortia in 2000 (Table 6), the first of its kind in the entire CGIAR system. Under this arrangement, each private sector consortia member provided a small grant each year for sorghum and pearl millet research for a five-year period. This arrangement was very effective as evidenced by 18 private sector seed companies becoming consortia members for sorghum and 37 for pearl millet (Mula et al. 2007).

**Table 6. Members of ICRISAT's Sorghum and Pearl Millet Hybrid Parents Research Consortia.**

Crop	Year							
	2000	2001	2002	2003	2004	2005	2006	2007
Pearl millet	9	15	12	16	23	23	34	37
Sorghum	8	8	9	7	16	15	18	18
Pigeonpea		1	4	5	10	14	15	16
Total	17	24	25	28	49	52	67	71

The consortia funds were used to augment ICRISAT's core funds for research. A significant aspect was that the products developed with consortia grants were available freely to the public sector and to non-consortia PS companies.

It would be pertinent to examine how the different organizational cultures and structures affected the partnerships? Private companies are seen as flatter while public agencies are bureaucratic. Did these partners learn from these cultures and change their own ways of working?

**Farmer Associations and Community-based Organizations (CBOs):** ICRISAT has had partnerships with farmer organizations through NARS, for the transfer of technology which is seen as a link between ICRISAT and farmers. Publicly-funded extension in many countries is under-funded with the lacuna increasingly being filled by Farmer Associations (FAs) and CBOs. Table 7 reveals the FAs involved in collaboration with ICRISAT since 2000, such as the Farmers Federation of Andhra Pradesh, India; Farmers Associations from China, Vietnam and Thailand in Asia; M S Swaminathan Research Foundation (MSSRF); Adarsha Mahila Samaikhya, India; NASFAM in ESA and AOPP, Mali; CBARDP, Nigeria; and Farmers Associations in Niamey, Niger, and Mali in WCA.

### **Legal agreement among partners**

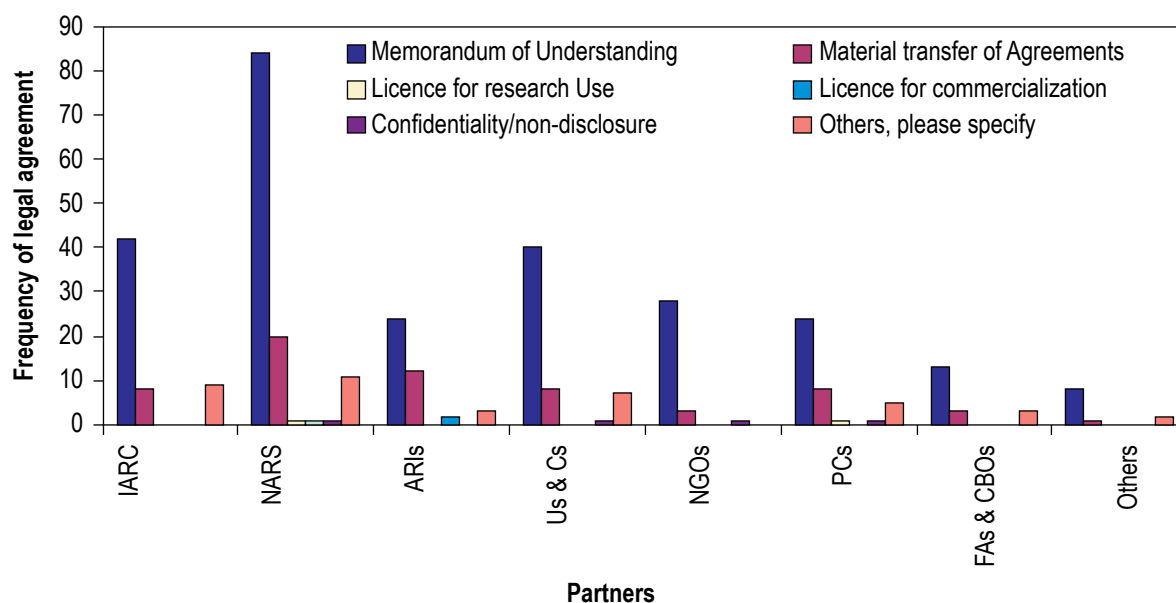
Feedback from the survey suggests that the Memorandum of Understanding (MoU) was the most common legal agreement (70%) while the material transfer agreement (MTA), license agreements and confidentiality agreements were not preferred in the context of public-private partnerships (Figure 3). Even though material transfer and licensing agreements do allow for intellectual property exchanges and the promotion of open research, the value placed on technologies held by the private sector and on exclusive research resources held in trust by the public sector, generate secrecy (or nondisclosure) rather than openness, thereby affecting the exchange of both knowledge and materials.

### **Duration of partnerships**

Majority of the partnerships across the regions and global themes lasted between half a year and five years (Table 8). It was opined that in general, short-term PPPs were associated with scientific exchanges with IARCs, NARS and universities and colleges, while the long-term PPPs were linked to the NARS and exclusively involved technology transfer (such as in the community watershed

**Table 7. Farmer Associations and Community-based Organizations partnering with ICRISAT, across Asia and Africa. (Figures in parentheses indicate the frequency of responses.)**

Asia	Africa
Farmers Federation of Andhra Pradesh, India (3)	NASFAM, Malawi (3)
Krishi Vigyan Kendra- Ambejogai-Beed district, India	17 Farmers' groups from Burundi, Ethiopia, Kenya, Lesotho, Malawi, Mauritius, Rwanda, Sudan, Tanzania, Uganda and Zambia
Location-specific farmers help groups identified by NARES partners in India, Nepal and Bangladesh	AOPP, Mali (2)
Village Panchayat, Farmers Self-Help Groups	CBARDP, Nigeria
Heishan County Farmers Association, China	FA, Mooriben
Beijing County Farmers Association, China	FA, Niamey
Farmers Association, Suphanburi, Thailand	FA, Niger
Farmers Association, Kanchnaburi, Thailand	FA, Fuma Gaskiya
Farmers Associations in China	FA, Maradi
Farmers Associations in Thailand	FA, Niger
Council of Grain Growers Organizations Limited (COGGO), Australia	ULPC, Dioloa, Mali
Benchmark watersheds in China	UACT, Tominian, Mali
Benchmark watersheds in Vietnam	Appui aux Activités Socio-Economiques des Femmes Rurales (ASEFER), Niamey
Benchmark watersheds in Thailand	ADIB
Benchmark watersheds in India (AP, Rajasthan, MP, etc)	Farmer cooperatives, Yelou, Gaya
Self-help Groups and Village Panchayats in 6 villages (Aurepalle and Dokur in Andhra Pradesh and Kanzara, Kinkheda, Shirapur and Kalman in Maharashtra)	
M S Swaminathan Research Foundation	
Adarsha Mahila Samaikhya	



*Figure 3. Types of legal agreements among the partners and their frequency.*

**Table 8. Duration of partnerships at ICRISAT.**

Duration of partnerships (years)	Frequency	Percent
0.5-5	188	67
6-10	42	15
11-15	8	3
16-20	8	3
21-25	5	2
26-30	4	1
Long term	16	6
Variable	8	3
Total	279	100

projects). Partnerships in watershed activities are mainly with NGOs and have demonstrated the need for ICRISAT to accommodate asymmetrical power equations, to learn to listen to partners more closely and to value their expertise (Shambu Prasad et al. 2006).

Furthermore, based on experiences with watershed projects (Wani et al. 2008), the need was felt for common guidelines with a single effective national and state mechanism for coordination and the transition from a subsistence to a business model by establishing market links and public-private partnerships. A comprehensive assessment (CA) of watershed programs in India was undertaken by a consortium of institutions led by ICRISAT. The CA undertook macro- and micro-level studies, detailed analyses of secondary data and detailed case studies covering different ecologies, watershed projects, implementing agencies, and watershed approaches covering pan-India studies. The main findings indicate that watershed programs in India are silently revolutionizing rainfed areas and could become growth engines for inclusive and sustainable development of vast dryland areas. However, lack of adequate institutional support is impeding the tapping of potential benefits associated with these programs (Joshi et al 2005).

### **Purpose of partnerships**

Detailed findings in the survey revealed that the motivation for partnerships was to conduct basic/strategic research (21%), followed by the need to network to develop value chains (16%). Though ICRISAT's core function is to conduct research, demonstrating research impacts is equally crucial.

Partnership development efforts have been very strong and successful in some specific locations and projects. ICRISAT is directly involved with networks in all regions (Asia, WCA, and ESA), which provide a readymade structure with identified partners, and are optimally utilized to ensure effective partnerships.

### **Immediate goals of partnerships**

With respect to the goals of entering into partnerships, survey responses revealed that capacity strengthening (24%) and dissemination of research outputs to the poor (22%) closely followed by fostering innovations were reasons. ICRISAT is committed to strengthening the capabilities and opportunities of developing country scientists, governments, civil society organizations and

communities with the ultimate aim to develop new varieties and tackle the issue of food security. Its collaborative research has been successful in providing high quality, unbiased and timely information to everyone from policy-makers to local communities and from agriculture-related industries to research scientists. Thus, the survey findings confirm that PPPs at ICRISAT are mostly concentrated in two main areas, ie, strengthening capacity to further the centre’s research through pro-poor product development in technologies relating to crop production and value addition and accessing knowledge for fostering innovations from the private sector.

## Major reasons for forging partnerships

The survey responses on the status of partnerships revealed that majority (84%) of the projects involved ongoing ones (since 2000) and only 16% were completed projects. The important reasons and major benefits achieved from partnerships were classified and prioritized across regions and global themes. The most prominent reason for forging partnerships with varied partners such as IARCs, NARS, ARIs universities and colleges, NGOs, FAs & CBOs was capacity building/strengthening, irrespective of the global themes or regions (Table 9).

**Table 9. Major reasons cited for forging partnerships across regions.**

Major reasons	Asia	ESA	WCA
Capacity building/strengthening	22	16	4
Funding	15	4	2
Transfer of technology	4	3	1
Enhanced outreach to target clientele	14	3	2
Strengthening strategic networks	12	3	4
Greater dissemination of research outputs to the poor	8	2	1

This was followed by reasons such as wanting to improve funding for research, transfer of technologies beyond traditional boundaries, increased outreach to benefit clientele across regions, strengthening strategic networks to reach relevant facilitators and benefitting the poor by dissemination and out-scaling improved technology.

**Global Theme on Crop Improvement:** In the Global Theme on Crop Improvement in Asia, the prime reasons respondents cited for forging partnerships were to facilitate exchange of germplasm and on-farm conservation and utilization of plant genetic resources, diversity in agro-ecological sites for validating technology, to obtain access to new breeding materials, adaptive resource management and applied research, basic and strategic research, pooling regional innovations, experiences and expertise for the benefit of the farming community and to generate technologies to address production constraints.

In ESA, the main motivation was to enhance the visibility of ICRISAT’s research through enhanced outreach to the target group in order to serve as a good platform for technology dissemination. Another reason was to reduce duplication in research efforts. For example, NASFAM in Malawi has a competent extension service; hence ICRISAT does not have to create one in order to reach more farmers with new technologies. Complementarity in expertise and sharing of facilities that reduce research costs were the prominent reasons for forging partnerships.

In WCA, respondents emphasized the importance of partnerships to develop the commercial seed industry, to promote entrepreneurship and to provide political support for harmonization of

seed trade regulations at the regional level, especially to implement the West Africa Seed Alliance (WASA) with NARS for improved research efficiency and better impact potential. The strong reasons for forging partnerships in WCA were availability of NARS, recruitment of local expertise for specific purposes, different cropping systems and socioeconomic situations. The reasons for the partnerships with ARIs/universities were the supervision of students, the need to be a part of blue sky research that is not priority/does not get funding easily through ICRISAT, and the use of complementarities to implement WASA. In the case of CBOs, FAs and NGOs, increased outreach to beneficiaries was the main reason for collaboration; so were promotion of seed of non-mandate crops of ICRISAT in partnership with other CG centers regional cooperation, enhanced breeding efficiency and test precision and stakeholder buy-in.

