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SUBREGIONAL CONFERENCE "MULTI-STAKEHOLDER DIALOGUE ON ADAPTATION TO CLIMATE CHANGE IN CENTRAL ASIA FACING COP 18 TO THE UNFCCC", 12-13 NOVEMBER 2012, TASHKENT, UZBEKISTAN

Regional Environmental Center for Central Asia (CAREC)
under Asia Pacific Adaptation Network (APAN)

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EXECUTIVE SUMMARY

More than 50 delegates of the national governments, scientists, NGOs, international organizations, experts and media from four Central Asian countries participated in the two-day regional conference on "Multi-stakeholder Dialogue on Adaptation to Climate Change in Central Asia facing COP 18 to the UNFCCC" hosted by the Regional Environmental Centre for Central Asia (CAREC) within the Asia-Pacific Adaptation Network (APAN) in partnership with UNDP "Central Asian Multi-Country Programme on Climate Risk Management (CA-CRM)" and Drynet.

The conference Agenda was divided into three sessions. The first day of the conference consisted of one extensive session on climate change adaptation priorities and technology needs in water and agricultural sectors in each of the countries represented. The other two sessions on the second day primarily a) focused on financial options to meet national adaptation costs, and b) the final one was built around the dialogue on thematic priorities, opportunities and expectations for the 18th session of the Conference of the UN FCCC parties on adaptation to climate change.

The first session was opened by Mrs. Lyudmila Aksyonova, Head of Department of International cooperation and programs, State Committee for Nature Protection of the Republic of Uzbekistan. The first part of the session before the first coffee break, included four presentations from representatives of international organizations, which provided an overall regional perspective on the relevance of adaptation issues in the region. This session geared up the participants towards the conference theme, which was moderated by Mrs. Mariya Genina, Environmental Management Program Specialist of CAREC. The second part of the same session consisted of four blocks devoted to each country of Central Asia in the alphabetic order: Kazakhstan, Kyrgyzstan, Turkmenistan and Uzbekistan. During this session the national actions and strategies for adaptation to the climate changes in the water and agricultural sector and the most effective local adaptation strategies were shared by the respective countries to the audience. This was followed by a dialogue session between the presenters and the audience, with an aim to bring out the priority issues for discussions on financing on the following day.

The second day began with the second session on financial options in adaptation, moderated by Mrs. Ludmila Kiktenko, Financial Resources Mobilization Coordinator, CAREC. The four presentations of this session revolved around interesting topics such as:- various possible sources of financing for the sector, regional initiatives of EU, local funding mobilization through Payments for Ecosystem Services and integrated financial strategies. The session was finalized by the break out discussion on financial aspects and some relevant discussion guided us to some concrete results.

The second day after lunch session was continued as the third session of the conference, moderated by Dr. Puja Sawhney, Coordinator of the regional Hub for Asia Pacific Adaptation Network (APAN), Institute for Global Environmental Strategies (IGES). The introductory presentation on thematic priorities, opportunities and expectations for COP 18th of UNFCCC by Ms. Zhanara Essenova, Head of the expert group on adaptation and vulnerability in the frame of the preparation of the Third

National Report to UNFCCC of the Republic of Kazakhstan, was very helpful to open up the plenary discussion. The session further gathered momentum in the form of small group discussions on developing the regional recommendations on various sectors in the field of adaptation to climate change: water resource management, agriculture, emergency situations and human health. The conference was finalized by the break out session with regional intersectoral dialogue and discussion and formation of the conference resolution.

It's of special mention here that this conference is one of the first of its kind at the regional level which goes beyond national levels and pertain its existence within the boundaries of regional and international experiences.

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BACKGROUND AND RATIONALE

Climate change registered by all world meteorological services during the last century shows itself in raising temperatures, reduced and redistributed precipitation, increased droughts and dry winds. These changes tend to aggravate and have a growing impact on the balance of water resources, state of the soil cover, crop yield, quality and composition of plant species, natural ecosystems, human health, etc. Climate change and increase in aridity leads to deterioration of pastures and arable land. Water shortages in the summer reduce the area of irrigated agriculture. The growing evidence of climate change and a scale of its impact, as well as the interdependence of climate and economic conditions in Central Asia (CA) call for prompt reaction, coordination and exchange of experiences on adaptation to climate change at all governmental levels with a wider involvement of the local communities and other stakeholder groups.

The Central Asian economies are largely dependent on agriculture, mainly on irrigated agriculture. Irrigated agriculture is already facing the water deficit. Despite various uncertainties that exist around the topic of climate change, the occurrence of average annual temperature rise in arid and semi-arid regions of Central Asia is unquestionable. The average trend of annual temperature increase for the 100-year observation period is similar in all the CA countries. In Turkmenistan the temperature has increased by 0,6-0,8°C, in Uzbekistan and Kazakhstan by 0,8-1,3°C, in Tajikistan and Kyrgyzstan by 0,3-1,2°C.

As a consequence of such climate change impacts water resources and agriculture will be the two most vulnerable sectors in Central Asia. Experts highlight the annual water-flow fluctuations and droughts frequency to have an ever increasing impact on water availability during the vegetation period, which makes farming risky and not cost-effective. For instance, farmers will be forced to abandon cultivation of irrigated land at the end of irrigation lines (rivers, canals, temporary waterways, etc.).

Taking into account that agriculture and water resources are crucial for survival and quality of life of local population, the priority climate change adaptation measures for the CA region should be directed at water use efficiency and improving irrigated agriculture resilience. At the same time, it should be noted that such sectors as health and emergencies are also prone to climate change risks. Melting glaciers, floods, landslides, mudflows, and inundations caused by high temperatures can lead to the disturbance of the sanitary and epidemiological situation, to an increase in infectious diseases and to stress.

In, the National Communications to the UNFCCC all countries of Central Asia recognize possible harmful impact of climate change and are developing adaptation measures. However, both on the national and regional levels climate risk adaptation measures are short-term, confining themselves to individual projects at the local level. Nevertheless, all countries in the region have already gained a

vast and interesting experience of adaptation methods and technologies, which should be systematized and replicated in other countries with similar climate conditions. Relevant agencies and ministries have not yet become sufficiently aware that the development and implementation of preventive adaptation measures require far less resources than mitigation and reclamation of climate change impact on different sectors of the economy.

One of the essential issues related to regional cooperation is availability of data and experience exchange on adaptation. Enhancement of water resources monitoring system is greatly impeded by the insufficient regional cooperation in terms of data exchange and harmonization of measurement methods. Data exchange is not properly maintained even at the national level due to the lack of interaction between relevant state agencies.

The current Sub-regional Conference "Multi-stakeholder Dialogue on Adaptation to Climate Change in Central Asia facing COP 18 to the UNFCCC" was held in Tashkent on 12-13 November 2012 with the aim of building up a multi-sector dialogue on adaptation to climate change in Central Asia. The Conference was organized by CAREC within the Asia Pacific Adaptation Network (APAN). APAN targets at facilitating regional dialogue and cooperation, exchange of best practices and approaches within and between the CA countries in order to improve the stakeholders' adaptation capacity.

The Conference objectives were:

- To facilitate the sub-regional multi-stakeholder dialogue on the priority adaptation measures and technology needs in water and agricultural sectors in Central Asia;
- To enhance information and knowledge exchange on the financing options to meet national climate change adaptation costs;
- To assist Central Asian countries in developing a joint multi-stakeholder messages/recommendations in preparation to the 18th session of the Conference of the Parties (COP 18) to the UNFCCC, Qatar.

Organizing partners:

The Regional Environmental Centre for Central Asia (CAREC) within the Asia-Pacific Adaptation Network (APAN), UNDP "Central Asian Multi-Country Programme on Climate Risk Management (CA-CRM)", and Drynet. The Norway government (CAREC project on Supporting Local Water Initiative in CA) supported the organization of the conference as a funding partner in addition to the funds available from the organisers.

