Global Water Partnership Central Asia and Caucasus

Towards a water secure world!

WACDEP for Central Asia and Caucasus

Global Water Partnership of Central Asia and Caucasus

NEWSLETTER WATER, CLIMATE AND DEVELOPMENT PROGRAMME CAUCASUS AND CENTRAL ASIA # 3

Specialist's comment

The Global Water Partnership's special technical paper "Integrated Water Resources Management in Central Asia" aroused great interest. The experience of the Central Asian republics in the implementation of IWRM is significant due to the fact that the water management organizations of all countries in the region has taken this concept as a basis for the further development and, most importantly, can provide the basis for improving water security, especially in transboundary conditions.

The paper inspired certain ideas that I would like to share:

1. It is necessary to strengthen the activities of ICWC towards the introduction of IWRM at the basin level. Transition of reservoirs hydro systems in two basins to the energy regime is a setback from the conditions of operational commissioning of these systems, which clearly stated the commitment of power engineers to work in irrigation regime. To achieve this, all countries would have to make certain concessions to each other, in particular to ensure both, Kyrgyzstan and Tajikistan, the supply of electricity in the winter to reduce summer releases, as it was done previously, while excluding any electricity price speculation.

2. More attention should be paid by the governments to overcome the commercial interests in water use by developing more rational and reasonable economical mechanism of distribution and redistribution of water in the main basins. Thus, it is required to create a solid system of basin water management.

3. The implementation of IWRM should be accompanied by comprehensive measures to improve irrigation systems at all levels of water hierarchy, combined with tightened measure s to prevent irrational water use and poor state of irrigation and drainage systems.

4. In the present conditions it is advisable to restore the mandatory direction of the graduates from the water resources and irrigation universities to work for at least for 3 years, primarily, in the WUAs and lower water organizations. In addition, all the main water managers must undergo further training at the local level on reproduction of agriculture and water resources.

Honorary Irrigator of Uzbekistan
Ismoil Jurabekov

DEMONSTRATION PROJECT IN UZBEKISTAN

Implementer – Scientific-information Center ICWC

To assess the influence of climatic conditions, as well as to develop on its basis the recommendations for adaptation to different climatic conditions, two demonstration sites were selected. Sites are located on the farm "Kahramon Dawlat sahovati" within the Water Consumers Association "Kodirjon Agzamjon" in Kuva district, Ferghana Province. The selection of this area is based on its representativeness for the entire zone of the Fergana Valley for soil, climatic, water management and agronomic conditions.One of the forms that enhance farmers' knowledge about the features of the land allotted to them is the development of an Agromeliorative Farm or Field Passport. The Field Passport is scientifically sound guidance for numerous variations of farm activities. The economic effect from the use of such a document in individual farms reached 200-300 $/ha. The agromeliorative passport is designed specifically for farmers or collective dehkan farms' specialists and contains the basic agronomic documentation of the farm or specific plot, as well as individual science-based activities for the crop production, improvement of the productivity of land and water, crop yield programming and develop-ment of current and future plans.

Photo: **Water measuring device**

The farm agromeliorative passport is designed for 10 years with the annually renewed information and it is a set of agronomic information on the farm that allows farmers to choose the right solutions for technological activities, to carry out an objective analysis of the dynamics of agricultural production and to improve agricultural standards.. If necessary, the passport can be updated with new schemes and recommendations aimed at improving the efficiency and productivity of irrigated lands.

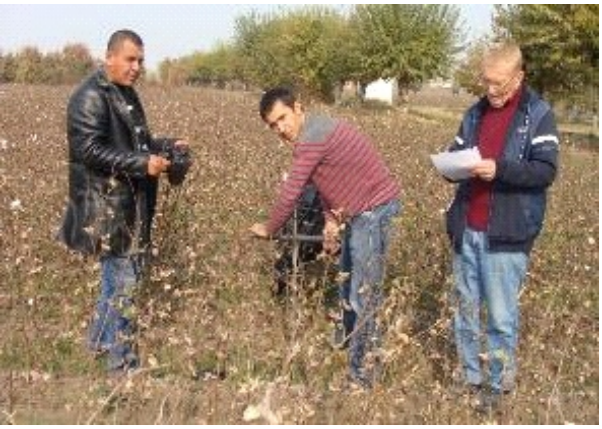

Photo**: Sampling of soil**

Two field passports for the first and second plots were developed based on the analysis and evaluations of the demonstration plots carried out in the farm "Kahramon Dawlat sahovati". The field passport contains data on the soil conditions of the field, as well data on the content of nutrients and salinity. Schematic maps are provided on those indicators. The information on required fertilizers and application rates is given too. Passport provides information on the evenness of the field and efficient technological irrigation scheme. It contains general information on the crop yields in previous years.