**Global Theme on Biotechnology:** In Asia, the main reasons (frequency indicated in parentheses) for forging partnerships were as follows: Sharing knowledge, resources and funding which results in cost optimization in the long run (17); Enhanced outreach and dissemination of technological innovations to potential users (8); Strengthening strategic networks to reach relevant facilitators and benefit the poor; and (10) collaboration and innovation in socially and mutually beneficial areas of research.

In interdisciplinary areas, collaboration with different partners is the key for the expertise and perspectives they can bring. This is especially exemplified when it comes to the analysis of high throughput data generated as a result of modern biology (3).

In ESA, strategic use of available resources (finances, expertise, and facilities), building of synergies and capitalizing on different competitive advantages leading to value addition to ICRISAT's research activities were observed to be the major reasons for forging partnerships.

**Global Theme on Agroecosystems:** In Asia, scientists from GT-AES emphasized that the main reasons for forging partnerships were to out scale research, improve networking, share knowledge, resources and funding and complementing expertise.

However in SSA, apart from these reasons, expertise in water resource management and intensive research on water productivity figured prominently.

**Global Theme on Institutions, Markets, Policy and Impacts & Knowledge Management and Sharing:** Fostering innovations in social science research and development and sharing knowledge, resources and funding to enhance the impact of research results were the main reasons cited for forging partnerships in GT-IMPI across all regions. KMS – Asia emphasized that apart from capacity building, sharing of knowledge, resources and funding and enhanced outreach, the collaborations provide new opportunities to develop new networks with potential stakeholders.

### **Major benefits from collaborating**

The major benefits (frequency in parentheses) that accrued from ICRISAT's collaboration with various partners across all the global themes and regions were:

- Sharing of knowledge, expertise and resources (financial, human and physical) and capacity building (183)
- Enhanced research efficiency through networking (68); and
- Greater dissemination of research outputs and outreach to the target group (63);

Based on the survey responses, the benefits and lessons learned from collaborating with various partners are classified and discussed against each partner across all the global themes, in Asia and Africa.

### International Agricultural Research Centers (IARCs)

Lessons learned from International Agricultural Research Centers varied across regions and global themes as per their research priorities and goals.

**Global Theme on Crop Improvement:** Table 10 presents the most important elements of successful collaboration cited to carry out the research goals and objectives. The IARC partners in Asia are mainly AVRDC, Challenge Program (CP) on Biofortification, CIAT, CIMMYT, CIP, IRRI, Bioversity, ILRI, ICARDA, DFID/DAWA, COGGO, ICRISAT, IFPRI; International Center for Biosaline Agriculture (IQBA), Dubai; ICRAF; ART, Zurich, Switzerland; USDA, USA; CSIRO, Australia; and MMSU, Philippines. The IARCs partners with GT-CI in ESA are mainly IITA, CIAT and ILRI. Unpredictable funding was observed to be the shortcoming affecting ties with IARCs. The IARC partners in WCA are CIMMYT, IFPRI, WARDA, IITA and AVRDC.

**Table 10. Lessons learned from IARCs in the Global Theme on Crop Improvement. (Frequency of responses are indicated in parentheses)**

Asia	Utility of core competencies (2)
	Research congruency (3)
	Transparency (2)
	Continuous flow of communication (2)
	Mutual respect and trust among partners (2)
ESA	Clear definition of roles and responsibilities of partners (2)
	Prior positive experiences (2)
	Project execution (1)
WCA	Inconsistent funding among partners (1)

**Global Theme on Biotechnology:** The survey revealed that the Global Theme on Biotechnology in Asia learned the following from IARCs :

- how to handle bureaucratic delays; avoid duplication of work
- ways to tap common goals and interests; and about multidisciplinary and mutual understanding among partners.

The global theme's IARC partners in Asia are CIMMYT, ICARDA, IFPRI, CIAT, IRRI and CIP. General willingness to cooperate and carry out projects was the lesson learned by collaborating with IARCs in ESA, of which IITA, Nairobi, is the collaborator.

**Global Theme on Agroecosystems:** The survey revealed that the global theme's ties with IARCs in Asia led to the learning of the following lessons:

- Selection of partners
- Participatory planning
- Institutional mechanism

- Technical backstopping Consortium approach leads to holistic and successful attainment of research goals and objectives.

The global theme's partners in Asia are CIP, ILRI and IWMI. With respect to ESA, partnering with IARCs enhanced local expertise; hence the need for greater collaboration with them. However, inconsistent and limited funding among the partners hindered collaboration. GT-AES in ESA is presently collaborating with ILRI, IWMI, CIMMYT and ICRAF. In WCA, achieving research impacts through synergies with IARCs appears constructive but high transaction costs are a hindrance. The major partners collaborating with GT-AES in WCA are CIAT, ICRAF and ILRI.

**Global Theme on Institutions, Markets, Policy and Impacts:** GT-IMPI observed that partnering with IARCs in Asia led to delays in project commencement, hampering the delivery of outputs. The major IARC partners with GT-IMPI are CIAT, IITA, IFPRI and the World Bank. In ESA, clearly defined team responsibilities, efficient project management under an able leadership along with controlled performance deadlines were observed to be the lessons learned by collaborating with IARCs.

Apart from the global themes, other departments in Asia partnering with IARCs need to have transparent dealings, overall coordination and appropriate fund allocation for human resources. The IARC partners include CIAT, IITA, IIAM, IWMI, ILRI, IFPRI and ICT-KM.

## **National Agricultural Research Systems (NARS)**

The positive as well as negative lessons learned from ties with the NARS across global themes and regions provide a snapshot of the intricacies of partnerships, thereby aiding in enhancing future ties.

**Global Theme on Crop Improvement:** Across all the regions in GT-CI, transparency in dealings figured very prominently with respect to ties with NARS. In Asia, NARS partners' commitment and involvement, mutual understanding, sharing and respect were cited as major reasons for greater research efficiency. Also, the emphasis was on meaningful participatory monitoring and evaluation systems and maintaining effective coordination and communication among project partners. The partnership with NARS also highlighted the lack of research focus, poor communication, more of paper planning and less of ground level work and greater interest in technology development than delivery.

NARS partners with whom the organization is collaborating in Asia are AICMIP, AICSIP, IIPR, ICAR, NBAIM, NRCS, and the Department of Agriculture, Karnataka (India), BARI (Bangladesh), CAAS, SRI and CFCRI, NARC (Nepal), BAR and MMSU (Philippines), Department of Agricultural Research (Myanmar), QDPI (Australia), KARI (Kenya), ISRA/CERAAS (Senegal), NPGRC and ARE (Tanzania), VAAS (Vietnam), NASARRI (Uganda), EMBRAPA and NARO (Uganda), UCB (Brazil), SRA-CNRA (Senegal), IER (Mali) and NCSU and USDA/ARS/WSU (USA).

In ESA, training and capacity building of NARS, proper planning, monitoring and evaluation procedures, and the equitable sharing of all resources were cited as reasons for enhanced research outputs. The NARS partners in ESA mainly consist of the Department of Agricultural Research Services. Chitedze Agricultural Research Station (Malawi); EIAR (Addis Ababa); KARI (Nairobi); DARTS (Malawi); LZARDI, NARI and SARI (Tanzania); IIAM (Maputo); NARS (Mali, Niger, Ethiopia, Kenya, Malawi and Mozambique).



In WCA, the major NARS partners are IAR (Nigeria), IER (Mali), INERA (Burkina Faso), INRAN (Niger), ISRA (Senegal); and the NARS (Mali & Niger), CSIR (Ghana), LCRI and ARC (Nigeria). The lessons learned by GT-CI in partnership with NARS emphasized on training and capacity building along with transparent project management practices. The high turnover of national staff in WCA led to discontinuity in collaborative work, which proved to be a major drawback of partnering with NARS in this region.

**Global Theme on Biotechnology:** With respect to GT-BT's NARS partners in Asia, the lessons learned highlighted positive aspects such as:

- Access to local regional research
- Provision of multidisciplinary teams
- Selection of partners with expertise and mutual understanding and
- Minimizing bureaucratic transaction costs.

Partnership with NARS proved fruitful in the long run. Common research goals and objectives figured prominently while choosing partners. The major drawbacks observed were the delay in funding and poor carryover of research outputs. The NARS partners from Asia are ARS (Gulbarga), CRIDA (Hyderabad), DBT (Andhra Pradesh), EMBRAPA, IARI, NRCS, NRCPB, DOR, NBPGR, ICAR, BARC and IIPR (India) and JIRCAS (Japan). The need for constant communication and follow-up for feedback from NARS partners were indicated as lessons learned by GT-BT from ESA. The partners from ESA are EIAR (Ethiopia), KARI (Kenya), ARC (Sudan), IER and UB (Mali), NARO (Uganda), ISAR (Rwanda), ISABU (Burundi) and Lake Chad Research Institute (Nigeria).

**Global Theme on Agroecosystems:** The lessons learned by GT-AES Asia from NARS partners pertained to capacity building and synergies to enhance knowledge generation and learning.

However, working with NARS has a multiplier effect on achieving project goals; sometimes their responsibilities would be pursued by the parent organization leading to passive partners. The major partners in Asia are CRIDA, ICAR-NBSS & LUP and NBPGR, (India); GAAS and CAAS (China); DOA (Thailand), and VAAS (Vietnam).

In ESA, the lessons learned from NARS partners led to a good understanding of how NARS work and the economic, bureaucratic and physical limitations in assigning responsibilities that match with their strengths and weaknesses. It was revealed that it is possible to simultaneously do regional-level research across several countries with identical methodology if the research teams are trained together and the TOR is developed in participatory forums. Researches teams can also be tapped to peer review each other through participatory M&E and thus improve the quality of research deliverables. Researchers (particularly NARS) need to learn to talk the right language (eg. risk management) to attract private sector support. The survey revealed an important issue -- NARS are suspicious of the private sector due to the latter's profit motive, while they themselves have a culture of not wanting to share knowledge (organizational silos). Researchers from NARS require motivation and also compensation for their time, for timely and serious delivery of services. In ESA, the NARS partners are the Agricultural Research and Extension Department and AREX (Zimbabwe), EIAR (Ethiopia), IIAM (Mozambique), ISAR (Rwanda), KARI (Kenya), and NARO (Uganda).

In WCA, clearly defined roles and responsibilities of the partners was emphasized upon for achieving research outputs. GT-AES' partners in WCA are IER (Mali) and INRAN, EIAR, INERA and KARI (Kenya).

**Global Theme on Institutions, Markets, Policy and Impacts:** The response from GT-IMPI in Asia emphasized the high transaction cost, time and resources for capacity building/training and the close supervision and flexibility in running joint collaborative projects. While the advantages of working with the NARS, particularly for advocating policy changes needed for the development of SAT agriculture were highlighted, delays and the lack of rigor in the studies implemented by the partners were also mentioned. The major partners involved in some of the collaborative projects in GT-IMPI in Asia are NCAP and CRIDA (India), CPD (Bangladesh), CARP (Sri Lanka), GAAS (China), PARC (Pakistan), VAAS (Vietnam) and CFCRC (Thailand).

The provision of financial support to complement limited baseline funding and capacity strengthening in planning, implementation and evaluation of projects were observed to be the lessons learned by GT-IMPI in ESA. The major partners in this region are AREX and ARS (Matopos) and the Ministry of Agriculture and NNFU (Namibia). In WCA, collaborating with the NARS led to difficulties in dealing with partners not necessarily focused on the work. The NARS partners in WCA included IAR, IER, INRAN and ISRA.