One of the key features of the conference was an interactive approach to most of the sessions to encourage discussions and direct communication among the participants. Besides, the sessions were so organized that multi-stakeholders had a say in the overall resolution which was on the table at the end of the conference. On the final day of the conference, participants reviewed and added to a list of possible focus areas and activities in future.

Conference participants: Ministries and Agencies of Environment, Agriculture, Water, Finance, Economy; Scientific institutions (universities, hydromets, etc); non-governmental organizations and associations; environmental information networks (e.g. CARNet, Ecois); international organizations; national experts and international consultants; mass media representatives.

OPENING SESSION SPEECHES

Mrs. Lyudmila Aksyonova
Head of Department of International cooperation and programs
State Committee for Nature Protection of the Republic of Uzbekistan

The Chairman of the State Committee for Nature Protection of the Republic of Uzbekistan could not take part in this conference; Mrs. Aksyonova read out the welcoming speech on behalf of the Chairman:-

In Uzbekistan, development priorities are being paid to the optimal combination of macroeconomic planning with environmental and social policies. Currently, programs of economic development are being implemented and they are aimed at reducing energy consumption, increasing the use of renewable energy sources, development of CDM projects, and development of strategies to improve urban and rural water supply and sanitation until 2020. There are a number of government programs and national action plans being realized in the sphere of the environmental protection.

At the same time, there exist a number of problems. Our country is located in the arid climatic zone of Central Asia, and is facing ecological problems of global climate change, transboundary air pollution, desertification and land degradation, biodiversity loss, lack of and worsening quality of water resources. These in turn lead to a number of socio-economic problems.

Recognizing the importance of climate change problems and the need for immediate actions on mitigation and adaptation of CC, Uzbekistan signed the Kyoto Protocol in November 1998, ratified it on August 20, 1999. Report on implementation of the UNFCCC by the Republic of Uzbekistan is provided through National Communications. At present, two National Communications on climate change were prepared by Uzbekistan; currently, preparation of the third national communication is in progress.

Due to climatic conditions, water resources, agriculture, human health, biodiversity and ecosystems are the most vulnerable in the country. According to the Second National Communication of Uzbekistan to the UNFCCC in 2005, greenhouse gas emissions totaled 199.8 million tons in CO2-eq. In terms of compliance with international obligations under the Kyoto Protocol of UNFCCC, a set of measures was developed and "Program of Actions for Environmental Protection" was adopted by the Government Resolution №212 of 19 September 2008
Main activities on reduction of GHG emissions, adopted for the years 2008-2012, include utilization of associated gas burning torches, reconstruction of a number of chemical plants, reducing GHG, nitrous oxide, harnessing the potential of small-scale energy and other renewable energy sources. At present, a third program of environmental protection action is prepared for the 2013-2017, which also includes measures aimed at reducing GHG emissions.

In this direction, State Committee for Nature Protection adopted and currently implemented short and long term state programs on energy efficiency, development and implementation of clean technologies, new methods of energy production on the basis of renewable sources, recycled resources and waste.

For widespread adoption of clean renewable energy sources, a specialized scientific center "Eco-Energy" was created in 2005 within the SNCP and is functioning; in addition, a Regional Center for Renewable Energy in Central Asia was established in 2011 by the decision ICSD IFAS.

Mainly, implementation of international and national projects on adaptation and mitigation of climate risks in Uzbekistan are aimed, above all, at development of early warning monitoring systems, efficient water use and management, land quality improvement, biodiversity conservation, improved health, increased energy efficiency, and also the development of new approaches and strategies in adaptation and benefit assessment.

It should be noted that the priority measures for Uzbekistan in the field of climate risk management are: further development and improvement of national climate monitoring system, adoption of clean technologies, introduction of innovative approaches for better management of land and water resources in order to prevent land degradation and desertification and to ensure the stability of agricultural production, development of strategies to reduce greenhouse gas emissions (NAMA), and adaptation to the climate change (NAPA), and others.

Dear participants and guests, I wish you fruitful work, new and strong partnerships, constructive debate and discussions, and a successful conference. Thank you for your attention!

Dr. Puja Sawhney,
Coordinator of the regional Hub for Asia Pacific Adaptation Network (APAN), Institute for Global Environmental Strategies (IGES)

She started off welcoming the participants of this conference and raising hopes for a fruitful discussion for the region. She also explained how APAN networks plays its role in the present conference and its purpose.
Climate Change is one of the major global stresses as has been known and it has an impact on the humans as well as the natural systems, and affects different socio-economic sectors in the country. It is a difficult task to manage the ecosystems and it is important to promote economic development. But the main question that emerges is how to make economic development sustainable?

There are existing constraints such as weak institutional capacities, social and economic development which is linked to production processes and consumption patterns not in the world but also in the region.

Developing and least developed countries are more vulnerable to climate change due to a lack of the necessary finance; knowledge, technology and key adaptive capacity. Asia Pacific region in particular is more vulnerable to climate change due to its high population growth rates, extreme poverty, low awareness levels regarding climate change and its possible impacts.

APAN was set up in October 2009 as part of the Global Adaptation Network. It aims at Building climate resilience of vulnerable human systems, ecosystems and economies through the mobilization and sharing of knowledge and technologies to support adaptation capacity building, policy-setting, planning and practices.

It specifically aims to generate and share knowledge and information on adaptation to enhance adaptive actions; facilitate the application of appropriate knowledge to adaptation programmes/projects; facilitate access to adaptation finance mechanisms and technologies; and develop the capacity of national and local.

APAN does not provide funding but it has a program along with USAID in the frame of which we provide training of trainers, on how to do resource-mobilization and get funding for climate adaptation, and also to develop the capacity of the different countries in the region as well as different national institutions.

In terms of activities, APAN is involved in:

- knowledge management, generation and sharing including good practice and technology databases;
- capacity development through seminars/workshops and training; and this sub-annual conference is an attempt to bring all stakeholders in the region together to share their knowledge and experience on climate change. And also to identify the countries' specific needs. So, although, all of you are from CA – there are issues that are particular to your country, but there are also issues which are common across the region;
- facilitate access to adaptation finance and technologies;
- identify country-specific needs for adaptation, knowledge and capacity building;
- training and capacity building at the sub regional level and national level with the support from the sub regional nodes and thematic nodes;
- establish linkages and collaborations;
- exchange of knowledge and dissemination of materials on climate adaptation at the sub regional and national levels; and

Another thing that we're doing and I hope that we can do in this conference is to identify specific gaps and needs in terms of knowledge for climate adaptation, in terms of capacity building so that in the future we can make a program that meets, if not all, then some of the needs that you have identified today.

One of the examples of APAN output - database on good adaptation practices and technologies - www.apan-gan.net/adaptation-database. This database is open to all public.

APAN's future activities for promoting green climate change:

- APAN together with institutions such as CAREC does and will provide assistance to national governments in Asia and Pacific for implementing CCA enhancing and promoting green growth, additionally, train key ministry personnel for building their capacity building and raising awareness regarding Climate adaptation.
- APAN and sub-regional nodes will continue to strive to involve different stakeholders including the private sectors for Climate adaptation.

Mr. Rustam Arstanov, Manager, Environmental Management Program The Regional Environmental Center for Central Asia (CAREC)

Mr. Rustam welcomed the participants of the conference on behalf of CAREC. He mentioned that over a period of time, CAREC has mediated inter-sectoral dialogue on the use of technologies to reduce the impact of climate change. For example, at the Sixth Ministerial Conference on the Environmental Protection and Development of Asia

and the Pacific region, they held a consultation meeting on "Integration of actions on climate change for sustainable development of Central Asia". The Asia Pacific Adaptation Network was presented at this meeting as well as interim results of the study on evaluation of opportunities and best practices for adaptation to climate change in CA were presented.

