

CAC NEWS

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

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



MESSAGE

FROM ACADEMICIAN SHOTA CHALAGANIDZE CO-CHAIRMAN OF CGIAR-CAC PROGRAM STEERING COMMITTEE



Dear colleagues,

This year we are celebrating the 10th Anniversary of the CGIAR Program for Central Asia and the Caucasus (1998-2008). Using this opportunity, I would like to extend my warm congratulations to all of you and express my deep respect to the Program Steering Committee, its management and all the partners.

The science and research certainly have considerable impact on the development of agriculture and the national economies. This is especially true for international cooperation in research and development. The collaborative activities of Georgian scientists with the International Centers of CGIAR can serve as a model for such cooperation. In this regard, the fact that the national agricultural research systems of Central Asia and the Caucasus countries are again able to collaborate with each other under the CGIAR program for CAC serves as a vivid example of the success of this highly important Program.

The program has actively worked in our region during the last ten years. It is now the time to review the achievements, which, in our opinion, are significant:

During the last decade, the economic structure of the Georgian agrarian food and processing sector has undergone radical changes promoting the formation of fundamentally new units of agricultural production based on market economy. Therefore, it was a critical challenge to transform the existing management structures in agricultural production, which required overcoming several barriers of economic, social and organizational character.

The Georgian Academy of Agricultural Sciences and the Georgian agricultural researchers have played an important role in the implementation of several initiatives aimed at creation of new forms of management in the agricultural sector. The Georgian Academy of Agricultural Sciences still remains a reliable adviser to the State in developing policy proposals, recommendations and laws targeted at the development of the agrarian sector in Georgia.

The present priorities for the agricultural sector in Georgia are: increasing the productivity of mountain agriculture, development of technologies to protect soils from degradation and erosion, land reclamation, agrochemical and technical support to the agricultural production, conservation of genetic resources, management of natural resources, capacity building and introduction of modern information and communication technologies in order to link farmers with markets.

Presently, the Academy works on identification of research priorities in agriculture, coordination of research activities in the research institutes, extension services to farmers, capacity building and human resource development among researchers and farmers, and consulting and advisory services

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taking into account local conditions, etc.

The cooperation between the international research centers and Georgia through direct contacts is yielding positive results in the solution of the problems that Georgian agriculture is presently facing. The examples of these partnerships are as follows:

Based on the research activities of Georgian agricultural researchers, the Academy has developed specific proposals and recommendations for mountain agriculture, including development of agricultural machinery and implements, technologies and practices, new varieties and hybrids of crops and highly productive animal species. The Coordination Council on Genetic Resources has been established under the Academy of Agricultural Sciences. The joint experiences helped to develop a project proposal for mountain agriculture in Georgia with technical backstopping from the CGIAR Centers.

Since 1997, several collaborative activities have been carried out in Georgia under the CGIAR Program for CAC. This collaboration has been significantly strengthened during the last years by concrete activities and research collaboration. I hope that the CGIAR Centers, together with their national partners, will continue their efforts on resource mobilization to achieve the sustainable development of agriculture in the region.

The results achieved so far serve as the largest evidence of the success of the Program. The joint activities of the Program partners are leading to increased incomes for farmers and improved livelihoods in the region, ensuring food security and preventing degradation of natural resources.

Using this opportunity, I would like to emphasize that the CAC Program has become an important element in the lives of our researchers by promoting their contacts with other scientists in the region for exchanging information and knowledge.

It a great honor for me to be directly involved in the work of the CGIAR Program for Sustainable Development of Agriculture in CAC region, as the Co-chairman of the Program Steering Committee, whose 12th Annual Meeting is planned to be organized in Tbilisi, Georgia, in 2009.

In conclusion, I would like to wish to all my colleagues and readers of the "CAC Newsletter", which informs us on the scientific achievements of our joint CAC Program for Sustainable Development of Agriculture in Central Asia and the Caucasus (CAC), and sheds light on our collaborative activities, thereby doing a very necessary and useful work, huge creative successes and happiness.

Acad. Shota Chalaganidze,
*President, Academy of Agricultural
Sciences of Georgia*

IMPORTANT EVENTS

The passage of 10 years of the CAC program was marked by a series of events that took place between September 16 and 21, 2008, in Tashkent, Uzbekistan.

CAC PROGRAM CELEBRATES ITS 10 YEARS

Since the establishment of the CGIAR-CAC program in 1998, the Program partners have implemented close to 70 projects in the region. Significant achievements and impact were made in collection, conservation, documentation, and rational utilization of plant genetic resources, germplasm enhancement, seed production, natural resources management, water management at basin level, crop diversification, integrated pest management, livestock production and management of rangelands, socioeconomic and policy research and other areas, but above all in capacity building. About 15,000 national partners, including researchers, farmers and research administrators were trained.

In his welcome speech at the conference, Dr. Sherali Nurmatov, Deputy Minister of Agriculture and Water Resources, Director General, Scientific Production Center of Agriculture, Uzbekistan, thanked ICARDA

and all other partners of the CAC Consortium for their contributions to the sustainable development of agriculture in the region. Dr. Mahmoud Solh, Director General, ICARDA, gave an overview of the key achievements and impact of the Program during the last 10 years. Dr. Solh also thanked all the Program partners for their continuous support to the Program. Dr. Solh especially highlighted the visionary role of Prof. Dr. Adel El-Beltagy in establishment of the Program. He also expressed ICARDA's gratitude for Drs. Surendra Beniwal and Raj Paroda, former Regional Coordinators, ICARDA-CAC and Heads, PFU, for their outstanding contributions in establishing and developing the Program over the last 10 years.

Prof. Dr. Adel El-Beltagy, in his key note speech, highlighted the importance of the Program for the sustainable development of agriculture in the region and thanked all the NARS partners for their



The participants of the International Conference

contributions. He emphasized the role of present and former NARS leaders in the success of the Program. Prof. Dr. Adel El-Beltagy also wished the continuation of these successes in the years to come.

Drs. Raj Paroda, and Surendra Beniwal, former Regional Coordinators, ICARDA-CAC and Heads, PFU, as well as Acad. Jamin Akimaliev, Director General, Research Institute of Agriculture and Adviser to the Prime-Minister of Kyrgyzstan, presented their greetings to the participants of the Conference.

Prof. Dr. Adel El-Beltagy, Dr. Raj Paroda, Dr. Surendra Beniwal, Acad. Mekhlis Suleimenov and key NARS partners of the Program from all the CAC countries, including Dr. Samvel Avetisyan (Armenia), Dr. Asad Musaeu (Azerbaijan), Acad. Gogotur Agladze (Georgia), Acad. Gani Kaliev, Acad. Akhyrbek Kurishbaev, Dr. Bayan Alimgazinova (Kazakhstan), Acad. Jamin Akimaliev (Kyrgyzstan), Dr. Ashyr Saparmuradov (Turkmenistan), Acad. Bobo Sanginov (Tajikistan), the late Acad. Saidmakhmud Usmanov (whose award was given to his son, Dr. Murad Usmanov), Acad. Rasulmat Khusanov, Dr. Sherali Nurmatov, Prof. Abdushukur Khanazarov (Uzbekistan), who had been crucial in the establishment of the Program were presented by Dr. Mahmoud Solh with

Awards and commemorative medals recognizing their "tireless and enthusiastic individual commitments and leadership that significantly strengthened the collaborative CGIAR programs, thereby contributing to future food security and ecological sustainability of agriculture in the region". Dr. Solh also highlighted the significant role of Dr. Zakir Khalikulov, Consultant-Scientist, ICARDA and PFU, in establishing and developing the Program over the last decade and presented him a medal commemorating the 10th Anniversary of the Program.

Dr. Christopher Martius, Head, PFU, and Regional Coordinator, ICARDA-CAC, gave a presentation on the future directions for the Program's development based on the recommendations of the recently held External Review of the Program and priority areas identified by the national partners.

During the afternoon session, several presentations were made by the Consortium partners on various aspects of Program's activities, including the importance of agricultural research collaboration in the region, seed production in Tajikistan, constraints and opportunities for water management in the region, utilization and adaptation of potatoes under warm summers in the region, small ruminant production, promotion of vegetables and wheat improvement in Kazakhstan.

ICARDA REGIONAL PLANNING MEETING FOR CAC

The 11th Regional Planning Meeting of ICARDA Program for Central Asia and the Caucasus was organized on 17-18th September, 2008, in Tashkent, Uzbekistan. The meeting was attended by more than 50 participants, including NARS leaders from the CAC countries and a large ICARDA team, led by

Dr. Mahmoud Solh, Director General ICARDA, and including Dr. Maarten van Ginkel, DDG-Research, Dr. Richard Brettell, Director, BIGM Program, and scientists from all of the Research Programs of ICARDA.

