Global Water Partnership Central Asia and Caucasus

Towards a water secure world!

WACDEP for Central Asia and Caucasus

Global Water Partnership in Central Asia and Caucasus

NEWSLETTER # 2
WATER, CLIMATE AND DEVELOPMENT PROGRAMME FOR CENTRAL ASIA AND CAUCASUS

PROJECT MONITORING

The Manager of the Water, Climate and Development Project, Mr.Abdybay Djailoobaev, visited countries - GWP CACENA members from late March till July 2014 in order to monitor the implementation of the demonstration projects.

On February 27, a seminar on "Drought risk management: solutions for water demand management in irrigated agriculture" was conducted in Kazakhstan. The seminar was attended by representatives of Kyzyl-Orda Province akimats (local government), managers of water management companies, farmers and heads of peasant holdings as well as representatives of international projects and programs. On March 1, a pilot plot was visited there as well.

From March 3 to March 10, 2014 a trip to the South Caucasus countries was made. The introduction and discussion of the pilot project in Azerbaijan was held. The pilot field in Azerbaijan is located on the territory of Jafarhan pilot reclamation station of the Azerbaijan Research and Production Association "Az NIIGiM" (on the photo). Research will be carried out on cotton and alfalfa with different types of irrigation (irrigation with ditch water, drainage water, their combination in different proportions, etc.). It is planned to achieve the following results: more rational and economical use of water resources; more stable yields under water deficit; better responsiveness of land and water users to climate changes; development of the recommendations for production of the mentioned crops with the consideration of the climate change.

We have already written on project in Armenia. In addition, the project manager Mr. Djailoobaev visited demonstration plots in Georgia, Turkmenistan and Tajikistan. Read more about these projects in this issue.

During the visit to the pilot project in Uzbekis tan, the Project Manager visited two demonstrati on sites located in "Kahramon D a w l a t Sahovate" farm within “Kodirzhon Agzamzho n"Water Users Association in Kuva District of Ferghana Province. In 2014 the demonstration plot (field #1, on the photo) with area of 1.0 hectare will be under winter wheat. The demonstration plot (field #2) with area of 19 hectares will be under cotton. More information about Uzbek and Azerbaijani projects will be presented in the next issue.

Overall, Mr. Djailoobaev expressed satisfaction with the trip results. He was confident that all projects will be completed on time and at the appropriate level.

CORDIALLY CONGRATULATE!

Nariman-aga Kipshakbaev - Professor, Chairman of the Kazakhstan Water Partnership, Director of the Kazakhstan branch of SIC ICWC and Advisor to the Chairman of the Water Committee under the Ministry of Agriculture of the Republic of Kazakhstan on the 80-th anniversary!

Victor Abramovich Dukhovny - Professor, Director of SIC ICWC, Honorary Vice-president of the International Commission on Irrigation and Drainage, Board member of the World Water Council and Board member of the International Water Resources Association on the 80th anniversary!

DEMONSTRATION PROJECT IN KYRGYZSTAN

Implementer - COUNTRY WATER PARTNERSHIP IN KYRGYZSTAN

The project objectives:

- To establish a demonstration irrigation system adapted to climate change that ensures efficient use of water and land resources through the improvement of the technical level of the irrigation network and water accounting facilities based on the introduction of resource-saving technologies of system management and operation.
- Through the demo site to show modern methods and means of water accounting, efficient irrigation and beans cultivation techniques as well as demonstrate the benefits of their implementation.
- To implement measures on water demand management in the "Kozhobek uluu Aymanbek" farm during bean irrigation with kidney bean and mung bean tests.
- The study of efficient water use in the Ken-Kol basin located in Talas Province on the basis of the analysis of hydrometric balance of farm irrigation network which contributes to sustainable development of the area, water management and land use.

Achieving this goal involves the gradual solution of the following tasks:

- Assessment of the existing irrigation infrastructure;
- Identification of the shortcomings of the existing water distribution system;
- Identification of inefficient water use reasons.

Expected results at the end of the project:

- Innovative and efficient methods of water use for irrigation of beans are tested and adapted for use on a farmer's field.
- Experience of demo plot is analyzed, evaluated and appropriately documented.
- New varieties of beans are tested with the obtained yields.
- Recommendations for improving the management of water and land resources are developed.

