

April - June, 2009. #40

САС  
ЦАЗ

# CACnews



***The Forum for all who care about the future of agriculture in Central Asia and the Caucasus***

# Contents

Important Events	4
Research Highlights	6
Meetings, Workshops and Conferences	7
Capacity Building	8
Seminars and Field days	10
Strengthening ties with NARS	10
Publications	12

## CGIAR Collaborative Research Program for Sustainable Agricultural Development in Central Asia and the Caucasus



CGIAR Collaborative Research Program for Sustainable Agricultural Development in Central Asia and the Caucasus is being implemented in the region since 1998. The goal of the Program is to contribute to achieving the overall goal of food security, economic growth, environmental sustainability and poverty alleviation in the countries of Central Asia and the Caucasus. Its immediate objective is to assist the CAC countries in achieving sustainable increases in the productivity of crop and livestock systems through development, adoption and transfer of production technologies, natural resource management and conservation strategies, by strengthening agricultural research and fostering cooperation among the CAC countries and international agricultural research centers.

# Welcome Message

## Message from Dr. Karim Maredia



**Karim Maredia**

Principal Investigator and Director,  
Central Asia IPM CRSP Project

### Greetings from Michigan State University in USA.

Michigan State University, a premier Land-Grant University in USA is proud to be a member of the CGIAR/ICARDA-Project Facilitation Unit (PFU) consortium, which has provided excellent support and facilitated the implementation of a long-term program in Integrated Pest Management (IPM) in Central Asia covering three countries - Kyrgyzstan, Tajikistan, and Uzbekistan.

The countries of Central Asia were isolated for more than 60 years during the former Soviet Union regime. Pest management programs during this era were designed around the intensive use of chemical pesticides and monoculture cropping systems. To break this isolation and introduce ecologically-based Integrated Pest Management (IPM) approaches, Michigan State University (MSU) in collaboration with University of California Davis (UC-Davis) and the International Center for Agricultural Research in Dry Areas (ICARDA) has implemented a regional IPM program in Central Asia since 2005.

The Central Asia regional IPM program is a part of the Global IPM CRSP program implemented by the Virginia Tech University in USA through the funding from the USAID. The Central Asia regional IPM program was launched in October 2005 and has included a number of partners including governmental, and non-governmental organizations (NGOs), international agricultural research centers, and local universities in the region. This project has focused on three components that were identified through a regional stakeholders forum held in Uzbekistan in May 2005 - 1) Collaborative research program to enhance the efficiency and product lines of biolaboratories, 2) Collaborative research program to enhance biological control of pests through landscape ecology/habitat management, and 3) Strengthening of outreach and educational programs in ecologically based IPM.

The activities implemented during the past four years have had significant impacts in the region, particularly in breaking down isolation between host countries and international community, creating awareness on IPM issues, and introducing the concepts of ecologically-based IPM in crop management programs. A three member post-doctoral research and outreach program team has been trained in ecologically-based IPM approaches and is currently implementing IPM project activities in the region. Their work has increased awareness and use of ecologically-based IPM at multiple levels (farmers, agricultural advisors/educators, university educators, national research institutes).

During the past four years, the project has held 3 regional IPM forums in 3 countries in Central Asia, attended by over 150 stakeholders. The project team has produced over 50 research publications and extension bulletins, and given more than 10 presentations at regional, national and international scientific meetings, workshops and forums. The education team has assembled a directory of more than 60 IPM experts in the region. Through various training programs, 92 farmers (35% women) have been trained in IPM through farmer field schools (FFS) in Tajikistan and Kyrgyzstan. In addition, 6 students (50% women) have been trained in IPM through a first ever student field school (SFS) established by the project in collaboration with a local university in Kyrgyzstan. A team of 3 post doctoral research fellows have received individualized training and mentoring under IPM specialists at US institutions and the project has facilitated short term training for 12 scientists from the region to attend MSU-based Agro-ecology and IPM training programs. A website was established to increase awareness of these activities and to share information. A blog about the project's June 2009 regional IPM Forum in Kyrgyzstan received more than 200 visits. For more detailed information and access to publications from this project, please visit: <http://ipm.msu.edu/central-asia.htm>.

The collaborative research, training and outreach programs implemented has greatly helped in creating an excellent network and enhanced awareness on ecologically-based IPM in the region. The research projects focusing on enhancing capacities of bio-laboratories and application of landscape ecology have laid excellent ground work for integrating biological control components in IPM. Outreach programs implemented through the Farmers Field Schools have provided an excellent platform for delivering IPM information and technologies to farmers. In addition, the IPM Student Field School has served as a source for student training and providing practical IPM training to university students.

Moving forward - Building on the strong foundation established during the past four years, the project plans to take an integrated and applied approach to develop and deliver ecologically-based IPM packages for wheat, tomato and potato cropping systems. This approach will allow us to utilize and apply the research results generated during the past four years and will provide opportunities to utilize existing technologies and introduce new knowledge and technologies as needed from other regions globally.

We are looking forward to expanded and fruitful partnership with the Central Asia region.

**Dr. Karim M. Maredia**  
**Michigan State University, East Lansing, USA**

# Important Events

## Implementing IWRM in the Context of Small River Basins in Ferghana Valley: 2nd Round of Consultation Meetings with Stakeholders

From 4 to 8 May 2009, IWMI researchers conducted the second round of meetings with stakeholders from the two small rivers in the Ferghana Valley: Shakhimardansay (shared between Kyrgyzstan and Uzbekistan) and Khodjabakirgansay (shared between Kyrgyzstan and Tajikistan). These meetings had two main objectives:

- 1) to consult key aspects of the earlier developed Concept of Adoption IWRM principles on Small Rivers' Context (this concept was developed along the Integrated Water Resources Management in the Ferghana Valley project implemented jointly by IWMI and its partner Scientific-Information Center of the Interstate Commission Water Coordination in Central Asia and financially supported by the Swiss Agency for Development and Cooperation) and
- 2) to develop plans to implement this concept by involving key stakeholders taking into account local context.