In the opening session of the Regional Planning

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Meeting, Dr. Mahmoud Solh made a presentation on the ICARDA's Research Policy and Strategy. Dr. Solh informed the NARS partners on ICARDA's strategy for research in the context of challenges in the dry areas of the world such as food insecurity and increased food prices, climate change, desertification, and poverty. Dr. Solh also gave an overview of ICARDA's Research Programs, activities and achievements in addressing these challenges and helping national partners to achieve sustainable development of agriculture.

In the following technical sessions, presentations were made by NARS leaders and ICARDA scientists on the activities and results of collaborative work during the last year, as well as plans for the next year. The presentations were on such topics as germplasm enhancement, socioeconomic and policy research, salinity and integrated natural resource management, conservation agriculture and resource conserving technologies under the SLMR project, livestock and fodder production, ZEF-Khorezm project on "Change-Oriented Research for Sustainable Innovation in Land and Water Use".

Discussions sessions were held together with NARS partners and colleagues from other Consortium members on strengthening the synergies of the Program in an integrated manner. Brainstorming



Dr. Mahmoud Solh, DG, ICARDA, giving the presentation on ICARDA's Research Policy and Strategy

sessions were held on development of double-purpose wheat varieties and barley production in the region. The key areas of collaboration during the next year were identified.

During the plenary session, Dr. Maarten van Ginkel, DDG-Research, ICARDA, thanked all the participants for their contributions during the Planning meeting.

NEW SOCIOECONOMIC PROJECT LAUNCHED FOR CENTRAL ASIA

To support the Central Asian Countries Initiative on Land Management (CACILM), IFPRI and ICARDA have initiated a joint study entitled "Economic Analysis of Sustainable Land Management Options in Central Asia". The purpose of this study is to assess the economic feasibility, costs and benefits of alternative land management options within important domains and land use systems of Central Asia. The study will serve the objectives of CACILM, helping decision makers to prioritize investment opportunities to promote sustainable land management (SLM) and identify key constraints that must be addressed through policy or institutional changes to enable these opportunities to be realized. This project will build upon the SLM research under CACILM being led by ICARDA and partners from the

Central Asian countries, focusing on options being tested or that have potential in the benchmark sites of the CACILM SLM-Research project. It will also link to a companion policy research project being initiated by ICARDA and IFPRI - "Enabling Livelihoods Options for Sustainable Land Management in Central Asia, Pakistan and China".

The Inception workshop of the Project on "Economic Analysis of Sustainable Land Management Options in Central Asia" was held on 19th of September, 2008, in Tashkent, Uzbekistan. During the inception workshop the stakeholders in Central Asia were informed about the study objectives, expected outcomes, and planned activities. Based on the feedback received from them, further actions for implementation of the project have been planned.

CAC REGIONAL FORUM OF AGRICULTURAL INSTITUTES CHARTS ITS FUTURE DIRECTIONS

General Assembly Meeting of the Association of Central Asia and the Caucasus Agricultural Research Institutes (CACAARI) was held on 17th of September, 2008, in Tashkent, Uzbekistan, under facilitation of the ICARDA Regional Program for CAC and Program Facilitation Unit of the CGIAR-CAC Program. It should be also highlighted that two days earlier, on 15th of September, Prof. Dr. Adel El-

Beltagy, Chairman, GFAR, met with the NARS leaders from the CAC countries and discussed with them the future opportunities for strengthening CACAARI. Several joint action points were agreed upon during that meeting on 15th September on this regard.

While welcoming the participants of the General Assembly Meeting from all the CAC countries on



Leaders of Agricultural Research in CAC during the CACAARI meeting

17th of September, Prof. Abdushukur Khanazarov, Executive Secretary, CACAARI, highlighted that this meeting of CACAARI General Assembly presents with an important opportunity to chart the future directions for development and strengthening of the Association, and urgent actions are required from all the CACAARI stakeholders for achieving this. Prof. Khanazarov also thanked ICARDA and PFU, CGIAR, for their continued support and facilitation of the CACAARI activities. Dr. Mahmoud Solh, Director General, ICARDA, welcomed all the NARS partners on behalf of ICARDA and assured them of ICARDA's support to this important regional forum. Dr. Solh also welcomed more active involvement of all national research, educational, extensions and other organizations in CACAARI.

In his video statement during the meeting, Dr. Mark Holderness, Executive Secretary, GFAR, expressed GFAR's full support to further development of CACAARI. Dr. Raj Paroda, Executive Secretary, APAARI, shared the experiences of APAARI with the CACAARI stakeholders.

Prof. Abdushukur Khanazarov, Executive Secretary, CACAARI, presented the report on the activities of the CACAARI and suggestions for the CACAARI Workplan for the next year, which were approved by the General Assembly. Mr. Sherzod Qosimov, Web Manager, ICARDA-CAC, PFU-CGIAR, presented the CACAARI website to the participants of the meeting. Several valuable suggestions were received.

Acad. Hukmatullo Akhmadov, President of Tajik Academy of Agricultural Sciences, was elected as the new Chairman of CACAARI, and Prof. Abdushukur Khanazarov was elected as the Executive Secretary of CACAARI.

The participants of the meeting thanked Dr. Samvel Avetisyan, former Chairman, and Prof. Abdushukur Khanazarov, Executive Secretary of CACAARI, for their efforts during their tenures, and wished Acad. Hukmatullo Akhmadov, Chairman, and Prof. Abdushukur Khanazarov, Executive Secretary, CACAARI, all the successes in developing and further strengthening this highly important forum during the next two years.

IAASTD RESULTS PRESENTED FOR THE CAC REGION

The results of the report on International Assessment of Agricultural Science and Technology for Development (IAASTD) for CWANA region were presented by Dr. Mustapha Guellouz, IAASTD Coordinator for CWANA region, to more than 30 NARS leaders from the CAC countries on 19th September, 2008, in Tashkent, Uzbekistan.

The report, prepared under the co-chairmanship of Professors Judi Whakungu and Hans Herren (1995 World Food Prize Laureate), underscores the urgency of the challenge to ensure that there is enough food as well as water for the world population. Crop yields in the CWANA region have

increased more slowly than the world average, leaving most countries net food importers. The report examines the potential of agricultural science and technology for reducing hunger and poverty, improving rural livelihoods, and contributing to environmentally, socially and economically sustainable development.

The NARS leaders from the CAC region highly appreciated the findings of the report and its importance as a guidepost in prioritizing actions on sustainable agricultural development in the CWANA region. They have also expressed their readiness to participate in preparation of the final version of the

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report by providing more inputs specific to the Central Asia and Caucasus region.

In addition, a Press Conference was organized for local media on the same day. Dr. Mustapha Guellouz, IAASTD Coordinator for CWANA region, informed the press, consisting of more than 20 correspondents

of various local and international media, including newspapers, magazines, TV and radio channels, about the conclusions of the IAASTD report. The findings of the report have generated a wide interest among the journalists and numerous reports and articles are being published on the local and regional press on the event and findings of the IAASTD report.

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PLANT GENETIC RESOURCES

NATIONAL REPORT ON THE STATE OF PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE IN GEORGIA FINALIZED

ICARDA, in cooperation with FAO and local research institutes, prepared the National Report on the State of Plant Genetic Resources (PGR) for Food and Agriculture in Georgia. The report briefly describes the crop production sector of the country and provides overview of the biodiversity, in situ and ex situ conservation systems, the status of use of plant genetic resources, agricultural education relevant to PGR management and use, legal framework for PGR, national programs and institutions dealing with PGR.

Georgia is very rich in biodiversity due to its geographic location, variation of soils and climate. The Georgian flora of domesticated plants is also very rich as the country is located in the proximity to the Near East Center of origin of crop plants. Furthermore, many crop wild relatives, particularly of cereals, legumes and fruits, are found in Georgia. Numerous taxonomic studies of this diversity have been carried out and resulted in its detailed inventories. However, this diversity has to be studied by researchers in more detail based on modern achievements of science including molecular methods.

The in situ conservation is based on a system of protected areas. It covers well enough the unique natural biodiversity of the country, which largely consists of mountainous areas. However, many crop wild relatives remain uncovered by the present system as they are confined to the habitats across the roads and crop fields. There is no national program for on-farm conservation of agrobiodiversity to provide farmers with incentives for growing traditional varieties and allowing for their participation in formulation of PGR conservation strategies.

The ex situ conservation of plant genetic resources is carried out by research institutes, which do not have sufficient land, facilities, funding and staff. Georgia has a genebank of field crops and a grapevine collection established with the support of ICARDA, Bioversity International and other international organizations. There is a need to revive collections of other crops such as pip fruits, vegetables, citrus

and subtropical crops, fill the gaps in the existing collections through germplasm exchange and collection missions and make safety duplications. There are some on-going efforts on characterization and documentation of the existing collections; however, much detailed studies are needed for facilitating access to the local plant genetic resources for plant breeders.

The level of utilization of the local PGR is very low in Georgia, as most of the seed and sapling material production companies multiply exported varieties. This was a quick solution for the agricultural entrepreneurs, which responded to rapidly growing demand for quality seed and planting material during the recent years. However, the imported varieties are not sufficiently adapted to local conditions, and their importing is costly. Therefore, strengthening of the local capacity of plant breeding at policy, human resource and facility levels is of the highest priority, and will promote the competitiveness of the Georgian agriculture.

