

# SEEDS AND PLANT GENETIC RESOURCES: *conservation, plant breeding and seed systems*

**PRESERVING PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE (PGRFA) AND ADOPTING VARIETIES WITH HIGHER YIELD POTENTIAL UNDER HARSHER CONDITIONS OF DROUGHT, SALINITY OR BIOTIC STRESS CAN ENABLE FARMERS TO COPE WITH THE CHANGING ENVIRONMENT AND BOOST THEIR FOOD PRODUCTION. THE CONTINUUM FROM CONSERVATION OF PLANT GENETIC RESOURCES TO SEED SYSTEMS THROUGH PLANT BREEDING IS THE KEY TO IMPROVING FARMERS' ACCESS TO QUALITY SEED OF SUITABLE VARIETIES. IN MANY COUNTRIES THERE IS A NEED FOR A COHERENT NATIONAL INTEGRATED STRATEGY THAT STRENGTHENS THESE LINKAGES, AND ALLOWS FOR THE IMPLEMENTATION OF THE PRIORITY ACTIVITIES OF THE GLOBAL PLAN OF ACTION FOR PGRFA.**

## **AZERBAIJAN** *conservation*

Although management of PGRFA provides the raw material for plant breeding and seed production; a systematic approach to conservation and use of the rich national PGRFA diversity available in genebanks, *in-situ* and on-farm is still to be achieved.

Through the National Information Sharing Mechanism on PGRFA and with the contribution of all national stakeholders, systematic reporting now permits the analysis of the management of PGRFA collections in Azerbaijan. This will provide the basis for the preparation of a National Integrated PGRFA Management Strategy for enhancing crop production and food security in the country in compliance with the provisions of the International Treaty on PGRFA.

## **BANGLADESH** *plant breeding*

Farmer preference for modern crop varieties and private sector interest is placing considerable demands on the public sector to provide trained plant breeders, support germplasm evaluation, pre-breeding and a regulatory framework for developing and releasing modern varieties.

In Bangladesh, FAO undertook a national survey of plant breeding capacity building needs and has developed a model to pinpoint the gaps in the plant breeding and regulatory systems. This is being used to target investments to achieve balance and continuity, for long-term returns from plant breeding. The regulatory environment is also being upgraded.

## **CAMEROON** *seed systems*

Over the past several years, the rainy season in Northern Cameroon has been irregular. This has had an adverse affect on local varieties, reducing grain production. Only some early maturing varieties are available and others are being developed by the national institute (IRAD); their seed production and supply to farmers is not assured.

In order to ensure access to early maturing varieties of maize, sorghum and millet, FAO has supported community seed groups to produce quality seed of these varieties and has strengthened their linkages with IRAD. The availability of quality seed of adapted varieties has significantly increased.



# SEEDS AND PLANT GENETIC RESOURCES:

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- strengthening community based seed production
- *in-situ* and on farm conservation initiatives
- strengthening national seed quality assurance systems

- strengthening capacity in plant breeding through the global initiative on plant breeding
- developing information systems at national and international level on plant genetic resources



- updating the Global Plan of Action for the Conservation and Sustainable Utilization of PGRFA
- developing national integrated PGRFA strategy
- developing seed policy and regulatory framework at national and regional level
- improving preparedness and response to seed security crisis
- adopting the ITPGRFA

PGRFA CONSIST OF DIVERSITY OF SEEDS AND PLANTING MATERIAL OF TRADITIONAL AND MODERN CULTIVARS, CROP WILD RELATIVES AND OTHER WILD PLANT SPECIES, AND ARE THE BIOLOGICAL BASIS OF FOOD SECURITY. THESE RESOURCES ARE USED FOR FOOD, FEED, FIBRE, CLOTHING, SHELTER AND ENERGY. THE CONSERVATION AND SUSTAINABLE USE OF PGRFA IS NECESSARY TO ENSURE CROP PRODUCTION TO MEET GROWING ENVIRONMENTAL CHALLENGES AND CLIMATE CHANGE. THEIR EROSION POSES A SEVERE THREAT TO THE WORLD'S LONG TERM FOOD SECURITY.

COUNTRIES ARE FUNDAMENTALLY INTERDEPENDENT WITH REGARDS TO PGRFA, AND IN PARTICULAR FOR CROP GENETIC RESOURCES WHICH HAVE BEEN DEVELOPED, IMPROVED AND EXCHANGED WITHOUT INTERRUPTION OVER MILLENNIA. CONTINUED ACCESS TO PGRFA AND A FAIR AND EQUITABLE SHARING OF THE BENEFITS ARISING FROM THEIR USE IS ESSENTIAL FOR FOOD SECURITY.

THE WORK ON SEEDS AND PGRFA AT FAO, DIRECTLY AND THROUGH THE INTERNATIONAL TREATY ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE (ITPGRFA), FOCUSES ON THE CONSERVATION AND SUSTAINABLE USE OF PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE, FOR FOOD SECURITY. THE AIM IS TO INTEGRATE THE CONCEPTS OF CONSERVATION AND SUSTAINABLE USE INTO NATIONAL POLICIES AND STRATEGIES THAT ENSURE A COMPREHENSIVE RESPONSE TO THE NEEDS OF FARMERS, TO UNDERPIN SUSTAINABLE INTENSIFICATION OF CROP PRODUCTION.

*Sustainable CROP PRODUCTION INTENSIFICATION around the world*