Stakeholders were represented through the informal Working Groups (WGs) formed in previous consultation meetings conducted at the end of 2008 to represent a wide range of stakeholders such as farmers, water user associations, water management organizations and others such as representatives from industry, water supply and ecology. During the meetings, stakeholders reported the great need to adopt IWRM into the small rivers context to improve water management and water sharing. It was then decided that these WGs will serve as group of experts to consult key project documents and channel to communicate key decisions with wide range of stakeholders before the IWRM concept goes to implementation. Members of these WGs were instrumental in making this concept more inclusive and adapted to local circumstances. The modified version of the concept was the basis to start consultation.

During this, second round of meetings, WGs had to materialize the three main strategic directions to bring IWRM into the small river context: 1) establishment of new or reorganization of the existing, hydrographically appropriate, unified maintenance service organization in each part of the small river similarly to pilot Canal Management Organizations; 2) formation of new or modification of present organization that could



Dr. Jusipbek Kazbekov is discussing strategic directions with stakeholders

unite all water users (agricultural and all others) similar to the Pilot Canal Union of Canal Water Users; 3) establishment of joint state-public governance body (or if possible and pre-conditions are favorable, to establish it as fully public organization) to be represented at later stages in the governance of the whole river basin – similar to Pilot Canal's Canal Water Committees. Thus, the WGs developed concrete plans of actions answering questions such as: what institutional structures to be established? What are the main steps and activities are necessary to reach objectives? And what are the preliminary dates and responsible persons?

In the next half of the meetings, the rapporteurs for each WG presented the Action Plans to the wide range of stakeholders to discuss and include their opinions and comments with regard to activities and its implementation issues.

Currently, the mobilization and awareness building activities are underway to inform all stakeholders in order to facilitate the next institutional building process to establish IWRM organizational structures.

**Jusipbek Kazbekov and Murat Yakubov**  
IWMI

## Utilization of Marginal Quality Water for Agriculture with Reference to Central Asia

The 34th Annual Meeting of the Islamic Development Bank (IDB) was held in Ashgabat, Turkmenistan, from 29 May to 4 June 2009. On this occasion, the President of Turkmenistan, H.E. Gurbanguly Berdymuhamedov and the President of the Islamic Development Bank, Dr. Ahmad Mohammed Ali, by way of welcoming the participants of this prestigious forum have expressed appreciation of the role of strengthening of further collaboration between the IDB member countries. During this meeting, International Center for Biosaline Agriculture (ICBA), which is an affiliate of IDB, as it was practiced in the previous years conducted jointly a seminar on « Marginal Quality Water Utilization in Agriculture with Special Reference to Central Asia jointly with the Ministry of Agriculture in Turkmenistan.

In his speech Mr. Fawzi AlSultan, Chair of ICBA Board of Directors has emphasized, that fresh water on the Earth is only 2.5 %, which is incredibly low compared with 97.5 % of saline water unsuitable for human consumption. A new integrated program for the conservation and rational use of water resources has been developed by ICBA in order to support water-scarce countries, to improve the land's productivity, social equity and environmental sustainability. He also has underlined the importance of implementation of innovative water desalination technologies.

The main problem of agriculture, as noted in his welcoming speech, Vice Minister of Agriculture of Turkmenistan Velygylch Mamedov, is the increase of soil salinity, which can and should be seriously considered through the use of modern reclamation and irrigation management practices. One alternative approach of water resources use would be the utilization of drainage water, which is a forced measure, as far as this water is highly mineralized and its inappropriate use can fatally affect crop growth. However, conjunctive use of «drainage water and fresh water» can increase the crop yield and prevent soil re-salinization or secondary (human caused) salinization. Drainage water according to the opinion of Professor, Paltamet Esenov, Director of the Institute of Desert, Flora and Fauna of Turkmenistan can also be used for animal husbandry and aquaculture purposes. The additional di-



Seminar participants in the Conference Hall (A), President Hotel, Ashgabat

rection of research for combating soil salinization could be the introduction and utilization of native and introduced halophytic flora , which will become an effective and alternative fodder production under harsh desert climate.

A shallow water table can also induce soil salinization. The regulation and minimization of water table fluctuations can be achieved through the control of irrigation management practices or by the establishment of artificial agrophytocenosis of aboriginal or introduced halophytic trees/shrubs in pure plantations and/or intercropped with salt/and drought tolerant annual and perennial fodder grass and legumes. The benefits of implementation of this low cost technology by utilization of low quality water for irrigation for increasing productivity of marginal lands and development of crop/livestock production has been presented by Dr. Kristina Toderich, regional representative of ICBA for Central Asia and Caucasus.

In conclusion of the seminar, the key achievements and role of ICBA activities for improved livelihood of rural poor in Middle East, Central Asia, Northern and Western Africa were noted. All the participants expressed the necessity of close collaboration and development of new projects in agriculture, biosaline arid forage production and animal husbandry including the transfer of innovative biosaline technologies, knowledge sharing and capacity building.

**Dr. Kristina Toderich and Dr. Porf. Faisal Taha  
ICBA**



For the documentary, Dr. Z. Khalikulov, cereals breeder expert explains details of ICARDA's improved wheat varieties

and the SLMR project assistant Dilafruz Tursunova helped translating the Uzbek and Russian interviews into English to create adequate subtitles. We received their feedback just before departure saying they not only enjoyed the trip but also found the presented projects very interesting.

**Kirsten Kienzler  
SLMR project**

### Update from CACAARI

The purpose of Central Asia and the Caucasus Association of Agricultural Research Institutions (CACAARI) is to facilitate regional cooperation in agricultural research for development by providing a neutral platform, where ideas and experiences can be shared. Moreover, the Association acts as a two-way communicative mechanism, supporting information flow from global organizations to local partners and back. The membership is open to agricultural research, education and extension institutions, as well as to farmer, non-governmental and agribusiness organizations located in Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan.