Several studies were conducted and reports were developed a few of which are, a report on analysis of adaptation to the climate change in CA, review of the experience to adapt to climate change in CA, technology needs assessment and adaptation of agriculture and water management to the CC in CA. Based on these studies, it was found that the most vulnerable areas in CA were water and agricultural sectors.

Even if the focus will be on these two sectors, they are quite broad and cover a full range of themes such as risk management, technological needs, financing adaptation measures, population health.

Fortunately, experts from all these sectors were present in this Conference. As could be seen from the Agenda, the program for those two days was quite full, nevertheless, this variety will help the participants to learn more about adaptation measures to climate change. In the end, he thanked the donors - APAN and the Norway Ministry of Environment. They also thanked UNDP for their cooperation and support in organizing this event.

Mr. Yegor Volovik
Regional Programme Coordinator, Central Asia Climate Risk Management Programme
UNDP

On behalf of UNDP the Regional Centre in Bratislava, Mr. Yegor welcomed the participants of the meeting.

He said that he would like to emphasize the importance of such meetings at the regional level, at the level of specialists and decision makers, to discuss the programs that go beyond the national scale. It is known that adapting to the CC is on the agenda of almost all countries in the world, particularly in Central Asia, where the negative effects of long-term factors as CC and current climate variation has the greatest impact. In particular, the UNDP is increasingly talking about cascading risks - when the complex negative factors can be extremely detrimental to the economies of the population, as well as deteriorate security.

He again welcomed all five Central Asian countries that were taking part and wished them all success and hoped that all participants will be most active and will help achieve the objectives of this meeting.

SESSION 1: PRIORITIZED ADAPTATION MEASURES AND TECHNOLOGICAL NEEDS IN WATER AND AGRICULTURAL SECTORS

ADAPTATION TO CLIMATE CHANGE: CHALLENGES AND OPPORTUNITIES

SELECTED EXPERIENCE FROM THE WEST BALKANS, SOUTH CAUCASUS, EASTERN EUROPE VS. CENTRAL ASIA

Ms. Lesya Nikolaeva
Project Manager
Zoi Environment Network

In her presentation, Ms. Lesya Nikolaeva shared a few examples from different regions on possible adaptation measures and initiatives, which could be used in the Central Asian region.

In her presentation, she defined vulnerability to climate change asa combination of: 1) exposure (how big the change) to hazards, measuring the strength of future climate change relative to today's climate 2) sensitivity (how much it matters), indicating which economic sectors and ecosystem services are likely to be affected in view of climate change, e.g. renewable water resources, agriculture and hydropower production 3) adaptive capacity to climate change, e.g. social, economic, and institutional settings to respond to weather shocks and variability.

Ms. Nikolaeva presented maps of international organizations such as NASA, IPCC on global average surface temperature anomalies and trends, water deficit in different regions, including Central Asia, vulnerable sectors in different times of the year. She also presented an Index of vulnerability, created by the World Bank. According to the scheme, all the five CA countries have little adaptive capacities in the country as well as in different sectors within the country.

Further, Ms. Nikolaeva showed examples of projects in Eastern Europe, in particular in Moldova, Belarus and Ukraine. Adaptation issues in Eastern Europe are:

- Development and implementation of the adaptation measures, including

conduction of the research on scientific, technical and economical needs, require huge financial recourses

- Adaptation planning requires long-term investments in the situation of high uncertainty
- Adaptation requires political will and elaboration of legal background

Western Balkans is also considered vulnerable to climate change. However, demographic situation (aging population, fertility rates decline, high level of migration) is one of the most important factors for region's adaptive capacity.

In Caucasus, the most vulnerable sector is viticulture. A number of international projects in the region focus on awareness raising of the local population. Central Asia's most vulnerable sectors is agriculture since it depends on rains and glaciers melting; on the quantity of water in rivers and its availability for irrigation. In addition, animal husbandry depends on climate variability (e.g. the state of pastures and temperature in the mountains).

In the end of her presentation, Ms. Nikolaeva gave some recommendations for key adaptation needs and challenges in Central Asia:

- Verify Central Asian priorities for adaptation vs. those of other regions, where possible benefit from a common approach and use their experience (e.g. from other mountainous countries)
- Focus on the already developed adaptation measures rather than on developing new ones: the already developed adaptation measures could be directly interesting for donors and other partners
- Through cooperation, dialogues and exchange of experience, learn not only good but also bad practices and experience, and both expensive and simple measures
- Implement on the local level the simple measures that do not require special political will or huge financial resources: sometimes this is more efficient than waiting for regional adaptation plans and their implementation.

Climate Change and Current Changing Climate: UNDP's Experience on Management of Climatic Risks in Central Asia

Mr. Yegor Volovik
Regional Programme Coordinator, Central Asia Climate Risk Management Programme, UNDP

Mr. Volovik started his presentation with a case where a mass of demonstrators froze during their demonstration for global warming. He emphasized the fact that this proves climate change is taking place .

Changes of the climate in the long term include: aridity, desertification, deforestation, degradation of glaciers, changing patterns and regimes of precipitation (rain instead of snow, spatial and temporal redistribution), changes in precipitation and runoff hydrograph, degradation of ecosystems and loss of biodiversity, evapotranspiration and evaporation, changes in sea level, negative large and localized scale.

However, most often, the current changing climate is not taken into account. That's why there is a needto mention them: Heavy precipitation and floods; Increased frequency and magnitude of extreme weather events, the waves of heat/cold, (sand) storms, droughts; High risk of hydro-meteorological disasters, for example mudflows, landslides, floods and flooding; Ecosystem disturbance due to extreme events and natural disasters.

Mr. Volovik shared the index of vulnerability developed by the World Bank, which shows that all Central Asian countries among others are vulnerable to the impact of climate change. On the contrary, the adaptation capacity of these countries is very low, which means that there is still much to do in order to ensure economic and national security. It was noted that the root of this problem lies not only in theoretical or scientific basis, but also on the institutional basis. Institutionally, the questions of adaptation and emergency situations are separately looked at, which should be the practical case.

The questions of adaptation are in mandate of different organizations, including the ministry of environmental protection, Hydromet. Similarly, Ministries of Emergency mainly focus on elimination of consequences. When one talks about preparation of preventive measures - they often refer to it as to supply of food or humanitarian assistance. There is no a single agency the main task of which is adaptation.He then presented a definition of "climate risk management", which was created a few years ago, in the UNFCCC. Climate risk management (CRM) is a term used to refer to large-scale and ever-growing knowledge and work, which integrates adaptation to CC, disaster risk reduction and development sectors, etc.

UNDP's CRM program was created at the request of the Central Asian countries in order to help to understand and ensure the inclusion of climate risks in the development of Central Asia. He shared that the nine projects are being implemented at both regional and national levels.

ADAPTATION OF CLIMATE CHANGE AT LOCAL LEVEL IN KAZAKHSTAN": EXPERIENCE OF PROJECT IMPLEMENTATION GEF/ UNDP

Ms. Yekaterina Yushenko
National Coordinator, GEF SGP in the Republic of Kazakhstan

In 2007, the Global Environment Facility (GEF) initiated a program on adaptation to the climate change at community level. This program was aimed at measuring the impact of climate change on ecosystems as well as on local population who depend on these ecosystems. This initiative was implemented in 10 countries; Kazakhstan was one of the pilot countries that participated in the program.

In order to check the trends of climate change, climate data was received from hydro-meteorological organization (hydromet). The data showed that the mean annual temperature was rising, whereas precipitation levels were unchanging leading to climate aridity (data for the last 50 years).

