

Armenia Workshop – Final Summary Report Tbilisi- Georgia, 20 February 2007¹

The workshop was as opened with welcome words from Mr. Alexey Morgounov, ICARDA/CIMMYT wheat breeder. Participants came from the following institutions:

- RC of Farming and Plant Protection
- Center of Biotechnology
- Agrarian University

Also assisted the event Mr. Nusret Zencirci, from Turkey, who carried out the national plant breeding and associated biotechnology assessment in his country.

As background information there was the presentation of Ms. Armine Amyan on “Armenia Plant Breeding and Associated Biotechnology Capacity Assessment”

The following elements were indicated to be considered in the design of strategies to strengthen Armenia’s plant breeding and associated biotechnology capacity:

Local plant genetic resources diversity – The highly diverse plant genetic resources (PGR) available in Armenia was considered by the participants as its strongest component of their strategy to use PGR. The geographical characteristics of the country (the one in the Caucasus with the highest diverse mountainous conditions) were pointed out as responsible for such high genetic diversity. Vavilov named Armenia as the center of origin of many crop species. Today the country is known for having 13 species and more than 300 subspecies and botanical varieties of cultural and wild wheats. Even though the identified genetic diversity is very high there is still need for new expeditions to collect PGR. However, the bottleneck is the utilization of this PGR in the breeding programmes. According to the participants this richness in genetic diversity lacks government support to be used to benefit farmers. Genetic erosion is been observed in all eco-regions of the country. Therefore, the group recommended the government to develop a national strategy focusing on conservation including expeditions for collection, promoting *in situ* conservation, strengthening facilities for *ex situ* conservation and encouraging PGR use.

Human resources capacity building – The number of plant breeders needs to be increased, but there are no incentives for the young generation to go into agricultural research. The average age of the staff in the research centres is high (over 50 years) and there is no replacement. The universities have a significant number of students in agronomy and plant breeding, but they move to more profitable areas of work, since researcher’s salaries are very low and there are no other attractive to the young students. Therefore, the participants recommended the government to revise its medium- and long-term human resources development strategy.

Plant genetic resources (PGR) – Armenia does not have a central genebank to store the PGR accessions it has. Conservation of these PGR is done in two research centres the Biotechnology Centre and the National Academy of Science and the communication between them is very limited. Years ago PGR were coming to Armenia from the Vavilov Institute; today they come from the CGIAR Centres (e.g. CIMMYT, ICARDA, ICRISAT and

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CIP). The participants suggested creating a mechanism to foster linkages between the two institutions and building a national information system and computer links in the Research Institute for information access and sharing.

Biotechnology – The group recognizes the role biotechnology can play in enhancing plant breeding programmes. Armenia established a biotechnology centre in 2004, but did not move very far since lack of financial support from the government and acquisition of modern equipment limited the research capacity of the centre. In addition, even though the centre is in the same building where the most important breeding programmes are there is no communication between plant breeders and biotechnologists. The participants recommended developing mechanism to forge linkages between the two groups and allocating resources to biotechnology activities directed to solve agronomic problems such as tolerance to abiotic stresses.

Relationship among research institutes and Agrarian University – There is some degree of collaboration between the two groups. This collaboration relates to on-hand training of university students and their thesis research, which are carried out at RIs. However, there is a big gap for improvement in relation to planning and carrying out joint research activities. The group agreed that the government should develop a mechanism to strengthen this relationship.

Policy issues –According to the participants agriculture is not priority for the government, consequently there is no support for agricultural research. In a very short time the current policy will destroy the already weak agricultural sector of Armenia. The idea of bringing the private sector to the agriculture is interesting but it is not likely to work, since the traditionally the private sector does not invest in agriculture and the current policies are unclear on how it will happen. The participants recommended to the policy-makers to develop a clear and transparent national strategy for agriculture including PGR use, biotechnology, seeds, and mechanisms to sustain these activities such as royalties. There was a request to FAO to help this process using experiences acquired elsewhere.

Seed systems – Plant breeding programmes have been continuously releasing varieties; however farmers are not planting them. The main reason for that is the lack of a seed distribution system. Two research institutes are producing high quality seeds in the country but recently they have not been able to sell them because farmers can not afford the prices. The government policy is to stimulate private sector to invest in this area, but there is not much happening and farmers are planting grain instead of seed. Very few seed production farmer associations are fledging in some regions of the country. The group recommended developing a national seed legislation to ensure benefits to the plant breeding programmes and breeders, and to create a better seed delivery to farmers.

Regional and international cooperation to PGR use – Cooperation among countries in the region is weak. Nonetheless, it is quite strong with the international centres. The main aspect of this cooperation relates to PGR exchange, scientific visits and participation in conferences and workshops. The participants reinforced the importance of the international cooperation and recommended that preparation and implementation of new projects on strengthening the national capacity to use PGR involve them.

PGR conservation and use awareness – It is part of the national idiosyncrasy to pay attention to comments and suggestions coming from outside. The case of PGR is not different, thus national campaign to raise awareness on conservation and use of PGR has to come from international organizations. Therefore, they recommended developing a strategy to raise public awareness about the importance of PGR conservation and use with emphasis on the decision-makers. FAO was asked to collaborate with this process even though it was

not clear to the participants which level of priority this activity should have in strengthen the national plant breeding and associated capacity.

Priority crops for PGR use – The group listed a large number of crops but ended up prioritizing the following five: winter wheat, spring barley (used as forage and for malting), grapes, apricots, and tomato.

“Erebuni” Nature Reserve – There is an area of 100 ha preserved for *in situ* conservation of wild wheat and other species. This natural reserve shall be maintained and utilized though currently the resources for its maintenance are limited.

The possible project on utilization of PGR may cover the following areas: policy to enhance public awareness on conservation and utilization of genetic resources; education and training of new generation of plant breeders in Armenia and outside including training at international centers; provision of machinery for breeding programs; establishment of closer linkages between the research and educational institutions dealing with genetic resources; establishment of communication including Internet access for the breeders and PGR specialists for easy access to the information and databases.