



CAC NEWS

CGIAR Collaborative Research Program for Sustainable Agricultural Development
in Central Asia and the Caucasus (CAC)

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Consortium
Members

ARMENIA * AZERBAIJAN * GEORGIA
* KAZAKSTAN * KYRGYZSTAN * TAJIKISTAN * TURKMENISTAN * UZBEKISTAN



THE STEERING COMMITTEE MEETING OF CONSORTIUM FOR CAC HELD

The fifth Program Steering Committee (PSC) meeting of the CGIAR Collaborative program for sustainable agricultural development in Central Asia and the Caucasus (CAC), was held in Tashkent, Uzbekistan, from 24-26 June, 2002. The meeting was hosted by the Uzbek Scientific-Production Center for Agriculture (UzSPCA) in collaboration with the CGIAR Program Facilitation Unit (PFU). In all, 40 participants attended, including the Heads of eight NARS from the CAC region, representatives of donor organizations and representatives of the ten CG Centers participating in the Consortium. The Directors General of ICARDA, ICRISAT, IPGRI and IWMI and DDG of IRR, attended the meeting.

Prof. Dr. Adel El-Beltagy, Director General, ICARDA, welcomed the participants and the chief guest Deputy Prime Minister and Minister of Agriculture and Water Management of the Republic of Uzbekistan, H.E. Mr. S. Yusupov. He brought back to the memory of the audience the major landmarks of the program activities in the region that had started in 1998. Prof. Dr. El-Beltagy also paid tribute to Mr. I. Jurabekov who had signed the Agreement regarding establishment of the ICARDA-CAC Regional office in Tashkent in 1998, which opened a door for collaboration between the CAC region and CG Centers.

The Co-Chairpersons of the PSC, Prof. Azimkhan Satybaldin, DG, NACAR, Kazakstan, and Dr. Geoff Hawtin, DG, IPGRI, chaired the meeting, while the new Co-Chairpersons elected for the next year were Dr. Sheraly Nurmatov, DG, UzSPCA, Uzbekistan, and Dr. Frank Rijsberman, DG, IWMI.

In his annual report, Dr. Raj Paroda, the Head, PFU, made a presentation under the title "From planning to action" highlighting the progress that program had made in the last three years and emphasized the need for its further strengthening.

The presentations by the eight Heads of the NARS-CAC indicated the benefits that the NARSs received from the collaborative research. It was heartening to see that many new varieties of cereals and legumes are going to be released or submitted to the State Variety Testing Commissions. The Heads of NARS-CAC also appreciated

the support they received in the area of human resource development and desired that all the CG Centers involved in the Consortium for CAC to be more active following the example of ICARDA, CIMMYT, IPGRI and IWMI. Presentations by different CG Centers on the collaborative activities with NARS-CAC also indicated that impressive work has been done during the 2001/2002 season. IRR, being the tenth member of the Consortium, was represented by DDG (R), Dr. Ren Wang. He also presented a vision on future involvement of IRR in Central Asia.

One of the important items for discussion was the newly proposed Challenge Program (CP) for the CAC region, which is built on the platform developed by the CGIAR Program for sustainable agricultural development in the CAC region. It was recognized that the CP is an important step to tackle emerging challenges of agricultural development and food security on the basis of priorities well identified by all the program stakeholders. Given the current global interest to the region, there are evident opportunities for attracting new partners to link research with development and investment programs. After detailed discussions, the CP was unanimously endorsed and recommended for submission to the CGIAR for its consideration.

The other issues that meeting addressed related to fund-raising activities for the program. It was emphasized that there was an urgent need to raise funds for the Program activities, in particular for PFU. The Heads of NARS-CAC also made an appeal to the Chairman, CGIAR, to allocate funds for the sustainability of the Systemwide Program.

It was also decided to hold the next PSC meeting in Baku, Azerbaijan, sometime in May/June of 2003.

A field visit was organized for the participants by UzSPCA and PFU on 27 June to see the collaborative activities in the integrated research site Boykozon of the ADB-funded project, Uzbek Research Institute of Plant Industry (UzRIPI) and Uzbek Research Institute of Cotton Growing. The participants were impressed by seeing the progress of the genebank facility renovation at UzRIPI, with the support of USDA, and technical backstopping of ICARDA and IPGRI.

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Human Resource Development

Miscellaneous News



Participants of the fifth Program Steering Committee meeting

MEETING ON PRIORITY SETTING IN CWANA

Researchers and research administrators from throughout Central and West Asia and North Africa (CWANA) met at ICARDA headquarters on 8-10 May to integrate the regional agricultural research priorities into the CGIAR agenda. The group had the recommendations reached earlier at five sub-regional priority setting meetings organized by ICARDA during 2001/2002. This responsibility for CWANA was assigned to ICARDA by the Center Directors Committee. "Your agenda is our agenda, and your priorities are our priorities", said ICARDA Director General Prof. Dr. Adel El-Beltagy, while welcoming delegates to the Center. ICARDA has helped organization of priority setting meetings throughout CWANA in the past 12 months, which have resulted in sub-regional priority documents.



From left, at the opening session: Dr. Mustafa Yaghi, President of the Association of Agricultural Research Institutions in the Near East and North Africa (AARINENA); Prof. Dr. Adel El-Beltagy, Director General, ICARDA; Prof. Azimkhan Satybaldyn, Chair, CAC Regional Forum; and Dr. Raj Paroda, Chair, Global Forum on Agricultural Research (GFAR)

The May meeting was held to broaden the outlook, and to come up with a plan of action for the entire region. "Fifty percent of people in CWANA are involved in agriculture, directly or indirectly. It has a great influence on the socio-political structure of the countries in the region. We are facing pressure not only from increased population, but degraded natural resources due to the way we are using these resources. The farmers must be viewed not only as the users but also the guardians of our natural resources for generations to come", Prof. Dr. Adel El-Beltagy said. The other opening session speakers joined in stressing the urgent need for poverty alleviation and sustainable natural resource management, and each expressed the importance of regional cooperation. Dr Mustafa Yaghi, President of the Association of Agricultural Research Institutions in the Near East and North Africa (AARINENA), based in Egypt, said "we face a great challenge given the constraints to agricultural production in dry areas". He cited depletion of aquifers due to over-pumping, soil salinity, and the social and political factors leading to desertification as some of the issues in need of attention. "Despite all of these challenges, we cannot overlook the importance of agriculture and food security", Dr Yaghi said. Prof. Azimkhan Satybaldyn, Chair, the CAC Regional Forum, emphasized that cooperation is essential as no single country could resolve the problems of the entire region. This view was endorsed by Dr Raj Paroda, Chair, the Global Forum on Agricultural Research, who said that the priority-setting process now underway is a "systematic and progressive way" to address the region's new challenges.