The curricula of the agricultural education centers generally include courses on genetics, plant breeding and seed production, but do not emphasize courses that are required specifically for management and conservation of plant genetic resources such as seed storage techniques, curatorship of taxa, etc. There is a need to strengthen teaching of biochemistry, molecular biology, modern breeding methods and statistical analysis to allow the local graduates for carrying out modern research on plant genetic resources and continuing their education abroad.

There is a need for an integrated national strategy for management and use of PGRFA. At present, the functions and the elements of an integrated strategy are distributed among the three ministries and several government agencies that should work closely and cooperate intensively with other stakeholders of the plant genetic resources, such as research institutes, education centers, farmers, agricultural and environmental NGOs, etc. Georgia does not have a legal framework for regulating access to PGRFA and sharing benefits arising out of

their use. The Ministry of Agriculture has reserved the right to restrict intellectual property rights of plant breeders in benefit of the Georgian farmers, if seed is saved for domestic use.

David Bedoshvili,
Head, PFU/ICARDA/CIMMYT Sub-regional Office for the Caucasus

GERMPLASM ENHANCEMENT

FIRST INTERNATIONAL TRANSCAUCASIAN CONFERENCE ON PLANT PATHOLOGY

The Georgian Institute of Plant Immunity conducted the First International Transcaucasian Conference on Plant Pathology on 25-27 September, 2008, in Tbilisi, Georgia. The purpose of the conference was to review the status of plant pathology research and plant protection policies in the Caucasian countries, discuss the results of disease surveys in the region, and present new methods of pathogen identification and diagnostics. The conference organizers, desiring to revive the cooperation at the regional level, invited many representatives from the other Caucasian countries.

The conference was sponsored by International Science Technology Center (ISTC) and Ministry of Defense of United Kingdom (MoD of UK). In total, 98 participants attended the Conference, including scientists and the agricultural ministry officials of Azerbaijan, Armenia, Ukraine, Russia, Belarus, Georgia, Switzerland, Central Science Laboratory of MoD of UK, ISTC, EPPO, CABI etc. The CGIAR centers were presented by Drs. A. Morgounov (CIMMYT) and David Bedoshvili (ICARDA/CIMMYT).

Dr. Alexey Morgounov, who chaired the first session of the conference, gave a presentation on the winter wheat breeding strategy of CIMMYT involving improved disease resistance and present status of research on wheat resistance to new race of stem rust Ug99. Dr. David Bedoshvili presented the main



Dr. Alexey Morgounov, CIMMYT, giving the presentation during the event

results of ICARDA/CIMMYT wheat program in the Caucasus and outlined the opportunities for cooperation between wheat breeders and pathologists at the regional level. The following discussion showed that there is a great interest among the Caucasian plant pathologists in characterization of PGR collections and in introduction of improved germplasm, and conducting joint experiments such as yield loss trials.

David Bedoshvili,
Head, PFU/ICARDA/CIMMYT Sub-regional Office for the Caucasus

POTATO TRIALS IN JIRGATAL DISTRICT OF TAJIKISTAN

Introduction and further selection of new potato clones with important traits such as earliness, high-yield, marketability and resistance to viruses will allow farmers in Tajikistan to increase potato production and incomes, and reduce dependence on seed potato imports.

The Research Institute of Plant Physiology and Genetics of the Academy of Sciences of Tajikistan received 28 advanced virus-resistant clones in form of in-vitro germplasm materials from CIP. These clones were multiplied in the laboratory and further tested in the field by the NGO "Tukhmiparvar" (Potato Seed Association).

Before being released as a variety, new potato clones must undergo the necessary selection procedures that in most of the cases last about three years. Multi-location tests took place in three environments of Tajikistan where potato is very



Dr. Kurbonali Partoyev, the deputy director of NGO "Tukhmiparvar" and Dr. Carlo Carli, CIP Regional Seed Specialist, Jirgatal, September, 2008

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Tubers of TPS family

popular, namely, in the three districts of Faizabad, Vorzob and Jirgatal. Lakshe site, situated in Jirgatal district, was selected because of the possibility to multiply potato clones under disease-free conditions, being located at 2,700 m asl. All the tests were conducted in farmers' fields under farmer's conditions.

Jirgatal district is in the northern part of Tajikistan at

the border with Kyrgyzstan and close to Rasht, Tavidara and Murghab. The soil is particularly rich and loose; and water is abundant. The 28 accessions were compared with the Dutch variety Cardinal, which is among the most popular potato varieties in Tajikistan. Planting distance was of 60 x 25 cm. The potato trials were planted on May 5 and harvested on September 20. The final visual evaluation was accompanied with phenological and biometrical observations.

CIP clones 397077.16 (LR93.221 x C93.154), 720189 (PUKARA-INIA) and 392797.22 (387521.3 x APHRODITE) were the most promising ones with the yields ranging between 45 t/ha and 55 t/ha and marketability between 89% and 97%.

In the meantime, the evaluation of TPS (True Potato Seed) family LT-8 x TS-15 continued to check the performance of progeny F1C2. In fact, the local NGO intends to pass this accession to the State Committee for Variety Testing of Tajikistan, for further release, since it has shown quite stable characters during three years with an average yield of 55 t/ha. Tubers are also very attractive and have good marketability.

Firuz Yuldashev, CIP-Tashkent

YOUNG CAC SCIENTISTS INTERESTED IN VEGETABLE RESEARCH

The improved germplasm materials introduced in the CAC countries by the World Vegetable Center (WVC) are being successfully used not only in the national breeding programs but also are serving as topics for PhD studies for young researchers. The young scientist from the Scientific Center of Vegetables, Melons and Technical Crops of Armenia, Mr. Emil Gevorgyan is presently finalizing his doctoral thesis on "Evaluation of new breeding materials of tomato and their integration into national breeding programs", including 20 tomato lines from the WVC. As a result of his studies, promising tomato lines L01569 (Narek) and L01448 (Armine) have been selected, which after trials at research station and farmer fields were submitted to the State Varietal Testing Commission of Armenia in 2007.

Studies on "Comprehensive evaluation of economically valuable traits and selection of promising lines of vegetable soybean for submission to the State Varietal Trial", funded by the grant of the Government of Uzbekistan, concentrated on the evaluation of germplasm provided by the WVC. These studies have been completed by the Uzbek Research Institute of Crop Production, and, as a result, vegetable soybean varieties Ilhom (2007) and Universal (2008) have been released from the WVC materials.

Ms. Veronika Kim, PhD student at the Uzbek



Ms. Veronika Kim, PhD student, Uzbekistan, taking field observations of promising soybean varieties

Research Institute of Vegetables, Melons and Potato, is conducting the studies on "Identification of optimal planting times and schemes for released and promising vegetable soybean varieties in the conditions of Tashkent province of Uzbekistan". It is expected that these studies will contribute to achieving yield increases for this highly nutritious crop.

Promising hot pepper lines from the WVC, which are currently undergoing the State Varietal Trials in Uzbekistan, are being evaluated by Mr. Bahrom Azimov in his doctoral thesis work on "Selection of hot pepper varieties, identification of optimal times and schemes for their planting in Uzbekistan".

These studies are expected to contribute to increasing the production and of diversity of hot pepper varieties in Uzbekistan.

Presently, efforts are being made on selecting of new research themes for graduate and

postgraduate students in the research and educational institutions of the CAC countries, involving the studies on the improved germplasm materials from the WVC.

Ravza Mavlyanova, AVRDC-CAC

ICARDA SPEARHEADS THE SEED RELIEF OPERATION FOR TAJIKISTAN AND KYRGYZSTAN

Tajikistan and Kyrgyzstan are dependent on grain importations from abroad to complement their domestic production; however, lately a combination of bad weather conditions and the impact of several years of neglect in agriculture have drastically worsened the food security in these countries. Rising food prices have had a heavy toll on both countries, where prices for bread more than doubled over the last 12 months.

Following the request and support of the United States Agency for International Development (USAID), ICARDA, together with its development partners in Tajikistan – Save the Children, and Kyrgyzstan - International Center for Soil Fertility and Agricultural Development (IFDC), have carried out the emergency supply operation of winter wheat seeds to Tajikistan and Kyrgyzstan. ICARDA, working together with numerous partners, including Dr. Viktor Shevtsov, ex-ICARDA employee who is currently working as Professor of Kuban Agrarian University, moved quickly to facilitate purchase of adapted seed varieties from Krasnodar, its transport and hand off to the development partners. In total, 172 tons planting seeds of adapted winter wheat varieties were provided to Tajikistan (Tanya variety) and 275 tons to Kyrgyzstan (Krasnodar 99 and Starshina varieties).