### **Advanced Research Institutes (ARIs)**

Table 11 presents the lessons learned across different themes from forging partnerships with ARIs in both Asia and Africa.

**Global Theme on Crop Improvement:** It was observed that GT-CI in Asia, ESA and WCA is collaborating with various ARI partners, namely CLIMA and the University of Western Australia (Australia), National Resources Institute (UK), Scottish Crop Research Institute (UK), National Institute of Nutrition (NIN) and the Indian Institute of Chemical Technology (India), Wageningen University (The Netherlands), CASS (China), CIRAD (France), and the University of Hohenheim (Germany). Across the three regions, focus on core competencies, training and capacity building of ARI partners was highlighted.

**Global Theme on Biotechnology:** In Asia region, GT-BT highlighted that partnering with ARIs leads to access to germplasm and newer techniques along with better visibility of ICRISAT research in international fora. At the same time it felt the necessity to generate more genomic resources in a shorter time and offer quick scientific solutions to a problem with the help of a multidisciplinary team.

**Global Theme on Agro ecosystems:** The global theme on GT-AES across Asia and ESA revealed that collaborating with ARIs provides a flow of new ideas and technologies to ICRISAT, further enhancing its capacity to help NARS. In ESA, clarity on data and information sharing were considered a prerequisite to avoid future conflicts.

**Global Theme on Institutions, Markets, Policy and Impacts:** In Asia, GT-IMPI highlighted the need for time and resources for capacity building/training to partner with ARIs. Also, collaborating with a well-known researcher provides avenues appealing to development investors. While it considered the demands of ARIs and its students quite taxing, it also learned the importance of creating a rapport with partners, especially ARIs, before project commencement through participation in scoping meetings, inception workshops and launch meetings.

**Table 11. Lessons learned from partnerships with Advanced Research Institutes across Asia and Africa.**

	Crop Improvement	Biotechnology	Agroecosystem	Institutions, Markets, Policy and Impacts	Other departments
Asia	Basic and applied research work should go hand in hand	Tap win-win opportunities where very little chance of mission overlap	Flow of new ideas and technologies to ICRISAT to further enhance our capacity to help NARS	Provision of time and resources for capacity building/training	Clarity required in roles in joint resource mobilization
	Focus must be on the use of core competencies of partners	Greater access to germplasm	New areas of collaboration start developing with time with the establishment of rapport	Provides the needed help in appealing to donors. But the demands of ARIs and its students are quite taxing.	
	Partners need better training in report preparation and data presentation	More access to newer techniques		MoU should be comprehensive with flexibility in operations related to the joint project	
	Tremendous progress can be achieved if we can tap the right scientists in ARIs	Provides better propaganda for ICRISAT research			
		Provides better visibility in international fora Greater contacts with scientists in the area of research Partnership necessary for generating more genomic resources in a short time Needs less time with focused efforts to develop action-based, mutually beneficial objectives. Can yield faster results. Partnership is good to solve a scientific problem as it provides multidisciplinary teams Sharing knowledge and how to share credit Some (ARIs/ NARS) are averse to repeated signing of the SMTA for the same thing			
ESA	Activities with ARIs can be tagged to capacity building in order to maximize benefits		Clarity on data and information sharing is a prerequisite to avoid future conflicts		
WCA	Need to make more communication available before project commencement as ARIs may not be aware of available human capacity in the region		Researchers (particularly NARES) need to learn to talk the right language (eg. risk management) to attract private sector support and be less suspicious of the profit motive Need for better joint planning to ensure that synergies are better exploited		

## State Universities and Colleges (Us & Cs)

The lessons learned from partnerships with state universities and colleges (Us & Cs) across the global themes and regions reveal that capacity building and training with clearly defined roles and responsibilities enabled ICRISAT to achieve desired results from projects. Table 12 highlights the lessons learned by ICRISAT in its partnership with different institutions/organizations.

**Global Theme on Crop Improvement:** In GT-CI in Asia, clarity on roles and responsibilities among partners, capacity building and training, meaningful participatory monitoring and evaluation systems, maintaining effective coordination and communication, use of core competencies of partners, developing mutually beneficial objectives, implementation of effective needs assessment and proportionate resource allocation and the involvement of relevant persons committed to the project were pointers towards improving research efficiency. The counterparts from ESA and WCA highlighted a positive working relationship and clearly defined roles and responsibilities of partners, respectively.

**Global Theme on Biotechnology:** In Asia region, GT-BT highlighted that easier dissemination of information, appropriate funding and a multidisciplinary approach were the positive features, while low accountability and a hierarchical approach often discouraged tie-ups with Us &Cs.

**Global Theme on Agroecosystems:** The global theme on GT-AES across Asia and WCA revealed that collaborating with Us & Cs provides young scientists with new lines of work and acts as a link between academic training and applied research.

**Global Theme on Institutions, Markets, Policy and Impacts:** GT-IMPI from Asia found the following drawbacks in collaborating with Us & Cs-complacency of partners, lack of accountability and the allocation of finance/budget. In ESA region, the requirement for capacity building in research methods and theoretical work was highlighted. The other departments in Asia pitched for greater priority to clarity on matters of Intellectual Property.

## Non-governmental Organizations (NGOs)

**Global Theme on Crop Improvement:** This Global Theme in Asia revealed the need to carefully select NGOs with strong commitment, clearly define roles and responsibilities of partners, ensure effective coordination, use core competencies of partners and ensure an efficient monitoring and evaluation system to ensure project sustainability. Also, appropriate resource allocation and structured training programs to meet the objectives need emphasis.

Across ESA, the need for a clear definition of roles and responsibilities within partnerships was observed. The need for creativity in enlightening partners about the usefulness of doing research within development projects, and engaging at least two NGOs to guard against one departing at short notice was also felt.

It was observed that NGOs are good implementing partners in reaching farmers through both research and social interventions due to their highly competent extension networks and positive experiences that can be expanded in future.

The Global Theme's experience across WCA revealed that collaborating with NGOs and CBOs that have their own technicians, staff, budget and infrastructure has great potential, provided ICRISAT enables these institutions to do research in the direction of their development goals.

**Table 12. Lessons learned across all the regions and global themes from partnerships with state universities and colleges.**

Global Themes	Crop Improvement	Biotechnology	Agroecosystems	Institutions, Markets, Policy and Impacts	Others
ASIA	Brings in clarity of roles and responsibilities among partners	Easier dissemination of information	Much more younger people start taking interest in new lines of work	Accountability	Upfront clarity on IP matters
	Can be guided for progress with synergistic effects	Easiest if you can find ways to provide funding to cover costs incurred by partners, from budget held by ICRISAT. Otherwise funds are often not available for the agreed work		Partners' budget may have to be finalized in consultation with them during project proposal	
	Capacity building can be better handled with a decentralized training program	Partnership is good to solve a scientific problem as this provides multidisciplinary teams		Harmonization of methodologies and reporting may have to be done well in advance of the implementation of the project	
	Employing meaningful participatory monitoring and evaluation systems and maintaining effective coordination and communication among project partners	Traditionally slow moving organizations due to accountability & hierarchical issues. Need to carefully identify feasible tasks and show patience to see outcomes.		Cost reduction possible by collaborating with a local university for conducting field work. But there are delays and inefficiencies arising from the complacency of partners.	
	Ensuring elements of sustainability in project interventions from the beginning	Very difficult to work without making many compromises			
	Focus on the use of core competencies of partners				
	Focused efforts to develop mutually beneficial objectives can yield quicker results				
	Implement effective needs assessment and proportionate resource allocation for expected end results in the project and complement coalition structure with flexibility				
	Involve relevant persons committed to the project				
	Know more about administrative procedures and scientist commitment				
	More discussion among implementing scientists				
	Need to develop planned and quick common ground for short, medium and long terms				
	Promote strong partnerships by (a) building trust among partners and (b) providing sufficient start-up time for planning				
ESA	Training is required for data analysis and report preparation				
	Positive working relationship that will be expanded				Capacity building in research methods and theoretical work
WCA	Partners from universities and colleges tend to work on basic science and are generally not as constrained by time for basic research as are ICRISAT scientists. It is very important to make sure that time spent on collaboration with these partners is well defined, that there is clear time allocation for ICRISAT scientists, and that these are part of any agreement with universities and colleges. ICRISAT scientists could be involved more in education at the universities (not only as supervisors of students).		Link better academic training to applied research		

This requires ICRISAT to provide training, material and processes that facilitate simultaneous and interactive extension and collection of data.

**Global Theme on Agroecosystems:** In the Asia region, the efforts of GT-AES in collaborating with NGOs highlighted participatory planning and implementation and technical backstopping through the consortium approach. However, emphasis on staff training and assistance are necessary for better project execution. In addition, communication was highlighted as an important aspect of collaborating with NGOs.

**Global Theme on Institutions, Markets, Policy and Impacts:** GT-IMPI in Asia believes that capacity building and proper planning and resource allocation are essential in forging successful partnerships with NGOs.

Its experience in ESA highlighted the need for regular performance control and deadlines with more emphasis on decision-making by the management committee and the need for best methods to be adopted to serve resource-poor communities.

### **Private Companies (PCs)**

Collaboration with private companies across Asia by GT-CI revealed that strong partnerships can be promoted by building trust among partners and providing sufficient startup time for planning. Also, private sector companies can help move on-the-shelf technologies to the field as they have the needed infrastructure. However, clarity on budget sharing and IPR-related issues, focus on technology development, provision of complementary expertise and resources need emphases while collaborating with PCs. Across Asia, GT-BT found that collaboration with PCs needs to be realistic and flexible. Selection of appropriate partners, ensuring financial viability, enhancing capabilities and constant communication are the elements of a successful partnership. There is need for a more proactive approach to working with the private sector. The objectives need to be aligned with the private sector over and above intangible socially relevant benefits. The time needed to market an output is of significant importance too. There is a long lag period before these collaborations begin to bear fruit. Confidence building with private companies is essential for collaboration and takes time. GT-AES' collaborative experience across Asia with PCs revealed the need to minimize exploitation by the companies for greater commitment and trust complementarities in expertise and the necessity to exploit expertise and complementarities for strengthening relation, between PCs and farmers resulting in successful partnerships. The lessons learned by GT-IMPI in collaborating with PCs and others were to build in business model and convince the private sector of the long-term benefits to society and profits to it, without unequal distribution of legal resources.

### **Farmer Associations and Community-based Organizations (FAs and CBOs)**

In Asia, GT-CI emphasized the need for clarity of roles and responsibilities among partners, meaningful and participatory monitoring and evaluation systems, effective coordination and communication among project partners, infusing elements of sustainability in project interventions from the beginning, focus on the use of partners' core competencies, effective needs assessment and proportionate resource allocation for expected end results and to achieve a complementary coalition structure with flexibility involvement of farmers and their associations at different stages

of the project patience and perseverance promotion of strong partnerships by building trust among partners and providing sufficient start-up time for planning time to nurture principles of beneficial association

Across ESA in GT-CI, farmer organizations/associations were found to be mainly interested in financial benefits to their members. Hence joint activities need to be tied to income generation to get their full support. Provision to train farmers to participate in research activities and collaborate with different groups is needed to overcome farmer fatigue.

Across GT-AES, enabling policies and institutional mechanisms for managing natural resources collectively are possible by working in partnership with various institutions and stakeholders such as NARS, ARIs, agricultural universities, government line departments and with NGOs and farmers. Participatory planning and implementation of watershed research and development requires local institutions to take up collective actions, which are critical in the attainment of project objectives. Technical backstopping involving a convergence and consortium approach with multiple institutions as partners could provide a holistic solution, which requires the deployment of multifaceted expertise for the benefit of the rural poor. Across GT-AES, farmer involvement in research and development has yielded the most realistic results. But there is a need to allow for uncertainties, especially in rainfed agriculture which is highly risky. GT-IMPI found that farmers in the ESA region are resilient, and in every success story there were layers of frustration beneath. More direct support, coordination and facilitation are needed while collaborating with FAs and CBOs in GT-IMPI.