CAC Agricultural Research Priorities

| | Germplasm management | NRM | Socio-economics | Cross-cutting issues |
|-------------------|--|--------------------------|---|--|
| Priority 1 | Germplasm improvement and biotechnology GR conservation | Water Soils Range | Marketing/ commerce and trade Post harvest technologies Gender | HRD Capacity building ICT |
| Priority 2 | Seed production, and diversification | Biodiversity | Technology dissemination Quality and value addition Institutional policies | Intellectual property rights Crisis and risk management |
| Priority 3 | IPM | ICM | Impact assessment | Bio-safety and quarantine Indigenous knowledge |

CGIAR EX CO MEETS

The Consultative Group on International Agricultural Research had held the second meeting of the Executive Council in London on 16-17 April, 2002. Dr. Raj Paroda attended the meeting as Chairman, GFAR, whereas Prof. Dr. Adel El-Beltagy was specially invited to make a presentation on various activities of ICARDA.

At its first meeting, Ex Co agreed that GFAR should be requested to examine the options for the most appropriate representation of civil society perspectives, including farmers' perspectives, in CGIAR deliberations. A paper presented by Dr. Paroda on participation of civil society organizations was well received and discussed. Options suggested included: (a) adding

one more seat to Ex Co; (b) alternating the civil society slot between NGOs and Farmers Organizations (with one serving as alternate for the other); (c) having GFAR, through its chair who is a member of Ex Co, represent the views of farmers.

The Ex Co agreed to continue conducting its business in a virtual mode and took important decisions relating to challenge program proposals and supported the concept note for Challenge Program for CAC entitled "Development of sustainable agricultural production systems in Central Asia and the Caucasus" to be developed into pre-proposal for further consideration and funding.

Research Highlights

WHEAT

- Scientists from Galla-Aral Branch of Andijan RI of Grain have identified two drought tolerant winter wheat varieties: 8023.16.1/Kauze and Ok82282//BOW//NKT, both selected from Turkey/CIMMYT/ICARDA nurseries. Each of them exceeded in grain yield over the standard variety Sanzar-8 by 21% and 14%, respectively. Basing on results of the three-year research activities, the Scientific Council of the Galla-Aral Branch made a decision to submit these varieties to the State Variety Testing Commission in 2002.
- Seeds of Dostlik variety (5.0 tons) were procured by ICARDA upon the request made by the Uzbek Government from Turkey (4.0 tons) and Tajikistan (1.0 ton) for further seed multiplication in Tashkent and Syrdarya provinces of Uzbekistan. This June, Uzbek specialists reported that they have harvested around 100 tons of seeds. The winter wheat variety Dostlik is likely to be released soon in Uzbekistan in view of its seed availability as well as tolerance to both yellow rust and salinity.

BARLEY

- Based on results of evaluation of the international ICARDA nursery, researchers from Krasnyi Vodopad Breeding Station (Kazakstan) have selected a promising winter barley line (Entry-111, GWB 117-77-9-7//Hm1-02). In rainfed conditions of southern Kazakstan, this entry demonstrated a good resistance to diseases, pests and logging. It was also found to be cold tolerant with large seed size (thousand kernel weight: 52 g). It, on an average, yielded 4.5 t/ha exceeding the standard variety Bereke-54 by 1.1 t/ha. This fall, scientists will include this entry in the seed multiplication nursery for subsequent release in southern Kazakstan.

INTEGRATED DISEASE MANAGEMENT

SURVEY ON CEREAL DISEASES IN UZBEKISTAN

At a special request by Prof. Amir Amanov, the Assistant to the State Advisor of the President on Agriculture, Uzbekistan, a distinguished plant protection specialist, Prof. E. Radchenko, Head of Plant Protection Department of VIR (All-Russian Vavilov Research Institute of Plant Industry) visited along with Dr. Victor Shevtsov, ICARDA Cereal Breeder,



Prof. E. Radchenko (sitting in the center) and Prof. A. Amanov (standing on his right) with Uzbek plant pathologists and farmers in Syrdarya province, Uzbekistan

Fergana Valley, Syrdarya, Jizzakh, Samarkand, Kashkadarya and Tashkent provinces of Uzbekistan with the purpose to conduct a grain crop disease and insect pest survey. The symptoms of yellow rust disease were observed in all provinces on susceptible varieties such as Sanzar-8, Chellaki, and Delta. The most common pests observed were: sunn pest, cereal leaf beetle, and cereal aphids. Many plants were also affected by the virus diseases. To prevent the fast spread of yellow rust, it was recommended to have immediate treatment of susceptible varieties of wheat with fungicides.

During the visit to Galla-Aral RI, the international wheat and barley nurseries were also evaluated for resistance to diseases, adaptation and growth vigor. The ways to avoid mechanical contamination during planting, harvesting and seed sorting were also discussed. Some lines of winter barley were severely affected by scald (*Rhizosporium secalis*), in particular Bulbul (30%) and Dostan (100%). While visiting Uzbek Plant Protection Research Institute, Prof Radchenko made emphasis on training of local scientists at VIR, including degree training, joint research on entomology and exchange of resistant germplasm. Prof. Radchenko also guided the local scientists on methodology of lab experiments, identification of different aphid species, and also briefed them about recent achievements at his Institute.

INTEGRATED DISEASE MANAGEMENT IN GEORGIA

Plant Immunity Research Institute, Kabuleti, Achara, has initiated cooperation with CIMMYT in wheat germplasm evaluation and research since last year. With CIMMYT support, the Institute is assessing around 100 advanced wheat lines for their susceptibility to leaf and stripe rusts at the seedling and advanced stages. The researchers of the Institute monitor dissemination of wheat diseases and visit wheat production

fields regularly in the major wheat producing areas of Georgia. CIMMYT also facilitated participation of Dr. Zoya Sikharulidze, the Head of the Wheat Diseases Department, in the field mission in Azerbaijan, which was headed by ICARDA Plant Pathologist, Dr. Amor Yahyaoui. Besides this, CIMMYT also organized an english training course for one young researcher of the Institute.