On the basis of the information provided during the growing season farmers make decisions on all types of land treatment and irrigation activities.

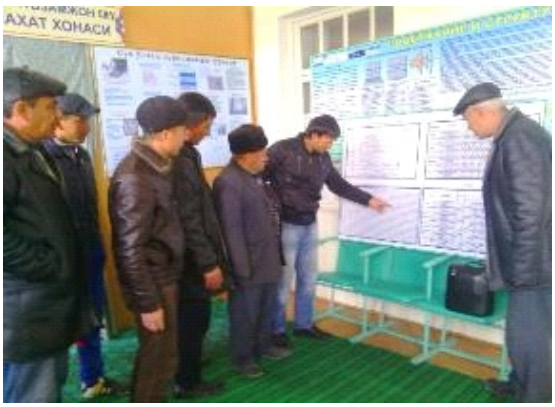

Photo: **Training of the farmers**

Project implementers recommend collecting as more detailed information on the weather conditions of the particular area as possible - long-term data on temperature, humidity, precipitation, - to be able to predict with reasonable accuracy the most likely weather conditions. Implementers offer a set of criteria according to which the farmer can get prepared for a given meteorological situation. It is recommended that the farmers themselves carry out the phenological and instrumental observations of the physical parameters of the air, water, plants and soil.

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Main findings:

- The practice of working with farmers showed that they have the ability to conduct agricultural activities based on weather conditions.
- GWP CACENA 2014 project experience demonstrated the possibility to adapt to climate conditions of each year and to obtain good yields without any damage caused by the weather deviations.

- Experience also demonstrated the importance of and the need for constant work with farmers, as well as farmers' interest in the recommendations and best practices on adaptation of agriculture to different weather conditions

DEMONSTRATION PROJECT IN AZERBAIJAN

Implementer: Public Association "SAF SU the Centre of Ecological-Melioration Monitoring"
CountryWater Partnership of Azerbaijan

The project is implemented in the Mugan experimental land reclamation station.

To increase the efficiency of water use, the Azerbaijani colleagues decided to experiment with the available water sources. It is water from irrigation canals and collector-drainage water. Cotton and alfalfa were selected as the experimental plants. Alfalfa is the best crop for cotton in the crop rotation. Both crops were allocated 5 plots 15x20 m.

Photo: **Alfaalfa yields**

The plots were irrigated with water from both sources in the following proportions:

1st plot - ditch water irrigation in accordance with the required norm;

2nd plot- ditch water irrigation; volume decreased by 20% of the required norm,

3rd plot -irrigation with mineralized collector-drainage water;

4th plot –irrigation with the mix of ditch (30%) and collector-drainage water (70 %);

5th plot irrigation with the mix of ditch (50%) and collector-drainage water (50%).

To supply water to the experimental plots for options 3-5 special tanks with 3m^3 capacity were installed at a certain height (photo on the right). In addition, the entire station infrastructure was adjusted and the appropriate measuring devices were installed.

During 2014 all the necessary land improvement activities were carried out in time and at the appropriate technical level. Currently, materials are being office analyzed, systematized and generalized; options are being compared by yields and land condition; trends of desalination or salinity of soil on the plots are being identified.

Photo**: Cotton yields**

Materials prepared by the implementers' 2014 reports.

RESULTS BY THE END OF 2014

TAJIKISTAN

The results of the work demonstrated that effective technological irrigation schemes, especially the use of drip irrigation with consideration of water-physical and climatic characteristics of the selected field; the use of irrigation water in accordance with the biological crop requirements and soil-reclamation conditions; the application of the recommended norms of mineral and organic fertilizers in accordance with the optimal timing and schedule; effective pest and disease control measures and timely implementation of all agro-technical works contributed to obtaining high-quality agricultural crops with high yields and incomes. Maximal yields of 5.6 t/ha of medium-fiber cotton was obtained under drip irrigation with film mulch, which is 2.2 t/ha more than under furrow irrigation (3.4 t/ha).