Baseline study and assessment of vulnerability of Kazakhstan gave the following results:

- Temperature will rise by 1.4ºC by 2030, and +4.6ºC by 2085;
- Precipitation will decrease and will be redistributed;
- Impact: displacement of moisture zones to the north and expansion of arid areas to 38% .
- Thematic focus: agriculture and land degradation
- Geographic focus: grain production zone (steppe and semi-desert, Kustanai, Akmola and Karaganda region), and zone of livestock (semi-desert and desert, Almaty, Zhambyl, South Kazakhstan, north-eastern part of the Kyzylorda region.

Pilot projects were implemented in these regions. Demonstration of water-saving technologies such as drip irrigation allowed saving water to 2-2.5 times; rehabilitation of canals and irrigation of degraded lands (250 ha), use of traditional knowledge, modified methods which can be replicated to other regions were the other projects that were mentioned.

RESULTS AND RECOMMENDATIONS OF WHO PROJECT FOR CLIMATE CHANGE ADAPTATION IN THE FIELD OF PUBLIC HEALTH IN CENTRAL ASIA

Dr. Aliya Kosbaeva,
World Health Organization

Since 1989, the World Health Organization has been working in the sphere of climate change and its impact on human health. Since then, the WHO developed an Action Plan on climate change and its impact on human health (2010), and an Action Plan "Health-2020" (2012).

WHO works in the following spheres:

1. Health in the policies of other spheres
2. Strengthening the health system
3. Awareness raising
4. Enhancing the ecological parts of the health system
5. Research, innovations and development

The project "Strengthening public health in a changing climate" ran from 2008 to 2012. Funded by 9.3 million USD from the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), the WHO/Europe coordinated the project and provided countries with technical assistance, guidance, training and expertise to enable them to protect health from climate change through addressing adaptation, strengthening health systems and building institutional capacity. The overall goal of the project was to increase health system resilience to climate change. The specific objectives of the project were to:

- develop national (or sub-national) environment and health adaptation plans or integrating health into existing plans;
- to strengthen health systems and build institutional capacity on climate change in relation to extreme weather events preparedness and response, infectious disease surveillance and response, respiratory diseases early detection and response, water, food safety and malnutrition;
- to transfer technology and foster innovation in energy efficiency and the use of renewable energy for health services; and
- to provide intelligence and facilitate the exchange of knowledge and experiences on effective adaptation and mitigation measures.

The project was implemented in seven countries, including Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan. Main activities included: Assessment of vulnerability to impacts and adaptive capacity; Strategy / action plan for adapting health; Awareness raising and informing; Training and education.

The WHO's role was to coordinate the project and provide countries with technical assistance, guidance, training and expertise to enable them to protect health from

climate change through addressing adaptation, strengthening health systems and building institutional capacity.

In Kazakhstan the following activities were conducted: 1) An vulnerability assessment, and assessment of impacts of climate change on health; 2) Assessment and management capacity of health in emergencies; 3) Pilot in improving decision making in emergencies; 4) Information support and capacity building to events related to climate change; 5) Adopted an action plan for 2012-2015 on health adaptation to climate change.

Results of research revealed that in the warmer months, with an increase in air temperature to 1^0 C it was found that there was an increase in deaths from cerebrovascular disease from 1.2 to 2.7% in Astana; 5.5% increase in cases of salmonellosis in the same month; 3.3% decrease in the incidence of hepatitis A after 1 month in Almaty; 2.4% decrease in hepatitis A in the same month, and by 2.3% in the next month in South Kazakhstan.

In cold period of the year, a decrease in air temperature of 1^0 C, there was an increase in requests for emergency medical help due to asthma 2.0% in different age and gender groups.

She then presented mapped vulnerability risks analysis of population and health facilities to floods. Towards the end of her presentation, Ms. Kosbaeva presented the recommendations of the project:

1. Creating environmentally friendly health care system and ensuring resilience
2. Strengthening human and scientific capacity of the health system of the country
3. Strengthening the system of epidemiological monitoring of climate-related infections
4. Definition of key indicators to monitor mortality and morbidity
5. Awareness raising and environmental awareness of population and health professionals
6. Creating mechanisms for inter-agency coordination on public health in a changing climate

SESSION 1.1 PRIORITIES OF THE REPUBLIC OF KAZAKHSTAN IN THE FIELD OF ADAPTATION TO CLIMATE CHANGE

Moderator: Mrs. Tatyana Nemtsan, Director of Akbota Public Fund

THE KEY STRATEGIC DOCUMENTS OF THE REPUBLIC OF KAZAKHSTAN IN THE FIELD OF WATER RESOURCES, AGRICULTURE AND ADAPTATION TO CLIMATE CHANGE

Mr. Yerlan Zhumabayev
National Coordinator of UNDP/GEF/GIZ/ GM CACILM CPP, UNDP

Mr. Zhumabayev presented different strategies of the Republic of Kazakhstan in the sphere of climate change. The first document presented was "Concept of the Republic of Kazakhstan on adaptation to climate change". The concept is aimed at reducing the vulnerability of population, economy and natural systems in relation to existing climate variability and projected climate change.

The main directions and priority sectors and regions: Efficient use and management of water resources; Increased efficient use of land resources; Adapting of rural population to climate change; Early warning and emergency response; Forestry and biodiversity; Health; Cities; Insurance; Energy, industry, transport; Education and Science; Adapting coastal zones of Aral and Caspian Seas, Lake Balkhash.

The concept includes the following programs: Sectoral program "Zhasyl Damu" (Green development) for 2010-2014; The draft Law "On pastures"; Strategy of transition to "green" economy of the Republic of Kazakhstan; The National Action Plan to combat desertification and biodiversity; Sectoral program "Green development" for the period 2010-2014.

The overall objective of the program is to create conditions for conservation and restoration of natural ecosystems. Specific objectives: Development of "green economy"; Reducing the impact of climate on environment and health; Preservation and restoration of natural ecosystems; Development and improvement of quality management system of environment; Gradual increase in forest area; Stabilization of the number of rare and endangered species of wild animals; Establishment of nature protected areas in priority regions.

The total budget of 172.3 billion tenge. Next steps: a) Include natural resource management in the Strategy of Green Economy; b) Develop specific adaptation measures and include them in Green development program, green economy, NPD on biodiversity, desertification, and work plan akimats.

CLIMATE RISKS IN THE AGRICULTURAL SECTOR. ADAPTATION PRACTICES AT THE LOCAL LEVEL IN KAZAKHSTAN

Dr. Gulnara Bekturova
Expert at Public Fund "Farmer of Kazakhstan"

Dr. Bekturova started her presentation with a slide to show the impacts of climate change on agriculture. In Central Asia, one of the most important sectors is agriculture, and it is one of the most affected. The impacts of climate change on agriculture will mean that there will be changes in species composition of the grassland vegetation and reduced quality roughage; water deficit for irrigation; increased salinity levels of groundwater; reduced areas of irrigated lands; reduced yields of spring wheat by 25%; loss of soil fertility; increase in wind and water erosion; degradation and desertification of grassland; reduced production of livestock; decreased yields of pasture vegetation by 30-90%.

Her presentation was followed by adaptation measures in water and agricultural sectors.

Water sector: Strengthening of monitoring and forecasting of climate and water resources; Integrated water resources management; Revision of standards of water use and water use regulations; Implementation of efficient irrigation technologies; Rehabilitation and reconstruction of culverts and channels; Incentives for water conservation by farmers and their training.

Agricultural sector: Selection and introduction of drought- and pest- resistant crops that requires low water consumption; Replacement of water-intensive crops with drought-resistant; Restoration of degraded pastures and fallow; Introduction of water-saving technologies; Crop rotation, shifting crops to other areas; Zero tillage technology; Insurance, increasing food security.

She also paid a detailed attention to the recommended adaptation measures in irrigated agriculture, rainfed agriculture, pasture management and emergency risks.