The Association is governed by the Steering Committee, led by the Chairman (currently – Acad. Hukmatullo Akhmadov, Tajikistan) and the Executive Secretary (currently – Dr. Abdushukur Khanazarov, Uzbekistan).

Since its establishment the Association has been representing Central Asia and the Caucasus at various regional and global meetings, such as those of CGIAR, GFAR, ICARDA etc. Among the biggest achievements of the Association are the co-founding of the Inter-Regional Network on Cotton (INCANA) and the Regional Agricultural Information System (CAC-RAIS), as well as organizing the Regional Agricultural Research Priority Setting Workshop.

Initially the membership was limited to the eight leading NARS institutions of eight CAC countries. Since June 2009 CACAARI has been actively extending the membership base and as of August 19, 2009, 26 institutions have requested to join the founding 8 as members of CACAARI. To better cope with the needs of a wider range of stakeholders, CACAARI is institutionalizing farmer and NGO representation in the Association – Farmer and NGO Consortia are being created under CACAARI and the composition of the Steering Committee is to be changed to give representation to the new groups.

Currently CACAARI is coordinating the regional prepa-

### ICARDA-CAC's activities captured on film

They had never seen a raised-bed planted field before and were fascinated. The two film makers Carol Mansour and Dina Debbas from Lebanon who were given the task to make a documentary about ICARDA's activities in the CWANA region visited the ICARDA-Tashkent office from June 08-18, 2009. The film program was very intensive and included excursions to several research sites in Uzbekistan and Tajikistan, where ICARDA conducts activities on wheat breeding, chickpea vigor screening, laser-assisted land leveling, water-efficient irrigation technologies, direct seeding/no-till, soil salinity assessment, wool production/spinning, sheep breeding, pasture management, mountainous erosion control, and integrated pest management. Carol and Dina collected many hours of film material for the ICARDA documentary and learned a lot about the particular problems in the region. Before their departure, a debriefing meeting was held where additional information on the research activities was provided,

rations for the Global Conference in Agricultural Research (GCARD), to be summoned by Global Forum on Agricultural Research (GFAR) in Montpellier, France in 2010. GCARD is a world summit to discuss current state of agricultural research and take steps to reshape its future. The regional input from CAC region would come from CACAARI and its constituent members.

To provide such an input, CACAARI has asked Dr. Surendra Beniwal as a consultant to prepare a regional review to be discussed on the web forum (September 2-24, 2009) and at face-to-face meeting (October 16-17, 2009) and later presented at Montpellier meeting of GCARD on March 28-31, 2010.

CACAARI invites all interested parties to join the Association and cooperate with us in the progress of agricultural research for development. For more information on the history of the organization, its activities and aims please visit <http://www.cacaari.org>, or contact Hukmatullo Ahmadov, Chairman (Ahmadov@yandex.ru), Abdushukur Khanazarov, Executive Secretary of CACAARI (z.khalikulov@cgiar.org), Anvar Rahmetov, Assistant Executive Secretary of CACAARI at (a.rahmetov@cgiar.org).

Also we would like to invite you to actively contribute to the Regional Review at electronic and face-to-face consultations, so that our regional priorities and needs are heard and responded to at the global level.

**Anvar Rahmetov**  
**Assistant Executive Secretary of CACAARI**

## Research Highlights

### Dual-purpose trials in Tashkent, Uzbekistan, harvested

Experiments carried out on the grounds of the Tashkent State Agrarian University, Uzbekistan, to identify those local cereal crops most suitable for dual-purpose (grain yield and fresh biomass) have shown that maximum fresh biomass was obtained from triticale (13.0 t/ha), followed by winter wheat (11.6 t/ha) and barley (4.4 t/ha) when sown in October and cut after winter (in March, ~F5 stage); when sown in September and cut before winter (in November, ~F3 stage), fresh biomass yields were highest for barley (11.7 t/ha) followed by triticale (7.2 t/ha) and winter wheat (5.5 t/ha). The yield data are being processed and final results will be provided in the SLM-R project's Final Report.

The fifteen ICARDA-CIMMYT winter wheat varieties received from Turkey, which are also being tested for their dual-purpose potential (yield and fresh biomass), were grouped into three categories according to their growth behavior, i.e. high vigor, moderate vigor and low vigor at early growth stage. For those treatments cut in November, three cultivars with high vigor characteristics were identified which produced maximum fresh biomass of around 7.6 t/ha. Eight cultivars were grouped as of moderate vigor yielding around 6.7 t/ha fresh biomass, while four cultivars with low vigor at the early growth stages gave around 3.4 t/ha biomass. Four cultivars showed high-vigor properties after the cut in March producing maximum biomass yield of around 18.3 t/ha, while six cultivars were of moderate vigor (on average 14.8 t/ha) and five cultivars with low vigor (on average 13.3 t/ha). Average yield of control treatments planted in September were 1 t/ha higher



Screening 15 wheat varieties for dual-purpose properties using the optical sensor

than those planted in October (5.9 t/ha). Yield penalties for those treatments cut after winter were higher (average 3.8 t/ha; 13-70% yield reductions) than those cut before winter (average 6.2 t/ha; yield reductions of around 5-30%).

Other SLMR research results are currently being analyzed and will be available in the final report.

**Kirsten Kienzler and Tulkun Yuldashev**  
**SLMR project**

### Collaboration of Azerbaijan with AVRDC-The World Vegetable Center

Azerbaijan's Research Institute of Vegetable Growing (ARIVG) collaborates with AVRDC - The World Vegetable Center - within the framework of the Regional Vegetable System Research & Development Network (CACVEG). About 50 accessions of 6 vegetable crop species were introduced from AVRDC since 2005. Work on the adaptation and complex study of vegetable crops accessions for revealing of promising lines is conducting by the institute's scientists. As the results of this study, promising tomato lines (CLN 2037E, CLN 2460E, CLN 2545A and Farmers 209), sweet pepper lines (0437-7031 and 0636-6018-2), and the vegetable soybean line AGS 423 were revealed as high-yielding, resistant to diseases, and having good fruiting quality. The tomato lines Farmers 209 and CLN 2545A have been included in the competitive variety trial. The work on new vegetable crops species is also being continued at the same institute.