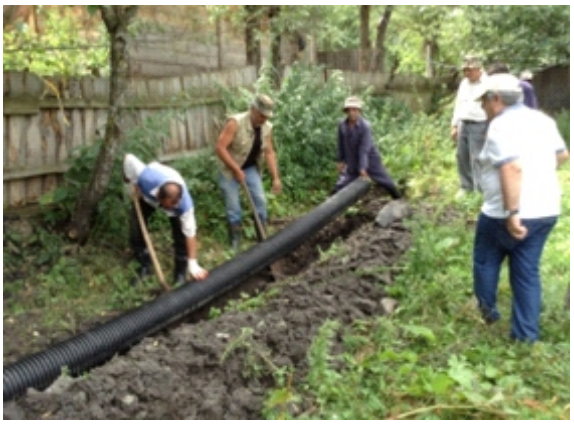
Photo: **One of the experiments: cultivation of potatoes between apple rows**

At drip irrigation the maintenance of the soil moisture at the level of 70-80% of the minimal moisture capacity of the soil provides an average yield of 56t/ha for tomatoes, 50t/ha - for cucumbers and 12.5t/ha –for peppers, that is more than at furrow irrigation by 13 t/ha, 13 t/ha and 2.9t/ha, respectively. Calculations show that drip irrigation of vegetable crops increased efficiency of irrigated hectare by 1.2 -1.5 times.

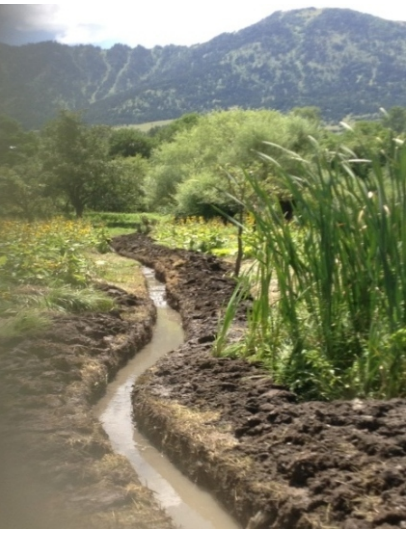
Thus, drip irrigation can significantly improve crop yields (1.5-3 times), save irrigation water (60%) and reduce unproductive water losses (up to 5%).

GEORGIA

After repeated discussion of the project with the villagers and experts the construction of the drainage canal started. Building materials were brought; existing ditches were cleaned. It was decided to increase the diameter of the drain pipe up to 20 cm; instead of the previous 10 cm. Holes for drainage water were made in these pipes.



Together with village activists the space for digging was cleared, 500 meters of ditches were dug, (left photo), wells to collect drainage water were concreted.The pipes were laid in trenches and covered with gravel (right photo). In the course of construction it was decided to lay one more drainage branch that will be done later, subject to availability of funding. Project implementers are confident that they achieved the anticipated results, namely:



- Raised awareness of the villagers on the environmentally sustainable management of land and water resources and on existing threats posed by natural phenomena.
- Community reached a new level of development and can mobilize to solve a common problem.
- Decreased threat of degradation of agricultural lands and threat of a landslide.

After the completion of the system construction there will be trees planted and a garden laid for villagers' recreational purposes.

RESULTS BY THE END OF 2014

KYRGYZSTAN

During the implementation of the project the following activities and measures were undertaken:

- Selected plots for sowing beans. All the necessary agro-technical measures were implemented on these plots, such as plowing, land planning, and eradication of weeds by herbicides and seeding;
- The soil analysis was conducted; recommendations for phosphate, potash and nitrogen fertilizers applications were made based on the analysis. Gypsum was recommended to reduce the alkalinity of soils;
- Weirs- water meters were installed;
- Trained observers on the field accounting and monitoring.

During the growing season all the required works were also conducted: bursting, removing of the infected plants, fertilizing and watering.