That said, to prevent such food crises in the future, long-term steps should be taken to develop more sustainable answers to the inherent problems of low



Dr. Viktor Shevtsov (right), Professor, Kuban Agrarian University and ICARDA ex-employee, and Dr. Khalikulov (left), Consultant-Scientist, ICARDA-CAC, are discussing the issue of procuring seeds for Tajikistan and Kyrgyzstan

wheat productivity on mainly irrigated, often salinity-ridden land, and of insufficient and inefficient wheat seed supply to farmers in Tajikistan and Kyrgyzstan. Therefore, ICARDA will continue its work with its development and donor partners on developing and implementing activities aiming at strengthening the private seed production and supply systems, and the development of more ecologically sustainable measures of conservation agriculture in the CAC region.

SLM-R PROJECT SUCCESSFULLY COMPLETES ITS FIRST YEAR

The Sustainable Land Management Project under the CACILM Program has successfully completed its first year of research activities in the five countries of Central Asia. The Annual Report of the Project can be downloaded from ICARDA-CAC web at http://www.icarda.org/cac/files/slmr/ADB_TA_6357_SLMR_1st_Ann_Rep_July%202007_July%202008-Eng.pdf.

The studies under the project have demonstrated that SLMR research conducted over ten sites in the five countries of Central Asia represent nearly one-fourth (24%) of all the agro-climatic conditions in the region.

During this year, socio-economic survey templates were developed and pre-tested to analyze rural livelihoods in the project sites. During the pre-surveys it was observed that low fodder availability is serious concern for the survival and productivity of

the livestock - the mainstay of the people in the range and pasture lands.

It was also observed that In-season Yield (INSEY) for wheat can be estimated at 140 days after sowing with Optical sensor based 'GreenSeeker' technology with nearly 70% reliability (Uzbekistan, Turkmenistan, and Kyrgyzstan). With more rigorous and better experimentation the reliability can be significantly improved.

Results of the field trials pointed out that farmers use more N fertilizers. With appropriate techniques the same yields can be obtained with use of lesser amounts of nitrogen. It is possible to save 12-20% nitrogen.

The Research Prospectus for Sustainable Land

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Managements Research under the CACILM Program has been developed, outlining the biogeophysical setting of Central Asia, identifying the problems and the drivers of dryland degradation, discussing the priorities for sustainable land management research (SLMR), and presenting the opportunities and approaches for enhancing the productivity and sustainability of the production systems in specific agro-ecologies. The Research Prospectus also identifies the pathways to sustainable land management and outlines the role of the regional and international partners. It is meant to serve as a general framework for sustainable land

management research in the context of the Central Asian Countries Initiative for Land Management (CACILM) program.

Inviting the readers of the CAC Newsletter to learn more about the project results from its Annual Report, we would also like to, in conclusion, emphasize that during this short period of one year, the project has organized about 20 training courses for 131 national partners on conservation agriculture, raised bed planters, laser land leveling systems, use of optical sensors in agricultural research, livelihoods surveys and other areas.

INTEGRATED LAND MANAGEMENT RESEARCH ON ITS WAY

In 2008, ICARDA signed an agreement with the Center for Development Research (ZEF) of the University of Bonn, Germany, to collaborate in the integrated land and water management research project that ZEF is carrying out together with UNESCO in Khorezm Oblast, located in Northwest Uzbekistan, since 2001. This project, which provides land use options for irrigated land in the Aral Sea Basin, is now steering its course through its third phase which started in 2007 and is dedicated to research on integration of technologies, out-scaling and on-farm implementation of research results, as we have informed you earlier in the previous issue of the CAC Newsletter.

Between September 8 and 15, 2008, the ZEF project received an evaluation team mandated by the donor of the project, the German Ministry of Education and Science. The evaluation team, consisting of nine eminent professors from Germany, assessed the progress of this research and education project that closely collaborates with the ICARDA-CAC Program in the fields of conservation agriculture within the cotton – winter wheat and rice-winter wheat rotations (Dr. Raj

Gupta), the improvement of livestock feed and management (Dr. Barbara Rischkowsky), the use of the GreenSeeker for yield predictions and efficient N management in open field crops (Dr. Raj Gupta) and the development of crop simulation models with the help of CROPSyst (Dr. Rolf Sommer), as well as CIMMYT on the development of adequate agriculture equipment for conservation agricultural practices (Dr. Ken Sayre). The progress reached as well as the conceptual planning were very well received and assessed by the evaluation team. The team will recommend to the German Ministry to continue supporting the project till at least 2011.

In the meantime, the project has initiated the dissemination of “science briefs”, short communications that highlight salient research results in a nutshell (see <http://www.zef.de/khorezm.0.html>, item latest publications), thus addressing a variety of research clients and end-users. The results can be of use not only to farmers and administrators in Khorezm, but also to similar regions in the irrigated lowlands within the dryland zones of Central Asia and the Caucasus.



The Evaluation team visiting the ZEF-UNESCO project in Khorezm, Uzbekistan



Recent ZUR issues

SOCIOECONOMIC RESEARCH

STUDY CONDUCTED ON POTATO AND OTHER MAIN FOOD COMMODITIES TRADED IN TASHKENT MARKETS

Potato is an important staple and cash crop in Central Asia and the Caucasus (CAC) region, so popular that it is called the “second bread”. It is also the world's number one non-grain food commodity. In terms of consumption, the potato comes third after wheat and rice in Uzbekistan, and second in the other CAC countries. Unlike wheat and rice, potato is not traded globally (except for some cases in Western Europe) mainly because it is perishable and not possible to store for periods longer than 6-7 months. As a consequence, potato prices are usually influenced only by local supply and demand.

The main objective of this study was to analyze potato prices during different growing seasons in the major markets of Tashkent city, the capital of Uzbekistan, and to compare them with other food commodities such as wheat and rice in order to forecast how commodity prices could evolve in the

short term. For this reason, three-year data on potato prices were obtained from the two biggest farmer markets in Tashkent, namely, Eski Juva (Chorsu) and Kuyluk bazaars. To validate the study, data from the State Statistics Committee of Uzbekistan (SSCU) were also analyzed and compared with the data received from these two local markets. In addition, the interviews with wholesale and retail traders present in these markets were undertaken.

The analysis of average monthly potato prices for 2006-2008 showed the prices to be at the highest levels in the months of April and May (550 UZS/kg), which were then followed by dramatic price decreases in the subsequent months (200-250 UZS/kg), before averaging 400-450 UZS/kg in the autumn season. The data obtained from State Statistics Committee showed that the prices were much higher, often above 1,000 UZS/kg (1500, 900, 1300 and 1600 UZS for the month of April of 2005, 2006, 2007 and 2008, respectively), while the maximum price of potatoes sold in Kuyluk and Eski Juva bazaars did not exceed 750 UZS/kg over the examined period. It is important to notice that Kuyluk and Eski Juva markets supply only the data on minimum and maximum prices of potato as a commodity, while SSCU provides average price details for the same crop. Moreover, SSCU tends to distinguish the potato crop between early and late-maturing types whereas the data from the above markets indicate that early- and late maturing varieties are considered to belong to the same category. This in turn creates a room for significant price difference that can be clearly seen from the Figure 1.

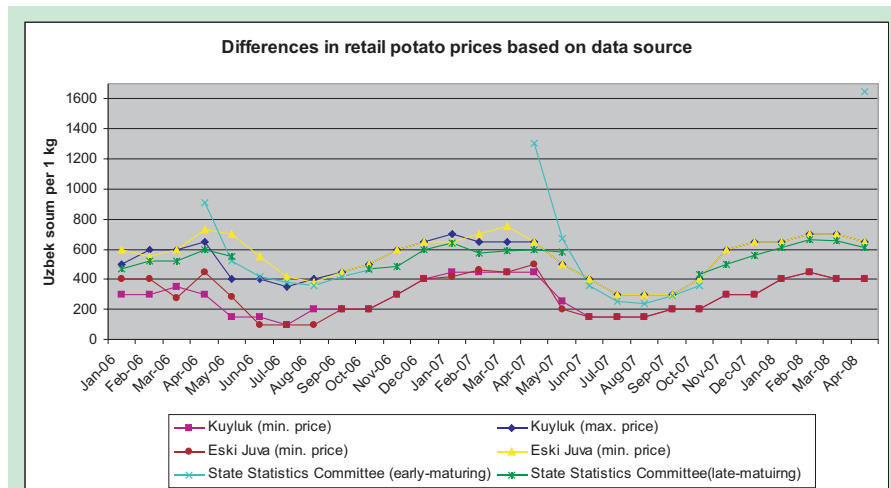


Figure 1. Potato prices in 2006-2008 in the Tashkent markets according to different sources

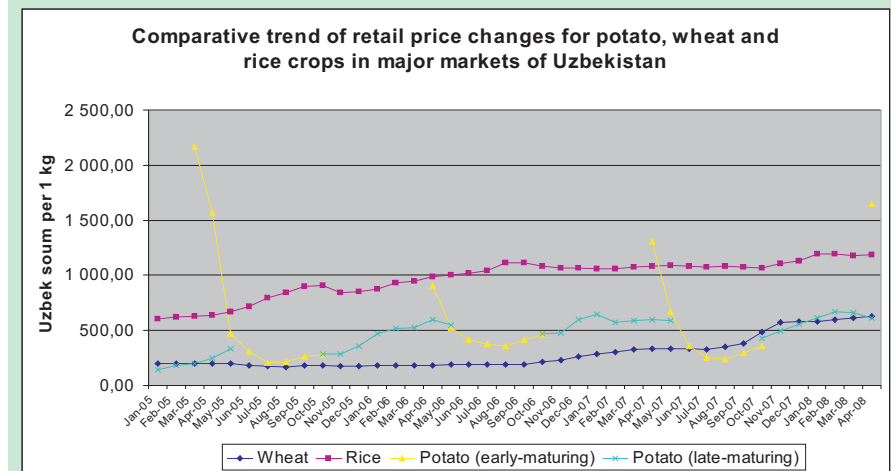


Figure 2. Comparative trend of retail price changes for potato, wheat and rice crops in major markets of Uzbekistan

Sources: Administrative departments of Kuyluk, Chorsu markets and State Statistics Committee of Uzbekistan.