"Farmers Days" are organized annually on the institute fields with participation of the representatives of state and farmer's



Farmers' Day in ARIVG



Released new hot pepper variety "Uchkun" in Uzbekistan

bearing up to first frosts in October and this variety attracts farmer's interest for cultivation. Regional varietal trial of 140 accessions of nine vegetable crops species is conducted in eight CAC countries in 2009.

As a result of collaboration of the Uzbek Research Institute of Plant Industry with AVRDC-The World Vegetable Center, the new promising varieties of mungbean "Durdong", vegetable soybean "Parvoz" and long yard bean "Oltin soch" were submitted to the state variety trial. These legumes were presented and have been received a high assessment on the 2nd State Fair of Innovation ideas and technologies held in April 28 – 30, 2009, in the EXPOCENTRE in Tashkent, Uzbekistan.

Dr. Ravza Mavlyanova  
AVRDC-CAC

### ICARDA staff collaborates with UNECE on regional environmental study

An UNECE-led team of experts has been working on a regional assessment of environmental conditions for the Draft Environmental Performance Report (EPR) on Uzbekistan since early 2009. Dr. Stefanie Christmann, the new environmental governance specialist in ICARDA-CAC Tashkent, took part in the mission in April and contributed to the chapters on agriculture/sustainable land use and climate change. She also arranged meetings of UNECE-experts with researchers from ICARDA, AVRDC and IWMI and further involved Bioversity International, so that there was broad input by CGIAR-organizations. In October 2009, UNECE and the Uzbek government will finally adopt the EPR - including about 50 recommendations – in a consensual way. We will inform our readers about the results of this assessment, in due course.

## Meetings, Workshops and Conferences

### Meeting of International projects and donor organizations in Tajikistan and Kyrgyzstan

**There were two meetings held to create common vision among various stakeholders, including international projects and donor organizations**

organizations, farmers and specialists. Participants can get the "look and feel" of promising vegetable crops varieties and are exposed to the institute's achievements; they can exchange their opinions and discuss perspectives.

Capacity building is realized on collaboration. Scientists of the Azerbaijan Research Institute of Vegetable Growing (Gajiga Zeynalov and Tofik Malikov in 2005 and Khurshud Mamedova in 2006) participated in international training courses on international methodologies of studying vegetable crops and have received certificates. Also, scientists from Azerbaijan participate in international meetings, annually organized by AVRDC-The World Vegetable Center and its regional office in Tashkent.

**Dr. Fuad Mamedov**

**Director of Azerbaijan Research Institute of Vegetable Growing,  
National Coordinator on Vegetable System R&D**

### Wheat Yellow Rust outbreak and sources of resistance

There was a serious outbreak of yellow rust in Uzbekistan and leaf rust in Tajikistan in 2009. Since the weather condition was unusually wet during spring, yellow rust problem was also experienced in several other parts of the CAC region. The serious wheat yellow rust epidemics in Uzbekistan showed that all, except one, of the 24 released and recommended cultivars were susceptible to the disease. An evaluation of advanced winter/facultative wheat breeding lines in the international nurseries showed that 92 out of 191 (48%) of the advanced breeding lines were resistant to yellow rust in the epidemic zone. A large number (58%) of the experimental lines were also resistant to leaf rust. 49 (26%) lines were resistant to both yellow and leaf rusts, whereas 17 (9%) lines were resistant to yellow and leaf rusts and powdery mildew. These lines with resistance to multiple diseases are valuable materials both for further testing as potential new varieties and/or use them as parents in crossing program.

**Ram Sharma and Zakir Khalikulov  
ICARDA-CAC**

### Regional Varietal Trial of vegetable crops from the World Vegetable Center

Vegetable production has a huge importance for food security. For the last five years, the sowing area of vegetable crops in Central Asia and Caucasus region has increased up to 739 thousand ha and the gross output of vegetables have increased to 14,090 thousand ton (FAOSTAT).

The collaboration of AVRDC – The World Vegetable Center with partner research institutes of Central Asia and the Caucasus is being realized within the framework of the Regional Vegetable System R&D Network (CACVEG), and practical results on varietal trials and development of new varieties have been achieved to 2008.

About 50 accessions of 10 vegetable species introduced from AVRDC are in competitive varietal trials and 28 varieties of 7 vegetable species are in state varietal trials in eight countries of CAC region. Four early maturing varieties of vegetable soybean (Ilkhom and Universal) and mungbean (Zilola and Marjon) are already released, and the new high yielding hot pepper variety "Uchkun" have been included in the State register in Uzbekistan in 2009. This variety is characterized by higher yield, large fruits, resistance to diseases and long fruit-

## **in Khujand, on May 20, and in Osh, on May 22, 2009.**

The main objectives of the meeting were:

- Introduction to IWRM-Ferghana and other similar projects activities;
- Creating awareness on the IWRM principles promoted by the project;
- Reaching consensus on the promotion of IWRM approaches and ideas;
- Identification of development perspectives and further introduction of IWRM principles;
- Development and coordination of strategies for further cooperation.

Among the participants there were Mr. Zoirov Anvar Muhiddinovich, Deputy Minister of Water Resources and Melioration Ministry of Republic of Tadzhikistan, SDC representatives, as well as donor funded projects by UNDP, ACTED, USAID and many others.

Dr. Herath Manthrithilake, Head of IWMI-CA and Co-director of IWRM-FV project welcomed the meeting participants and briefly explained objectives of the meeting. He said that there is several water resources management projects implemented in project target countries and some coordination between them would serve in many ways and help developing a common vision on water resources management at different levels of water management hierarchy. To begin with, he proposed to introduce each other, their project activities, share experiences and to think of ways of coordination in the future.