PLANT PATHOLOGISTS VISIT THE REGION

Jointly, Drs. Ismail Sadeghi, Director General of Dryland Agricultural Research Institute (DARI), Siroos Mahfoozi, DARI and Muhammad Torabi, Seed and Plant Improvement Institute (SPII), Iran, and Dr. Amor Yahyaoui, Plant Pathologist, ICARDA, visited different regions of Uzbekistan in May, 2002, and surveyed the fields for incidence of wheat diseases. Visiting the Institute of Genetics and Experimental Biology (IGEB), they observed a method of artificial inoculation of fungal pathogen of yellow rust, through which the IGEB has already tested around 1000 accessions of cereal crops from ICARDA and CIMMYT, including some local varieties.

LEGUMES

PROGRESS IN FOOD LEGUME RESEARCH

(source: Dr. Ashutosh Sarker, Lentil Breeder, ICARDA)

Realizing the need of crop diversification, the research administrators/policy makers and scientists in the region have initiated research on food legumes in collaboration with ICARDA since 1998. Within this short period, the national programs have made commendable progress in identification and release of promising elite materials of chickpea, lentil and forage legumes.

Success story of food legume revival is evident by the fact that one chickpea variety, Elexir and one lentil variety, Pablo (ILL 759), have been released by the Mtskheta Breeding Station in Georgia for winter cultivation. The chickpea variety gave an average yield of 3.5-4.0 t/ha, while the lentil variety gave 2.5-3.0 t/ha. "These varieties are liked by the farmers for higher yield, better standing ability and larger seed size", said Dr. Pasha Vacheishvili, Legume Breeder of Mtskheta Breeding Station. The Station has also identified a number of promising lines of food and forage legumes for future release.

Legume research is also progressing well in Azerbaijan. Chickpea variety Narmin, lentil line ILL 6037 and grasspea line LS-481 will be released soon for general cultivation. Bulk quantity seeds of these lines were supplied by



A promising chickpea line selected by Ms. Mamura Mannopova, Legume Breeder in Andijan, Uzbekistan.

NEW GERMLASM FOR TESTING

Since 2000, CIMMYT has been working on maize improvement in CAC region. In 2002, a total of 150 kg of improved maize germplasm, including open-pollinated varieties and hybrids of

During the survey, they identified Sanzar-8 as highly susceptible wheat variety, whereas Kroska, Knajna, Andijan-2, Andijan-4, Eika, Krosata, Ygtina, Parazupi, Palma, etc, showed good tolerance to yellow rust.

This spring was more humid in Uzbekistan, that is why the diseases, especially rusts, got so wide dissemination, sometimes damaging varieties up to 20-30%. The most susceptible varieties, such as Sanzar-8 and Intensivnaya were affected to the extent of 80% in the areas where these were not treated with fungicides.



Seed multiplication of lentil variety Pablo in Mtskheta Breeding Station in Georgia. From left to right: Dr Pasha Vacheishvili, Legume Breeder, Dr. Otar Liparteliavi, Director of the Station, and Dr Ashutosh Sarker, ICARDA

ICARDA for rapid seed multiplication and distribution. These varieties have also performed well in farmers' fields. Additionally, Dr. Lutfier Amirov, Legume Breeder, has also identified a number of chickpea, lentil and grasspea lines with good adaption for future release.

In Uzbekistan, the Gala-Aral Branch of Andijan Research Institutes of Grain is being actively involved in grain legume research. After several years of testing and evaluation, Dr. Nodir Irgashev, Legume Breeder, identified several chickpea lines as promising for release. Among them, FLIP 88-85 and FLIP 93-93 have been proposed for immediate release. Lentil lines ILL 7172 and ILL 7513, vetch line 2628 and grasspea line LS 562 are the candidate lines for release. The seed multiplication of these elite lines is in progress. In Andijan, Ms. Mamura Mannopova, Legume Breeder, selected a number of elite chickpea and lentil lines from various ICARDA-supplied nurseries. Some of the selected chickpea lines are erect with higher pod number, early maturity and have bigger seeds compared with Uzbek-32, the standard check. Of them, FLIP 98-23 has been chosen for release and testing in the farmers' fields.

The Kazak Research Institute of Crop Husbandry is involved in legume improvement for southern Kazakstan. Dr. B. Zhanylsbayev, Legume Agronomist, selected a good number of food and forage legumes from ICARDA-supplied nurseries for spring or early-spring cultivation. Among them, chickpea FLIP 97-137, lentil ILL 6434 and grasspea Alibar are proposed to be released in southern Kazakstan.

MAIZE

both normal and high quality protein maize, was distributed in the region. This year, the material also includes early-maturing maize genotypes as requested by the national breeders.

NATURAL RESOURCE CONSERVATION AND MANAGEMENT

CONSERVATION AGRICULTURE

Though Kazakh researchers have been working on a number of conservation agriculture (CA) technologies for a long time, due to existing socio-economic conditions, these technologies have not received much adoption for sustainable production systems. The soil conservation systems used by the farmers in northern Kazakhstan, adopted as early as in 1960s, could only marginally control wind erosion, and accumulate soil moisture to achieve average grain yield of about 1 t/ha.

The objective is, therefore, to have a fresh look at the system in a holistic way and to develop the system as a truly sustainable and resource-saving CA system. The current practice of fallow cultivation is unsustainable from both technical and economic points of view. Weed control is poor, soil moisture

losses are rather high and fuel and spares for tractors are scarce and costly. To overcome these problems, it is necessary to strengthen development of appropriate CA technologies. Chemical fallow through use of non-selective herbicides or replacing black fallow by food legume crops could be alternatives. The other avenues of improved soil tillage are towards minimum and/or no-tillage technologies and improved crop residue management by maximizing the amount of trash on the soil surface. In total, the system aims at better controlling weeds, saving soil moisture, increasing soil fertility and protecting the soil from wind and water erosions. In addition, these techniques would minimize a number of field operations and greatly reduce the cultivation costs.

IWMI AND ICARDA: WORKING IN PARTNERSHIP

As the Government of Uzbekistan invited CG Centers to contribute to reform process of agricultural and water sectors, IWMI-CAC and ICARDA-CAC established a joint team to initiate research in Karakalpakstan area on improvement of on-farm soil and water use efficiency. During this year, more than 150 large-scale farms in Uzbekistan have been disintegrated and a number of small scale farms have emerged. Such increase of farming units has complicated the water management system and thus, urged to establish water users' associations. Due to low level of crop productivity, farmers are not able to maintain and to operate irrigation and drainage networks. Therefore, research activities on improved irrigation technology, crop diversification and drainage water use for irrigation were launched in Jambul farm of Khojeli district, Karakalpakstan.