Moreover, SSCU tends to distinguish the potato crop between early and late-maturing types whereas the data from the above markets indicate that early- and late maturing varieties are considered to belong to the same category. This in turn creates a room for significant price difference that can be clearly seen from the Figure 1.

Figure 1 shows that prices are very low during summer time and start to increase at the beginning of winter season. The respondents interviewed in Kuyluk and Chorsu bazaars indicated that the major reason for low prices during summer time was due to the costs related with potato storage. They also indicated that the prices begin to increase in the mid-autumn

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because at this time most of the consumers start purchasing potato at large quantities with the aim of consuming and storing it during the winter period when fresh potatoes are not available. As such, prices continue to increase throughout the winter and reach a peak in the late spring before new supplies become available.

The recent hike in prices of major food commodities such as wheat and rice seemed to have little impact on potato prices in two major markets of Uzbekistan. Despite the ever increasing importance of potato, the prices of this commodity have not seen the same increasing trend like the one experienced by grains. Unlike potato, wheat and rice prices in Uzbekistan are regulated by the government, yet prices for these commodities have been gradually but continuously rising compared with that of potato during the study period (Figure 2).

Conclusions:

- With the increased potato production in the last few years, the nominal prices for potato have changed little, which means that real inflation-adjusted price for potato has decreased.
- Being absent in the major commodity exchanges and for its specific nature of relatively perishable commodity that cannot be stored for periods longer than 6-7 months, there is less risk of potato facing the ill-effects of speculative activities as compared to cereal crops, as evidenced by this analysis of the local markets in Tashkent, Uzbekistan.
- The potato is, therefore, recommended as a highly important food security crop that can help low-income households and countries withstand the turmoil created by food price increases.

Zokhid Ibragimov, CIP-Tashkent

WORKSHOPS / CONFERENCES / FIELD DAYS

MEETING OF THE KAZAKHSTAN-SIBERIA NETWORK FOR WHEAT IMPROVEMENT ORGANIZED IN PAVLODAR, KAZAKHSTAN

A meeting of Kazakhstan-Siberian Network (KASIB) for wheat improvement was held on 7-9 August, 2008, in Pavlodar city, Kazakhstan. The Kazakhstan-Siberian Network for spring wheat improvement was established in 2000 by CIMMYT's initiative as a result of collaboration between scientific research institutions working in the area of wheat selection in Northern Kazakhstan and Western Siberia. Currently this network unites 14 breeding institutions from Kazakhstan and neighboring regions in Russia as well as scientific research institutions cooperating with KASIB on phytopathology.

The aim of KASIB is the improvement of the effectiveness of spring wheat breeding in Northern Kazakhstan and Siberia by variety and breeding material exchange, joint material evaluation, information exchange, organization of meetings and conferences. The mechanisms for systematic mutual exchange of materials are represented by nurseries of bread (KASIB-BSW) and durum wheat (KASIB-DSW) that are formed annually from the best lines provided by breeding programs. Along with scientists from Kazakhstan, leading Russian breeders from Omsk, Barnaul, Chelyabinsk and Kurgan attended the meeting. From CYMMIT, Drs. A. Morgunov, Y. Manes, M. Karabaev, Yu. Zelenskiy, M. Suleimenov and others participated in the meeting.

During the meeting, presentations have been made

on the research results achieved during the last two years of KASIB nursery trials. The results of studies on evaluation of spring wheat samples conducted during the collaborative work have been analyzed. The scientists have highlighted the dynamic development of Kazakhstan-Siberian Network, high economic characteristics of varieties and lines presented by institutions for variety testing, which shows the progress of breeding as well as importance the breeders attach to the activities of KASIB. The attention of breeders was directed at unifying research methods, development of the criteria for distribution of intellectual property rights during hybridization and mutual transfer of varieties, mutual exchange of hybrid populations between



Participants of the Meeting of the Kazakhstan-Siberian Network for Wheat Improvement

research institutes, further development of the research activities on brown rust and Septoria leaf blotch. Ways and means for improvement of the KASIB's work and of "shuttle breeding" were developed.

At the end of the meeting Drs. Yann Manes, Alexey Morgounov, Yu. Zelenskiy, M. Suleimenov and M. Karabaev visited Karaganda Research Institute of Agriculture and Plant Industry, Karabalyk Agricultural Experimental Station, "Phyton"

Selection Company, Kazakh Research Institute of Agriculture, Republican Introductory-Quarantine Nursery and Institute of Biology and Plant biotechnology to learn more about the programs of these institutes.

KASIB's Council expresses its gratitude to CYMMIT for organizational and financial support for this meeting.

Murat Karabayev, CIMMYT-Kazakhstan

INTERNATIONAL TRAVELING WORKSHOP ON RESOURCE CONSERVING TECHNOLOGIES IN CENTRAL AND NORTHERN KAZAKHSTAN

International Center for Wheat and Maize Improvement (CYMMIT) organized an International Traveling Workshop on Resource Conserving and Conservation Agriculture Technologies in Central and Northern Kazakhstan from 24 June – 2 July, 2008. Senior scientists from CYMMIT, Kazakhstan, Russia, Australia, Joint Stock Company "KazAgroInnovatsia" as well as representatives from the World Bank Project on Dryland Management, big companies and holdings such as "Esil-Agro", "Tyanshy-Asty", "Evrazia", "Karasu" and others have participated in this event.

The major goal of the workshop was to evaluate the current conditions and perspective for the development of zero till soil protective technologies and crop diversification in the region as well as to promote the innovative ideas on resource and nature protective technologies. The route of the traveling workshop included the visits to the scientific-research institutes, holdings and companies of Karaganda, Akmola, Northern Kazakhstan and Kostanay provinces. During the meeting conducted in the North-Western Scientific Production Center of Agriculture – a leading research organization of Kazakhstan in the area of conservation agriculture technologies – the participants of the travelling workshop summarized the results of the workshops and developed key directions for further development of resource conserving technologies and crop diversification.

One of the goals of the traveling workshop was the discussion of the idea to create Regional Network on Resource Conserving Technologies in the Northern and Central Kazakhstan involving the most advanced agricultural producers in the region, research institutions, international organizations and production companies in the near future. Currently, the Association on Zero Till Conservation Agriculture Technologies is already functioning in Kazakhstan. Therefore, the Regional Network should not duplicate the activity of the Association but should

actively complement this work, first of all, by effective research and information dissemination on resource conserving technologies.

Thanks to the vigorous activity of the international centers and organizations, scientific research institutes, advanced farmer holdings and companies as well as the support of the Government the area under zero till technologies have reached 1.3 mln ha in 2008 and such areas are continuing to grow.



Participants of the International traveling workshop on resource conserving technologies in Central and Northern Kazakhstan

The workshop participants expressed their view that further activities and efforts are required on accelerated introduction of the resource conserving technologies in Kazakhstan, scientific justification of these technologies, development of the awareness on ideas and achievements in the sphere of zero till technologies among farmers and wider public, as well as on obtaining support for supplying production with the efficient technologies, equipments and chemicals and on coordination of the activity for introduction of the resource conserving technologies.

Murat Karabayev, CIMMYT-Kazakhstan

TRAINING WORKSHOP ON MARKET RESEARCH

Regional Training Workshop on Market Research was organized for the Bioversity International/UNEP-GEF project "In Situ/On-Farm Conservation and Use of Agricultural Biodiversity in Central Asia" on 12-15 August, 2008 in Tashkent, Uzbekistan. This project aims to provide farmers, institutes and local communities with knowledge, methodologies and policies to conserve in situ/on-farm horticultural crops and wild fruit species in Central Asia, which is expected to improve the livelihoods of the farmers and forest dwellers in the target areas through better management and use of their fruit genetic resources. Income increases will mainly be derived from improved marketing of the target species.