Across the global themes GT-CI and GT-AES in WCA, NGOs and CBOs that have their own technicians, staff, budget and infrastructure have greater potential for forging good partnerships with ICRISAT, provided ICRISAT enables these institutions to do research in line with their development goals. This requires ICRISAT to provide training, material and processes that facilitate simultaneous and interactive extension and collection of data. Also, farmers have good ideas and need to be heard.

## **Other Organizations**

The lessons learned by collaborating with other organizations showed that focus on the use of partners' core competencies and incentive mechanisms to be built into the project.

## **Difficulties Encountered**

To elicit information on the difficulties encountered, the following question was asked: "Were difficulties encountered during the management and execution of the activities involved in the partnership? [ ] Yes [ ] No; If yes, what were they? (Please identify the most critical ones)". On the whole, across all regions and global themes, 68% responded positively and 32% negatively (Figure 4). The most common difficulties encountered during project management and execution are listed in Table 13.

An afterthought based on the above findings is to explore how the difficulties encountered can be handled and managed within the cultural context across regions.

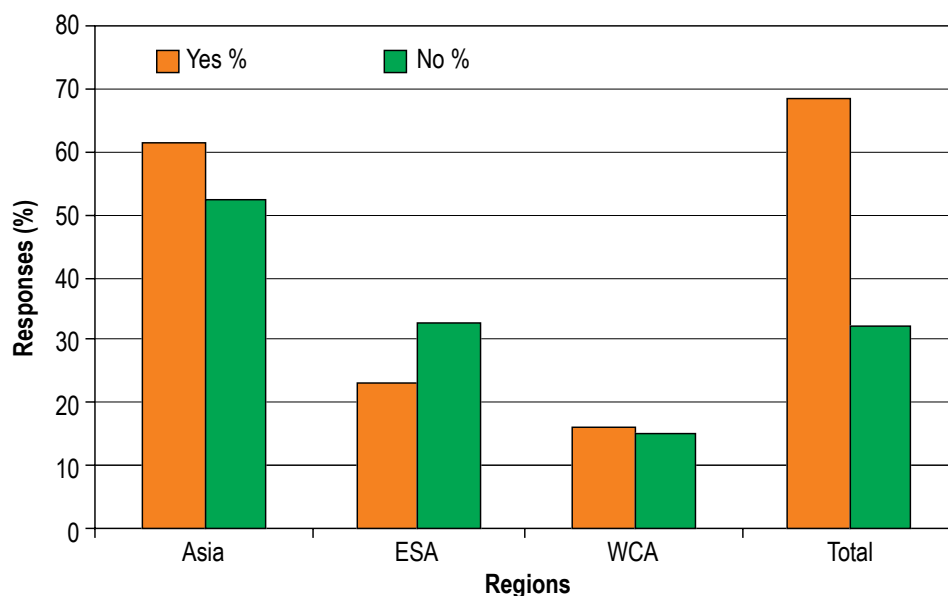


Figure 4. Percentage of positive and negative responses elicited on difficulties encountered in partnerships

**Table 13. Difficulties encountered in forging partnerships, by region.**

Difficulties during partnerships	Asia	ESA	WCA
High transaction costs	1	3	2
Lack of harmonization of methodologies and reporting	2	1	1
High turnover of project staff	3	2	1
Difficulty in coordination and meeting deadlines for technical reports, budget expenditures	8	2	4
Bureaucratic burden	4	2	1
Lack of transparency	2	1	1
Partners' noncompliance with output deadlines	5	2	1
Lack of clarity on distribution of benefits and ownership of outcomes	4	5	2
Lack of clear commitment from partners	7	1	2
Financial and technical accountability	8	6	1
Different organizational cultures	5	2	1
Lack of infrastructure and resources among partners	2	3	4
Difficulty in defining roles and responsibilities	4	4	1
Conflict of institutional paradigms with partners	3	2	1
Lack of professionalism in partners	2	1	1
Difficulty in sustaining the efforts of institutional collaboration with coalition partners on a long-term basis	8	1	1
Different objective functions of partners: eg, profit vs nonprofit motives	8	1	1



## **Role of Structured Board**

The survey found that 52% of the projects with partnerships across Asia and Africa covering all global themes had appropriately structured Boards or decision-making forums mainly comprising of advisory committees, steering committees, coordination and management committees and planning and review committees. However, in practice these committees rarely contributed significantly and their implementation varied according to the type of partnership. A majority (73%) of the partnership projects had an agreement on the distribution of benefits from the project. These agreements were mostly included in MoUs (46%) followed by other types of agreement (25%) and material transfer agreements (16%).

## **Lessons Learned from Specific Collaborative Case Study Initiatives at ICRISAT**

ICRISAT has developed over 60 partnerships involving over 20 technology exchanges through NARS across Asia and Africa. An examination of existing public-private partnerships in ICRISAT reveals that partnerships have concentrated on development of pro-poor technologies and products relating to crop production and value addition, and on transfer of knowledge and technology from the private sector to further scientific research. However, the partnerships have been constrained by competition and risk associated with intellectual assets and financial resources. Some of the lessons learned by ICRISAT from its PPP are illustrated below.

### **The Farmer Comes First**

This motto has driven the long-standing association between ICRISAT and its various partners to jointly build a future where poverty, hunger and environmental degradation no longer haunt farmers living in the semi-arid tropics. One such example of PPP is the Virtual Academy for the Semi-Arid Tropics (VASAT), which is an effort to carry crop information to the farming community and extension personnel (Box 4). This collaboration has empowered villagers to cope with drought through open distance learning. It has also developed off-farm knowledge and skills for viable livelihood opportunities. VASAT builds on experience gained from the ICRISAT-piloted project at

#### ***Box 4. Virtual Academy for the Semi-Arid Tropics (VASAT)***

This is a strategic coalition for information, communication and capacity building. It operates in South Asia and West and Central Africa in partnership with the Desert Margins Program (DMP). VASAT links and mobilizes stakeholders for drought mitigation in the semi-arid tropics. It is an innovative and cost-effective medium to educate and support a critical mass of rural women and men spread across vast geographical areas by informing them about drought and desertification. A number of private sector initiatives that use information technology for rural development are active partners in South Asia, and corporate foundations are partners in West and Central Africa.

One of the components of VASAT is an information-based program to combat drought and mitigate its impact. This is implemented in partnership with Adarsha Mahila Samakhya (AMS, or Women's Welfare Organization) in Addakal. AMS is a federation of all-women microcredit groups with about 5200 members in 37 villages. It has taken up work addressing an array of development issues concerning rural households. The role of ICRISAT and VASAT partners lies in providing capacity strengthening support and technical advice (Sreedhar et al. 2009).

Adakkal village in Andhra Pradesh (AP). Pilot rural hubs have been set up with support from the Andhra Pradesh Rural Livelihoods Program (APRLP).

### Commercializing Technology to Help Farmers in the SAT.

The Agri-Science Park (ASP) was set up in December 2003 as a flagship initiative of ICRISAT. It acts as the umbrella for all partnership-related work done in order to integrate the approach into one framework. ASP is the means by which ICRISAT commercializes technology to help farmers in the SAT. The integrated Strategic Business Units (SBUs) of the Agri-Science Park @ ICRISAT (See framework) include:

- Ag-biotech Innovation Center (AIC)
- Agri-Business Incubator (ABI)
- Hybrid Parents Research Consortium (HPRC)
- Bio-products Research Consortium (BRC)
- SAT Eco-Venture
- NutriPlus Knowledge Center (NutriPlus)

The entities within ASP undertake collaborative research with private, public and government institutions. Partners belong to this consortium, fund ICRISAT with annual grants, mainly toward research on hybrid parents of sorghum, pearl millet and pigeonpea. Member partners of these consortia have access to the research expertise and products of ICRISAT. The ASP’s mission is to be the hub for public-private partnerships that enhance the development and commercialization of science-generated technologies and knowledge through market mechanisms to ultimately benefit the poorest of the poor.

The Ag-biotech Innovation Center is a wider platform for already established agricultural companies to set up their own R&D facilities within ASP. ASP gives access to common facilities and exclusivity to operate. The Government of Andhra Pradesh supports its development of infrastructure through R&D funds.

The Agri-Business Incubator facilitates the creation of competencies through technology development and commercialization (Boxes 5 and 6). It also provides:

- Technology consultancy: This involves the transfer of agriculture know how from research findings of ICRISAT or from its national and international partners.
- Business facilitation: This includes pre-feasibility studies, project appraisals, market research and technoeconomic feasibility studies. It also assists by networking with bankers, venture capitalists and bureaucrats, and facilitates entrepreneurs’ participation in events and trade shows.



Figure 5: Framework of Agri-Science Park

### **Box 5. Creating Competitive Agri-enterprises through ABI**

In December 2002, ICRISAT joined hands with the National Science and Technology Entrepreneurship Development Board (NSTEDB) of the Department of Science & Technology (DST) of the Government of India to develop an Agri-Business Incubator (ABI) at ICRISAT-Patancheru under the Technology Business Incubators Scheme of DST. The ABI mission is to facilitate creation of competitive agri-business enterprises through technology development and commercialization. Within a short span, ABI has emerged as a champion in incubating several technologies and enterprises, such as the use of sweet sorghum for ethanol production, Bt cotton, Bio Fermi BTA Fermentor, popularization and release of groundnut variety ICGV 1114, popularization of chickpea varieties JG 11 and KAK 2 among farmers of Andhra Pradesh, and organic farming. The Agri-Business Incubator helps new entrepreneurs/enterprises with handholding services starting from business conceptualization to implementation and scaling up. It is up to the entrepreneur/enterprise to choose the kind of service required. Last six years of its establishment, ABI-ICRISAT has commercialized 10 technologies of high impact benefitting more than 40,000 farmers in India, incubated 108 ventures that include 17 companies and 61 small-scale seed entrepreneurs and other co-business incubatees and innovators. Key services include business mentorship, business plan preparation, statutory support and common facilities. ABI is recipient of the prestigious AABI (Asian Association of Business Incubator) Award for the year 2008 and the national award for Best Business Incubator for 2005 from the Government of India. ABI-ICRISAT was adjudged by Villgro as the best initiative.

### **Box 6. An Example of Commercialization of Enterprises: Bioproducts Research Consortium (BRC)**

A dialogue with the private sector biopesticide industry in India in 2004 resulted in the endorsement of the Biopesticides Research Consortium from January 2005 with ten member companies as partners. In Jan 2007, it was renamed Bioproducts Research Consortium to widen its scope. BRC currently has 11 private companies as members supporting research. It is meant to develop, promote and commercialize the use of biopesticides, growth promoters and bio-fertilizers by farmers. It is also meant to develop, promote and commercialize the use of bioproducts developed at ICRISAT, and will promote agricultural practices that enable low-cost protection of crops. The private sector partners will produce and market bioproducts that require elaborate skills and technical facilities. Some research outputs, eg, extracts of botanicals, can be prepared and sold locally. A model facility run by two women was set up in Kothapally village in Ranga Reddy district of Andhra Pradesh state in India in 2006. These women sell the products to interested farmers.

- **Training:** This initiative organizes entrepreneurship programs, skill upgrades and business management training courses.

**Infrastructure and facilities:** These consist of office space, greenhouses, fully equipped dry and wet labs, agriculture lands, conference halls, cafeteria and dormitories.

NutriPlus Knowledge Center is a platform for R&D and innovations in food processing with focus on cereals, legumes, fruits/vegetables and medicinal and aromatic plants. The verticals for applied research are nutraceuticals, fortified foods, flavors and fragrances, phytochemicals, functional foods, functional beverages, food additives and color bio-actives and enzymes, post-harvest management and bio-products. NutriPlus is a US \$ 6 million project being funded by the governments of Andhra Pradesh and India. NutriPlus already has three interested partners waiting to commence R&D activities.