In partnership with the specialists from the Karakalpakstan Branch of SANIIRI, it was found that furrow irrigation technology after careful land leveling is one of the most efficient ways to improve water management. On-farm research on irrigation system started on an area of 3 ha. As severe soil salinity is a major constraint to growing different crops in Karakalpakstan, the issues of crop diversification

through introduction of appropriate crops are addressed in collaboration of ICARDA with the Karakalpakstan Research Institute of Soil Management. Preliminary assessment of sorghum, sunflower and safflower planted after winter wheat has already shown that sorghum has a good potential in this region. Thanks to its drought and salt tolerance ability, sorghum provides much higher yield than traditionally grown grain and fodder crops. It is also planned to initiate activities on irrigation of sorghum with drainage water.

Rice is recognized as a crop having the highest water requirements of around 20-25 thousand m³/ha. At the same time, rice is an important food for the people in Uzbekistan. Therefore, research activities on water saving irrigation technologies for rice production were initiated jointly by ICARDA and International Rice Research Institute at the experimental sites both in Tashkent province and in Karakalpakstan.

IWMI started activities on establishment of water users' association in Keneges canal zone covering an area of 500 hectares. A seminar with farmers was conducted on this topic. Besides, works on rehabilitation of the canal and establishment of water accounting devices were initiated.

LIVESTOCK MANAGEMENT AND FEED PRODUCTION

REVIEW OF ON-GOING ACTIVITIES

On-going activities of the IFL-CA project were overseen by ICARDA scientists Ms. Inger Waldhauer (Uzbekistan) and

Ms. Birgitte Hartwell (Turkmenistan and Kyrgyzstan). It was found out that most of the activities have been implemented in accordance with the workplan.

In Turkmenistan and Uzbekistan, early lambing (in January) gave positive results demonstrated by stronger and healthier lambs. Strategic feeding of pregnant ewes resulted in increased fertility rates and larger birth weights of lambs. Range rehabilitation included planting of *Saksaul (Haloxylon)* bushes and these are expected to have a good growth this spring. Ms. Waldhauer, accompanied by the local socio-economists Mr. Y. Yakhshilikov and Dr. E. Gaziyants, conducted several interviews with farmers on technology of milk processing. It was interesting for ICARDA scientist to learn more about quality control of dairy products practiced in the region. Several dairy markets were also visited in different districts, including Tashkent, to assess the quality of the dairy products. In Turkmenistan, Ms. Hartwell was impressed by good stand of barley and alfalfa and by shape of lambs from early (December and January) lambing on Mr. Hydyrguly Sapargulyev's farm.



Dairy product market in Tashkent, Uzbekistan.

NATIONAL RESEARCH ORGANIZATION AND MANAGEMENT

COMPETITIVE GRANT SCHEME IN AZERBAIJAN

Over the last year, under the project on World Bank Competitive Grant Scheme in Azerbaijan (CGS), a total of eleven projects have received funding. The focus of CGS is to promote better technologies directly to the farmers. Approximately, half of the projects are on cereals (wheat primarily) and another half is devoted to legumes, maize, cotton, potato and horticultural crops. Some of these projects do have involvement of agricultural scientists working with NARS.

Meetings/Workshops/Conferences Organized

REGIONAL WORKSHOP ON WINTER WHEAT DISEASES

The International Regional Workshop "Coordinated regional assessment of winter wheat disease resistance" was organized by CIMMYT and GTZ (Germany) from 31 March - 1 April in Almaty, Kazakhstan. A total of fifteen agricultural scientists from Uzbekistan, Kyrgyzstan and Kazakstan attended the workshop. The participants presented the results of last year and developed a work plan relating to resistance to yellow rust and covered smut for the year 2002.

MEETING ON WHEAT SALINITY TOLERANCE

A national planning meeting to initiate a CIMMYT-Kazakstan joint research project "Wheat salinity tolerance improvement for Kazakstan and Central Asia soil conditions" was held on 11 April, 2002. The meeting was attended by fourteen Kazakh scientists representing the fields of soil science, wheat breeding, genetics, plant physiology and biotechnology. A long-term research program and a work plan for the year 2002 were developed. These will include four main components: screening of the wheat varieties for salt tolerance (laboratory experiments); field variety tests and on-farm demonstrations; breeding of wheat for salt tolerance; and application of biotechnology to increase salt resistance.

A WORKSHOP ON COMPETITIVE GRANT SCHEME

CIMMYT agronomist, Dr. Patrick Wall, conducted a seminar in Baku, Azerbaijan, on 15-19 April, 2002, where the issues of management of on-farm research programs were addressed. The seminar was carried out within the consultancy mission of CIMMYT for the World Bank Competitive Grant Scheme project in Azerbaijan. The representatives of the local agricultural research institutions, whose on-farm demonstration projects were funded through the competitive grants, and the staff of the competitive grant secretariat attended the seminar. After the class-room session, the participants of the seminar visited demonstration sites of the projects funded through the competitive grants in Saatli, Salyan and Terter. The trials were established at the private farms to demonstrate new crop varieties and improved crop management practices developed by the agricultural research centers of Azerbaijan. The farmers involved in the on-farm demonstration projects actively participated in the field visits and discussions. The participants evaluated the trials and discussed the possible impact on the agricultural practices of the neighboring farmers.

GLOBAL MECHANISM MEETING AT IFAD

Dr. R. Paroda attended the Facilitation Committee meeting of the Global Mechanism (GM) at IFAD, Rome on 29 April and made a presentation on two Challenge Programs namely "Development of sustainable agricultural production systems in Central Asia and the Caucasus" and "Poverty and Desertification". Both the presentations were well received and generated considerable interest for involvement in the Strategic Partnership Agreement for implementation of UNCCD in the Central Asian region, which has already been signed between the GM, ADB, CIDA and GTZ and, for which IFAD has also expressed interest. The collaboration of GM with ICARDA was appreciated, especially in Central Asia where a Consultant is being appointed with joint support of GM and IFAD, to be located at ICARDA Regional Office, Tashkent. This was considered as a positive step for future planning. As one of the meeting's outcomes, it was decided that ICARDA might consider signing the "Strategic Partnership Agreement" for GM initiatives in the Central Asian countries.