Therefore, development of capacity of project staff, involved in the project implementation, in undertaking market research to identify problems in marketing and market niches for products of local varieties of fruit crops and developing appropriate marketing strategies were the main objectives of the workshop. Twenty one representatives of research institutes, Universities and farmers' organizations from Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan,

and Uzbekistan participated in the workshop. The workshop covered broad scope of topics related to market studies on fruit crops including market chain concept, collection and analysis of market data, market research methods as rapid market appraisal, participatory market chain approach and market mapping, developing marketing strategies based on four Ps (Product, Price, Promotion and Place/distribution). Participants also gained knowledge on marketing extension tools, standards and certification, regulations, opportunities and bottlenecks of fair trade markets. The trainees were able to apply the newly learnt lessons to the project activities during the market survey at the Parkent market near Tashkent where they interviewed three categories of sellers: retailers, whole sellers and farmers and then processed the collected market data under the guidance of Froukje Kruijssen, Associate Scientist on Market Research of Bioversity International. These skills will help national partners in development of market strategies for fruit crops products and support conservation of local varieties of fruit crops through their wide and sustainable use.

UNEP REPRESENTATIVE VISITS TURKMENISTAN

Dr. Marieta Sakalian, UNEP/DGEF Programme Management/Liaison Officer for Biodiversity, UNEP-GEF, and Dr. Muhabbat Turdieva, Bioversity International, visited Turkmenistan on 19-24 June 2008 to meet national partners and agencies involved in the implementation of the national component of the regional project on "In situ/On farm Conservation and Use of Agrobiodiversity in Central Asia" supported by UNEP and coordinated by Bioversity. The visit was very fruitful and included meetings and discussion with partners from the Ministry of Agriculture, Supreme Council for Science and Technologies, Ministry of Nature Protection of Turkmenistan, researchers of National Institute of Desert, Flora and Fauna, Research Institute of Farming, Magtumguly Research and Production Center for Plant Genetic Resources, Turkmen National University. During the visit partners were able to review the progress and constrains in the project implementation in Turkmenistan.

During the meeting in the Ministry of Agriculture, Mr. Charygeldy Charliev, the First Deputy Minister of Agriculture of Turkmenistan, ensured the full support to the project from the side of Ministry of Agriculture and emphasized that H.E. the President of Turkmenistan highlighted the need to study the global experience in processing agricultural products, achieving food security and increasing efficiency of agricultural production. Dr. Akjere Allanurova, Deputy Chairman of the Supreme Council for Science and Technologies, informed that training programmes for

postgraduate students and professors were recently launched under coordination of the Supreme Council on Science and Technologies, and unique collections of crops maintained at Garry Gala Scientific and Production Center of Plant Genetic Resources are being used as a base for training on plant genetic resources and development of new crop varieties for students of the State Agricultural University of Turkmenistan.



Meeting with Dr. Akmuradov, Minister of Nature Protection of Turkmenistan

Dr. Makhtymkuly Akmuradov, Minister and GEF National Focal Point, and Dr. Bekmurad Eyeberdiyev, Head of Ecological Programs Coordination

Department, Ministry of Nature Protection of Turkmenistan, gave brief information on biodiversity projects being implemented in Turkmenistan and the active role which the country is playing in biodiversity conservation initiatives in the region.

Visits were organized to the project sites in Akgunur village in Gokdepe district of Akhal Province in order to meet farmers involved in the project implementation in Turkmenistan. One of the farmers, Mr. Karyaga Meredov has a vineyard with 70 varieties of grapes. He is well known among farmers in

Turkmenistan because of his grapevine nursery where he multiplies many local varieties of grapes. Mr. Meredov has suggested grafting undesirable grapevine variety in the vineyard with desirable one instead of removing it. The grafted plant can start to produce fruits the next year while the rooted cuttings - only on the third year after planting. This technology is being disseminated among farmers by researchers from the Institute of Farming in collaboration with the Ministry of Agriculture. The visit was recorded by TV correspondents and broadcasted in the national TV channel (TV-4).

THE WATER PRODUCTIVITY IMPROVEMENT PROJECT: INCEPTION WORKSHOP HELD IN TASHKENT

The inception workshop of the Project on "Enhancing Water Productivity, Crop Yields and Yield Stability at Plot Level through Improved On-Farm Water Management" funded by Swiss Agency for Development and Cooperation (SDC), was held on 18-20 September, 2008, in Tashkent, Uzbekistan. In addition to experts from IWMI, SDC and SIC-ICWC, officials from the respective water and agricultural ministries, provincial water resources experts, research institutes and agricultural extension service providers from three countries i.e. Uzbekistan, Kyrgyzstan and Tajikistan attended the workshop. During the workshop, IWMI and SIC scientists presented the results of the inception phase which included current status of water productivity at the plot level in the three target countries i.e. Uzbekistan, Kyrgyzstan and Tajikistan. Limitations and constraints to improving water productivity at plot level in these countries were also thoroughly discussed. Existing extension services and strategies in the three countries were reviewed and different options for improving extension services were discussed. The workshop participants also deliberated on the ways and means of disseminating tested technologies to farmers for improving land and water productivity at the plot level.

The workshop participants reviewed the framework for the second phase of the project which will start



Workshop participants.

from 1st March, 2009. All stakeholders' made their contributions during the discussion sessions and subject matter dialogue groups, which greatly helped in the formulation of strategic concepts for the second phase of the project. The workshop ended with a draft log frame of the second phase of the project which will be finalized after discussions with all the stakeholders in the three target countries.

Asad Qureshi and Jusipbek Kazbekov,
IWMI-Central Asia

IWMI PARTICIPATES IN THE EXHIBITION ON "10TH ANNIVERSARY OF TAJIK - SWISS COOPERATION"

The Exhibition on "10th Anniversary of Tajik - Swiss Cooperation" was held on 26-27 September, 2008, in Dushanbe, Tajikistan, and included informative stands, theater performances, short films and interactive quizzes. The Exhibition served as an effective platform for sharing with the public about the results achieved so far from the fruitful Swiss-Tajik partnership, and also for looking into the

perspectives for future cooperation.

During the exhibition IWMI presented the information on the three projects funded by SDC and implemented in Tajikistan as well as neighboring Uzbekistan and Kyrgyzstan. These projects were on "Integrated Water Resource Management in Ferghana Valley (IWRM-Ferghana)", "Water

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Productivity Improvement at Pilot level” and “Water Flume Meter Project in Fergana Valley”. One of the IWMI's stands reflected Success stories of IWRM-FV projects in Tajikistan.

In parallel, IWMI organized a seminar to introduce IWRM as a subject in the curricula of the Tajik Agrarian University in Dushanbe, Tajikistan. Among the distinguished participants were Mr. A. Zairov, Deputy Minister of Water Resources of Tajikistan, Prof. Sattori, the Rector of the Tajik Agrarian University, Mr. Samadov, National Project coordinator of SDC.

Konstantin Mosin, IWMI-Central Asia



During the Exhibition

CENTRAL ASIA-INDIA COOPERATION FOR BIOSALINE AGRICULTURE

Central Asia and India are among the oldest centers of origin of agricultural crops, hosting rich plant and animal diversity, which serves as an important resource for increasing land productivity and farmer incomes. Therefore, sharing the experiences about different bioremediation technologies and governance options that have worked well in India and exploring the possibilities of their transfer in Central Asia by adapting to local socio-economic conditions could be highly useful. This was the main purpose of the visit of Dr. Kristina Toderich, ICBA-Central Asia, to India from 18-28 September, 2008.

During her visit to India, Dr. Toderich was received by Dr Narayan G. Hegde, President, Development Research Foundation (BAIF). This reputed civil society organization and research institution works for promoting sustainable rural development through transfer of cost effective technologies for making use of marginal resources to ensure food security and a better livelihoods for the rural poor. The majority of farmers involved in the BAIF activities belong to small and marginal categories.

During her visit, Dr. Kristina Toderich gave a presentation on “Biosaline Agriculture Approaches: from problem to opportunity (case study of ICBA-CAC activity)”, where she outlined the possibilities for addressing current priorities for sustainable use of marginal resources through biosaline forage production, mobilization of underutilized salt and drought phytogenetic resources, evaluation and exchange of valuable germplasm to meet regional food security in CAC. She also outlined possible ways how to reorient agricultural research to reduce poverty and ensure environment sustainability. The presentation was well received and generated considerable interest and debates.

During the visit, several opportunities for future collaboration in joint research on soil salinity assessment and management; introduction and

evaluation of conventional and non-conventional germplasm suitable for drought and sodic/soil conditions; biosaline forage and renewable energy production; improvement of livestock productivity and feeding systems by mobilization and motivation of rural based communities were discussed. It was suggested that mutual collaboration in development of research proposals and seeking potential donors could become the first step in the exchange of experiences and strengthening collaboration.