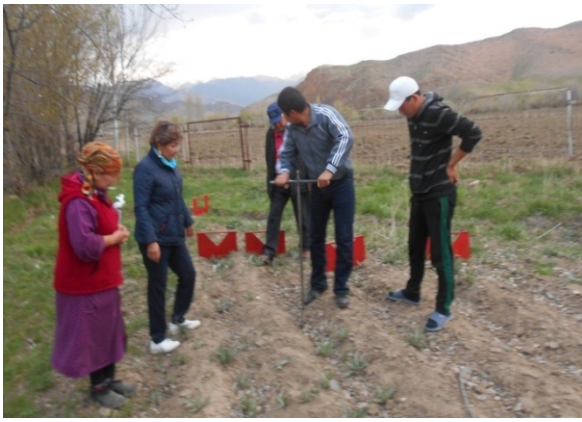
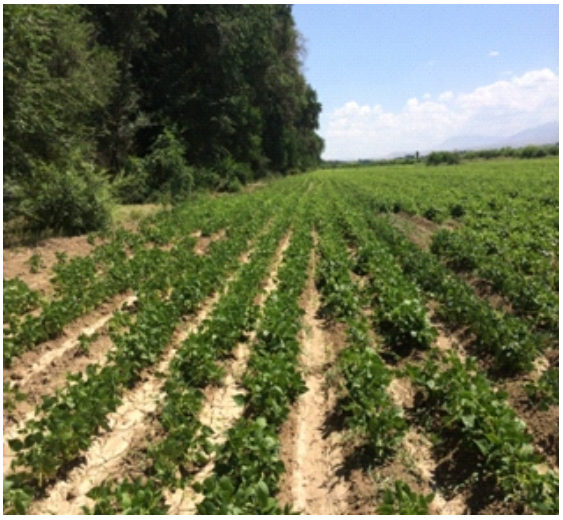


Photo: **Sampling .of soil**

Since soil moisture in the settlement layer must be maintained within 66% -83% for the whole period of vegetation, the size of calculated layer of irrigated lands of the Talas Valley were found. It should be 20 cm deep for the 1-3 decade of vegetation, 30 cm for the 3-5 decades and 50 cm for the 5-8 decades. 2014 turned out to be dry, so it was not possible to implement some waterings on time. Experts expect a reduction in yield compared with the average of previous years in the country.



At present, harvesting on the demonstration plot is finished and the analysis and systematization of the research results is undergoing, as well as preparation of appropriate recommendations and program of training seminars for the dissemination of project experience among the population in the Talas and other regions of the republic.

Photo: **Been sprouts**

KAZAKHSTAN

To achieve the project objectives the regional administration allocated to the project partner - Rice RI named after I.Zhahaev- 20 million Tenge (US $ 110,000) to cover the basic costs of rehabilitation works, including the layout of the surface checks, cleaning of irrigation and drainage network, restoration of hydraulic structure, installation of water meter points, use of resource saving technologies, etc.

On August 20 and October 20, 2014 the field demonstration seminars were organized; participants included farmers, heads of households and district departments of agriculture. Such seminars (right photo) will accelerate the process of implementation and dissemination of advanced technologies in the farms in Kyzylorda region.

Harvest on the demonstration plot was held during September10-18.

RESULTS BY THE END OF 2014

ARMENIA

Construction work in the village Parakar continued and, as a result virtually all the objects were completed, namely:

- Sedimentation pond using reinforced concrete and sludge beds.
- The second pond for secondary sewage treatment with natural aeration.
- WC for station staff.
- Reconstruction of the nodal system (pump and lattice).
- First pond cleaning.
- Installation of well chambers.

In September 2014 the integrated biological wastewater treatment structure in Parakar village was commissioned.

Photo: **the second pond for sewage treatment with natural aeration**

In addition, at the request of the coordinator of the UN Convention to combat desertification in Armenia, the Country Water Partnership (CWP) of Armenia prepared "Review of the effectiveness of the system implementation" (best practices from Armenia). The Parakar project was presented in the Review as best practices for restoring degraded farmland in the village.

As part of the Black Sea Basin Joint Operational Program (WASTEnet Greece, Georgia, Turkey, Romania, Ukraine, Moldova) a seminar was held in which CWP Armenia actively participated and submitted a report "State of biological wastewater treatment in Armenia. The perspective on the example of the Parakar village". A study tour to Parakar was organized for the seminar participants where they got acquainted with sewage treatment plant facilities (left photo).