## **Dealing with Multiple Crop Stresses**

Chickpea research at ICRISAT and ICARDA deals with five major stresses, which together cause annual losses of over US \$2 billion. Because chickpea is generally cultivated on residual moisture under rainfed conditions, one of ICRISAT's most significant achievements has been the development of short-duration varieties that escape terminal drought. ICCV 2 or Swetha, the first *kabuli* variety ever released in peninsular India, is the world's shortest-duration variety, maturing in only 85-90 days. Significantly, chickpea cultivation has expanded in tropical Andhra Pradesh state: in 1986 only 60,000 ha were sown to the crop but by 2007 this had expanded to 630,000 ha. Productivity too has increased enormously – from 260 tons ha<sup>-1</sup> in 1986 to 912,000 tons ha<sup>-1</sup> in 2007. The significance of this increase is worth underscoring. Andhra Pradesh, long considered outside the chickpea area, now boasts productivity 25% higher than the national average.

A study conducted in three districts in the state indicated that improved chickpea varieties occupy one-third of the total chickpea area in those districts, and that farmers who had adopted these varieties obtained an additional net income of \$55 ha<sup>-1</sup> over farmers who had persisted with the traditional variety. Taken together, these increases in both hectarage and productivity in the state have led to a 20-fold increase in production since 1986. Improved varieties have also become popular in the states of Maharashtra, Gujarat, Karnataka and Madhya Pradesh. A study conducted in five districts of Maharashtra revealed that improved chickpeas occupy nearly 40% of the total area, and that adoption has given poor farmers an additional net income of \$80 ha<sup>-1</sup>.

## **Strategic Partnerships in Research for Development of Macro- and Micro-level Assessments for Informed Research Priorities**

An exemplar of innovative partnership between ICRISAT's GT-IMPI and the National Centre for Agricultural Economics and Policy Research (NCAP) in delivering *Science with a Human Face* won the 2007 CGIAR award for the best collaborative team. This outstanding partnership in social science and policy research capitalized on the core competencies and comparative advantages of each institution and evolved a joint working arrangement that catalyzed important initiatives benefiting the regional and international community in furthering CGIAR's goals. By forging strategic partnerships in research, NCAP and GT-IMPI linked macro- and micro-level assessments for informed research priorities in the region, fostered open communication and institutional learning, and successfully provided a platform for a policy dialogue with key stakeholders. Among the notable achievements of this proactive synergy are: a vision for rainfed agriculture in Asia, synthesis of lessons learned from the regional impact of agricultural R&D and technology uptake research, NARS capacity strengthening in the region, and targeting for scaling-up and scaling-out. The impressive accomplishments of this partnership demonstrated high quality science and innovations in social science research. This partnership has proved to be an invaluable model in harnessing wider partnerships nationally and internationally (See Box 7).

## **Boosting the Voices of the Poor through a Coordinated, Goal-oriented, Demand-driven Program of Research on Longitudinal Panel Data**

ICRISAT's village-level studies (VLS) drew expertise worldwide from CGIAR, ARIs, think tanks, universities and NARS in planning and conducting extensive consultations with key stakeholders and experts. The joint Scoping and Review Meetings provided an effective forum for addressing

### **Box 7. Strategic Partnerships in Research for Development**

The mechanism of collaboration: The challenges posed by food insecurity and poverty as well as globalization and market liberalization for farmers in the SAT call for sustained partnerships in agricultural research and development to address an expanding poverty agenda. Collaboration involves the active pursuit of new arrangements to meet this challenge. ICRISAT and NCAP have come together since the early 1990s to forge new initiatives capitalizing on their core competencies and comparative advantages. Since then, sustained collaboration has actively been pursued in ICAR-ICRISAT joint project development and planning meetings where joint projects are approved and scientist time and financial commitments are agreed upon. Following on the formal agreements, ICRISAT and NCAP economists maintain close contacts through e-consultations, social scientists' network, systemwide initiatives, annual stakeholder workshops, joint partnerships through regional fora [eg, Asia Pacific Association of Agricultural Research Institutions (APAARI)] and Global Forum on Agricultural Research (GFAR)) and development of joint reports and policy briefs.

Regular interactions among scientists from ICRISAT and NCAP provide an opportunity to share key research findings and develop joint proposals of common interest as they sharpen their focus on how to best inform the future research direction of the Institute in particular and the future of rainfed agriculture in the semi-arid tropics of India. Regular meetings of economists are held to discuss the focus of social science activities and special project opportunities. The strategic assessments and studies on poverty dynamics, development pathways and growth opportunities in SAT agriculture will inform and provide strategic direction on and prioritization of research issues.

Advantages of the partnership: Capitalizing on the core competency and comparative advantages of each institute at the national, regional and international levels, joint partnerships have catalyzed important initiatives benefiting the Asian region. These include visioning on rainfed agriculture; serving as focal points to facilitate dialogues and interaction among stakeholders, including social scientists, biological and natural resource management scientists, NARES, SAUs, NGOs and the private sector; strengthening NARS capacity in India and the rest of Asia particularly on priority setting and impact assessment; preparing joint project proposals; database development (district-level database, village-level data, impacts data, etc); facilitation of Social Science Information Repository (SSIR); organizing joint workshops and training and finally, joint publications – books, book chapters, policy briefs, posters and journal articles.

The collaborative strategic assessments of rural poverty in the Indian SAT were undertaken with partners in the Indian NARS [including NGOs and the Andhra Pradesh Rural Livelihoods Project (APRLP)] and the Overseas Development Institute (ODI) for the Country Strategic Opportunities (COSOP) studies. Findings from this study have significantly influenced the priorities of development investors (eg, IFAD). The new IFAD strategy to support the marginalized regions of the semi-arid tropics has thus translated into additional funding support to the CGIAR. Also, under the National Agricultural Innovations Project (NAIP) of the Government of India, innovative projects targeting the semi-arid tropics, particularly tribal groups and women, are now encouraged under its livelihoods improvement components.

The joint collaboration provides:

- Guidance on strategic issues, obtained through consultations with key stakeholders
- Vision for rainfed agriculture in Asia to set medium- and long-term research agenda
- Synergies for sharing with policymakers, donors and other stakeholders the vast knowledge that ICRISAT and ICAR has generated over the years
- A synthesis of lessons learned from the regional impact of agricultural R&D and technology uptake research
- Targeting agricultural research for poverty alleviation and gender equity in the SAT
- An assessment of agricultural research impacts and spillover impacts
- Strengthening NARS capacity through SSIR.

important methodological and operational issues in establishing high quality longitudinal panel data for evidence-based decision making. Critical discussions focused on methodologies, analytical frameworks and approaches for generating longitudinal panel databases (survey design, sampling and stratification procedures, design of instruments), and operational issues relating to site selection, common data protocol, database management and dissemination.

Together with the multi-agency VLS team, a desk review was undertaken of existing household panel data and the international best practices in collecting them. Key partners from relevant government departments and agencies were involved to help identify data that could be used to build a micro and macro perspective on rural village economies. In other words, the skills, the state-of-the-art knowledge on village-level studies and the available resources necessary to achieve the objectives were identified, along with the needed partnerships, the required tasks, and the roles and responsibilities of different partners in establishing a multigenerational long-term database for South Asia.

The successful development of the full project proposal was the result of a good interaction and feedback process with the reviewers identified to evaluate the draft project proposal. This included researchers with expertise on VLS-type studies: Jim Ryan, Hans Binswanger-Mkhize, Mark Rosenzweig and Jere Behrman. Other international experts participated directly or indirectly at some stage from concept discussions to feedback processes. Linkages were also established with other initiatives on large household sample surveys, ie, (a) Living Standards Measurement Survey by the World Bank; (b) Large sample surveys in Tamil Nadu; and (c) NCAER large sample surveys.

Ultimately, the scoping study effectively helped in setting up the essential building blocks and a systematic detailed plan for developing and implementing a full project proposal titled “Tracking change in rural poverty in household and village economies in South Asia.” The proposal developed a coordinated, goal-oriented, and demand-driven program of research on longitudinal panel data for evidence-based decision making in partnership with ICRISAT and IRRI, NCAP/ICAR of India, CPD, Bangladesh Rural Advancement Committee (BRAC) and SocioConsult of Bangladesh, national agricultural research systems, along with other VLS stakeholders from advanced research institutes, think tanks, universities, and NGOs in both developed and developing regions.

### **Linking Small-scale Sorghum and Pearl Millet Producers to Processors through Innovative Market Linkage Models**

ICRISAT along with local partners implemented a project on “Enhanced utilization of sorghum and pearl millet grains in the poultry feed industry to improve livelihoods of small-scale farmers in Asia” funded by the Common Fund for Commodities (CFC) in India, China and Thailand. A new concept of backward and forward linkages involving the bulk marketing of grain through farmers’ associations was evolved and implemented through the project. To facilitate production and marketing of produce, it became crucial to establish direct linkages between farmers, input suppliers, credit agencies and grain processors such as poultry feed manufacturers.

Drawing insights from various supply-chain innovations and features associated with marketing grain for poultry feed, bulk marketing has been suggested as the best supply chain modification. The modified and enhanced supply chain eliminates many conventional middlemen by directly linking farmers with processors or bulk buyers. As bulk marketing ensures an assured supply of

quality produce at reasonable prices, buyers come in direct contact with farmers and state their quality requirements for the produce, which farmers try to achieve. Without middlemen, transaction costs are cut, paving the way for better profits for buyers. The benefits of bulk marketing directly accrue to farmers and enhance their income, thereby fulfilling the goal of increasing income of small-scale sorghum and pearl millet farmers.

### **ICRISAT-Private Sector Sweet Sorghum-Ethanol Research Consortium (SSERC)**

The ICRISAT-Private Sector Sweet Sorghum-Ethanol Research Consortium has been established at ICRISAT to meet current and future demand of sweet sorghum-based ethanol distillery units. Its overall goal is to strengthen sweet sorghum research at ICRISAT and its partners to improve the livelihood options of smallholder farmers in the SAT.

### **Enhancing Grain Legumes' Productivity and Production and the Incomes of Poor Farmers in Drought-prone Areas of Sub-Saharan Africa and South Asia**

The purpose of this project is to enhance the productivity of select legume crops (bean, chickpea, cowpea, groundnut, pigeonpea and soybean) in drought-prone areas of sub-Saharan Africa and South Asia, principally through the use of improved crop cultivars. Three CGIAR Centers and national research scientists from 10 countries are collaborating in this project that involves developing cultivars tolerant to drought and major pests and diseases using modern plant breeding techniques such as marker-aided selection and developing sustainable seed production and delivery systems that enhance access to improved legume varieties for resource-poor farmers.

Social science research is used to analyze and provide advice concerning the social and cultural environments that influence the sustainable adoption and spread of promising varieties, technologies and innovations and the scaling-up and scaling-out work done amongst farm communities. Social science inputs also support research developments in breeding through a feedback process and policy dialogue, and by identifying lessons learnt for technology dissemination. Ensuring capacity building and infrastructure development among national program partners involved in breeding and seed delivery systems is a major activity in order to ensure the sustainability of legume breeding efforts in the project countries.

Objective 1 of the project deals with the need to target crop breeding and seed delivery mechanisms to enhance the project's impacts on the livelihoods of the poor in sub-Saharan Africa and South Asia. This is achieved by assessing the role and potential impacts of improved legume cultivars, determining research priorities and establishing a project monitoring and evaluation framework. Developing and strengthening formal and informal seed production and delivery systems in order to ensure that good quality seed of improved cultivars that farmers prefer is available to, and can be accessed by poor farmers in drought-prone regions is another common objective. Linkages are established with other seed systems projects in these regions, such as PASS initiatives, to avoid duplication of effort and enhance efficiencies.