QUESTIONS AND COMMENTS

Session 1.1 Priorities of the Republic of Kazakhstan in the field of adaptation to climate change

Discussion started from a clarifying question of Mr. Anvar Shabanov, State Environmental Agency, Uzbekistan, on whether Kazakhstan is preparing the third

national communication (NC). Mrs. Zhanara Esenova, head of expert group on climate change vulnerability and adaptation in preparation for NC 3, had clarified that in fact Kazakhstan is in the process of preparing the NC 3. However, NC 3 will be submitted to the UN FCCC, as well as NCs 4, 5, 6 the country will submit to the UNFCCC as Annex I Party to the Kyoto Protocol. Therefore, there will be a slight difference in the content between Kazakhstan and other CA countries in NC preparation, however the chapter on climate change vulnerability and adaptation will not significantly vary in content, and approaches will be similar.

The next comment was made by Mr. Alexander Merkushkin, UzHydromet, regarding the draft resolution of the conference, mentioning that it shouldn't fully rely and confuse with the recommendations for National communications, but it should state that the national delegates will be presenting the recommendations from this conference on climate change adaptation at the XVIII COP.

Another recommendation was made by Mr. Kayrat Moldoshev, Eco-movement Tabiyat, Kyrgyzstan, to include into the conference resolution the issue of hydro meteorological data availability and institutional capacity. He formulated it as following: to enhance the role of international organizations in equipping the resource base of the hydro meteorological research in CA. Mr. Moldoshev has explained that the data that they receive from the 32 stations working in Kyrgyzstan is not sufficient. How can we assess the climate change when we don't know the exact data? Furthermore, the equipment of the stations is outdated. On this comment, Mr. Alexander Merkushkin noted that within the last World Bank project the programme on enhancing the hydrometeorological services in the CA region was developed with regard to the maturity of these services.

The other question was addressed to Ms. Lesya Nikolaeva, on whether ZOI Net has done any work developing the methods of assessing adaptation potential. The reply was that ZOI Net is not working on this type of projects. Basically, they base their work on cooperation with donors and international agencies within large projects, and these are the donors who develop such data. They also prepare publications, and a significant feature of their publications is availability of clear graphs, charts, and maps.

The focus of attention during the discussion was also paid to the value and specifics of WHO project, presented by Dr. Aliya Kosbayeva. In particular Mr. Merkushkin had addressed the question: "In your presentation you mentioned that certain indices and indicators had been elaborated to make quantitative vulnerability assessment in the health sector. What served the basis of such in-depth analysis and elaboration of the national adaptation programme in health protection? Where was the data taken from?"

Dr. Aliya Kosbaeva: "The main aim of the project, all activities of which had been executed with the framework, was to assess both adverse impact and prospective benefits for health or for the system of health protection in each country participating in it. We have taken available forecast data and current CC data of various countries. The time frame was somehow different. Thus for

Kyrgyzstan we had data of the II NC and CC and 2100 year parameters. That's why my colleagues measured their impact on health separately by types of diseases (infectious diseases). They also studied them just by replicating with the indicators. Temperature rise by 1^0C or by a certain per cent of relative humidity is sure to have certain impact on heart attacks, intestinal infections (in Kazakhstan - Hepatitis A or salmonella-caused). Knowing the impact from 1^0C or 1% of relative humidity we have elaborated these methods further, in view of forecast data till 2100, concerning temperature and humidity rise and availability of water resources. That's the answer to the first part of your question.

The other comment on the value of WHO project was made that it has done mapping of what is available in the national programmes, what monetary resources are built into, what is the gap, and what today's partners or donors invest into issues concerning health. And this particular mapping helps many potential donors or stakeholders to get information on where their assistance would be most valuable.

Finally the last comment related to health sector was made by Mr. Ilya Domashov, Eco-movement BIOM, Kyrgyzstan, mentioning that currently there organization is conducting research research in CC impact on human health, and they are still updating data in it. The programme itself is planned till 2015.

The final discussion point was related to the Law on pastures in Kyrgyzstan. Mr. Domashov has noted that despite a significant number of positive aspects, there are many negative aspects associated with destruction of pasture ecosystems and pasture management in general, access to pastures, etc. This experience should be taken into account in the region. Mr. Yerlan Zhumabayev replied that recently they have sent our delegates to Kyrgyzstan; they have met the speaker to talk over their difficulties, obstacles with their draft law on pastures.

The last comment was made by the moderator of this session, Mrs. Tatyana Nemtsan, that it is vital to focus on training a new generation. All those risks that were discussed today will be the tasks to tackle for a younger generation. We need to start from school, higher education, etc.

SESSION 1.2: PRIORITIES OF THE KYRGYZ REPUBLIC IN THE FIELD OF ADAPTATION TO CLIMATE CHANGE

Moderator: Mrs. Kamila Toktogulova, Chief Specialist at the Department of the Environmental Strategy and Policy, State Agency for Environmental Protection and Forestry under the Government of Kyrgyzstan

IMPACT OF CLIMATE CHANGE ON WATER MANAGEMENT SECTOR IN THE KYRGYZ REPUBLIC

Mrs. Ekaterina Sakhvaeva
Head of Water management and melioration department
Ministry of Agriculture, Kyrgyz Republic

In the beginning of her presentation, Mrs. Sakhvaeva gave information on water resources of Kyrgyz Republic. Mainly, water resources (50 b. c.m.) come from major rivers such as Syr Darya, Amu Darya, Chu, Talas rivers as well as Issyk Kul Lake. However, the amount of water resources is used for irrigation purposes is increasing, whereas the amount of water resources is decreasing.

She then presented data on changes in climate, air temperature, precipitation and water, based on the observations for the period 1983-2005. The data shows that an average annual temperature in the 20th century in 100 years has increased by 1.6°C which is well above the global warming constituting 0.7°C. Moreover, the greatest temperature increase was observed in winter (2.6°C) and the lowest in summer (1.2°C). The number of glaciers in Central Asia is decreasing (37% in Talas basin).

With the changing climate, the actual river runoff in Kyrgyzstan has increased. Whereas, according to projections, in 2050s the river runoff is going to decrease, in 2100 – even more significantly. In addition, according to the research conducted in Kyrgyz Scientific Research Institute, in order to increase crop yields, irrigation rates should be increased in 1.5 times. Thus, water needs are going to increase.

According to the findings of the World Bank, over the next 10 to 20 years, the vulnerability of the countries of Europe and Central Asia will be largely determined by socio-economic factors and challenges, including the poor state of the environment. In addition, those countries and sectors that could benefit from climate change, lack the capacity to do so.

In Kyrgyzstan, there is a lack of long-term government development programs and plans on adaptation to climate change.

Sharing the views cited in the World Bank report, adaptation measures should be aimed at improving the management of water resources and implementation of the integrated management of water resources.

Mrs. Sakhvaeva concluded her presentation with a list of activities that need to be conducted. The activities include: development of intergovernmental agreements on the use of transboundary water resources and water facilities based on principles of integrated water resources management; development of a new draft agreement on water use for Chu and Talas rivers shared between Kazakhstan and Kyrgyzstan; conducting research on changes in groundwater and river flow; harmonization of existing legislations in line with the UNFCCC; development of plans on use and protection of water resources in the five major river basins; support the work of Secretariat of Interstate Chu-Talas Commission and creation of interstate Chu-Talas Basin Council; and development of state programs on rehabilitation and construction of water facilities.

EXAMPLES OF THE MOST EFFECTIVE LOCAL ADAPTATION MEASURES IN THE WATER AND AGRICULTURAL SECTORS OF KYRGYZSTAN

Mr. Christoph Wiedemann, CAMP Alatoo, Kyrgyzstan

Mr. Wiedemann presented information and lessons learned on the project "Capacity building of water users to manage climate risks in Kyrgyz communities". The project ran in 2011-2012 in the river basin Sokoluk in Chu valley, Kyrgyzstan.