Dr. Kristina Toderich also visited ICRISAT Head Quarters in Hyderabad, where she received training on crosses among high-yielding and salinity-tolerant



During the visit of the BAIF Development Research Foundation in Pune, India

populations/lines of pearl millet to generate new breeding materials for further genetic improvement and cultivar development. The results on-going activities of ICBA-ICARDA-ICRISAT joint research project on sorghum and pearl millet on-farm trials in Uzbekistan, Turkmenistan and Kazakhstan were discussed. It was agreed to further strengthen the on-going activities on dual-purpose sorghum and pearl

millet, especially by developing integrated packages for grain and fodder production under saline environments in the Central Asian region. It was suggested that a joint paper on "Grain and Fodder Yield of Pearl Millet in Salinity-affected Areas in Central Asia" should be published to disseminate the scientific findings of this research.

Dr. Toderich also had the opportunity to visit the Central Soil Salinity Institute in Karnal, India, and participate at the opening session of the Summer

School on "Chemical change and nutrients transformation in sodic/poor quality water irrigated soils", organized by the institute from 27 September till 17 October 2008, where participants were trained in theoretical and practical applications and concepts of biosaline agriculture and salinity mapping system, soil sampling strategies, monitoring and controlling salinity.

Kristina Toderich, ICBA-Central Asia

THE LIVESTOCK PROJECT CONDUCTS ITS NATIONAL WORKSHOPS IN KAZAKHSTAN, KYRGYZSTAN AND TAJIKISTAN

The research activities under the IFAD- funded project on "Community Action in Integrated and Market Oriented Feed-Livestock Production in Central and South Asia" are entering their final phase. This project, to be completed in 2009, has developed several new highly promising livestock and fodder production technologies. During the month of October, 2008, national planning workshops have been organized to review the results of the project and discuss the work plans for the last year of the project.

Kyrgyzstan

The National Workshop was organized on 7 October, 2008 in Bishkek, Kyrgyzstan. In total, 21 scientists from research institutes and universities, farmers involved in the project, and ICARDA partners participated in this National Workshop. The National Workshop was opened by Acad. Jamin Akimaliev, Advisor to the Prime Minister of the Republic of Kyrgyzstan and Focal Point of the CGIAR-CAC Program in Kyrgyzstan. Acad. Akimaliev indicated that this project has a very good potential in developing a community based livestock production in Kyrgyzstan. Prof. Nurgaziev, National Coordinator of the Project, welcomed the participants and emphasized that this is a pioneer project focusing its research on the household livestock production.

In her introductory presentation, Dr. Barbara Rischkowsky, Project Coordinator, provided brief information on the project duration. She informed that the Project Regional Workshop is planned to be held in November 2008 in Dushanbe, Tajikistan. She also listed the observations and recommendations of the IFAD Monitoring Mission held in April 2008.

The Principal Researchers of the project in Kyrgyzstan made presentations on progress achieved during the second year of the project under the themes: Socioeconomics, Range and Forage Productivity, and Improvement of livestock productivity. Ms. Tolganoy Katosheva, Ph.D. student, made a presentation on "Improvement of

sheep production in households for increasing productivity".

Tajikistan

A two-day National Workshop was conducted on 09-10 October, 2008, in Khodjend, Tajikistan. The National Workshop was opened by Acad. Amir Karakulov, National Coordinator of the Project, who briefly informed the 16 participants of the workshop about the agenda and main objectives of the workshop. Mr. Rustam Rakhimov, Deputy Head of the Agricultural Department of Sogd province, made a welcome speech and highlighted that livestock is the most important sector in the agriculture of the Sogd province. The regional authorities welcome such projects on livestock production helping to improve the living standards of smallholder farmers in remote rural areas. Dr. Barbara Rischkowsky, Project Coordinator, provided background information and highlighted the workshop objectives.



National Workshop participants in Tajikistan

On the first day, the Principal Researchers of the project in Tajikistan made presentations on progress achieved for the first year of the project on socioeconomics, range and forage productivity, and improvement of livestock productivity. Dr. Liba Brent, an international expert, made a presentation on community-level mohair processing by women in

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the project sites. Two post graduated students (Messrs. Khurshid Davlatov and Farkhod Kosimov) also made presentations on their research themes. The second day of the workshop was devoted to discussing the project workplan and budget for 2009.

Kazakhstan

South-Western Scientific Production Center for Agriculture organized the National Workshop on 14 October, 2008 in Shymkent, Kazakhstan. The experts and researchers from the Shymkent Agricultural Department of South-Kazakhstan province, South-Western Scientific Production Center for Agriculture, Kazakh-Turkish International University, Joint Stock Company "KazAgroInnovatsiya", farmers and households from project sites participated in the National Workshop along with partners from ICARDA. In total, 26 scientists, farmers and Government officials participated in the workshop.

The inaugural session was opened and chaired by Prof. Abdurahman Ombayev, Project National Coordinator and Director General, South-Western Scientific Production Center. He emphasized that the National Workshop is aimed to review the results of the second year of the project and to discuss project workplan for next year. Furthermore, Dr. Barbara Rischkowsky, Project Coordinator,

ICARDA, delivered an introductory statement where she emphasized the importance of the National Workshop for the project. Mr. Shamsiddin Alijan, Senior Specialist, Joint Stock Company "KazAgroInnovatsiya", Ministry of Agriculture of the Republic of Kazakhstan, also welcomed the participants.

The progress reports for the second project year under the project themes on Socioeconomics, Range and Forage Productivity and Livestock productivity were delivered by the Principal Researchers in Kazakhstan. Among them, Dr. Elbrus Kunanbaeva made a presentation on community based improvement of cow and sheep milk processing and preparation of the sausage products for value addition and increasing incomes. Two Master degree students from Kazakh-Turkish International University made presentations on the results of socioeconomic survey conducted in the project site in Arys, Ordabasy, and Turkestan districts of South Kazakhstan province.

In the afternoon, the National Workshop continued with the presentation of workplans and budgets by the Principal Investigators for all three themes for 2009.

Aziz Nurbekov, Nariman Nishanov, and Habibulo Hamdamov, ICARDA-CAC

FARMER FIELD DAYS PROMOTE DISSEMINATION OF NEW VEGETABLE VARIETIES

The agricultural research institutes in the CAC countries are conducting comprehensive research activities on the evaluation of germplasm materials from the World Vegetable Center for selecting new promising vegetable varieties. The work is now being conducted in very close collaboration with farmers in the region. It has become a good tradition to organize farmer field days in the research institutes, where farmers can get more information on the research results, new promising varieties of vegetable crops, and to participate in the discussions with their

suggestions.

During the farmers' field days, the farmers have the opportunity to taste the new varieties and get information materials on them. As a result of such mutually beneficial collaboration, the farmers are able to not only get acquainted with the scientific innovations, but they also express strong desire to multiply the seeds of promising varieties of vegetable crops thereby increasing own incomes.

Ravza Mavlyanova, AVRDC-CAC

FARMER FIELD DAYS UNDER THE SLM-R PROJECT (CACILM)

- Farmer Traveling Seminar on demonstration of promising technologies developed under SLMR Project, involving raised bed/zero till planter, water conservation technologies, NDVI measurements using Greenseeker was organized by the SLMR project on 23 August, 2008, in Kaptagai, Kazakhstan. Around 50 participants attended the event.
- Farmer Traveling Seminar on "Sustainable use of irrigated lands in irrigated cotton-wheat systems under water scarcity and saline environmental conditions" was organized by the SLMR project on 29 July, 2008, in Pahtakor, Uzbekistan. In total, 70

participants attended the event. Information related to laser land leveling, minimum/reduced tillage practices, advanced irrigation technologies using plastic chutes for cultivation of cotton and wheat crops was also disseminated among the participants.

- Farmer Traveling Seminar on "Sustainable use of pasturelands and irrigated lands, and fodder production technologies" was organized by the SLMR project on 2 September 2008, in Kyzylkum, Uzbekistan. In total, 38 participants attended the event. The farmers were very appreciative of the field trials which demonstrated the impact of water

saving technologies such as portable plastic chutes. They expressed keen interest on untraditional forage crop production in Uzbekistan (African and Indian pearl millet, rapeseed, triticale, maize, halophytes, alfalfa, etc) using saline artesian water in order to meet fodder shortages during the winter season.

- Farmer Traveling Seminar on “Sustainable use of agricultural lands in foothill zones of Kyrgyzstan” covering precision laser land leveling and raised bed technology was organized by SLMR Project in Sokoluk district of Kyrgyzstan on 14 July 2008. In total, 30 participants attended the seminar
- ICARDA (SLMR Project), ZEF-UNESCO and CIMMYT organized a training course on “The NDVI sensor, toward the integrated evaluation of crop management” from 6 to 13 August, 2008 in Urgench, Uzbekistan. In total, 20 participants were trained on the use and application of evaluation tools using Greenseeker for integrated evaluation of cropping systems.