As planned, the national seminar "Alternative technologies for municipal wastewater treatment" was held to identify conditions that facilitate and impede the use of alternative technologies for treatment of urban wastewater in Armenia; trilingual (Armenian, Russian and English) video "Alternative technologies for sewage waters" was made.

Currently, the monitoring of wastewater quality is ongoing, which will be continued in 2015. In addition, in 2015, it is planned to construct irrigation system on the territory of the sewage treatment plant and restore natural landscape. Hyacinths will be planted in the second pond. It is also planned to conduct research on the quality of wastewater treatment, as there is a preliminary agreement with the American University in Armenia and the Research Institute of Civil Engineering University. The project results will be presented at the conference "Dresden Nexus Conference" in March 2015.

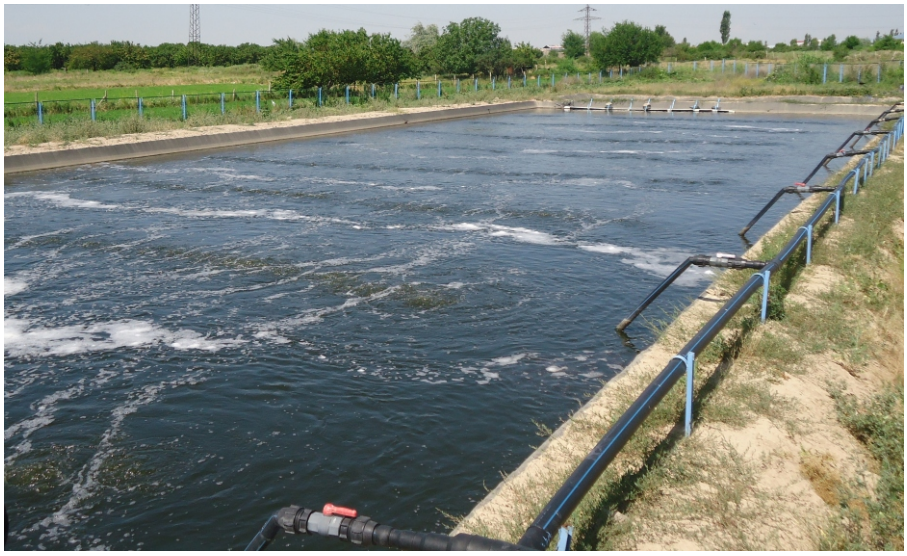


Photo: **Pond with artificial aeration in action**

LIVE AND LEARN!

In Uzbekistan activities on improving theoretical knowledge of water users have been conducted. Large-scale construction of water metering is implemented in the agricultural sector and budget funds and grants from international financial institutions have been allocated for this purpose. Training grounds have been established for training farmers and Water Users Association (WUA) specialists on effective water accounting and management. The Country Water Partnership (CWP) of Uzbekistan has actively assisted the implementation of these measures.