WORKSHOP ON MILK COLLECTION

A national workshop on milk collection and processing was jointly organized by the Ministry of Agriculture, ICARDA, and the RI of Karakul Sheep Breeding, Samarkand, as a part of the IFAD-funded "Integrated feed and livestock production in steppes of Central Asia" project on 15 April, 2002 in Nurota district, Uzbekistan. Private farmers and specialists from the district participated in the workshop, which was opened by the District Governor. Mr. M. Hilali from ICARDA participated in the workshop and demonstrated some technologies of milk processing used in Western Asia.

WORKSHOP ON SOIL AND WATER ANALYSIS

Under the ADB-funded project "On-farm soil and water management for sustainable agricultural systems in Central Asia", a short-term training course on improved methods of soil, water and plant analyses was organized in Dushanbe from 3 to 8 May, 2002. The training course involving fourteen participants from all the Central Asian countries was organized in collaboration with the Tajik Research Institute of Soil Science.

Each participant received a copy of the Russian version of "Soil and Plant Analyses" manual developed by ICARDA's scientists and a copy of the methodology used in laboratory analyses in the countries of Central Asia. The participants of the course commended the lectures given by Acad. H. Jumankulov, Dr. U. Akramov, Dr. R. Kabilov and others.

WHEAT TRAVELING WORKSHOP IN TAJIKISTAN

A traveling workshop was organized under the GTZ-CIMMYT project "Revitalization of wheat breeding and seed production in Tajikistan". It consisted of two parts. On 8 May, the group of researchers, agronomists, local administrators, representatives of CIMMYT, German Agro Action and ACTED, traveled in Sugd region of Tajikistan. The group evaluated the on-farm varietal trials and demonstration plots established at the Chilgazi and Mukaramov farm, as well as seed production fields. Participants noticed that there were too many varieties grown in the country and their origin was sometimes uncertain while many of them were highly mixed.

The second part of the workshop started in Dushanbe on 9 May, and the group of 30 people traveled for around 400 km

in two days visiting different locations. The varieties Jagger from USA, Steklovodnaya 24 and Karlygash from Kazakstan and several varieties from Turkey performed very well and demonstrated good resistance to yellow rust. Two on-farm agronomy trials conducted jointly with the Research Institute of Soil Science were also visited. The sites were established with the purpose to demonstrate direct planting of wheat into cotton rows in order to have wheat planted in optimal time. The workshop attracted attention of several foreign projects operating in Tajikistan: German Agro Action, ACTED, CARE International and TICA. Preliminary agreement was also reached that the agencies would purchase seeds of promising varieties so produced on these farms.

GFAR STEERING COMMITTEE MEETING

The eleventh GFAR Steering Committee meeting was held at FAO, Rome on 14 May, 2002. While opening the meeting Dr. Raj Paroda, Chairman, GFAR, welcomed the participants and outlined the important achievements, such as multi-donor agreement with FAO and Secretariat related issues, key points discussed in the Donors' Support Group and the NARS Steering Committee Meetings, the pledges from the donors for 2003 and the request from the NARS for increased support from GFAR to their Regional Priority Setting and related activities. He also highlighted some important changes that had occurred since the last meeting in Washington in October 2001. The CAC Regional Forum was presented by Prof. A. Satybaldin, the President, Prof. G. Alexidze, Executive Secretary, CAC Sub-Regional Fora for Caucasus and Acad. Jamin Akimaliev, the

President of Kyrgyz Agrarian Academy, as an observer. Prof. Satybaldin made an impressive presentation on activities of CAC Regional Forum, which had organized an expert consultation on Post-Harvest Technology in CAC in collaboration with FAO and GFAR. Participants of the meeting also discussed various issues, in particular related to research priority setting process held in CWANA region, listened to the progress reports, discussed the progress of global partnership program, new GFAR Secretariat's project portfolio and different management issues. It was decided to have the next GFAR meeting in Dakar, Senegal, on 21-23 May, 2003 back-to-back with the FARA General Assembly slotted for the 19-20 May, 2003.

REGIONAL TRAVELING WORKSHOP ON WINTER WHEAT

The international traveling workshop titled "Breeding, seed production and on-farm experiments of winter wheat in Central Asia and the Caucasus" was organized jointly by CIMMYT, ICARDA and the GTZ from 2 to 8 June, 2002 in Kazakstan and Kyrgyzstan. The participants of the workshop covered a long route through Krasnyi Vodopad-Karabau-Shimkent-Taraz-Merke-Bishkek to Almaty. The workshop was aimed towards popularization of collaborative activities on wheat improvement carried out by various research institutes of Kyrgyzstan and Kazakstan in collaboration with CIMMYT and

ICARDA. Visiting many on-farm plots and experimental stations, the participants of the workshop selected the best lines and varieties out of CIMMYT/ICARDA international nurseries and local standards. Also the lectures on wheat improvement and integrated disease management were delivered. The workshop ended in the National Academic Center of Agriculture, Kazakstan, where the participants shared their impressions and unanimously agreed to conduct such activity annually to meet each other, exchange the information and familiarize with research achievements of the neighboring countries.

TRAVELING WORKSHOP IN UZBEKISTAN

The Ministry of Agriculture and Water Management of the Republic of Uzbekistan (MAWM) in collaboration with Uzbek Scientific Production Center for Agriculture (UzSPCA) and ICARDA jointly organized a traveling workshop from 16-18 May, 2002 on the theme "Establishment of on-farm production and demonstration plots in Uzbekistan", covering different regions of Uzbekistan.

A total of 24 demonstration plots were established in the Republic in 2001/2002 crop season. This activity has been conducted for the second year to test both released and new promising varieties and lines of winter wheat and barley in production conditions and to identify the best wheat and barley varieties for each zone.

The workshop was inaugurated by the First Deputy Minister of MAWM, Mr. Saydulla Begaliev. In his address, he mentioned that establishment and visit of the on-farm demonstration plots is important for the food security of the Republic. Mr. Begaliev was quite happy with the progress made in cereal crop breeding, however, many things still are to be addressed in future, he said. In conclusion, he also wished a fruitful accomplishment of the workshop and appreciated the efforts made by ICARDA towards establishment of the on-farm production and demonstration plots in Uzbekistan.

The workshop participants visited the field plots in

different provinces and selected wheat varieties Yangjaul, Gairat, Polovchanka, Dostlik, Andijan-1 and Aral-96, which were good in yield, resistance to pests, diseases and lodging.

A closing session of the workshop was organized in Bukhara, where the participants made general conclusions emphasizing the importance of such workshops and requested the management of ICARDA to continue this very useful activity.