Pilot site farmers will be able to make informed decisions on adaptation and application of advanced water use technologies.

DEMONSTRATION PROJECT IN GEORGIA

Mitigation measures for natural disasters consequences in Sakire village of Borjomi District

Implementer - COUNTRY WATER PARTNERSHIP OF GEORGIA

Georgia is one of the most difficult regions in terms of the scale and repetition rate of spontaneous geological processes. Since the second half of the 20th century, as a result of severe social and economic situation, the population has started the economic development of the dangerous slopes. Inefficient water use as well as violent and unjustified mining became widespread. Many forests and beddings on the slopes of mountains and hills were destroyed. The number of large-scale natural disasters increased which, respectively, resulted in deterioration of the socio-economic situation.

In recent years, landslides also intensified in the Borjomi District of Georgia. The risk of floods and landslides increased for the population as well as tourists (Borjomi District is famous tourist destination), which is associated with frequent heavy rains and melting glaciers.

Climate change is exacerbating an already difficult situation. Area is in need of urgent assistance. Therefore, the aim of the project was chosen as follows:

To conduct interventions against dangerous natural disasters (landslides, mudflows, floods) in Sakire village of Borjomi District, which will help to mitigate / reduce risk of natural disasters as well as increase the welfare of the local population.

The tasks:

- Conduct trainings and seminars for groups of active villagers;
- Construct drainage system in the area of the village with increased risk of landslides.

As a result of repeated consultations with the local population and authorities the project site was selected in Sakire Village. During the first phase, which will last until the second half of 2014, trainings and seminars for groups of active villagers were conducted.

Seminars and workshops are aimed at increasing the knowledge on environmental protection, with special attention to water resources, the processes of global warming as well as on the development of skills of rational behavior in extreme situations. The training program also included the theme of social design (aimed at developing skills to adapt to a new social system), contributing to the social mobilization of the community.

Textbooks and publications of GWP, UNECE, OECD as well as national legislation and other documents were used. Currently, a site drainage design was developed which will be implemented in July-August. Then, in the fall, a large number of trees will be planted on the landslide risk slopes with public participation.

DEMONSTRATION PROJECT IN TURKMENISTAN

Development of innovative water saving technology for cotton furrow irrigation

Over the past decade, climate change and its impacts on the environment, economy and society have become one of the most pressing global problems.

As a responsible country with a developing economy, Turkmenistan attaches great importance to the climate change issue. Realizing the importance and urgency of addressing climate change, and taking into account the sustainable economic development and environmental protection at the national and international level, Turkmenistan is taking possible measures to combat climate change by implementing the national program aimed at accelerating the development of resource-saving and environmentally friendly society and innovation-oriented economy.

Given that climate change can affect various aspects of society, environment and economy, National Strategy on Climate Change was developed in Turkmenistan which defined a number of sectors that are most vulnerable to climate change. Water and agriculture take a special place among the priority sectors which require the development and implementation of adaptation measures. Development of the sectors of the economy and population growth will entail an increase of consumption of water resources in the future, which in Turkmenistan are not so significant. Consequences of climate change will be water shortages and reduced water quality; and this, in turn, will affect the other sectors, primarily agriculture and human health. In the economy of Turkmenistan the agricultural production is most affected by possible climate change. Increased chances of poor harvests as a result of increased frequency and repeatability of droughts and increased aridity on the territories of a number of regions can significantly affect the productivity of the industry.

That is why today Turkmenistan implements large-scale projects aimed at:

- Improvement of management of transboundary water resources;
- Development of inland water resources;
- Improvement of water use efficiency.

The main objectives of the demonstration project implemented in Turkmenistan is the development and testing of innovative water saving technology of furrow irrigation for cotton- one of the main strategic crops grown in Turkmenistan, along with winter wheat.

Currently, the furrow irrigation is used almost at all cotton growing areas of Central Asia. Application of modern water-saving irrigation methods, such as sprinkler and drip irrigation, are not widely disseminated due to the high cost (1,000-3,000 for sprinkling and 5,000-7,000 USD/ha for drip irrigation) and significant annual operating costs. At the same time, the current technology of cotton furrow irrigation from the earth irrigation canals are manual labor intensive. Thus, for example, one irrigator per shift can water about 1 - 2 hectares of cotton. In addition, such method is characterized by large losses of water (20 - 40% or more of the volume of water delivered to the field), which is mainly consumed for the deep infiltration of water below the root zone of the soil in the head and middle part of the irrigation furrows, and water discharge at the end of field.

