

## **China and the Consultative Group on International Agricultural Research (CGIAR)**

China's research partnership with the CGIAR began before its establishment in 1971 and well before the country officially joined the CGIAR in 1984. China has provided influential leadership within the CGIAR, where its counsel is held in high regard.

### **Participation and partnership**

The CGIAR System's main point of contact in China is the Chinese Academy of Agricultural Sciences (CAAS), the research arm of China's Ministry of Agriculture.

The current CGIAR Director, Ren Wang, was a Vice President of CAAS and the Deputy Director of Research at the International Rice Research Institute (IRRI) prior to taking up his current appointment. The CGIAR System also works with the Chinese Academy of Science (CAS), the Chinese Academy of Engineering, the Chinese Academy of Forestry and the Chinese Academy of Fisheries.

Four Chinese experts have served on the Boards of Trustees of as many CGIAR-supported Centers: the International Potato Center (CIP), International Food Policy Research Institute (IFPRI), IRRI and the WorldFish Center.

Chinese scientists that have served on CGIAR Center Boards include Dr. Song Jian, former State Councilor and Vice Chairman of the National People's Political Consultative Council. He was a member of the IRRI Board for 6 years and currently serves on the CIP Board. China has been represented in the CGIAR Executive Council as well and thus contributed importantly to a recent CGIAR reform program.

Since China joined the CGIAR, eleven CGIAR Centers have undertaken cooperative activities with Chinese partners. Seven Centers maintain offices in China: Bioversity International, the International Maize and Wheat Improvement Center (CIMMYT), CIP, IFPRI, the International Livestock Research Institute (ILRI), IRRI and the WorldFish Center.

More than 50 Chinese institutions have formed partnerships with CGIAR Centers. Center scientists and their Chinese partners have co-operated in 70 completed and continuing projects. Major priority areas of collaboration have been genetic resources, crop and animal breeding, biotechnology (including biosafety), plant protection, natural resource management, policy research and food quality research.

In support of their Chinese partners, the CGIAR Centers have provided advanced training to more than 4,000 of the country's scientists, many of whom now hold leadership positions in China's agricultural research system or in international organizations. The country has been active in other knowledge-sharing efforts as well, hosting more than 40 international conferences and workshops, including forums dedicated to strengthening and sharpening the focus of the China-CGIAR relationship.

### **Collaborative research and its results**

China is among the world's largest producers of major crops on which the CGIAR Centers conduct research – notably rice, wheat, maize, potato and sweet potato.

Collaborative international research on crops began in China during 1970, when IRRI provided lines from the rice genebank it maintains in support of global rice improvement. Using these materials, Chinese rice breeders were able to begin unlocking the potential of hybrid rice. With the opening of China in 1978, its relationship with the CGIAR was intensified through transfers of rice, wheat, maize and potato germplasm, together with advice and methods for germplasm conservation.

The results of those early contributions of the 1970s can be seen today: an estimated 95 percent of hybrid rice varieties now grown in China have CGIAR parental material; and in 2004 China became the world's largest producer and consumer of potatoes and sweet potatoes.

'Cooperation-88', an aptly named potato developed by a CGIAR Center with Chinese partners, has contributed importantly to success with this crop. Virus-free tissue culture technology introduced later revolutionized potato seed production in China.

Altogether, China has bred more than 260 crop varieties containing material from CGIAR Centers.

By the early 1990s, the China-CGIAR partnership began to focus more on challenges related to natural resource management, with CGIAR Centers providing support in research on farming systems. By the end of the 1990s, the conflict between agriculture intensification and environmental sustainability had become pronounced, as the overuse of agrichemicals resulted in the degradation of farmland and contamination of groundwater. The need to develop approaches for sustainable management of water and forest resources also became clear.

In response, the CGIAR Centers helped establish networks of research sites to demonstrate resource-conserving technologies, such as zero-tillage, which reduces the use of inputs and water, while maintaining high crop yields, especially in unfavorable regions.

Diversifying agriculture is increasingly important to Chinese farmers, as they respond to growing pressures on the agricultural environment. CGIAR Centers are responding with research on options that range from alternative crops (such as legumes) and agroforestry species to fast-growing fish species like Tilapia.

New collaboration on livestock is contributing to improved understanding of Avian influenza and could provide the means to develop genetic resistance to this disease.

Technologies and approaches for adapting agriculture to climate change as well as tools for monitoring production systems now receive high priority.