It was proposed by the meeting participants that in the future all these projects should coordinate their activities accordingly, so that there is adequate information about the area of project realization, activities undertaken, etc. They all agreed to a Coordination Council for timely response to the needs of other projects in terms of information sharing.

Among actions suggested for implementation were:

1. Develop the Statute to create the Coordination Council specifying mission, functions and obligations of the Council and regulate overall activities.
2. Produce mailing list consisting of all involved international projects and other stakeholders;
3. Organize cluster meetings by different topics identified



Dr. Herath Manthrithilake is explaining meeting objectives

by members;

4. Create a database with available information from projects;

5. Create website and place all necessary information;

**Ikbal Yusupova and Kahramon Jumaboev**  
**IWMI**

## **Draft Synthesis and Recommendations of the First UNCCD Science Conference**

*For reading and reflection before the Conference*

This eight-page draft document describes five Recommendations to be deliberated in the Scientific Conference for consideration by the UNCCD Committee on Science and Technology and the Conference of Parties during its Ninth Session in Buenos Aires. These Recommendations emanate from the deliberations of the three Conference Working Groups and are intended to be useful for decision-making in land and water management. The draft can be downloaded at:

<http://dsd-consortium.jrc.ec.europa.eu/documents/CST-ConfSynthesis5Aug09.pdf>

Comments may be sent to the attention of DSD at the email address: [secretariat@drylandscience.org](mailto:secretariat@drylandscience.org) and/or rose during the Conference itself in Buenos Aires, 22-24 September 2009. The Regional Coordinator of ICARDA, Christopher Martius, represents ICARDA in the Dryland Science for Development (DSD) Consortium that is organizing this conference. For details cf. <http://dsd-consortium.jrc.ec.europa.eu>

## **Capacity Building**

### **New initiative of ICARDA-CAC Program towards capacity building in Uzbekistan**

The ICARDA-CAC Regional Program in Tashkent has started a new initiative of capacity building of the Kashkadarya Scientific Research Institute for Breeding and Seed Production (KSRIISP), which is a newly established institute in Karshi, Uzbekistan. ICARDA-CAC provided several hundred accessions of cereals and legumes that have been tested in 2008-2009 at several stations within Kashkadarya region by KSRIISP.



Wheat Improvement training organized in Kashkadarya Research Institute by ICARDA-CAC

Besides, ICARDA-CAC helped KSRI BSP in preparation of a list of scientific lab equipments and farm machinery for the equipment of the institute, which is under procurement procedure by the institute. ICARDA-CAC researchers Dr. Ram Sharma and Dr. Zakir Khalikulov provided one-day introductory training on wheat improvement on April 7, 2009 in which 24 students and young researchers affiliated with KSRI BSP participated.

Furthermore, Drs. Sharma and Khalikulov made several visits to the experimental fields of the institute where they selected improved varieties of cereals jointly with young researchers of KSRI BSP. The managers and researchers at KSRI BSP were very appreciative of this initiative of ICARDA-CAC towards capacity building of the new institute. ICARDA-CAC Program is looking forward to further helping in strengthening the scientific capacity of KSRI BSP.

**Ram Sharma and Zakir Khalikulov**  
ICARDA-CAC

## Wheat Rust Monitoring in Uzbekistan



Researchers monitoring wheat rusts in Uzbekistan

ICARDA-CAC facilitated the 'Wheat Rust Monitoring' activity in Uzbekistan that took place between 31 May and 5 June 2009. Dr. Dave Hodson, International Focal Point for Wheat Rust Disease Global Program at FAO, Rome led the team of four wheat pathologists/breeders from Uzbekistan to monitor wheat rusts in different regions of Uzbekistan. The young Uzbek researchers got an opportunity to learn while working with Dr. Hodson on this monitoring mission. Uzbekistan has experienced serious epidemics of yellow rust in 2009. The Uzbek researchers participating in the rust monitoring trip were Saidmurod Baboev, Safar Alikulov, Zafar Ziyaev and Halimov Samar.

**Ram Sharma and Zakir Khalikulov**  
ICARDA-CAC

## Capacity building of CAC Staff

The ICARDA-CAC Program is continuing to actively support post-graduate training of young scientists from the region. Recently, Mr. Alisher Mirzabaev, a socioeconomist from the ICARDA-Tashkent office, has been awarded a scholarship by IPSWAT Program (International Postgraduate Studies in Water Technologies) of the German Federal Ministry for Education and Research.

Mr. Mirzabaev will pursue his postgraduate studies at the Center for Development Research (ZEF), University of Bonn, and conduct his field research under ICARDA's new project on "Climate Change and Drought Management in Central Asia and China". He will start his studies in Bonn in August 2009 but will remain associated to ICARDA's CAC program. We wish all the best to Mr. Mirzabaev!

## Statistics Training organized for CG Center Staff in CAC

A statistics training course was organized for local staff of CG Centres in Tashkent. The course, delivered by trainer from Syria and India, served to train ten researchers from ICARDA, IWMI and CIP at Tashkent. The biometrics course topics included: basic statistical concepts, introduction to GenStat, tests of significance, correlation and regression, experiment design and analysis principles, design and analysis of randomised complete blocks (RCB), design and analysis of two-factor factorials and split-plot experiments in RCBD, analysis of covariance and in complete block designs (alpha designs). Dr. Rajender Parsad delivered the theoretical sessions while Khaled El-Shemaa delivered the practical sessions.

The participants were highly receptive and interactive throughout the course. All the participants successfully completed the exercises given, and some of them discussed their own data set and analysis with the cooperation of the tutors. Most of the trainees expressed their confidence in using the software after the course. The intention is to repeat this kind of training more often and also offer it for staff from partner countries and other non-CG centres.

**Khaled El-Shemaa and Ulugbek Akhmedov**  
ICARDA

## Supervision of graduate students within the livestock project

Young scientists are our major asset. Therefore, the CAC Program puts emphasis on student's capacity building. Mr. Kobiljon Soliev became a PhD student at Tajik Institute of Agricultural Economics of Tajik Academy of Agricultural Sciences for the period 2009-2012. Earlier, for his Master's thesis, Mr. Soliev used the materials collected during his work in ICARDA / IFAD Project "Community Action in Integrated and Market Oriented Feed-Livestock Production in Central and South Asia". He will continue this practice in his PhD research.

