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

Cambodia and the CGIAR have enjoyed a strong partnership since the 1980s, when Cambodia's Ministry of Agriculture, Forestry and Fisheries (MAFF) invited the International Rice Research Institute (IRRI) to help the country restore its rice capability after many years of civil war. With funding from the Australian government, the Cambodia-IRRI-Australia project (CIAP) was launched in 1987 with a dual agenda: increase rice production to improve food security and develop Cambodia's agricultural research capacity. Within a decade, Cambodia achieved rice self-sufficiency, with 34 varieties released, researchers and technicians trained, infrastructure rebuilt, national genetic resources restored, and an extensive network of government and nongovernmental collaborators established. In 1997, those efforts culminated in the creation of the Cambodian Agricultural Research and Development Institute (CARDI), as CIAP was phased out.

Over time the Cambodia-CGIAR partnership has expanded, and at present several CGIAR-supported Centers are actively contributing to Cambodia's agricultural development in partnership with local institutions.

- A collaborative initiative between Cambodia's Ministry of Water Resources and Meteorology (MOWRAM) and the International Water Management Institute (IWMI) is supporting Cambodia's adoption of Participatory Irrigation Management and Development (PIMD) policies. Incorporated recently into national policy, PIMD enables farmers to take over the management of their irrigation systems, with the aim of improving productivity, incomes and living conditions. IWMI has been working with MOWRAM in developing a PIMD program for Cambodia that provides assistance in three stages: initial policy formulation, preparation of implementation guidelines and training modules, and program implementation. (www.iwmi.cgiar.org)

- The International Center for Tropical Agriculture (CIAT) has undertaken several activities in Cambodia. Currently, it is engaged in a program to develop cassava as a raw material for animal feed and starch production, which could become an important source of cash income for poor farmers. Currently, several companies are planning new factories for the production of dry chips, starch and bioethanol, with the potential to boost market demand for cassava. In 2004, when the program started, nine Thai cassava varieties bred in collaboration with CIAT were introduced and planted in collaboration with CARDI and showed higher yields. Subsequently, additional varieties were introduced from Vietnam and China, and these are now being multiplied for widespread testing. In addition, CIAT is working with CelAgrid to conduct pig feeding trials. Findings indicate that cross-

bred pigs fed a diet of rice bran, cassava root meal and either wilted or ensiled cassava leaves result in live-weight gains of about 200-300 grams a day. In the long term, these efficient and effective integrated cassava-based cropping and livestock production systems will enhance total farm productivity, improve livelihoods and contribute to the sustainability of cassava-based cropping systems. CIAT is also starting new activities related to the use of improved forages as feed to improve livestock production. Shortage of animal feed is a major limitation to livestock production, especially at certain times of the year. By planting small areas of high-quality productive forages, farmers are able to greatly reduce feed shortages. A range of forage species and varieties have been evaluated widely in the region and used successfully by smallholder farmers. At the same time, the capacity of extension staff has been increased, so they can work in partnership with farmers to improve livestock production systems and rural livelihoods. A third area of work has involved training NGO staff to improve smallholders' links to markets, which are critical for providing the marginalized poor with pathways out of poverty. (www.ciat.cgiar.org)

- The Mekong River and Tonle Sap Lake create a vast freshwater system covering 1.8 million hectares ─ the world's fourth largest island fishery. Sixty-five million people in this region live mostly along rivers and water courses, and depend heavily on shared resources ─ water, fish, land and forests. However, increasing population, over-exploitation of resources and degradation of the environment are threatening livelihoods, especially those of the poor, who depend on these resources. In response, the WorldFish Center has developed a program on aquatic resources for poverty eradication and food security in the Mekong Region. Research aimed at increasing the productivity of small-scale farmers has resulted in methods for integrating aquaculture with rice farming in floodplain ecosystems. Farmers are now able to obtain 500-1500 kilograms of fish per hectare from flooded ecosystems, compared to an average of 50 kilograms before. Also, as a result of genetics research, farmers now have access to improved fish breeds (such as tilapia, silver barb and common carp), resulting in increased production, decreased costs and improved overall economics of aquaculture operations. (www.worldfishcenter.org)

- In Cambodia, 85 percent of the people are rice farmers, and rice provides three-fourths of daily caloric intake. There is an urgent need to increase rice production in the poorest regions of Cambodia. Plan International is setting up schools and training teachers for remote villages, but poor rice yields due to drought forces villagers to send their children to work to earn money for rice. Recognizing that children will not go to school unless the drought problem is solved, Plan International contacted IRRI along with CARDI and the provincial agricultural extension service to solve the problem in six villages of Siem Reap Province. PROVIDE (Poverty Reduction Options Validated in Drought Environments) was established to help Cambodia's poor rice farmers, so that the children can attend school. This initiative improves livelihoods in other ways as well, for example, through stronger water and food security. (www.irri.org)