The advanced furrow irrigation technology developed and being tested by the Turkmen specialists, is to replace the temporary earthen irrigation canals from which water is supplied to the irrigation furrows through the portable irrigation hoses or pipes. Water supply to the irrigation furrows is made directly from these pipes. In traditional use, irrigation hoses supply water to the furrow head at the beginning of the field; and field moisturizes while the water moves in the furrow with the simultaneous absorption of moisture in the soil.

To improve the uniformity of the field moisture over the length of the furrow and completely eliminate deep infiltration of moisture and water discharge at the end of the field, developers provided for water supply into irrigation furrows at various sites along its length. At these sites the portable irrigation pipes are located, of which water is supplied to the field simultaneously in the beginning, middle and at three-quarters of the furrow. The duration of the cotton field watering in this case is 2-3 times less than in irrigation technology with water supply only in the furrow head. Water losses for deep seepage and discharge at such irrigation technology do not exceed 10-15%, which is 80-90% less than at the traditional furrow irrigation. Thus, the water loss is about the same asunder sprinkler irrigation. At the same time, the cost of the proposed technology of furrow irrigation through the portable irrigation pipes is significantly, 4-6 times lower than the cost of sprinkler irrigation system.

Currently, research is conducted at the experimental field of 5 hectares. As part of a national demonstration project "Development and testing of innovative water saving technology of furrow irrigation for cotton" the following technical interventions were taken to date:

- Conducted theoretical studies of the possibilities to improve the uniformity of soil moisture along the furrow under different regimes of water supply to the furrow, at age rage slopes (0,0025-0,004) typical for the Kopet Dagh piedmont plain in Akhal Province;
- Developed detailed methodology for conducting field research tests for the selection of optimal parameters of furrow irrigation, allowing to minimize the water loss for deep infiltration and discharge at the end of the furrow during cotton irrigation;
- Justified and identified main parameters of the irrigation network with portable irrigation hoses and pipes for cotton irrigation in terms of water conservation;
- Identified main dimensions of water outlet holes for water supply from portable pipes to the irrigation furrows, providing necessary conditions for uniform soil moisture along the furrow.

Field work (directly at the demo field):

- Defined bulk density of soils in irrigated field to a depth of 1 meter, typical for the head, middle and tail sections of the irrigation furrows;
- Performed soil analyzes (soil texture at different sites of irrigation field; composition of nutrients; salt composition);
- Prepared the sites for the determination of hydro-physical soil characteristics - ultimate field water capacity and water absorption rate of the soil;
- Conducted standard agricultural activities (grubbing of cotton footstalks, fertilizing

prior plowing, plowing, field leveling, pre-sowing activities - chizeling, harrowing, leveling; furrowing and opening of temporary irrigation ditches, planting and watering);
- Completed the installation of a pilot irrigation system.

CORDIALLY CONGRATULATE!

Yarash Pulatov -Professor and Chairman of CWP-Tajikistan with the award of Medal of Honor of People's Water Academy of Russia for his contribution to the water science in Central Asia.

Mammed Asadov -GWP Coordinator in Azerbaijan with award of the title of "Honored Engineer of Azerbaijan" from the Government of the Republic.

PROGRESS IN THE IMPLEMENTATION OF DEMONSTRATION PROJECTS

KAZAKHSTAN

Leveling and layout of rice paddies was done with special equipment. Field irrigation water supply ditches were cleaned from the weeds (bulrush). The canal was cleaned with excavator to improve water-carrying capacity. On May 23, the rice paddies were flooded. Measuring rails were installed. Water accounting on the bridge at the water-supply canal was organized. Automated equipment for the water discharge and metering was installed in the paddy fields. Sampled water from the canal, rice paddy and collector were taken. The water from rice paddies was diverted into collector. Herbicide was applied using a hang-glider.

ARMENIA

On April 15, the second phase of the construction of the lagoon-type treatment plant in Parakar village began. Sediment pond built in the first phase of the project was cleaned and reconstruction works started. A meeting was held with the environmental expert of Natural Resources Department from Iowa State. Recommendations were received on project improvement and its further operation

TAJIKISTAN

Work is carried out in Gissar Field Experimental Center of the Research Institute Tajik-NIIGIM and Ziroatkor farm, led by Professor Yarash Pulatov – Chairman of CWP-Tajikistan.