The overall objective of the project was to better prepare local communities for climate change. Specifically, they have conducted updated scientific modeling of river runoff and land management. River flow modeling showed that the peak of the river flow will be earlier to one month. And, therefore, this should be taken into account when planning agriculture.

In addition, they have developed tools to improve awareness and capacity building. In particular, a training module L4S "Learning for sustainability" was developed and tested. Main themes of the seminar were: Climate change, impact of climate change on natural resources; conditions for renewal of resources; risk and vulnerability assessment; adaptation to climate change.

In the beginning of the seminar, the organizers conducted an imitation game, in the frame of which the participants have developed an understanding about the importance of using of water resources in present and future.

Mr. Wiedemann, finished his presentation with lessons learned: "The project and the adaptation measures were based on research; this gave an opportunity to link science and practice. Functioning local organizations in natural resources management (such as pasture associations and water users associations) are the essential bases for adaptation measures. If there are no such organizations, it is difficult to find contacts with local people and raise awareness of the local communities. In the seminar, it was found that local communities have a little understanding on weather, climate, climate change, and climate variability. In addition, local communities wanted short-term useful technologies on water saving. Thus, it is important to continue raising awareness and working with the local communities."

QUESTIONS AND COMMENTS

Session 1.2 Priorities of the Kyrgyz Republic in the field of adaptation to climate change

The first question during the discussion was raised by Mrs. Aziya Shamshieva, Kazakhstan, to Mrs. Sakhvaeva. The question was related to whether it is possible to increase the limit of water intake in Chu Talas basin. the second clarification question was related to the commissioning of new irrigated land in the situation of growing water demand. Mrs. Sakhvaeva replied that she meant that the crop yield should be increased due to the trends in population growth, not the water intake. Then we meet the requirements of food safety and drop the water intake by 30%.

When talking about the increase in the irrigated land area, Kyrgyzstan has a new national programme «Construction of new water facilities and commissioning of new irrigated lands». The programme has already allocated 16,000 ha of new irrigated land in the Syr-Darya river basin, no action is yet planned in the Chu-Talass basin, and in the Chu basin vice versa the areas are decreasing due to land transformation and deterioration of land reclamation state (90,000+ ha in the Chu valley are unfavourable in this respect).

The other question that was addressed to Mrs Sakhvaeva was from Ms Lesya Nikolaeva on whether the project is implemented under the UNECE Water Convention, and what are the practical activities planned apart from research. The reply was that the project is in fact implemented at the support of the UNECE. They are planning to elaborate events, create the matrix of events, prioritize the steps, time frame, deadlines, and allocate responsible ministries and agencies, the first results of which will be reported at the first meeting of the Chu-Talass Committee in Taraz, at the beginning of December 2012.

The next question was addressed to Mr. Wiedemann by Mrs. Tatiana Nemtsan: "What simulations should focus further on in order to raise the local residents' awareness of new ideas and new practices?" The reply was that the simulations turned out to be very useful in attracting local residents' interest and making them aware of these issues. The adaptation issues should be put for an open discussion, e.g. such issues as water supply and water saving. The challenge we are all facing is how to build communication with the locals.

Mrs. Nemtsan has stressed the importance of improving communication with the local communities, which might take 5-10 years. And then a person develops a firm belief – «Yea, these approaches are working, and I'm getting tangible, monetary results. With minimal expenses I can have benefits for my family to provide for it and reach stability». Therefore, I appeal to you to talk on this conference over tangible common effort, uniting best practices and replicating them by organizing exchange visits. Locally they have accumulated a vast experience in this regard. Dr. Gulnara Bekturova has added that these experience exchange could be conducted through compiling a database of such proposals and methods both on how to raise public awareness, and fill it in – this database – with our best adaptation practices, which could be replicated, on an ongoing basis. APAN could play a leading role in this process.

Another question was related to whether CAMP Alatoo has any manual developed to conduct such simulations as Mr. Wiedemann has presented. On this question he replied that CAMP Alatoo develops such simulations themselves and encourage creativity to develop new games and ideas like that. Mr. Merkushkin has raised a concern on the efficiency and feasibility of such models, as was presented. Mr. Wiedemann has referred that all the details of such model can be found in the Mrs. Natalya Ergasheva's thesis.

The last question was addressed to Dr. Puja Sawnhey regarding the opportunities of APAN to elaborate climate change adaptation programmes and assist in fundraising. She stated that APAN can help with a pool of international experts. APAN itself doesn't provide any finances, however it provides training for the countries in the region to access the finances; for example, trainings on how to write proposals for different donors, so that you can get the money.

SESSION 1.3 PRIORITIES OF TURKMENISTAN IN THE FIELD OF ADAPTATION TO CLIMATE CHANGE

Moderator: Mrs. Guljamal Nurmuhammedova, Head of economic society "Ynanch Tepa", Turkmenistan

NATIONAL ACTIONS AND STRATEGIES FOR ADAPTATION TO CLIMATE CHANGE IN THE WATER AND AGRICULTURAL SECTORS OF TURKMENISTAN

Mr. Davran Akhmedov, Director of the Monitoring Centre of Ministry of Environment, Turkmenistan

Mr. Akhmetov had started by stating that Turkmenistan is actively involved in international efforts and international cooperation to address the problems of climate change and implementation of the UN Framework Convention on Climate Change and the Kyoto Protocol. Under the provisions of the UNFCCC, Turkmenistan is conducting all possible activities to address challenges of the global climate change. On June 15, 2012, the President of Turkmenistan had signed a national strategy on climate change. This strategy is an important step to further promote activities in the field of climate change and forms a basis for formation and implementation of state policy on Turkmenistan associated with climate change and their impacts. This strategy will be implemented through national action plans for adaptation to reduce emissions of GHG, and in future will become part of national programs and plans for socio-economic development.

He continued that adaptation measures should be aimed at reducing the influence of climate change and extraction potential benefits of climate change. At present, Turkmenistan is fully implementing national adaptation projects such as ongoing construction of artificial lakes "Golden Age" in the Kara Kum desert and the state initiative on greening of cities and towns of the country.

Then he stated that in Turkmenistan, the priority sectors for adaptation to climate change are public health, agriculture, water management, coastal zone of the Caspian Sea, natural ecosystems, flora, fauna, forests, soil, and land resources. Water resources in Turkmenistan are limited due to geographical and climatic conditions. Therefore, the country is making efforts on water conservation, improved water quality and improved legal framework for water resources protection, improvement of water management, introduction of advanced methods of irrigation, rehabilitation of hydraulic structures, development of

methods to promote sustainable water use and continued construction of the Turkmen lake.

The conclusion was made that the most important areas of adaptation to climate change in agriculture are the optimization of agricultural production, introduction of drought-resistant crops, better pasture management, development of grazing, and introduction of methods and practices in obtaining several crops a year.

PRIORITY PRACTICES TO ADAPT TO CLIMATE CHANGE IN TURKMENISTAN

Mrs. Guljamal Nurmuhammedova
Head of economic society "Ynanch Tepa", Turkmenistan

Mrs. Nurmuhammedova provided information on existing adaptation practices in Turkmenistan. The practices in water sector include improving the management of transboundary water resources, efficient use of water resources, and development of inland water.

Turkmenistan in cooperation with the Islamic Republic of Iran completed construction of "Dostluk" (Friendship) dam. The project addresses the problems of flood protection, drainage and storage power generation. Another transboundary water-related project addresses the problems of drainage water on the left bank of the Amu Darya.

In agricultural sector, adaptation practices address capacity building of farmers (Farmer Field School, "Farmer to Farmer", training on project management of water and land resources), development of financial support for those farmers who implement adaptation practices.

Other adaptation practices were in the spheres of forestry, biodiversity and ecosystems (reforestation), sand securing, a complete ban on hunting of migratory waterfowl; on natural disasters - establishment and strengthening of early warning systems.

