

of international repute. The partnership has strengthened ICRISAT's capacity to develop improved breeding lines and hybrid parents; and also enabled both public sector institutions (NARS) and private sector seed companies in diversifying

the genetic base of their hybrid breeding programs. It has also enhanced greater feedback and participation of the private sector in cultivar adoption and impact studies; and sharing of joint research activities among partners.

Hybrid Parents Research Consortia

*Public-private-farmer partnerships
for scientific innovations*



Representatives of Pioneer Seeds contribute to the Pearl Millet Seed Consortium in August 2008.



About ICRISAT



Science with a human face

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. ICRISAT's mission is to help empower 644 million poor people to overcome hunger, poverty and a degraded environment in the dry tropics through better agriculture. ICRISAT belongs to the Alliance of Centers of the Consultative Group on International Agricultural Research (CGIAR).

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INTERNATIONAL CROPS RESEARCH INSTITUTE FOR THE SEMI-ARID TROPICS
Science with a human face

Introduction

Poor farmers need access to better seed, and hybrid seed is becoming more popular as farmers are able to enhance yields and profits from growing hybrids. The Hybrid Parents Research Consortia (HPRC) is an initiative of ICRISAT that was formed with the basic objective of increasing the scope of accessibility to better hybrids by poor farmers through effective public private partnerships.

The partnership between ICRISAT and private sector seed companies has evolved over time. In the early years, ICRISAT played a nurturing role to the fledgling industry through informal networks. As the private seed industry grew, it started to develop a significant research capability of its own. Recent years have witnessed remarkable growth in private sector investment in crop improvement research and development, especially in crops that provide hybrid cultivar options.

The recognition of the private sector as a valuable research for development (R&D) partner led to the formation of the Sorghum and Pearl Millet Hybrid Parents Research Consortia in 2000. A consortium for Pigeonpea Hybrid Parents was started in 2004.

ICRISAT has been providing genetically improved diverse breeding lines and hybrid parents to partners in both public research institutions and private sector (PS) seed companies globally. Using the improved hybrid parents, public institutions and PS seed companies have developed and marketed several hybrids over the past two decades. These hybrids have enabled farmers to realize higher yields, enhanced incomes and improved livelihoods.



Sorghum field day.



Pearl millet field day.

Partnership with the Private Sector

ICRISAT strongly believes in the power of partnerships, and has broadened the base of partnership over the years. The synergy between ICRISAT and the private sector has made effective use of complementarity in resources and skills to ensure that high-yielding hybrids reach the farmers effectively and efficiently to create impacts.

The Consortium Model of Partnership

ICRISAT is a publicly-funded R&D Institute, and the products of its research are international public goods (IPGs). Following discussions on several alternative models of partnerships with the private sector, the "Consortium model" was preferred for partnership with private sector seed companies. According to the consortium, the products of ICRISAT research (improved breeding lines) remain in the public domain. Materials are available to public sector institutions freely at all stages of development.

Under this model, which operates in a renewable 5-year framework, each PS seed company seeking membership in the Consortia (one consortium each for sorghum, pearl millet and pigeonpea) signs a Memorandum of Agreement (MoA) agreeing to the guidelines of the Consortium. The Consortium guidelines were agreed upon following several rounds of consultation among potential partners. Each seed company pays an annual Consortium fee to become a member (either Primary or Promotional member). A Consortium Advisory Committee (comprising members from PS Seed Companies and ICRISAT) is chaired by one of the PS Seed Company representatives, and provides guidance and advice for consortia research and development activities.



Release of pigeonpea hybrid ICPH 2671 as "Pushkal" in 2008.

The first phase of the Consortia (for sorghum and pearl millet) was initiated in 2000 with 9 members, which grew three-fold by 2008. The second phase has been operative during 2004-08, and the third phase will be operating from 2009. The growth of membership in the consortia from 9 in 2000 to 50 in 2008 demonstrates how companies value the benefits of partnership with ICRISAT, which includes access to improved breeding material and diversified hybrid parents.

Besides the 50 consortia partners from the private sector (including foundations and corporations), ICRISAT also has strong partnerships with the All India Coordinated Programs on sorghum, pearl millet and pigeonpea.

Consortium research programs

Sorghum

Half of India's 8.5 million ha under sorghum is planted with hybrids. Of the >50 commercial hybrids in the market, about 30 (mostly from the private sector) are based on ICRISAT-bred parental lines, or on proprietary parental lines developed from ICRISAT-bred improved germplasm.

Pearl millet

Nearly 60% of India's 10 million ha under pearl millet is planted with at least 84 hybrids, of which at least 60 (mostly from the PS seed companies) are based on ICRISAT-bred parental lines or on proprietary parental lines developed from ICRISAT-bred improved germplasm.

Pigeonpea

ICRISAT has been a pioneer in hybrid pigeonpea research worldwide. Considering the drawbacks of

genetic male sterility (GMS)-based hybrids, ICRISAT shifted its research focus to cytoplasmic-nuclear male sterility (CMS)-based hybrids. The world's first CMS-based commercial hybrid, ICPH 2671 (named Pushkal), was launched by a PS seed company in July 2008. The seed production technology has been fine-tuned to suit various agro-ecological regions.

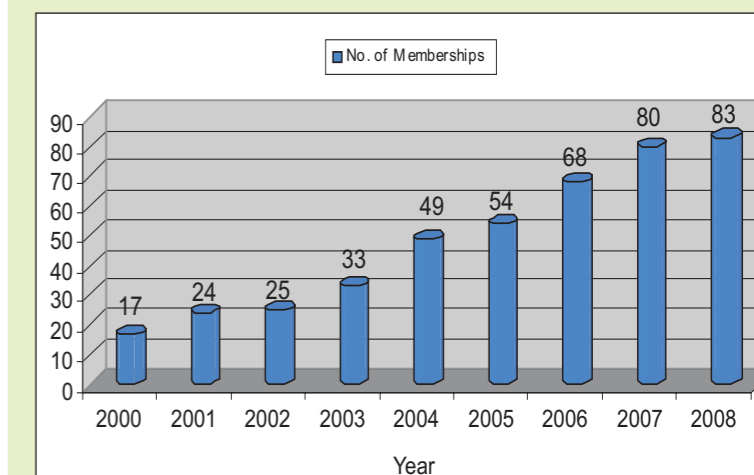
Consortium for self-pollinated crops

ICRISAT has recently initiated (along with interested PS seed companies) another consortium for self-pollinated crops (chickpea and groundnut) to share improved breeding lines and varieties with partners. This will ensure that the seed of improved varieties are made accessible to farmers for increased production and incomes.

Impact of HPRC on Consortium-based partnerships

The HPRC was the first broad-based public-private sector partnership arrangement in the history of the Consultative Group on International Agricultural Research (CGIAR). Other CGIAR Centers are now emulating this model. Within ICRISAT, the HPRC was responsible for enhancing the public-private sector partnerships, leading to the birth of other consortia, and also the broader concept of public-private sector partnership, including the Agri-Science Park @ ICRISAT.

Many PS seed companies have acknowledged ICRISAT's role as mentor and supporter of seed companies that started business in the late 1980s and have now grown to become seed companies



Growth of consortia memberships from 2000 to 2008 (some members have membership in multiple consortia).