Participants of the workshop in Bukhara province, Uzbekistan

TRAVELING WORKSHOP IN TURKEY



Visiting the experimental site of Anadolu RI of Agriculture

A traveling workshop on crop diversification and conservation tillage was organized in Turkey under ADB-funded project "On-farm soil and water management for sustainable agricultural systems in Central Asia" from 20-26 May, 2002. Ten scientists from Central Asia participated in the workshop. The objective was to familiarize these specialists with the agronomic practices and the experiences of colleagues in Turkey. The workshop was organized by ICARDA-Tashkent in collaboration with Dr. Mustafa Pala, Acad. Mekhlis Suleimenov and the scientists from the Anadolu Research Institute of Agriculture, Turkey. The participants visited the International Agricultural Research Center at Bahri Dağdağ, Anadolu Research Institute of Agriculture, as well as experimental fields of Research and State Farms, Polatli, Altynova and Guzlu in Konya and Eskisehir provinces. Research activities and farming practices in the area of crop diversification, in particular, wide spread use of food legumes, generated considerable interest of the scientists from Central Asia.

REGIONAL CATCN-PGR MEETINGS

A meeting of the CATN-PGR Network was organized jointly by IPGRI and ICARDA in Tashkent from 20 to 21 June, 2002. The Meeting was attended by scientists involved in two working groups: on cereals and medicinal plants. A total of 23 specialists from Armenia, Azerbaijan, Georgia, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan, as well as scientists from ICARDA and IPGRI, participated. During the working sessions they reviewed PGR activities for the period 1999-2002 and developed a work-plan for 2002-2004.

This meeting was followed by the CATN/PGR Steering Committee meeting of National Coordinators attended by all the eight NC from CAC countries and representatives from IPGRI and ICARDA. The meeting was inaugurated by Prof. Dr. Adel El-Beltagy, Director General of ICARDA. The participants of the meeting discussed issues related to strengthening of PGR activities in the region and approved the proposed workplan for 2002-2004. Acad. Gogotur Agaladze (Georgia) was elected as Chairman of the

CATCN/PGR Steering Committee and Acad. Jamin Akimaliev (Kyrgyzstan) as Deputy Chairman.



Participants of the CATN-PGR Steering Committee meeting, Tashkent, Uzbekistan

Human Resource Development

DIFFERENT TRAINING ACTIVITIES:

- CIP is planning to organize an individual training course for Mr. Durbek Khalikov from Uzbekistan at its headquarters, Lima, Peru, on potato improvement from 4 to 29 November 2002. He will also see potato research work in India on his way to Peru.
- Dr. Alisher Atakurbanov from the Research Institute of Karakul Sheep Breeding, Samarkand, Uzbekistan, has been trained for two months at ICARDA for statistical data management in livestock research supported by the IFAD-funded ICARDA project "Integrated feed and livestock production in the steppes of Central Asia".
- Ms. Madina Musayeva from Kazakstan finished her two month degree studies at ICARDA as a PhD student on socio-economic issues of marginal water use in agriculture. Her training has been supported by the ADB-funded ICARDA project "On-farm soil and water management".
- Four young scientists from Kazakstan, Kyrgyzstan, Uzbekistan, and Tajikistan have been trained in innovative water management practices and research methodologies at ICARDA, Aleppo, Syria supported by the ADB-funded project "On-farm soil and water management".
- A special English language course is being organized in Tashkent for three scientists from Uzbek Rice Research Institute. The course has started in April and will be completed in July, 2002. One of the breeders participating in the course will go for further training at the International Rice Research Institute (IRRI) in Philippines, and another one will be participating in a three month international training course on rice breeding starting from the end of July, 2002 at the Hunan Academy of Agricultural Sciences, China.
- A training course on "Water saving irrigation technologies and socio-economic implications under drought conditions" was conducted from 12-16 June, 2002 in Taraz, Kazakstan under the ADB-funded project on "On-farm soil and water management for sustainable agricultural systems in Central Asia". Ten participants from all the five countries participated in the training course, which was organized by ICARDA-Tashkent office in collaboration with the Research Institute of Water Economy, Taraz, Kazakstan. To cover important topics of the training course, the former Project Coordinator, Dr. Fawzi Karajeh, presently working as Chief of the Recycled Water and Desalinization Department, the Californian Department of Water Resources, delivered lectures on advanced irrigation and leaching technologies for drought conditions.

Miscellaneous News

ICARDA CELEBRATED ITS 25th ANNIVERSARY

ICARDA celebrated on 4 May this year its 25th jubilee since establishment. More than 80 participants attended three-day celebrations held in Tel-Hadya near Aleppo. Inaugurating the general meeting, H.E. Dr. Nouredin Mona, Minister of Agriculture and Agrarian Reform, Syria, pledged his country's continued "full support" to help ICARDA achieve its mission of poverty reduction and improved nutrition, working on behalf "not only of poor farmers in Syria, but farmers worldwide".

ICARDA Board of Trustees Chair, Dr. Robert Havener, presented a history of ICARDA, in which he acknowledged the key role played by the late President Hafez Al-Assad in the establishment of the Center in Syria. The contributions made by the International Development Research Center (IDRC), Canada; the Rockefeller Foundation; the Ford Foundation, and others were also acknowledged. The Board Chair said that ICARDA has achieved a great deal, but much remains to be done, a theme echoed by the speakers who followed him in the day-long symposium. Gains have been made, but "hunger and poverty still loom" in many parts of the developing world, "threatening past achievements," said Dr. Mervat Bedawi, Director, Technical Department, Arab Fund for Economic and Social Development (AFESD), Kuwait. Dr. Peter Cooper, Director, Natural Resources and Environment, IDRC, flagged water and climate change as dominant issues. As such, ICARDA's mandate is "increasingly relevant and deserves an increased support from donors", said Dr. Cooper.

ICARDA Director General Prof. Dr. Adel El-Beltagy briefed the gathering on the

challenges facing the world's drylands, and pointed a way forward for the Center and the region by harnessing the modern tools of science. He said ICARDA would give high priority to helping rural communities add value to their agricultural produce, and would make best use of new technologies, such as biotechnology, geographic information systems, remote sensing and computer expert systems to increase agricultural productivity. "ICARDA is fully committed to the task of producing international public goods in agriculture, and is thus contributing to food security, protection of the environment, and poverty alleviation", said Prof. Dr. El-Beltagy.

The CAC region was represented by high level delegations from all the eight countries. In their speeches they especially emphasized on the catalytic role of ICARDA in sustainable agricultural development of Central Asia and the Caucasus.