QUESTIONS & COMMENTS

Session 1.3: Priorities of Turkmenistan in the field of adaptation to climate change

A question on food security: 55% of food basket is made of cereals and wheat. What measures are undertaken to make this crop production sector more sustainable to climate risks and climate change?

Mrs. Gulzhamal Nurmuhammedova: "Wheat production has recently been revived in Turkmenistan. For a quite a long time Turkmenistan specialized only on cotton production. Since it became an independent state wheat has become the second vital crop of strategic importance. I know we have professional who work on new species tolerant to upcoming changes. We have a good scientific school, and good selectionists. That's all I can say so far. 4-5 years ago we basically started from scratch, and now Turkmenistan starts exporting wheat as a humanitarian aid to Afghanistan".

Mrs. Lesya Nikolaeva: "A question about greenhouse gas emissions. When in 2007 we were preparing our publication on climate change in CA, in all countries we made graphs on GHG emissions. Unfortunately, the latest data on Turkmenistan that we were able to find refer to the year 1994. Has the situation changed? If not, when can we expect the release of new data on emissions?"

Answer of Turkmenistan delegation: "There is a person who is directly responsible for the preparation of the First and the Second National Communications. At the moment he works on these issues. And my responsibility is the Monitoring centre, which deals with environmental monitoring in Turkmenistan. There are special chemical labs that make daily analysis of air quality in Ashgabat and in 5 regions".

SESSION 1.4 PRIORITIES OF THE REPUBLIC OF UZBEKISTAN IN THE FIELD OF ADAPTATION TO CLIMATE CHANGE

Moderator: Mrs. Natalya Agaltseva, Project Manager, Climate Risk Management in Uzbekistan, UNDP Uzbekistan

NATIONAL ACTIONS AND STRATEGIES FOR ADAPTATION TO THE CLIMATE CHANGES IN THE WATER AND AGRICULTURAL SECTORS OF THE REPUBLIC OF UZBEKISTAN

Mr. Alexander Merkushkin,
Deputy Head of Monitoring of Environmental Pollution Unit, Uzhydromet

Mr. Merkushkin first of all gave the national context and specificities of Uzbekistan. 63% percent of the total lands in Uzbekistan are agricultural lands. Population growth – 405,000 people annually. Agricultural sector is the most vulnerable to climate change. Land degradation and desertification are the two issues threatening the sustainable development of the country.

He mentioned that climate change and adaptation issue was assessed during the preparation of two National Communications. Drought is most crucial and drastic impact of climate change in the country. The water flow of Amu Darya and Syr Darya can decrease by 25-40%. Than the presenter listed a number of other various important climate impacts and risks in the country: landslides, flood risks, drought frequency, etc.

The presenter emphasized that measures to reduce vulnerability, building the institutional capacity and improving the capacity to adapt to climate change should be developed and improved. The interdependence of all these issues should be taken into account when developing the coping strategies. Mr. Merkushkin has also mentioned that the potential benefits for agriculture from climate change are being analyzed and taken into consideration.

SOME EFFORTS OF GEF SGP IN THE REPUBLIC OF UZBEKISTAN
Mr. Alexei Volkov, National Coordinator for GEF SGP in Uzbekistan

Mr. Volkov started his presentation by stating the most crucial impacts of climate change for Uzbekistan: water deficit and higher air temperature. The rural sector is the most vulnerable to these consequences. Then he presented several adaptation practices, both those that were built on the existing practices (just modified to adapt to climate changes) and those new ones that are necessary to adapt. The first group of practices included: laser till, zero-till technology, irrigation canals isolation, drip irrigation, ancient water collection methods. The other additional practice introduced in Uzbekistan to adapt to climate change was drought-resistant crops, such as pistachio trees.

Questions & Comments

Session «Climate Change Adaptation Priorities and Programmes in Uzbekistan»

During the discussion on climate change adaptation priorities in Uzbekistan, there has been several blocks of issues raised: a) strengthening of hydromet surveillance; b) agricultural crops vegetation period; c) coping with the population growth and food security; d) precipitation forecasts; e) water allocation issues.

On the issues of strengthening the hydrometeorological service Mr. Volkov has replied that in 2011 after numerous attempts the UzHydromet Enhancement Programme was included in the 2011 Investment Plan. Within the framework of the programme UzHydromet: 1) received equipment of 3 locators, which are installed in the airports of Nukus, Samarkand and Tashkent. This will give sufficient

coverage of measuring with the locators, which will allow long-term high-precision forecasting of precipitation intensity, amount and trajectories of air masses; 2) built Terra Modis Aqua stations to have high-resolution snapshots, which allow assess the length of the snow cover, status of some hydrologic objects, and tackle these issues on a large scale; 3) a programme was developed in cooperation with the Finnish Meteorological Institute to update the technical basis of the national hydrometeorological college, which was accepted as a regional educational centre in the sphere of meteorology.

Regarding the question on the benefits of lengthening the growing season for agricultural crops, Mr. Merkushkin and Mrs. Agaltseva replied that it can improve the yield. That is it's a kind of a step forward towards the food programme by means of natural intensification of agricultural productivity. Although lengthening the vegetation period has many benefits, it has many shortcomings as well. Under our living conditions, the conditions of high climate fluctuations we now have additional climate risks caused, for example, by sudden changes in temperature, heavy precipitation earlier unusual for Uzbekistan. Besides, this precipitation falls within a short period in the form of showers and often causes damage to agriculture. When the vegetation period is increased – there is often a risk of draughts, and this phenomenon has a most drastic impact in Uzbekistan, it's one of the most dangerous climate-induced phenomena in Uzbekistan

Concerning the issue of population growth and adaptation it was stated that this issues is vital and relevant, however there is no adaptation strategy yet to cope with it. However, it was mentioned that the government is actively working on it, trying to take into account all those social and economic trends. One of the priorities is to achieve grain independence by Uzbekistan. In terms of water resource adaptation to climate change it was noted that UNECE guidelines on climate change adaptation in the sphere of water resources for the EECCA countries should be examined and used. In addition, the exchange visit to other CA countries should be continued, since the recent exchange visit of Uzbek women to the rural school in Kazakhstan (of Mrs. Tatiana Nemtsan) was very helpful.

The clarification questions of precipitation forecasts, water allocations and ecosystem vulnerability were raised by Mr. Aulbek Zaurbek. The reply from Mrs. Agaltseva related to precipitation forecasts was that in fact the models show the growing precipitation trend. However the trend of these growths in the output is different. And changeability will increase. Precipitation is quite different to what it was like some 20-30 years ago. Precipitation is of a very high intensity and localization, which provokes such hazards as landslides, breakthrough floods of alpine lakes, etc.

On the issue of water resource allocations, Mr. Moldoshev mentioned the agreement between Kazakhstan and Kyrgyzstan on the Chu and the Talass rivers. The water of the Talas river lower the Kirov water storage reservoir is perfect. There is a rather stable monitoring system on the Chu river, however, only the water lower the Tashytul water storage reservoir becomes normal. Mrs. Agaltseva commented that such issues should be approached within the framework of the Convention

on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention). Dr. Bekturova emphasized the importance of water use efficiency.

The ecosystem vulnerability due to climate change was not questioned at all. It was emphasized that Uzbekistan is widely studying the issues of supporting natural ecosystems. For example, ecosystems in the Aral Sea – huge lakes, which in the years of drought are not getting sufficient water supply, and to maintain their normal environmental status and preserve biodiversity we need to throw 2-3 km3 of water a year. An important comment was also made by Mr. Domashov that whatever methods we use to keep water, if biotic pump of atmospheric moisture doesn't work, then no moisture from the ocean will ever reach the continent.

