

ICARDA News

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Short-term, High-impact Projects: Overcoming Barriers to Crop Improvement in Afghanistan

Some of the immediate barriers to rebuilding agriculture in Afghanistan include the inadequate supply of tested, improved seed of a wide variety of crops, the need for training of Afghan farmers in new techniques and the four years of drought. Drought has hampered the rebuilding of irrigation systems, water management solutions, and the availability of forage for what's left of livestock. Locusts and Sunn Pest infestations are causing significant crop reductions nationwide. Eight project grants awarded by the Future Harvest Consortium to Rebuild Agriculture in Afghanistan FHCRAA/USAID were designed to address these issues. Each project is due to be completed by 31 August, 2003.



ICARDA staff, Dr. Wassimi, left, discussing future plans with village shura members

The International Potato Centre (CIP), based in Peru, is rapidly increasing the supply of virus-free potato seed in Afghanistan for local needs as well as future export to neighboring countries, by stimulating the development of a farmer-based seed multiplication system. A total of 30 tonnes of seed potatoes have already been produced, graded and treated. IFDC is providing fertilizer to accompany the distribution of the virus-free seed to 60 farmers in 20 provinces. The highly successful training of farmers and testing of new varieties is expanding from Jalalabad to Kabul and Bamyan districts. Equipment is being ordered and new farmer candidates identified for training.

The Center for Wheat and Maize Improvement (CIMMYT) will be managing two high-impact projects. The first project is the CIMMYT ‘Seeds for Peace’ open-pollinated maize improvement project. Nurseries for seeding at 20 locations around Afghanistan have been assembled, and Dr. Osmanzai, CIMMYT’s head of office in Kabul, will be arranging the planting of these experiments near key villages. Farmer survey documents are in preparation, and a manual for use by farmers and extension agents is being translated into Pashtun and Dari. During the next two months, farmer-cooperators will be trained to observe production problems and to identify maize populations for on-farm commercialization.

The CIMMYT “Rehabilitating Wheat and Maize Science Human Resource Capacity in Afghanistan” project is devoted to Afghan scientists’ training. Five Afghan scientists will participate in the CIMMYT wheat improvement training course in Mexico, beginning April 7. Two agronomists will attend the advanced agronomy course in Mexico and will study raised -bed wheat production (beginning May 20). One maize breeder will attend the advanced maize improvement course beginning Aug. 11 and two wheat scientists will join the CIMMYT-Turkey office for training in May. An in-country training will be held for twenty Afghan scientists in April and May.

Michigan State University will utilize satellite remote sensing and GIS technology for their project “Rangeland Information Products from Remotely Sensed Imagery in Afghanistan.” MODIS imagery and DEM data layers have been accessed and overlaid for all of Afghanistan for the period May 2002 to present. Landsat images have now been purchased, and information from these datasets is being integrated. In June, the on-ground data validation study will begin. Their crew will traverse the rain-fed regions of Afghanistan with GPS, video and computing equipment to compare and validate on-ground forage productivity with landsat-based estimates. The resulting maps will be provided to farmers and agricultural professionals along with training in interpretation and utilization of the data for improved rangeland management.

Drought has reduced surface water supplies and the bulk of the irrigation systems, which produced over 80% of Afghanistan’s food supply. Groundwater resources have been exploited and the water tables have dropped significantly over large areas of the country causing wells to go dry. Soil salinization and degradation is a priority issue in five provinces—Helmand, Ghazni, Faryab, Shaberghan, and Khandahar.

The International Center for Biosaline Agriculture, based in the United Arab Emirates, will provide apprenticeships for farmers to improve their basic skills in designing and operating improved irrigation systems suitable for saline soils and water. This project is well-advanced, with candidates already identified for specialized training in marginal water management in the UAE and in Aleppo, Syria.

Teams from **Cornell University** in Ithaca, New York, and the **Danish Committee for Aid to Afghan Refugees (DACAAR)**, will be working to introduce best management practices for farm water management and irrigation.

DACAAR has developed a superb reputation for helping Afghan farmers restore access to irrigation water through improved well access. They identified water management as a key constraint to rural income improvement, and will conduct ‘train the trainer’ courses with their own personnel as trainees. Courses in water management for DACAAR staff and colleagues will begin in May.

The Cornell “Building Capacity for Improved Water and Nutrient Management with Emphasis on Irrigated Wheat” project will introduce a package of ‘best management practices’ to irrigated wheat producers in Afghanistan. This project has not yet gotten underway.

The number one biological constraint to wheat production in Afghanistan is the insect known as “Sunn Pest.” The indiscriminate use of pesticides has created resistance and killed the natural enemies of this destructive insect. Crop yields in wheat were diminished anywhere from 50% to 90% in 2002. ICARDA and the University of Vermont will send a team in April offering an in-country training course using an integrated management approach to fight Sunn Pest and other major pests. The course will include training on biological control, including methods for mass rearing of important natural enemies. This group delivered a Sunn Pest Management Guide to the Central Asian Development Group in March.

Each of these efforts focuses on building the capacity of Afghan farmers and scientists to continue the improvement of crops and techniques well into the future.

ICARDA's (www.icarda.org) mission is to improve the welfare of people and alleviate poverty through research and training in dry areas of the developing world by increasing production, productivity, and nutritional quality of food, while preserving and enhancing the natural resource base. ICARDA is a Future Harvest Center.

The Consultative Group on International Agricultural Research (CGIAR) (www.cgiar.org) is a strategic alliance of 62 members and 16 Future Harvest Centers that mobilizes cutting-edge science to promote sustainable development by reducing hunger and poverty, improving human nutrition and health, and protecting the environment

The Future Harvest Consortium to Rebuild Agriculture in Afghanistan is a multi-partner effort led by the International Center for Agricultural Research in the Dry Areas (ICARDA) and funded by the United States Agency for International Development (USAID). More information on the Future Harvest Consortium to Rebuild Agriculture in Afghanistan can be found at: www.futureharvest.org

The United States Agency for International Development (USAID) is the government agency providing U.S. economic and humanitarian assistance worldwide for more than 40 years (www.USAID.gov).