Dignitaries from all over Central and West Asia and North Africa and beyond joined ICARDA staff for Presentation Day-2002, which also marked the 25th anniversary of the Center's founding

NEW MINISTER OF AGRICULTURE AND WATER MANAGEMENT IN UZBEKISTAN

Dr. Nosyrjon Yusupov has newly been appointed as the Deputy Prime Minister and Minister of Agriculture and Water Management, Uzbekistan. During his visit to Tashkent in June, Prof. Dr. Adel El-Beltagy, Director General of ICARDA, met H.E. Mr. Yusupov and congratulated him on his appointment



From left to right: Dr. Raj Paroda, RC, ICARDA-CAC and Head, PFU, H.E. Mr. N. Yusupov, Deputy Prime Minister and Minister of Agriculture and Water Management, Prof. Dr. A. El-Beltagy, DG, ICARDA, and Dr. Sh. Nurmatov, DG, UzSPCA

on this prestigious position. Prof. El-Beltagy assured the Minister that all ten CG Centers including ICARDA, in particular, would continue to support agricultural development in the CAC region. Also, he briefly informed the Honorable Minister about collaborative activities in the region, especially in Uzbekistan.

H.E. Mr. Yusupov expressed his gratitude to ICARDA for collaborative research activities being carried out in Uzbekistan and the region as well, about which he was well informed by Dr. Raj Paroda and Dr. Sherali Nurmatov. He also emphasized that agricultural development is linked with technological advancements in agricultural science. He also mentioned that at present, the Government of Uzbekistan is paying much more attention to agricultural research than four years ago. This year, Uzbekistan would have record harvest of around 4.3 million tons of wheat. The main challenges faced by the farmers in the Republic are water shortage and soil salinity. He, therefore, wished to have good collaboration with ICARDA and other CG Centers.

PFU-CGIAR wishes all the success to Dr. Yusupov in his new position and assures him full support for the agricultural research programs in Uzbekistan.

SEED CONVOY TO HELP AFGHAN FARMERS

A convoy of 200 trucks carrying some 3,500 tones of wheat seed arrived from Pakistan to Afghanistan, as part of a seed relief effort being implemented by the ICARDA-led Future Harvest Consortium to Rebuild Agriculture in Afghanistan, reported Dr Tony van Gastel, Head of ICARDA's Seed Unit, who returned in April from the drought plagued, war-torn country. The trucks traveled from Lahore, via Peshawar, to the Afghan capital Kabul, where the seeds were received by the Ministry of Agriculture and loaded on smaller trucks for transportation to outlying provinces.

The World Food Program arranged the transportation to Kabul, while the ICARDA Afghanistan program staff, led by Dr Nasrat Wassimi and Mr. Abdul Rahman Manan, handled onward transportation. Non-governmental organizations, working jointly with the Ministry of Agriculture, distribute the seed to farmers. "All this must be done as quickly as possible, because the spring planting season has almost passed in the lower altitude regions, but there are still opportunities at medium and higher elevations", said Dr. Gastel, who was in Pakistan and Afghanistan with Dr Mahmoud Solh of ICARDA, and Drs. Ray Morton and Larry Paulson of USAID, on 10-19 March to help facilitate the USAID-sponsored seed relief operation. In a meeting at the Afghanistan Ministry of Agriculture, where the team was received by the Deputy Minister of Agriculture, Mr Mohamed Sharif, discussions took place on future cooperation, the need for assessment studies, and matters related to seed distribution. The team expressed the commitment of ICARDA and the Future Harvest Consortium to work in partnership with

the Ministry of Agriculture, Afghanistan. Meetings were also held in Afghanistan and Pakistan to plan a workshop that would bring together all stakeholders involved in seed distribution to produce a "code of conduct" for seed production and seed importation. This workshop, slated for three days in May in Kabul, was organized by the Future Harvest Consortium, the Afghanistan Ministry of Agriculture, and the Food and Agriculture Organization of the United Nations (FAO).

For more information please contact:
A.vanGastel@cgiar.org



Afghans unloading wheat seed for spring planting from the ICARDA/USAID emergency seed relief program, Kabul

IRRI ESTABLISHES COLLABORATION IN THE REGION

Rice is a traditional crop in the Republic of Uzbekistan. For research support, Uzbek Rice Research Institute (UzRRI) was established in 1967. At present, all areas allocated for rice production in Uzbekistan are planted with rice varieties developed by the UzRRI. However, during last one decade, the rice area has considerably reduced as a result of shortage of water. In this context, development of new early maturing rice varieties with low water requirements has become necessary.

Now that the International Rice Research Institute (IRRI) has joined the CG Consortium in CAC, new collaborative activities have been initiated in the region. Dr. Ren Wang, Deputy Director IRRI, recently visited UzRRI and met with Dr. G. Rakhimov, the Director General and other scientists. He briefed them about general activities of IRRI, highlighted possible collaborative activities in the region and answered many questions made by the meeting participants. Potential areas of IRRI contribution to improving food security and sustainability of rice production in the CAC region include increased rice productivity through drought resistance, increased yield of inbred varieties, grain quality, multiple resistance, development of aerobic rice production systems, supply of hybrids with strong heterosis and seed health. Other directions also include improved nutrient and water management at the field level, add value through post-harvest technologies, training and capacity building for rice breeders from the region. It should be mentioned that the first step in collaborative activities have already been made when IRRI provided germplasm of seven rice hybrids and a variety IR-72 to Uzbekistan, Kazakstan and Turkmenistan. Besides these, 590 Japonica and Indica accessions were provided to UzRRI to be tested in 2002.

To strengthen communication facilities of UzRRI, IRRI presented a computer and a printer, whereas the PFU provided a fax machine to the scientists of the Institute.

It was also decided to train three scientists by PFU from UzRRI, namely Ms. Makhfurat Saidakhmedova, senior scientist, Mr. Ikrom Djumanov, scientist, and Mr. Makhamadjon Ergashev, scientist, in the four-month english language course being organized in Tashkent. One of them, upon successful accomplishment of the course, will go to IRRI for training on rice improvement. Mr. Ikrom Djumanov will also be trained in China in the International Hybrid Rice Training Course, which will be held from 25 July to 22 October. A possibility to involve the UzRRI in the on-going project on on-farm soil and water management funded by ADB is also being considered.