The project aims to test different irrigation technologies for secondary crops grown after winter wheat. It is also necessary to show farmers the possibility to obtain greater profits from the same irrigated area. At this time, equipment was purchased for measurements of various soil parameters directly on the field. Late sowing of cotton was held (in May, a month later than usual) on the demonstration field after harvest of winter wheat (on the photo).

The drip irrigation has the following advantages:

- Considerable savings of the irrigation water in compare to traditional irrigation (by 50% or more);
- Dramatic reduction of water loss through infiltration and evaporation;
- No surface runoff and water erosion;
- No lifting of ground water and risk of secondary salinization;
- Can be used on a slope land; and
- other equally important features.

To read all the news on Water, Climate and Development Program visit the following link:
http://www.gwp.org/CACENA/WACDEP-CACENA/

Global Water Partnership
Central Asia and Caucasus

GWP NEWS

The Parton of Global Water Partnership was replaced: instead of Alexander Prince of Orange, who became King of the Netherlands, it is Ellen Johnson Sirleaf - President of Liberia. Madam Sirleaf is the first woman - head of state in Africa and winner of the Nobel Peace Prize.

GWP has several patrons-protectors. They are usually invited by GWP sponsors from the people with a high social status. It is assumed that GWP Patron promotes the interests of GWP at the regional and global levels using the media, contacts with leaders, politicians and general public. Patrons can represent the interests of the GWP at the high-level meetings and act as GWP advisers in the current work.

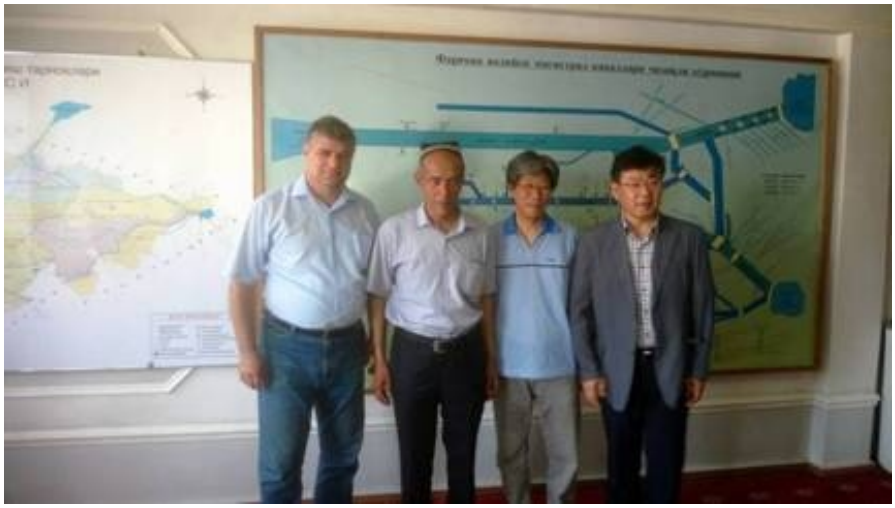
VISIT OF THE DELEGATION FROM SOUTH KOREA

In accordance with Protocol of Intentions signed on 20th December 2013 between the Ministry of Agriculture and Water Resources of Uzbekistan and Korean Institute of Construction Technology (KICT) about development of information system for water sector of Uzbekistan, Regional Secretariat of GWP CACENA arranged a working visit of KICT delegation to Uzbekistan during 11-18 May 2014. The delegation included Dr. Kim Hyun Jun, Director of Department in KICT, Dr. Hong Ilpyo, Project Manager and Mr. Lee Joonseok, IT Expert.

As the result of KICT mission to Uzbekistan there were agreed the follow-up steps between KICT team, SIC ICWC and Regional Secretariat of GWP CACENA addressing to finalization of preparatory works for new joint project on creation of Water Information System for Uzbekistan. It is necessary to complete prepared by SIC ICWC draft of the "Concept of Information System" - to include description of needed information flow belonging to the Main Administration of water resources of the ministry. For that the information systems of the Administration of the main canal systems in Fergana Valley with United Dispatch Center and Zerafshan Basin Administration of the Irrigation Systems should be taken as pilot. The final, more detailed version of the "Concept of Information System" should be agreed with the Uzbek Agency for Communication and Informatization.