Two Master students from Kazakhstan, Ms. Alima Aymyrzaeva and Ms. Khalida Mamanova, have successfully defended their Master's theses and obtained their degree of Master of Economic Sciences at International Kazakh-Turkish University in Turkistan, Kazakhstan. Ms. Aymyrzaeva's thesis is on "Improvement of the social and economic conditions of live for rural households in South Kazakhstan", while Ms. Mamanova's research was conducted on enhancement of the pricing system for livestock products

in Kazakhstan. Both students involved in the project research activities used data and information collected on Community Action in Integrated and Market Oriented Feed-Livestock Production in Central and South Asia Project funded by IFAD and implemented by ICARDA.

**Habibulo Hamdamov, Nariman Nishanov and  
Aziz Nurbekov**  
Livestock project

## Seminars and Field Days

### Water festival on water for life and water for young generation

"Conserving precious water and protecting its quality is essential for our future. Today's young people will be the future's water engineers and managers, the voters and decision makers". The Integrated Water Resources Management in Ferghana Valley (IWRM-FV) project, initiated a Water Festival named "Water for life, achievement of rational use of water resources in the region", which was held in Aravan district of Osh province of Kyrgyzstan on 15 May, 2009. The event was conducted to create awareness among the young generation on the need to conserve the fast depleting water resources.

About 400 school children from Aravan district, representatives of Ministry of Agriculture, Water Resources and Processing Industry of the Republic of Kyrgyzstan, Osh Basin Water Management Organization, the Head of Aravan District Administration and representatives of Water Users Associations took part in the event.

School children enthusiastically displayed their concern for and commitment towards water conservation through their work. They were requested to design posters on the themes related water conservation, various ways and means of preserving water and reducing water pollution and performing water related songs, poems and shows.



Opening session of the water festival

The Water Festival gave hundreds of school children an opportunity to artistically illustrate meaningful water conservation messages and also to show their concern preserving water.

A Panel that consisted of representatives of district administration and the Water Users Association assessed the performance of the presenters and issued prizes for the most active participants of the Water Festival.

**Kahramon Jumaboev and Oyturay Anarbekov**  
IWMI-Central Asia

## Strengthening ties with NARS

### ICARDA-CAC organized Field Day in Uzbekistan

ICARDA's Central Asia and the Caucasus Regional Program (CAC) and the Kashkadarya Scientific Research Institute for Breeding and Seed Production jointly organized a Field Day in Karshi, Uzbekistan on May 12, 2009. The event was attended by more than 100 farmers, researchers, seed producers and media representative from the Kashkadarya region in the South of Uzbekistan. The scientists Dr. Ram Sharma and Dr. Zakir Khalikulov from ICARDA-CAC participated in the event. The local participants had the opportunity to observe and evaluate more than 2000 accessions of bread wheat, durum and barley provided by ICARDA and other partners to Uzbekistan.

At the occasion, Drs. Sharma and Khalikulov explained ICARDA's regional activities to the participants. The participants were also addressed by Dr. Amir Amanov, Wheat Coordinator and Principal Consultant on Agriculture to the President of Uzbekistan. He underlined the role of ICARDA in strengthening research capability in Uzbekistan and emphasized the long collaboration of ICARDA in the region. Since Uzbekistan is facing severe wheat yellow rust epidemics this year and all released varieties are showing susceptibility, Dr. Amanov



Field day organized by ICARDA-CAC and Kashkadarya Research Institute in Karshi

emphasized the vital assistance from ICARDA to identify resistant varieties.

**Ram Sharma and Zakir Khalikulov**  
ICARDA-CAC

### ICARDA-CAC organized visit of researchers

ICARDA-Central Asia and the Caucasus Regional Program (CAC) organized a visit of researchers from Institute of Genetics and Experimental Biology of Plants, Krasnovodopad Breeding Station (Kazakhstan) and Galla-Aral Branch of Andijan Research Institute of Cereals and Legume Crops (Uzbekistan) to the wheat trials of the Uzbek Institute for Plant Industry on May 20, 2009 to observe and select the best varieties among the tested accessions of wheat. Nine scientists from both institutions participated, and from ICARDA-CAC, Dr. Zakir Khalikulov participated in the event. The researchers had the opportunity to observe and evaluate more than 3000 accessions of bread and durum wheat provided by ICARDA, CIMMYT and other institutions to Uzbekistan.

**Zakir Khalikulov and Ram Sharma**  
ICARDA-CAC

### UNCCD Conference preparation in active phase

The Committee on Science and Technology (CST) of the United Nations Convention to Combat Desertification (UNCCD) has called for a Scientific Conference on the topic of "Bio-physical and socio-economic monitoring and assessment of desertification and land degradation, to support decision-making in land and water management." The Conference, popularly known under the shorter title 'Understanding Desertification and Land Degradation Trends, will take place at the UNCCD Conference of Parties in Buenos Aires, Argentina during 22-24 September 2009, and is organized by Dryland Science for Development (DSD), a consortium of 5 partners, among them ICRISAT and ICARDA.

In preparing for the International Conference in Buenos Aires, DSD is following a roadmap that is published at <http://dsd-consortium.jrc.ec.europa.eu/php/index.php?action=view&id=159>

Three Working Groups were convened consisting of approximately 20-60 scientists each. Funds were raised to hold two meetings of 10-20 members per Working Group, and internet discussions were conducted in order to draft white papers on three facets of the overall topic assigned by COP.

White papers were placed on the internet for comment by the public for one month beginning in late May. Currently, the final draft of the recommendations to the UNCCD is being finalized.