The project's targeting and impact strategy employs the commodity chain approach and is strongly oriented towards the full range of clients. It is supported by feedback provided by participatory diagnosis of constraints. Lessons learned from elsewhere show that an end-user focus must be included in production-based activities if sustainable impact of improved legume varieties is to be

achieved. The elements of this approach include: (a) analysis of constraints and work to identify intervention strategies in the context of holistic value chain approaches – with such work being supported by participatory work with stakeholders; baseline surveys and *ex-ante* impact studies; (b) technology adaptation and adoption, and analysis of uptake pathways and impacts; and (c) scaling-up and scaling-out to draw out valuable lessons and develop mechanisms that can be used to increase adoption and impact.

The project's variety development strategy will take advantage of existing improved germplasm in the short term through participatory varietal selection (PVS). At the same time, new segregating populations will be developed and selected for tolerance to drought and resistance to accompanying biotic constraints. This will be complemented by a seed delivery strategy that will emphasize decentralized, pro-poor seed production and delivery systems. A diverse array of seed system components, as well as different combinations of components, will be tested through action research designed to identify the most appropriate seed delivery options for specific contexts. Promotion of value-added processing and storage facilities, as well as the stimulation of explicit market links, are part of this strategy. All these activities are carried out in partnership with scientists from the national agricultural research systems (NARS) in the project countries. An important component of the project is capacity building addressing both research and product development infrastructure and human resource development within the ten target countries.

### **Improving Seed Access for the Poor through the Hybrid Parents Seed Research Consortium (HPRC)**

HPRC is an initiative under the Agri-Science Park @ ICRISAT, that was launched with the basic objective of increasing the scope of accessibility to better hybrids for poor farmers through effective public-private partnerships. Before HPRC existed, ICRISAT's breeding programs were largely restricted to supplying nurseries to public research institutes. The recognition of the private sector as a valuable research-for-development partner led to the formation of the Sorghum and Pearl Millet Hybrid Parents Research Consortia in 2000, the first of its kind in the entire CGIAR system (Gowda et al. 2003). HPRC currently consists of three crops: sorghum, pearl millet and pigeonpea. This arrangement has been very effective as evidenced by 46 private sector seed companies becoming consortia members for sorghum, pearl millet and pigeonpea with some companies being common for more than one crop. A significant aspect of HPRC was that the products and information generated from consortia grants remain in the domain of IPG and hence are available freely to public sector organizations around the world. Consortia private seed companies also have access to these products and information. Besides providing research grants, the seed companies also contribute to ICRISAT's various activities ranging from research planning to impact assessment.

This consortia arrangement, conceived and implemented by ICRISAT to exploit the complementary expertise of the Institute and private seed companies (PSCs), has hastened the pace and enhanced the scale of impacts of crop cultivars developed based on intermediate products, specifically hybrid parents. While ICRISAT has a proven record of developing and delivering improved hybrid parents of the three crops mentioned, PSCs have better knowledge of farmers' requirements as well as in developing/delivering improved finished products (hybrids) (Mula et al. 2007).



## **Improving Rural Livelihoods through the Watershed Development Consortium**

In order to increase incomes and improve the livelihoods of dryland farmers and landless people in Asia, ICRISAT, NARS and NGOs together developed an innovative farmer-participatory consortium model for integrated watershed development (Wani et al. 2003). The model builds on the strengths of the consortium partners, tangible economic benefits, equity, empowerment and a participatory approach to achieve its objectives while at the same time minimizing land degradation and protecting the environment. The consortium has been expanded to include public and private enterprises to provide forward and backward linkages to increase rural incomes and empowerment opportunities and enhance production.

The ICRISAT-led watershed consortium entered a partnership in four areas to augment funding for research to achieve accelerated/improved incomes and livelihoods for resource-poor farmers through: (a) scaling-up an innovative participatory consortium; (b) facilitating the cultivation and processing of medicinal and aromatic plants; (c) production of biodiesel; and (d) strengthening private sector research to serve farmers.

## **The Secret to Successful Partnerships: Best Practices**

From the survey responses, the following were identified as the best practices for adopting successful partnerships across all global themes spread over Asia and Africa.

**Transparency:** Transparency in the process and dealings with partners and appropriate sharing of resources was highlighted as a best practice in the survey responses. So was flexibility in dealings and openness to suggestions and criticism among partners, which would lead to healthy and sustainable partnerships.

**Communication and coordination:** These two components are of high significance for the success of partnerships. As emerged from the survey responses, regular and frequent meetings, joint interactions, joint decision making and sharing experiences (positive and negative), promoting community participation right from the planning stage and involving it in implementation, monitoring and evaluation by enhancing the community's capacity for long-term sustainability are necessary. Employing meaningful participatory monitoring and evaluation systems that are understood by partners and mechanisms for maintaining effective coordination and communication among project partners for impact are essential too.

**Mutual understanding, respect and trust among partners:** This involves honoring commitment, fostering respect, trust, inclusiveness and openness among partners. Open and upfront discussions on areas of mutual interest and concerns are also necessary.

**Roles and responsibilities of partners:** Clearly defined roles and responsibilities of partners will ensure long-term partnerships. Clarity in approach, better planning, exchange visits and troubleshooting mechanisms are necessary.

**Supervision:** Project activities need to be supervised at each center for timely scientific and administrative contributions.

**Delivery of outputs:** Ensuring timely delivery of outputs and responding to queries immediately are equally important. Clear understanding of project activities/tasks to be completed by each partner is essential.

**Agreements:** Memoranda of agreement for every project are more desirable than material transfer of agreement, which have to be signed repeatedly, especially in GT-BT. Preagreement plans are required prior to initiation of projects to finalize agreements.

**Major outcomes of partnerships:** From the survey responses across regions and global themes, it was observed that the major outcomes of partnerships for the parent organization were training and specific capacity improvement (33%) followed by enhancement of the organizational image (27%) and new technology (21%).

ICRISAT's structural and functional framework places it in a unique and advantageous position to conduct high quality research, and hasten the pace of technology development and information delivery. For example, its partnerships with the private and public sectors have had significant impacts on developing and disseminating large sets of hybrid parents which have greatly contributed to the development and marketing of improved hybrids and varieties in Asia.

The popularity of private sector hybrids, most of which are based on ICRISAT-developed parental lines or their derivatives, has triggered seed production activity in several villages in India. Livelihoods and the environment in these villages (roads, temples and new houses) got better as a result of higher income accruing from hybrid seed production. This makes for a proven record of productive working relationships with both public and private sector research and development organizations, nationally and globally. Most importantly, training and national capacity building programs have ensured that developing world agricultural research systems are not left behind.

**Future research collaborations:** A majority of the survey responses indicated that to increase the capacity of research collaborators for future collaborations, exchange of visits (18%) followed by training of key staff (16%) and long-term commitments (15%) were essential across Asia and Africa covering all global themes and departments of the Institute.

## **Evaluation of Partnerships and Learning Module on Partnerships**

About 85% of the respondents in the survey said there was no formal partnership evaluation while 15% indicated formal partnership evaluation. However, in contrast, the need for a learning module on successful partnership management was expressed by a majority (75%) of the survey respondents with 15% negating it. The summarized responses indicated a need for the following elements in making a learning module for successful partnership management:

- Elements of successful partnerships
- Case studies of partnerships
- Benefits from partnerships
- Scales and diversity of partnerships.

## **Conclusions**

ICRISAT was the first institution among the 15 international agricultural research centers under the Consultative Group on International Agricultural Research (CGIAR) to initiate partnerships with the private sector. This initiative has yielded successful results benefiting poor and marginal farmers in the semi-arid tropics.

Findings from this survey indicate that PPPs in the ICRISAT are serving a wide variety of research objectives, ranging from the center's traditional emphasis on increasing food security by increasing yield and output, to new pathways, such as value-chain development, by which to reduce poverty. PPPs in ICRISAT have concentrated on the development of pro-poor technologies and products relating to crop production and value addition, and on the transfer of knowledge and technology to the private sector. However, PPPs are rarely designed with sufficient analysis of the direct and indirect pathways by which research impacts the poor.

The study revealed that institutional lessons emerge from partnerships in the research process. Mechanisms need to be put in place to record, synthesize and share these with research managers and other players in the R&D cycle in order to improve the impact of agricultural research. A majority (85%) of the survey responses indicated that there has been no formal evaluation of partnerships undertaken so far at ICRISAT. Based on this, there was a felt need for developing a learning module on successful partnership management.

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## **Appendices**



# Appendices

## **APPENDIX 1: Global research themes and regional research strategies at ICRISAT**

ICRISAT's strategic focus is to attain impact through scientific excellence in agriculture in the semi-arid tropics. This vision and strategy targets key opportunities for improving the well-being of the poor, with food security being fundamental. Above all, it recognizes the need for greater thematic integration and diversification of partnerships as a core principle for engaging in science and technology for development. This ensures that its deliverables improve the lives of poor people. Four global research themes and three regional strategies have been integrated to help ICRISAT refocus its efforts to the needs of smallholder farmers and development partners in SSA and Asia.

The four major global themes of ICRISAT are as follows:

Global Theme on Crop Improvement (GT-CI)

Global Theme on Biotechnology (GT-BT)

Global Theme on Agroecosystems (GT-AES)

Global Theme on Institutions, Markets, Policy and Impacts (GT-IMPI)

### **Global Theme on Crop Improvement and Management (GT-CI)**

The Global Theme on Crop Improvement and Management encompasses genetic resources and crop improvement to develop improved cultivars; eco-friendly pest and disease management options; and technologies to promote alternative uses of crops to encourage value-addition and commercialization. Improved crop cultivars (seed-based technologies) within an IGCRM context are the cheapest and easiest of technology interventions that can be adapted and adopted by farmers anywhere in the world.

### **Global Theme on Biotechnology (GT-BT)**

ICRISAT believes in the potential of biotechnology to enhance the speed, precision, efficiency and value addition in many aspects of its crop improvement and IGCRM efforts. ICRISAT's Global Theme, "Harnessing Biotechnology for the Poor" was established in 2001 to provide a concerted effort to applying modern science to its mandate crops. A major challenge for the theme is to maintain a critical mass of scientists across the various areas of biotechnology, to coordinate ICRISAT's activities between its regional laboratories in Asia and Africa, and to evaluate the rapidly changing technologies in genomics, and adopt those that will enhance the effectiveness of ICRISAT's research projects. Capacity development is therefore an important dimension of GT Biotechnology's efforts. Its overall goal is to reduce poverty, hunger, malnutrition and environmental degradation in the SAT by applying promising genomic, genetic engineering, wide-hybridization, diagnostic and bio-informatics tools and approaches to the improvement of ICRISAT's mandate crops.

## **Global Theme on Agroecosystems (GT-AES)**

ICRISAT has expanded the Integrated Natural Resource Management paradigm to acknowledge the role which crops and genetic improvement can play in enabling SAT agriculture to achieve its potential. There is a growing acceptance of the expanded version of this term to include both genetic and non-genetic solutions – Integrated Genetic and Natural Resource Management (IGNRM).

Agroecosystem development aims to improve rural livelihoods, increase food security and ensure sustainable natural resource management throughout the semi-arid tropics as a result of a greater impact of agricultural research for development. Moreover, it is committed to help achieve sustainable increases in food security and income growth in the semi-arid farming systems of sub-Saharan Africa and Asia through the use of evolving research tools and approaches in the fields of soil, water, agro-biodiversity and climatic management.

## **Global Theme on Institutions, Markets, Policy and Impacts (GT-IMPI)**

Formerly known as SAT Futures and Development Pathways, GT-IMPI's objective is to inform and provide strategic direction and prioritization of research issues within an IGNRM context and to provide appropriate capacity building. It scrutinizes the key driving factors influencing farmer-to-market linkages, optimal input and output options (including seed systems) and on more effective policy and impact generation.