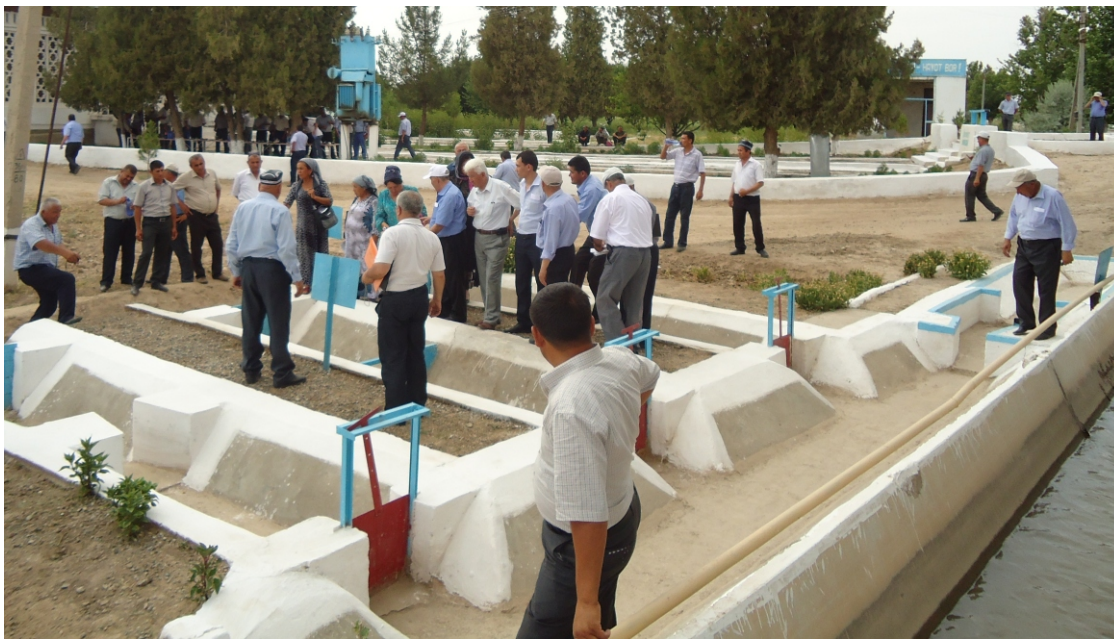


Photo: **training ground of water measuring structures in Kashkadarya Province, built with the assistance of CWP-Uzbekistan and financial assistance of the Rural Enterprises Support Project (Phase II).**

WHERE IS THE WORLD GOING?

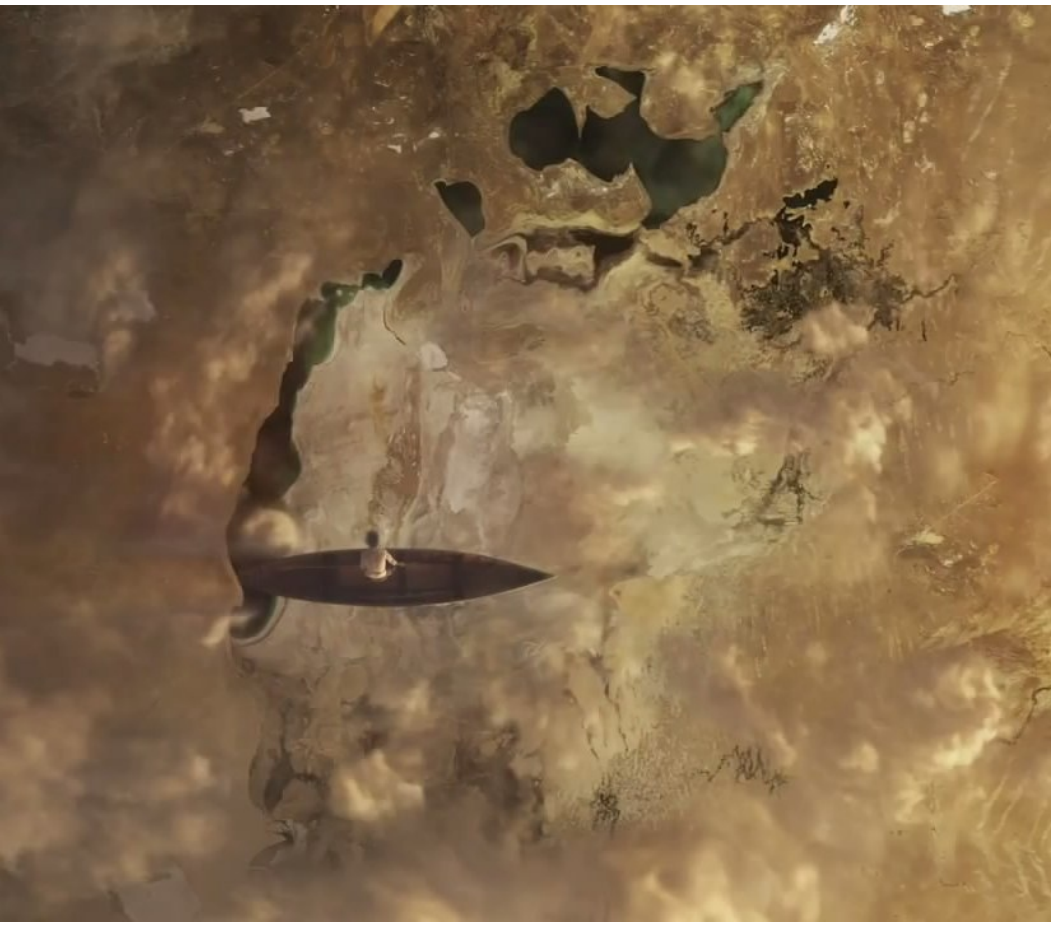
The next year total wealth of the richest 1 percent will exceed the wealth of remaining 99% (52% vs. 48%) of the Earth's population, if the current trend of rising inequality continues. This statement was made by the OXFAM Executive Director (international organization to combat poverty and hunger), Ms. Byanima at the World Economic Forum in Davos. She warned that the explosion of inequality makes efforts to eliminate poverty unavailing and brings us back to the time when 1 out of 9 people cannot eat at the proper level, and more than 1 billion people live on less than 1.25 dollars a day. At the same time the wealth of the richest part of the elite is on average $ 2.7 million/person. Byanima used her co-chairmanship in the forum to call for urgent action to prevent the growth of inequality, starting with the prosecution of tax evasion by corporations and insisting on progress on global agreement on climate change. Read more:
http://www.oxfam.org/en/pressroom/pressreleases/2015-01-19/richest-1-will-own-more-all-rest-2016