**Christopher Martius**  
ICARDA-CAC

## New staff

Mr. Anvar Rahmetov joined ICARDA Tashkent office on June 8, 2009, the newly assigned Assistant Executive Secretary of Central Asia and the Caucasus Association of Agricultural Research Institutes (CACAARI). Mr. Rahmetov has graduate degree from American University in Bishkek and undergraduate degree from the Central European University. He has been working as a freelance journalist of CAC analyst journal.



Anvar Rahmetov received his MA in Political Science from Central European University in Budapest, Hungary. Coming from Urgench, Uzbekistan, a predominantly agricultural region suffering from Aral Sea disaster, he is well familiar with the challenges of agricultural research for development.

Anvar joined ICARDA as the Assistant Executive Secretary of the Central Asia and the Caucasus Association of Agricultural Research Institutions (CACAARI). He is now working on organizing regional consultations for the Global Conference on Agricultural Research for Development (GCARD) and dynamically expanding the membership of CACAARI. In the little spare time left after work, Anvar tries to advocate the Youth Professionals' Platform for Agricultural Research for Development (YPARD) membership among the regional youth. He is very interested in scientific innovation systems of Central Asian countries and in the issues of rural economics.

We wish him success in his new job.

# Recent Publications

- Abdullaev, I., De Fraiture Ch., Giordano , M., Yakubov , M., Rasulov, A., 2009. Agricultural Water Use and Trade in Uzbekistan: situation and potential impacts of market liberalization. *Water Resources Development*, Vol. 25, No. 1, March, 2009: 47-63.
- Abdullaev, I.; J. Kazbekov, K. Jumaboev, H. Manthrithilake (2009): Adoption of integrated water resources management principles and its impacts: lessons from Ferghana Valley. In *Water International*, Vol. 34 (2), pp. 230-241. Routledge: Taylor and Francis Elsevier Ltd. June 2009. DOI: 10.1080/02508060902843710, [www.informaworld.com/terms-and-conditions-of-access.pdf](http://www.informaworld.com/terms-and-conditions-of-access.pdf).
- Begdullaeva, T., M. Orel, I. Rudenko, N. Ibragimov, J.P.A. Lamers, K. Toderich, Z. Khalikulov, C. Martius (2009): Productivity of sugar sorghum varieties imported from India under the conditions of Karakalpakstan [Продуктивность Сортов Сахарного Сорго Интродуцированных Из Индии В Условиях Каракалпакстана] *Vestnik* [вестник]. Vol. 215, 20-22.
- Dukhovny, V., S. Vadim , H. Manthrithilake, eds. (2009)., Integrated water resources management: putting a good theory into practice: experience of Central Asia: In *Water International*, Vol. 34 (2), pp. 287-290. Routledge: Taylor and Francis. June 2009.
- Dukhovny, V., V. Sokolov, H. Manthrithilake, eds. (2009). Scientific and Information Center of the Interstate Commission for Water Coordination (SIC ICWC) and GWP CACENA): Tashkent (ISBN 9965-32-627-4) Electronic version may be downloaded in English from <http://www.cawater-info.net/library/eng/iwrm>. A Russian version is also available at the same site. DOI: 10.1080/02508060902937504. [www.water.tkk.fi/English/wr/.../Central\\_Asian\\_Waters-book.pdf](http://www.water.tkk.fi/English/wr/.../Central_Asian_Waters-book.pdf)
- Gismatullina L.G, E.V. Shuyskaya, K.N.Toderich (2008): Taxonomical value of the qualitative pallinological parameters of annual species of genus *Salsola* (*Chenopodiaceae*). (Таксономическая значимость количественных палинологических параметров у однолетних видов *Salsola* (*Chenopodiaceae*)). «Uzbek biological journal» (Узбекский биологический журнал). Tashkent, № 6: 32-36.
- Kalashnikov, A., T. Yuldashev, P.A.Kalashnikov and R. Gupta. (2009): Potential of raised bed-furrow irrigation system in improving yield of winter wheat and water productivity in a sierozem soil of Kazakhstan. Published by 4th World Congress on Conservation Agriculture to be held in New Delhi on February 4-7, 2009.
- Kazbekov, J., I. Abdullaev, H. Manthrithilake, A. Qureshi, K. Jumaboev (2009). Evaluating planning and delivery performance of Water User Associations (WUAs) in Osh Province, Kyrgyzstan. In *Agricultural Water Management*. Vol. 96 (2), pp. 1259-1267. 2009. Elsevier Ltd. Available online 1 May 2009. doi:10.1016/j.agwat.2009.04.002 [<http://www.science-direct.com/science>]
- Rakhmatullaev, S., F. Huneau, J. Kazbekov, P. Le Coistumer, J. Jumanov, B. El Oifi, M. Motelica-Heino, Z. Hrkal (2009). Groundwater resources use and management in the Amu Darya River Basin (Central Asia). In *Environmental Earth Sciences*, Springer-Verlag. Available online 28 February, 2009. DOI: 10.1007/s12665-009-0107-4. 33 p. [insu-00352122 – version 1].
- Sharma, R.C. (2009). Cereal-based cropping systems in Asia: nutrition and disease management. In: V. Sadras and D. Calderini (eds.), *Crop Physiology: Applications for Genetic Improvement and Agronomy*. Chapter 5, pp. 99-119. Elsevier Inc.
- Sharma, R.C., A.I. Morgounov, H.J. Braun, B. Akin, M. Keser, D. Bedoshvili, A. Bagci, C. Martius, M. Van Ginkel. (2009). Identifying high yielding stable winter wheat genotypes for irrigated environments in Central and West Asia. *Euphytica* doi: 10.1007/s10681-009-9992-6