The theme's goal is to help generate policies, tools, lessons, and investment guidelines that contribute to improved food security, livelihood resilience and poverty reduction while protecting the environment of the production systems in the semi-arid tropics.

It will continue to build from ICRISAT's strong socio-economics and policy research experience rooted in a long tradition of working at the farm level through Village Level Studies and Impact surveys. It will further strengthen participatory and multi-disciplinary approaches to ensure that ICRISAT addresses the urgent concerns in SAT agriculture and the changing external environment both at the micro and macro levels. It will complement the micro-level analysis of village level databases with the analysis of macro-level data for policy formulation and development of research priorities.

## **Knowledge Management and Sharing (KMS)**

ICRISAT envisions a world in which all stakeholders in the agricultural innovation process can easily access and share information, knowledge and skills they need anywhere and anytime – to enhance the food security and livelihoods of the poor. Hence, ICRISAT is committed to harnessing innovative tools and concepts in learning, information and communication technologies and knowledge management to build partner power in the SAT.

The ICRISAT-led Virtual Academy for the Semi-Arid Tropics (VASAT) will be up scaled with partners to enable dynamic linkages among diverse, distributed human and information resources in the SAT. By doing this, ICRISAT will facilitate institutional learning and provide a platform for becoming a leading provider of relevant content through the interface of ICT and open-distance learning. Moreover, VASAT will accelerate the pursuit of CGIAR's ICT-KM strategy of incorporating new



practices to preserve, produce and improve access to agricultural global public goods needed by the poor in developing countries. Linkages are established with partners such as the Global Open Food and Agriculture University (GOFAU) and national open universities to develop courses in distance mode and other innovative learning opportunities.

## APPENDIX 2: Web-based survey questionnaire for strategic partnerships at ICRISAT (using Question Pro).

### Survey Questionnaire for Strategic Partnerships at ICRISAT

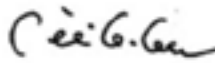
One of the greatest resources of ICRISAT is partnerships. Crafting and forging partnership between and among different actors and sectors has enriched the R&D of ICRISAT. It has also paved the way for realizing significant impacts in the semi-arid tropics and globally. Hence, this survey attempts to elicit insights from your experiences on the various partnerships you have entered into and to develop a learning module on best practices in strategic partnership and successful management of partnership.

This survey is intended for all scientists and staff that have projects (completed and on-going) implemented through joint efforts with various institutions (i.e. NARES, State Universities, Private Companies, etc).

Please read each question carefully and answer it to the best of your ability. There are no correct or incorrect responses; we are merely interested in your point of view. However, we request for your name for follow-up discussion specifically on issues that will help us develop the learning module.

**The output of this survey will be important for our EPMR; hence your cooperation is highly solicited.**

This survey will take 15-20 minutes. Thank you for your participation in this survey. (GT-IMPI and KMS-LSU)



WILLIAM D. DAR

**ATTENTION: The word length need not be limited to the size of the box provided. The box expands automatically.**

1. Name

2. Global Theme / Equivalent (i.e. GT-AES, GT-Biotech, GT-CI, GT-IMPI, KMS etc.)

**3. Unit / Project**

**4. Gender**

Male

Female

**5. List down the partners you are working with (since 2000) in your specific program/project: [Click here to display the legend](#)**

	Code	Name and complete address	Type of legal agreements	Duration of partnership	Purpose of partnership	Immediate goal of the partnership	Status of partnership
1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
6	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

**6. What are the important reasons for forging partnerships with an organization (besides doing R&D work on ICRISAT mandate crops)? Rank according to degree of importance (Note: Rank 1 as the most important).**

**Reasons**

Rank 1

Rank 2

Rank 3

Rank 5

Rank 4

Rank 6

---

**7. Were there any additional benefits by working in partnership rather than as individual bodies?**

Yes

No

---

**8. List down the major benefits from the partnerships for your organization.**

1

2

3

4

5

---

**9. Were difficulties encountered during the management and execution of the activities involved in the partnership?**

Yes

No

---

**9a. If yes, what are these?** *(Please identify the most critical ones)*

---

10. Does the partnership have an appropriately structured board or other decision-making forum?

- Yes
- No

---

10a. If yes, Please specify?

---

11. Is there any agreement on distribution of benefits from the projects?

- Yes
- No

---

11a. If yes, please specify

---

12. Please comment on the advantages and disadvantages of the various partnerships you have had in the past and with your present collaborative work? [Click here to display the Code](#)

Code Advantages Disadvantages

1	<input type="text"/>	<input type="text"/>	<input type="text"/>
2	<input type="text"/>	<input type="text"/>	<input type="text"/>
3	<input type="text"/>	<input type="text"/>	<input type="text"/>
4	<input type="text"/>	<input type="text"/>	<input type="text"/>
5	<input type="text"/>	<input type="text"/>	<input type="text"/>

---

**13. What are the lessons learned (refer to positive and negative effects) from your partnership experience in doing joint or collaborative works? Please provide brief but succinct response. You can provide your response according to the different categories of partners if required. [Click here to display the Code](#)**

	Code* Lessons Learned	
1	<input type="text"/>	<input type="text"/>
2	<input type="text"/>	<input type="text"/>
3	<input type="text"/>	<input type="text"/>
4	<input type="text"/>	<input type="text"/>
5	<input type="text"/>	<input type="text"/>

---

**14. What are best practices (refer to effective and efficient delivery of task; may include innovation means/techniques/processes) for ensuring successful partnerships? You can provide your response with respect to the different categories of partners if required. [Click here to display Code](#)**

	Code* Best Practices	
1	<input type="text"/>	<input type="text"/>
2	<input type="text"/>	<input type="text"/>
3	<input type="text"/>	<input type="text"/>

4

5

---

**15. What were the major outputs from the partnership for your organization?**

- New technology
- Training and scientific capacity improvement
- New tools and equipment
- Enhancement of organizational image
- Other

---

**16. What action, if any, is required to increase the capacity of research collaborators to be involved in a future research program? Tick the appropriate options. Please select items that apply.**

- Exchange visits
- Provision of equipment
- Raising profile of research
- Develop centres of excellence
- Focus on countries that show good institutional support to research
- Payment of overhead costs
- Training of key staff
- Partnerships with out-of-country researchers
- Long-term commitments
- Other

---

**17. Has any formal partnership evaluation been done for your projects?**

- Yes

No

---

**18. Do you think that a learning module on Successful Partnership Management is useful?**

Yes

No

---

**18a. If yes, what should it focus on?**

---

Please contact [Cynthia Bantilan](#) if you have any questions regarding this survey.



**Code for Strategic Partnership.**

**To be used in Question no. 5**

**Code:**

- 1 – International Agricultural Research Centers (IARCs)
- 2 – National Agricultural Research and Extension Systems (NARES)
- 3 – Universities and Colleges
- 4 – Non-Government Organizations (NGOs)
- 5 – Private Companies (PCs)
- 6 – Farmers Associations and Community-based organizations (FAs & CBOs)
- 7 – Others (please specify)

**Type of legal agreements may refer to**

- A1 - Memorandum of Understanding
- A2 - Material transfer of Agreements
- A3 - License for research Use
- A4 - License for commercialization
- A5 - Confidentiality/non-disclosure
- A6 - Others, please specify

**Duration refers to length of time of the continuance of the formal agreement between the partners**

**Purpose of partnership refers to the following:**

- C1 – Receive funding (F), Scientific expertise (S), and/or equipment (E); Indicate F, S, or E
- C2 – Sharing facilities
- C3 – Commercialization and distribution of research findings and materials
- C4 – Basic / strategic Research
- C5 – Networking for development of value chain
- C6 – Others, please explain

**Immediate goal refers to the following:**

- D1 – Reducing research costs
- D2 – Fostering innovation
- D3 – Dissemination of research outputs to the poor
- D4 – Enhancing outreach to the poor
- D5 – Capacity strengthening
- D6 – Others, please explain

**Status of Partnership refers to the following:**

- E1 – Ongoing
- E2 – Completed

**Code for Question 12**

- 1 – International Agricultural Research Centers (IARCs)
- 2 – National Agricultural Research and Extension Systems (NARES)
- 3 – Universities and Colleges
- 4 – Non-Government Organizations (NGOs)
- 5 – Private Companies (PCs)
- 6 – Farmers Associations and Community-based organizations (FAs & CBOs)
- 7 - Others (please specify)

**Code for Question 13**

- 1 – International Agricultural Research Centers (IARCs)
- 2 – National Agricultural Research and Extension Systems (NARES)
- 3 – Universities and Colleges
- 4 – Non-Government Organizations (NGOs)
- 5 – Private Companies (PCs)
- 6 – Farmers Associations and Community-based organizations (FAs & CBOs)
- 7 - Others (please specify)

**Code for Question 14**

- 1 – International Agricultural Research Centers (IARCs)
- 2 – National Agricultural Research and Extension Systems (NARES)
- 3 – Universities and Colleges
- 4 – Non-Government Organizations (NGOs)
- 5 – Private Companies (PCs)
- 6 – Farmers Associations and Community-based organizations (FAs & CBOs)
- 7 - Others (please specify)

### **APPENDIX 3: Email-based survey questionnaire for strategic partnerships at ICRISAT**

One of the greatest resources of ICRISAT is its partnerships. Crafting partnerships between and among different actors and sectors has enriched the R&D of ICRISAT. It has also paved the way for realizing significant impacts not only in the semi-arid tropics but also globally. Hence, this survey attempts to elicit insights from your experiences on the various partnerships you have entered into to develop a **learning module** on best practices in strategic partnership and successful management of partnerships. This survey is intended for all scientists and staffs that have projects (completed and on-going) implemented through joint efforts with various institutions (i.e. NARES, ARIs, state universities, private companies, etc).

**The output of this survey is important to study the partnerships at ICRISAT; hence your cooperation is highly solicited.** We thank those of you who have already participated in the first round of this survey which was conducted online. This second round (in **word document**) has been sent to those who were not able to take part in the earlier survey. This version will allow you to respond, save, and revise as per your convenience. We request you to send your responses in electronic form (by email) **latest by 08 October 2008.**

Please read each question carefully and answer it to the best of your ability. There are no correct or incorrect responses; we are merely interested in your personal point of view. Please use the legend to answer the questions with codes. However, we request your name for follow-up discussion, specifically on issues that will help us develop the learning module. All your responses will be treated with utmost confidentiality.

This survey will take 20 minutes. Thank you for your participation in it.

1. Name of the respondent:
2. Global Theme:  GT-CI  GT-Biotech  GT-AES  GT-IMPI  Others
3. Unit:
4. Gender:  Male  Female
5. Location:  Asia  Africa
6. List down the 5 most important partners you are working with (from 2000 to the present) in your specific program/project. (Please tick  against the appropriate option.)