During the meeting at the UzRRI, Tashkent, Uzbekistan

MINISTER FROM TAJIKISTAN VISITS ICARDA



H.E. Mr. Tursunboy Rahmatov, the Minister of Agriculture of Tajikistan, visited ICARDA, Aleppo, in May, 2002 to participate in the 25th anniversary since the Center's establishment. He was an important guest from the CAC region. H. E. Mr. Rahmatov was impressed by seeing the different research facilities of ICARDA. He appreciated the role of ICARDA in agricultural development of dry areas, in particular its role in

Tajikistan. He also desired to have more attention paid to mountain agriculture, which is a top priority for the research agenda in his country. He also proposed to strengthen activities on livestock development and management by means of extending the second phase of the IFAD-funded project on integrated feed and livestock management to Tajikistan. He assured Prof. Dr. Adel El-Beltagy all possible support on behalf of the Ministry of Agriculture and the Government of Tajikistan. According to him, a MoU between his Ministry and ICARDA will be signed during ICARDA/CAC Regional Coordination meeting to be held in Dushanbe in September, 2002.

DR VICTOR SHEVTSOV RETIRES

Having completed two and a half years of his work in ICARDA's Regional Office in Tashkent as Cereal Breeder, Dr. Victor Shevtsov has retired. Working in the region, he was closely involved in various activities on germplasm exchange and improvement. He was also one of the initiators of the on-farm production and demonstration plots, which were successfully established in Uzbekistan and in other countries of the CAC region.



Representatives of the International Centers ICARDA, IPGRI, IWMI and PFU-CGIAR arranged a farewell party on the occasion of his leaving for Krasnodar (Russia). Dr. Paroda and all colleagues appreciated his good work and wished him all the success in his life. Dr. Shevtsov said that these two and a half years would forever stay in his heart as the best time of his career. Anyone interested to contact Dr. Shevtsov could approach him by the e-mail address: Krasnodarbii@Kuban.net

WELCOME TO MS. RENKEMA

Ms. Heidi Renkema has recently joined the IPGRI Regional Office in Tashkent as an associate expert from the Netherlands. For next three years, she will be working on complementary conservation strategies for fruit and nut trees in Central Asia. In particular, she will make inventories of fruit and

nut tree collections available in Central Asian research institutes and develop a regional database.

IPGRI-CAC, ICARDA-CAC, and PFU staff welcome Ms. Renkema and wish her all the success in her new assignment.



WHAT IS FUTURE HARVEST? **Announcements:**

Future Harvest builds public understanding of the importance of international agricultural research to global peace, prosperity, environmental renewal, health, and alleviation of suffering.

Future Harvest works to:

- promote awareness and educate the general public and decision makers about the importance of food production and the role of agricultural science in meeting the human and environmental challenges of today and tomorrow, and
- build financial support for scientific research and charitable projects that bring the results of this research to rural communities, farmers, and their families in the developing countries.

To carry out its work, Future Harvest:

- commissions highly respected experts to explore the links between food and agriculture and important universal issues including environmental renewal, peace, economic growth, health, and population concerns,
- enlists influential public figures, world leaders, Nobel laureates, media personalities, and entertainers to become advocates for world agricultural research, and
- engages in a range of partnerships to communicate its messages, build financial support, and promote action that addresses global food and environmental challenges.

Fundamentals:

Future Harvest is a global initiative, incorporated in June 1998 as a charitable and educational organization to advance debate and catalyze action for a world with less poverty, a healthier human family, and a better environment. In 2001, Future Harvest UK was established in the United Kingdom. Future Harvest was created by 16 food and environmental research centers, known as the Future Harvest Centers, located around the world. These centers are supported by 58 governments, private foundations, and international and regional organizations known as the Consultative Group on International Agricultural Research (CGIAR).

The Sixth ICARDA/CAC Regional Coordination Meeting will be held in Dushanbe, Tajikistan, from 23 to 26 September, 2002. All the NARS partners and senior scientists from ICARDA, including ICARDA Regional Office in Tashkent will attend the meeting.

The 2nd International Group Meeting on "Wheat Technologies for Warmer Areas" will be organized by Agharkar Research Institute-Pune, India from 23 to 26 September, 2002 in Pune, India. Contact e-mail: arimacs@pn2vsnl.net.in

The International Workshop on "Conservation Agriculture for Sustainable Wheat Production in Rotation with Cotton in Limited Water Resource Areas" will be jointly organized by the Ministry of Agriculture and Water Resources, Uzbekistan, and Tashkent Institute of Irrigation and Agricultural Mechanization Engineers in collaboration with FAO, UNESCO, NZAID, ICARDA, CIMMYT, IWMI and others, from 13 to 18 October, 2002 in Tashkent, Uzbekistan. Contact e-mail: cac-tashkent@icarda.org.uz

American Society of Agronomy, Crop Science Society of America and Soil Science Society of America are jointly organizing the annual meeting from 10 to 14 November, 2002 in Indianapolis, Indiana, the USA. Two special sessions of the meeting will be devoted to agricultural development in Central Asia and eminent scientists from the region will present papers.

For more information please visit the website at: <http://www.asa-cssa-sssa.org/anmeet>

The 2nd International Congress on Plant Physiology will be organized by the Indian Society for Plant Physiology in association with International Association for Plant Physiology and sponsored by the Indian Council of Agricultural Research from 8 to 12 January 2003 in New Delhi, India.

Contact e-mail: girish_chand_srivastava@rediffmail.com

DR. MUSTAPHA BOUNEJMATE PASSED AWAY

On April 9, the ICARDA community suffered a tragic blow with the sudden death of our dear colleague, Dr, Mustapha Bounejmate. He was one of the most productive scientists and had developed a wide network of colleagues working in fodder crops and other feed resources. He had tremendous human qualities of compassion, friendliness and humor. Because of these traits and his professional experience, he had endeared himself throughout the Central and West Asia and North Africa region. ICARDA and many partners in the region have lost a true professional, a wonderful colleague and a man with many qualities to admire. Dr. Mustafa Bounejmate was one of those



ICARDA scientists who contributed a great deal to the development and implementation of research programs on feed production and range management in Central Asia. The last issue of the journal on range and forage edited by him was devoted to this region. He liked the CAC countries and all the scientists working with him indeed loved him.

Dr. Mustapha left behind his wife and four children. The Broad of Trustees, management staff of ICARDA-Aleppo sent their heart-felt condolences to the bereaved family. Also, ICARDA staff from Tashkent office sent a condolence message to Mrs. Bounejmate to bear the loss with courage and fortitude. May his soul rest in peace.

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