- To raise the awareness of farmers on operating laser leveling system, SLMR project organized a training event in Esonboy ota farm in Jizzakh province of Uzbekistan on 29 July 2008. Information on laser leveling practices before cultivation of the second crop (maize) was shared with 20 farmers.
- Training on operation of raised bed/zero till system was organized by SLMR project in Esonboy ota farms in Jizzakh province of Uzbekistan on 23 September 2008. In total, 16 participants including farmers, policymakers, and researchers participated in the event. During the training, participants were able to explore the benefits of conservation agriculture in salinity management. Zero till and raised bed technologies, as well as various aspects of using zero-till drills in winter wheat, were demonstrated and intensely discussed. Farmers wanted that good prototypes of zero till and raised bed planters should be replicated locally and made available at low cost.

AWARDS AND RECOGNITIONS

Dr. Raj Paroda Awarded for Lifetime Contributions to Agricultural Research

Dr. Raj Paroda, former Head of PFU, and Regional Coordinator, ICARDA-CAC, presently Chairman, Trust for Advancement of Agricultural Sciences (TAAS) was given the Life Time Achievement Award on 19th September 2008 for his valuable contributions towards growth and development of agriculture in India. The Award was presented to Dr. Paroda by Dr. Somnath Chatterjee, Hon'ble Speaker of Indian Parliament.

The Citation to the Award emphasizes that “Dr. Rajendra Singh Paroda, an accomplished plant breeder, geneticist by profession and an able research administrator, has made significant contributions to crop improvement and worked towards strengthening the national agricultural research system in India as well as in Central Asian countries and the Caucasus... the main architect of the world's three largest and most modern national gene banks... a scientist par excellence and an



Dr. Paroda receiving the Award from Dr. Somnath Chatterjee, Honourable Speaker of Indian Parliament

outstanding administrator... helped farmers and agriculture around the world.

Acad. Jamin Akimaliev designated as the Advisor to the Prime-Minister of Kyrgyzstan

Acad. Jamin Akimaliev, Director General, Kyrgyz Research Institute of Agriculture, and Focal Point of the CGIAR Program for CAC, was designated as the Advisor to the Prime-Minister of the Kyrgyz Republic

on 14 August, 2008. All CGIAR-CAC Consortium members heartily congratulate Acad. Akimaliev and wish him all the successes in this highly responsible assignment.

FUTURE EVENTS

Livestock Project

Second Regional Workshop and Steering Committee Meeting of the “Community action in integrated and market oriented feed-livestock production in Central

and South Asia” project will be conducted in Dushanbe, Tajikistan, in the end of November 2008.

FUTURE EVENTS

CGIAR-CAC Program Plans to Mobilize Donor Support for the Program

The Next Annual General Meeting (AGM) of CGIAR will be organized on 01-05 December, 2008, in Maputo, Mozambique. During the event, Program Facilitation Unit (PFU) of the CGIAR Program for Central Asia and the Caucasus (CAC) will organize a Luncheon Meeting entitled "Agricultural Research

Competence for Central Asia and the Caucasus (CAC): Ten years of the CGIAR's CAC Program 1998-2008" on 1st December, 2008, for mobilizing donor support for the CAC Program.

International Conference on Desertification

The Drylands Science for Development (DSD) Consortium, selected by the United Nations Convention to Combat Desertification (UNCCD), Committee for Science and Technology (CST), will have responsibility to jointly organize a major conference for the UNCCD-CST in 2009. DSD's main task is to assist the UNCCD-CST in organizing a Scientific Conference entitled "Bio-physical and socio-economic monitoring and assessment of desertification and land degradation, to support decision-making in land and water management", and in mobilizing resources to make it happen.

ICARDA is an active member of this initiative. DSD brings together five international research organizations/networks with deep and complementary experience on issues of sustainable land management and combating land degradation. The five organizations (in alphabetical order) are: European DesertNet, ICARDA, ICRISAT, the European Commission's Joint Research Centre - Institute for Environment and Sustainability (JRC-IES), and UNU-INWEH. Dr. Christopher Martius, Regional Coordinator, ICARDA-CAC, will be ICARDA's focal point in the Organizing committee of the Scientific Conference.

NEW PUBLICATIONS

ICARDA-CAC. 2008. **Regional Program of ICARDA for Central Asia and the Caucasus**. Annual Report 2007-2008. Tashkent, Uzbekistan. 18 pp. (http://www.icarda.org/cac/files/ICARDA_CAC_Annual%20report_2008.pdf)

Carlo Carli and Durbek Khalikov. **Micronutrient Composition of Predominant Potato (*Solanum Tuberosum* L.) Varieties Cultivated In Uzbekistan**. *Potato J.* 35 (1-2): 41-45 2008

David Bedoshvili, 2008. **National Report on the State of Plant Genetic Resources for Food and Agriculture in Georgia**. PFU/ICARDA/CIMMYT, Tbilisi, Georgia, September 2008, 40 pages.

Engamberdiev, O., B. Tischbein, J.P.A. Lamers, C. Martius, J. Franz (2008): **Laser land leveling: More about water than about soil**. ZEF-UNESCO Rivojlanishlari, 1, 2 pp.

Forkutsa, I., R. Sommer, R., Y. Shirokova, J.P.A. Lamers, K. Kienzler, B. Tischbein, C. Martius, P.L.G. Vlek (2008 subm.): **Modeling irrigated cotton with shallow groundwater in the Aral Sea Basin of Uzbekistan: I. Water dynamics**.

Forkutsa, I., R. Sommer, R., Y. Shirokova, J.P.A. Lamers, K. Kienzler, B. Tischbein, C. Martius, P.L.G. Vlek (2008 subm.): **Modeling irrigated cotton with shallow groundwater in the Aral Sea Basin of Uzbekistan: II. Soil salinity dynamics**.

Guimaraes, E., Bedoshvili, D., Amyan, A., Galli, J., Kueneman, E., Paganini, M. 2008. **Assessment of Armenia's Plant Breeding and Associated Biotechnology Capacity**. *Agromeridian*, 1(7)-2008. ISSN 1814-8417.

Gupta, R. and K. Sayre. 2008. **Conservation Agriculture in South Asia- Some Lessons Learnt**. *PACA News Letter*, Issue 3 (September) p 1-3.

Kohlschmitt, S., R. Eshchanov, R., C. Martius (2008): **Alternative Crops for Khorezm (Uzbekistan) and their Sales Opportunities as well as Risks on the European Market**. 42pp. ZEF Work Papers for Sustainable Development in Central Asia. No. 11. 42 pp.

<http://www.khorezm.uni-bonn.de/downloads/WPs/ZEF-UZ-WP11-Kohlschmitt.pdf>

Khamzina, A., J. Franz, J.P.A. Lamers, E. Botman (2008). **Afforestation of degraded cropland – opportunities for foreign exchange revenue diversification through Carbon trade in Uzbekistan?**. ZEF-UNESCO Rivojlanishlari, 5, 2 pp.

Rudenko, I., U. Grote, J. Lamers, C. Martius (2008): **Wert schöpfen, Wasser sparen. Effizienzsteigerung im usbekischen Baumwollsektor**. In: M. Sapper, Volker Weichsel (Eds.): *Grünbuch. Politische Ökologie im Osten Europas*. Berlin. [Osteuropa 04-05/2008], 407-418.

Scheer, C., N.Ibragimov, J. Ruzimov, J.P.A. Lamers, C. Martius. 2008. **Emissija parnikovykh gazov [Emission of greenhouse gases]**. *Uzbekistan Qishloq Xojaligi [Agriculture of Uzbekistan]* 10, p.22.

Scheer, C., R. Wassmann, K. Butterbach-Bahl, J.P.A. Lamers, C. Martius 2008 in press): **The Relationship between N₂O, NO, and N₂ fluxes from Fertilized and Irrigated Dryland Soils of the Aral Sea Basin, Uzbekistan**. *Plant and Soil*. DOI 10.1007/s11104-008-9728-8

Scheer, C., R. Wassmann, K. Kienzler, N. Ibragimov, J. Lamers, C. Martius (2008) **Methane and nitrous oxide fluxes in annual and perennial land use systems of the irrigated areas in the Aral Sea Basin**. *Global Change Biology*, 14, 1–15, doi: 10.1111/j.1365-2486.2008.01631.x

Scheer, C. J.P.A. Lamers, C. Martius and N.Ibragimov (2008): **Fertilizing the air or the land? How Uzbek farmers and the environment can gain by changing cropping practices**. ZEF-UNESCO Rivojlanishlari, 4, 2 pp.

Scheer, C., R. Wassmann, J. Lamers, C. Martius (2008): **Does Irrigation of Arid Lands Contribute to Climate Change?** Caravan (ICARDA)

In addition, the issue # 1(7)-2008 of *Agromeridian* magazine was published.

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DISCLAIMER: While every effort has been made to ensure the accuracy of the information, the Program Facilitation Unit (CGIAR-CAC) cannot accept any responsibility for the consequences of the use of this information. The Newsletter provides a brief overview of agricultural research and other activities of the Program during the last quarter.