<b>Institution</b>	<b>Name and complete address</b>	<b>Type of legal agreements</b>	<b>Duration of partnership (years)</b>	<b>Purpose of partnership</b>	<b>Immediate goal of the partnership</b>	<b>Status of partnership</b>
<input type="checkbox"/> International Agricultural Research Centers (IARCs)  <input type="checkbox"/> National Agricultural Research Systems (NARS)  <input type="checkbox"/> Advanced Research Institutes (ARIs)  <input type="checkbox"/> State Universities and Colleges (Us & Cs)  <input type="checkbox"/> Non-Government Organizations (NGOs)  <input type="checkbox"/> Private Companies  <input type="checkbox"/> Farmers' Associations and Community-based Organizations <input type="checkbox"/> Others (specify)		<input type="checkbox"/> Memorandum of Understanding  <input type="checkbox"/> Material Transfer Agreements <input type="checkbox"/> License for research use  <input type="checkbox"/> License for commercialization  <input type="checkbox"/> Confidentiality / non-disclosure  <input type="checkbox"/> Others, please specify		<input type="checkbox"/> Receive funding (F), scientific expertise (S), and/or equipment (E); indicate F, S, or E <input type="checkbox"/> Sharing facilities  <input type="checkbox"/> Commercialization and distribution of research findings and materials <input type="checkbox"/> Basic/strategic research  <input type="checkbox"/> Networking for development of value chain <input type="checkbox"/> Others, please explain	<input type="checkbox"/> Reducing research costs  <input type="checkbox"/> Fostering innovation  <input type="checkbox"/> Dissemination of research outputs to the poor <input type="checkbox"/> Enhancing outreach to the poor <input type="checkbox"/> Capacity strengthening  <input type="checkbox"/> Others, please explain	<input type="checkbox"/> Ongoing  <input type="checkbox"/> Completed
<input type="checkbox"/> International Agricultural Research Centers (IARCs)  <input type="checkbox"/> National Agricultural Research Systems (NARS)  <input type="checkbox"/> Advanced Research Institutes (ARIs)  <input type="checkbox"/> State Universities and Colleges (Us & Cs)  <input type="checkbox"/> Non-Government Organizations (NGOs)  <input type="checkbox"/> Private Companies  <input type="checkbox"/> Farmers' Associations and Community-based Organizations <input type="checkbox"/> Others (specify)		<input type="checkbox"/> Memorandum of Understanding  <input type="checkbox"/> Material Transfer Agreements <input type="checkbox"/> License for research use  <input type="checkbox"/> License for commercialization  <input type="checkbox"/> Confidentiality non-disclosure  <input type="checkbox"/> Others, please specify		<input type="checkbox"/> Receive funding (F), scientific expertise (S), and/or equipment (E); indicate F, S, or E <input type="checkbox"/> Sharing facilities  <input type="checkbox"/> Commercialization and distribution of research findings and materials <input type="checkbox"/> Basic/strategic research  <input type="checkbox"/> Networking for development of value chain <input type="checkbox"/> Others, please explain	<input type="checkbox"/> Reducing research costs  <input type="checkbox"/> Fostering innovation  <input type="checkbox"/> Dissemination of research outputs to the poor <input type="checkbox"/> Enhancing outreach to the poor <input type="checkbox"/> Capacity strengthening  <input type="checkbox"/> Others, please explain	<input type="checkbox"/> Ongoing  <input type="checkbox"/> Completed

Institution	Name and complete address	Type of legal agreements	Duration of partnership (years)	Purpose of partnership	Immediate goal of the partnership	Status of partnership
<input type="checkbox"/> International Agricultural Research Centers (IARCs)  <input type="checkbox"/> National Agricultural Research Systems (NARS) <input type="checkbox"/> Advanced Research Institutes (ARIs)  <input type="checkbox"/> State Universities and Colleges (Us & Cs) <input type="checkbox"/> Non-Government Organizations (NGOs)  <input type="checkbox"/> Private Companies  <input type="checkbox"/> Farmers' Associations and Community-based Organizations <input type="checkbox"/> Others (specify)		<input type="checkbox"/> Memorandum of Understanding  <input type="checkbox"/> Material Transfer Agreements <input type="checkbox"/> License for research use  <input type="checkbox"/> License for commercialization  <input type="checkbox"/> Confidentiality/non-disclosure  <input type="checkbox"/> Others, please specify		<input type="checkbox"/> Receive funding (F), scientific expertise (S), and/or equipment (E); indicate F, S, or E <input type="checkbox"/> Sharing facilities  <input type="checkbox"/> Commercialization and distribution of research findings and materials <input type="checkbox"/> Basic/strategic research  <input type="checkbox"/> Networking for development of value chain <input type="checkbox"/> Others, please explain	<input type="checkbox"/> Reducing research costs  <input type="checkbox"/> Fostering innovation  <input type="checkbox"/> Dissemination of research outputs to the poor <input type="checkbox"/> Enhancing outreach to the poor <input type="checkbox"/> Capacity strengthening  <input type="checkbox"/> Others, please explain	<input type="checkbox"/> Ongoing  <input type="checkbox"/> Completed
<input type="checkbox"/> International Agricultural Research Centers (IARCs)  <input type="checkbox"/> National Agricultural Research Systems (NARS) <input type="checkbox"/> Advanced Research Institutes (ARIs)  <input type="checkbox"/> State Universities and Colleges (Us & Cs) <input type="checkbox"/> Non-Government Organizations (NGOs)  <input type="checkbox"/> Private Companies  <input type="checkbox"/> Farmers' Associations and Community-based Organizations <input type="checkbox"/> Others (specify)		<input type="checkbox"/> Memorandum of Understanding  <input type="checkbox"/> Material Transfer Agreements <input type="checkbox"/> License for research use  <input type="checkbox"/> License for commercialization  <input type="checkbox"/> Confidentiality/non-disclosure  <input type="checkbox"/> Others, please specify		<input type="checkbox"/> Receive funding (F), scientific expertise (S), and/or equipment (E); indicate F, S, or E <input type="checkbox"/> Sharing facilities  <input type="checkbox"/> Commercialization and distribution of research findings and materials <input type="checkbox"/> Basic/strategic research  <input type="checkbox"/> Networking for development of value chain <input type="checkbox"/> Others, please explain	<input type="checkbox"/> Reducing research costs  <input type="checkbox"/> Fostering innovation  <input type="checkbox"/> Dissemination of research outputs to the poor <input type="checkbox"/> Enhancing outreach to the poor <input type="checkbox"/> Capacity strengthening  <input type="checkbox"/> Others, please explain	<input type="checkbox"/> Ongoing  <input type="checkbox"/> Completed

Institution	Name and complete address	Type of legal agreements	Duration of partnership (years)	Purpose of partnership	Immediate goal of the partnership	Status of partnership
<input type="checkbox"/> International Agricultural Research Centers (IARCs)		<input type="checkbox"/> Memorandum of Understanding		<input type="checkbox"/> Receive funding (F), scientific expertise (S), and/or equipment (E); indicate F, S, or E <input type="checkbox"/> Sharing facilities	<input type="checkbox"/> Reducing research costs	<input type="checkbox"/> Ongoing
<input type="checkbox"/> National Agricultural Research Systems (NARS)		<input type="checkbox"/> Material Transfer Agreements			<input type="checkbox"/> Fostering innovation	<input type="checkbox"/> Completed
<input type="checkbox"/> Advanced Research Institutes (ARIs)		<input type="checkbox"/> License for research use		<input type="checkbox"/> Commercialization and distribution of research findings and materials	<input type="checkbox"/> Dissemination of research outputs to the poor	
<input type="checkbox"/> State Universities and Colleges (Us & Cs)		<input type="checkbox"/> License for commercialization		<input type="checkbox"/> Basic/strategic research	<input type="checkbox"/> Enhancing outreach to the poor	
<input type="checkbox"/> Non-Government Organizations (NGOs)		<input type="checkbox"/> Confidentiality/non-disclosure		<input type="checkbox"/> Networking for development of value chain	<input type="checkbox"/> Capacity strengthening	
<input type="checkbox"/> Private Companies		<input type="checkbox"/> Others, please specify		<input type="checkbox"/> Others, please explain	<input type="checkbox"/> Others, please explain	
<input type="checkbox"/> Farmers' Associations and Community-based Organizations						
<input type="checkbox"/> Others (specify)						

7. What are the important reasons for forging partnerships with an organization (besides doing R&D work on ICRISAT mandate crops)? Rank according to degree of importance. (Note: Rank 1 as the most important).

Rank	Reasons
1	
2	
3	
4	
5	

8. List the major benefits from the partnerships for your organization.

Rank	Benefits
1	
2	
3	
4	
5	

9. Were difficulties encountered during the management and execution of the activities involved in the partnership?  Yes  No;

If yes, what are these? (Please identify the most critical ones.)

Rank	Difficulties encountered
1	
2	
3	
4	
5	

10. Does the partnership have an appropriately structured board or other decision-making forum?

Yes  No If yes, please specify.

Rank	Name of the structured board/decision-making forum
1	
2	
3	
4	
5	

11. Is there any agreement on distribution of benefits from the project? [ ] Yes [ ] No

If yes, please specify.

Rank	Type of agreements
1	
2	
3	
4	
5	
Type of agreements: 1. Memorandum of Understanding 2. Material Transfer of Agreements 3. License for research use 4. License for commercialization  5. Confidentiality/non-disclosure 6. Others (please specify)	

12. Please comment on the advantages and disadvantages of the various partnerships you have had in the past and with your present collaborative work?

Code	Advantages	Disadvantages
<b>Code:</b> 1 – International Agricultural Research Centers (IARCs) 2 – National Agricultural Research Systems (NARS) 3 – Advanced Research Institutes (ARIs) 4 – Universities and Colleges (Us & Cs) 5 – Non-Government Organizations (NGOs) 6 – Private Companies 7 – Farmers Associations and Community-based Organizations 8 – Others (please specify)		



13. What are the **lessons learned** (refer to positive and negative effects of all the factors contributing to the partnership) from your experience in doing joint or collaborative works? Please provide a brief but succinct response. You can provide your response according to the different categories of partners, if required.

Code	Lessons Learned
<b>Code:</b> 1 – International Agricultural Research Centers (IARCs) 2 – National Agricultural Research Systems (NARS) 3 – Advanced Research Institutes (ARIs) 4 – Universities and Colleges (Us & Cs) 5 – Non-Government Organizations (NGOs) 6 – Private Companies 7 – Farmers Associations and Community-based Organizations 8 – Others (please specify)	

14. What are the **best practices** (refer to effective and efficient delivery of task; may include innovative means/techniques/processes) for ensuring successful partnerships? You can provide your response according to the different categories of partners, if required.

Code	Best Practices
<b>Code:</b> 1 – International Agricultural Research Systems (IARCs) 2 – National Agricultural Research Systems (NARS) 3 – Advanced Research Institute (ARIs) 4 – Universities and Colleges (Us & Cs) 5 – Non-Government Organizations (NGOs) 6 – Private Companies 7 – Farmers Associations and Community-based Organizations 8 – Others (please specify)	

15. What were the major outcomes from the partnership for your organization? Check [C ] the appropriate options

- New technology
- Training and scientific capacity improvement
- New tools and equipment
- Enhancement of organizational image
- Others (Please specify)

16. What action, if any, is required to increase the capacity of research collaborators to be involved in a future research program? Check [X] the appropriate options

- Exchange visits
- Provision of equipment
- Raising profile of research
- Develop centres of excellence
- Focus on countries that show good institutional support to research
- Payment of overhead costs
- Training of key staff
- Partnerships with out-of-country researchers
- Long-term commitments
- Others, please specify

17. Has any formal partnership evaluation been done?     Yes  No

18. Is a learning module on successful partnership management essential?     Yes  No  
 If yes, what should it focus on?

	Focus of the learning module
1	
2	
3	
4	
5	

THANK YOU!!!

\*Please contact Cynthia Bantilan at [c.bantilan@cgiar.org](mailto:c.bantilan@cgiar.org) if you have any questions regarding the survey.



## About ICRISAT



The International Crops Research Institute for the Semi-Arid-Tropics (ICRISAT) is a non-profit, non-political organization that conducts agricultural research for development in Asia and sub-Saharan Africa with a wide array of partners throughout the world. Covering 6.5 million square kilometers of land in 55 countries, the semi-arid tropics have over 2 billion people, and 644 million of these are the poorest of the poor. ICRISAT and its partners help empower these poor people to overcome poverty, hunger and a degraded environment through better agriculture.

ICRISAT is headquartered in Hyderabad, Andhra Pradesh, India, with two regional hubs and four country offices in sub-Saharan Africa. It belongs to the Consortium of Centers supported by the Consultative Group on International Agricultural Research (CGIAR).

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