NEW PUBLICATIONS OF ASIAN DEVELOPMENT BANK

1. **Technologies to support climate change adaptation**-detailed description of the available and innovative technologies developed for addressing climate change in six sectors: agriculture, coastal resources, health, transport, water resources and disaster risk management. It includes information on the effectiveness, costs, benefits and constraints of each technology. These technologies are available today to promote green growth and to adapt to climate change. www.adb.org

2. **Mainstreaming Water Safety Plans in ADB Water Sector Projects: Lessons and Challenges.**(Ishii, Satoshi. Deere, Daniel Alun.) Promoted by the World Health Organization plan to ensure the water safety (WSP) has changed the way water was managed. This report documents the experimental application of WSP instructions in water projects supported by the ADB, on the example of a pilot project in Chongqing - municipality in China.

“WHAT WE DO IS LOUDER THAN THE WORDS!”



The famous rock band Pink Floyd released the album Endless River. Musicians say that this is their last album; they will not record together anymore and summed up their years of work. Among the songs on the album - Louder than Words - philosophical discourse on the eternal theme: "Actions speak more about us than words." Musicians illustrated this song on video captured on the coast of the former Aral Sea. Decoration of this song was the basis for decoration of the entire album.

Listen online:
youtube.com/watch?v=Ezc4HdLGxg4

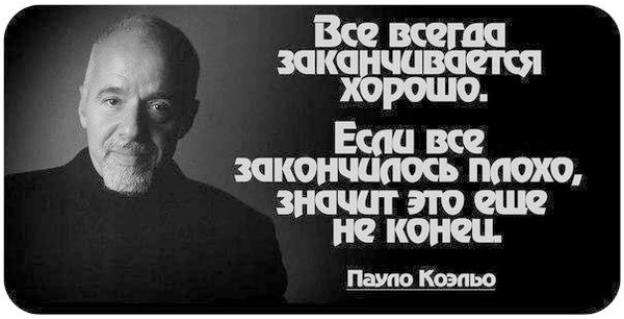
The picture shows a frame from the video Louder than Words: **Charon takes the soul of the Aral Sea**

GWP PARTNERS IN CENTRAL ASIA HAVE A CHANCE!!!

Civil Society Development Association "ARGO" with the assistance of the US Agency for International Development is holding a contest for NGOs in Central Asia of successful projects for the best social partnership project among NGOs and state government on local, regional or national level.

The contest invites the public, non-profit organizations of Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan and Turkmenistan, which have experience of effective social partnership with the public sector. The contest is held on the results of work of the applicants during 2013-2014 to determine the best examples of effective social partnership "NGO and the government" and distribution of those among Central Asian countries. Application deadline – 15 March 2015.

Detailed information on the conditions of participation and the application form are available on "Interactive Community" site
http://cso-central.asia/httpcso-central-asiap7596/



Above: “**Everything will be okay in the end. If it is not OK, it is not the end!”** **Paulo Coelho**

International high-level conference on the results of the implementation of the International Decade for Action "Water for Life” 2005–2015

will be held on June 9-10, 2015 in the capital of Tajikistan - Dushanbe. Registration for the conference is free and available to all interested parties on the web - site of the conference: www.waterforlifeconf2015.org

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