- Wahyuni S., S. OISHI, K. SUNADA, K.N.Toderich, N.E. Gorelkin (2009): Analysis of water-level fluctuations in Aydarkul-Arnasay-Tuzkan lake system and its impacts on the surrounding groundwater level. *Annual Journal of Hydraulic Engineering, JSCE*, Vol 53:35-42.
- Shuyskaya E.V., N.Matsuo, K.N.Toderich, K.Sunada, L.Gismatullina, T.Radjabov, L.A.Ivanova, D.A. Ronjina, L.A.Ivanov, P.Yu. Voronin, C.C. Black (2008): Carbon 13C Isotope Discrimination with the C3 and C4 Photosynthesis Under Soil Salinity Stress. // Materiali mejdunarodniy nauchnoy konferencii "Fiziko – himicheskiye osnovi strukturno-funktionalnoy organizacii rasteniy". Yekaterinburg, Russia, 6-10 October, 2008:28-29.
- Shuyskaya, E.V., K. Toderich, P. Voronin (2009). Genetic polymorphism and strategy of adaptation of *Kochia prostrata* (*Chenopodiaceae*) to the aridity stress (Генетический полиморфизм и стратегия адаптации *Kochia prostrata* (*Chenopodiaceae*) в условиях аридного стресса). // Conference Materials "Ustoychivost' organizmov k neblagopriyatnym faktoram vneshey sredi". Yakutsk, 24-28 August, 2009: 34-36.
- Thapa, D.B., R.C. Sharma, A. Mudwari, G. Ortiz-Ferrara, S. Sharma, R.K. Basnet. (2009): Identifying superior wheat cultivars in participatory research on resource poor farms. *Field Crops Research* 112:124-130.
- Toderich, K.N. (2009): Genus *Salsola* of Central Asian Flora: its structure and evolutionary trends. University of Tokyo of Agriculture and Technology. Degree Number: 280, Japan: 200 pp.
- Toderich K.N., S. Ismail, E.A. Juylava, A. R. Rabbimov, B.B. Bekchanov, E.V. Shuyskaya, L.G. Gismatullina, O. Kozaan, T. Radjabov (2008). New approaches for Biosaline Agriculture development, management and conservation of sandy desert ecosystems. In the book: *Biosaline Agriculture and Salinity Tolerance in Plant*: Chedly Abdelly, Munir Ozturk, Muhamad Ashraf & Claude Grignon eds.: Birkhauser, Verlag/Switzerland: 247-264.
- Toderich K.N., I.Massino, I.Shoaib, T.Tsukatani, A.Khujanazarov, A.Rabbimov, T.Kuliiev, H. Boboev, D.Aralova, S.Usmanov (2008). Utilization of Agriculture Residues and Livestock Waste in Uzbekistan. Discussion Paper № 651. Kyoto University, Kyoto, Japan:21pp <http://www.kier.kyoto-u.ac.jp/DP/DP651.pdf>
- Toderich, K.N., Massino I.V., Ismail Sh., Aralova D., Kuliev T., Roziyev S.Ch., K. Kushiev and B. Bekchanov. (2009). "Sorghum diversification crop to improve productivity of salt affected lands and elaborate a source of renewable energy production in arid zone of Uzbekistan" (Дiversifikasiya kultur sorgo dlya uluchsheniya produktivnosti zasolennih pochv i razrabotki istochnikov vozobnovlyayemoy energii v usloviyah aridnoy zoni Uzbekistana). Materiali Respublikanskoy Konferencii, Gulistsanskiy Universite.
- Toderich K.N., T.Tsuneo, S. Ismail, I.V. Massino, M. Wilhelm, S. Yusupov, T. Kuliev, S. Ruziev (2008): Extent of salt-affected land in Central Asia:Biosaline Agriculture and Utilization of the salt affected resources. Discussion Paper № 648. Kyoto University, Kyoto, Japan:1-36. <http://www.kier.kyoto-u.ac.jp/DP/DP648.pdf>
- Toderich, K.N., E. Shuyskaya, Sh. Ismail, L. Gismatullina, T. Radjabov, B. Bekchanov, D. Aralova (2009). Phylogenetic Resources of halophytes of Central Asia and their role for rehabilitation of sandy desert degraded rangelands. *Journal of Land Degradation and Development*, Vol. 20:1-11.
- Toderich, K.N., E. Shuyskaya., S. Shoib, P. Voronin, D. Aralova, C. Black (2009). Evaluation of Biosaline Agriculture Technologies Related to Marginal Resources Utilization and Climate Change in Central Asia. // Materials of 8th of International Symposium "Novye i netradicionniye rasteniya i perspektivi ikh ispolzovaniya". Moscow, Russia, 22-26 June, 2009: 36-41.
- Toderich K.N., S. Yusupov, M. Wilgelm, Kh. Khamdova (2008): Integrated water/land and plant resources management for improvement income of rural agropastoralists in the Aydarkul-Arnasay Lakes Ecosystems (AALE). Proceedings of Round Table Meeting "Strategies for marginal water/land use and salinity control in the Aydarkul-Arnasay Lakes System and southwestern Kyzylkum Desert", ICBA/ICARDA/University of Yamanashi (Japan). Kofu, Japan: 5-12
- Wahyuni, S., S. Oishi, K. Sunada, K. Toderich and N. Gorelkin (2009). Analysis of water-level fluctuations in Aydarkul-Arnasay-Tuzkan lake system and its impacts on the surrounding groundwater level. *Annual Journal of Hydraulic Engineering, JSCE*, Vol. 53:35-42.
- Yakubov, M., H. Manthrithilake (2009).Water for Food as Food for Thought: Case Study of Applying the PODIUMSim Model to Uzbekistan. In *Irrigation and Drainage*, Vol.58 (1): 17-37.

**Editorial Committee:** C. Martius, H. Manthrithilake, M. Turdieva, Z. Khalikulov, K. Toderich, G. Khodjaeva, U. Akhmedov, Sh. Kosimov

All queries regarding CAC News be addressed to:

**PFU-CGIAR Office in Tashkent, P.O. Box 4564, Tashkent 700000, Uzbekistan**

Tel.: (998-71) 237-21-30/69/04; 234-82-16; 234-83-57; 237-47-19; Fax: (998-71) 120-71-25;

E-mail: [pfu-tashkent@cgiar.org](mailto:pfu-tashkent@cgiar.org) Web site: <http://www.icarda.org/cac>

**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 .