Then the KICT assistance will be required to prepare an application for project funding by KOICA. The guests also visited Muynak city in Karakalpakstan and observed the sad reality of the Aral Sea tragedy.

In addition, they studied the work of Administration of the main canal systems in Fergana Valley, and of the administration of irrigation systems in the valley of Zarafshan and Ak-Kara Darya rivers.



On the photo: Head of the Administration of the main canal systems in Fergana Valley, Mr. Fazyljon Rasulov (second left) with the guests in front of linear scheme of the canal system.

Photo by V.Sokolov

CONDOLENCE

Global Water Partnership Central Asia and Caucasus expresses deep condolences to the first member of the Regional Council of GWP CACENA from Uzbekistan Erejep Kurbanbaev on the untimely death of his wife Tazagul.

SAVE THE HOLLAND!

For nearly 20 years, non-governmental organization Union for Defense of the Aral Sea and Amudarya, the GWP partner is campaigning for the introduction of a new international tradition: everyone who comes to The Netherlands, whether it's a foreign tourist or a Dutchman, returning from the trip, s/he should bring a stone out of the country from which s/he came from and threw it into the land of the Netherlands. Then The Netherlands - "Low Earth" - will eventually get higher and will be able to counter the rising sea level. In 2011, I shared this idea with the Prince of Orange, the then GWP Patron, the current King of The Netherlands (pictured - left). He liked the idea; he hid the stone in his pocket and promised not to forget to put it in his native land. Let us support this tradition! Global warming is obvious! Every year millions of tourists visit The Netherlands and the Dutch do not sit on one place. The stones that they bring are enough, at least, to increase the height of the road so that one can leave if it becomes absolutely unbearable! 8-)

Yu. Kamalov

The future King: "Now I am sure for the future of The Netherlands!" Photo by V.Sokolov

WHO WANTS TO GO TO KOREA?

Deadline for applications is September 30!

The 7th World Water Forum aims to create an open platform where various stakeholders can exchange ideas on water, find solutions and interact with the international community. This creates a Civil Society Forum and its specific programs will be created by citizens and civil society organizations (CSOs). Therefore, the Forum urges citizens and CSOs to offer their own programs that have educational value, helping to increase public awareness of the water, encouraging the dynamic interaction in the search for joint solutions.

Participants are free to develop and implement their own activities on the subject based on their interest and experience. These programs can be implemented in various forms: sessions (at conferences, discussion panels, workshops, etc.), lectures, exhibitions, cultural events, and other creative formats. For more information visit

http://eng.worldwaterforum7.org/news/news/view.asp?notice_seq=80&key=&keyWord=&page=1

UN AWARD "WATER FOR LIFE"

Applications are accepted from July 4 to September 15, 2014. This year award will represent the culmination of a "Water for Life" Decade (2005-2015). Prizes will be awarded at a special ceremony of the World Water Day on 22 March 2015 at the United Nations Headquarters in New York in two categories: one in 'best water management practices' and another in 'best participatory, communication, awareness-raising and education practices'. The award is given to projects, initiatives or programs, rather than individuals or organizations. Nominations must be submitted by an independent organization applying. For further information please visit the website

http://www.un.org/waterforlifedecade/waterforlifeaward.shtml

Global Water Partnership of Central Asia and Caucasus (GWP CACENA) *is one of 13 regional partners of the Global Water Partnership Organization (GWPO). GWPO was established in 1996 under the auspices of the United Nations in accordance with the decision of the Global Summit in 1992 to promote integrated water resources management (IWRM). GWP CACENA was created in 2002 in Almaty and unites national water partnerships of all eight countries of Central Asia and the Caucasus as well as Mongolia. GWP CACENA Secretariat is located in Tashkent, Uzbekistan at 6, Osie str., apartment #103.*

For more information about GWP visit the following website **www.gwp.org**

Materials of the issue are presented by Dzhayloobaev A., Pulatov Ya., Nurmuhamedova G., Khaydarova V., Sokolov V. Newsletter editor is Yusup Kamalov: **kamalovGWP.@gmail.com**