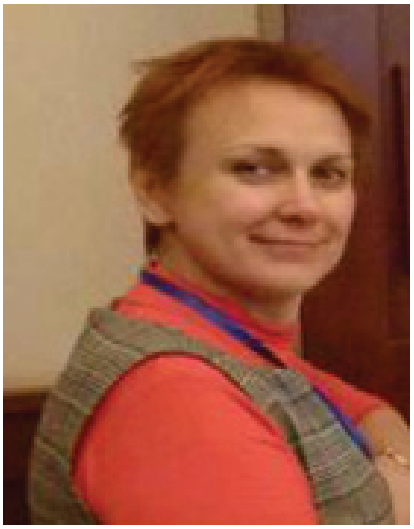
DAY 2

SESSION 2: EXPANDING FINANCIAL OPTIONS TO MEET NATIONAL CLIMATE CHANGE COSTS

Moderator: Ms. Ludmila Kiktenko, Resource Mobilization Coordinator, CAREC

FINANCIAL MECHANISMS AND APPROACHES IN SUSTAINABLE LAND MANAGEMENT

Ms. Ludmila Kiktenko, Resource Mobilization Coordinator, CAREC



Ms. Kiktenko started her presentation with the problems of land degradation in Central Asia, which remain a serious problem. There are different reasons behind this issue. Among others, there is not enough, coordinated and efficient funding. At an international level, funding mainly comes from the Global Environmental Facility and the Global Mechanism (GM) of the United Nations Convention to Combat Desertification (UNCCD). At the same time, there are many other stakeholders like land users, governments, donors, private sector, etc.). Therefore, the purpose of her presentation was to consider ways to improve cash flow for sustainable land management (SLM), a starting point for which was development of an integrated financial strategy (IFS).

The goal of the IFS is to create an enabling environment for mobilizing internal, external and innovative resources to provide an investment framework for sustainable land management. This strategy helps to attract a variety of means -

namely, internal, external and innovative - and identifies barriers in determining the allocation and spending

The IFS brings together international development partners, government bodies, civil society organizations and the private sector. While helping to develop the appropriate blend of financial resources, the IFS also uncovers potential barriers to resource identification, allocation and disbursement.

The IFS highlights aspects in the policy, fiscal, legal, institutional and human resource environments that may impede the implementation of specific resource mobilization activities, and recommends actions for overcoming these barriers, thereby creating an enabling environment.

In the end of her presentation, Ms. Kiktenko presented recommendations: 1) one must come to an agreement that better funding requires policy, fiscal, legal, institutional and human resource environments; 2) in most countries in Central Asia the "work is in progress" (unfinished land reforms); 3) innovations are not just new technologies; innovations should also be used for institutional, political, and administrative development; 4) better internal coordination; 5) as many stakeholders should be aware of many sources of funding; and etc.

A list of selected new ODA funds and potential mechanisms for SLM in Central Asia was also presented to the participants of the conference.

RECOMMENDATIONS FROM THE EXPERIENCE OF DEVELOPING INTEGRATED FINANCING STRATEGIES FOR SUSTAINABLE LAND MANAGEMENT IN KAZAKHSTAN, KYRGYZSTAN AND TAJIKISTAN

Mr. Yerlan Zhumabayev, National Coordinator of UNDP/GEF/GIZ/ GM CACILM CPP, UNDP

In his presentation Mr. Zhumabayev has opened up the term of what is Integrated Financial Strategy (IFS). He also had pointed out the purpose of this document, approaches and structure of this document, content and expectations.

He stated that IFS – is the strategy that acts like a guiding document to localize and mobilize financial resources to fund the programs and projects in the field of sustainable land management (SLM). IFS facilitates mobilization of internal, external and innovative funds, it also reveals the challenges in determination, allocation and use of funds.

The IFS consists of 4 parts: national context; introduction of SLM to the national framework; sources of financing of SLM; and financial resource mobilization. The

key result of IFS will connect the plan of actions to the key perspective sources of financing.

WECOOP PROJECT – AN INSTRUMENT FOR STRENGTHENING COOPERATION BETWEEN CENTRAL ASIA COUNTRIES AND EUROPEAN UNION IN THE FIELD OF ENVIRONMENTAL PROTECTION AND CLIMATE CHANGE

Mr. Anatolyi Krutov, Project Manager, "Regional Coordination and support for strengthening cooperation between Central Asia countries and European Union in the field of environmental protection and climate change"

Mr. Krutov gave an overview of his project. He started with the project goal, which is to facilitate closer regional cooperation on environment and water resource management both within Central Asia and between Central Asia and the EU.

The project consists of three components: 1) Establishment of the European Union-Central Asia (EU-CA) Water and Environment Cooperation Platform (WECOOP); 2) Strengthening of the Institutional and Development Capacities of the Regional Institutions involved in environment and water; 3) Communication, Mapping and Networking.

The key component of the project, which is related to adaptation is the educational component. The education is planned to be conducted on strategic planning on the goals of adaptation to climate change; environmental and water management; project evaluation and management. More information on the project can be found on the website **http://www.wecoop-project.org**.

STIMULATING ECONOMIC INSTRUMENTS TO FINANCE ADAPTATION MEASURES IN CENTRAL ASIA: PAYMENTS FOR ECOSYSTEM SERVICES

Mrs. Mariya Genina, Environmental Management Program Specialist, CAREC

The presentation gave an overview on the definition and role of Payments for Ecosystem Services (PES), as well as its experience and perspectives in Central Asia. A special attention has been given to the results of the pilot PES project in Kyrgyzstan.

Mrs. Genina has emphasized that PES can be instrumental for adaptation in three different ways: a) in improving the adaptation capacity; b) in implementing the preventive adaptation measures (reforestation, soil erosion prevention, etc.); c) decreasing the vulnerability of local population and ecosystems. More information on PES in Central Asian can be found on the website www.carecnet.org.

SESSION 3: PREPARATION OF RECOMMENDATIONS FOR 18TH SESSION OF THE CONFERENCE OF THE PARTIES (COP 18) TO THE UNFCCC, DOHA, QATAR, 26 NOVEMBER - 7 DECEMBER 2012

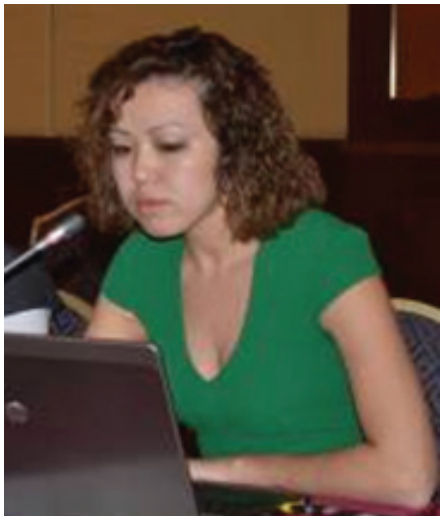
Moderator: Dr. Puja Sawhney, Coordinator of the regional Hub for Asia Pacific Adaptation Network (APAN), Institute for Global Environmental Strategies (IGES)

THEMATIC PRIORITIES, OPPORTUNITIES AND EXPECTATIONS OF THE 18TH SESSION OF THE CONFERENCE OF THE UNFCCC PARTIES ON ADAPTATION TO CLIMATE CHANGE IN CENTRAL ASIA

Ms. Zhanar Yessenova, Head of the expert group on adaptation and vulnerability in the frame of the preparation of the Third RoK National Report to UNFCCC

Ms. Yessenova's presentation started on the negotiation process of the UN FCCC, which started back in 1992 when it was first accepted. In 1994, the UNFCCC entered into force. In 1997, Kyoto Protocol was accepted. These were followed by a number of agreements and meetings.

In 2001, the parties have started making their first steps to consider the problems of adaptation. In 2006, the Nairobi working group on impact, vulnerability and



adaptation to climate change has adopted 9 main directions in which the status of adaptation remains the main point for discussion.

She then presented the general positions and views on adaptation. One of the examples of general views is that there is a need to further improve the methodologies for studying the impacts of climate change and improving understanding on best implementation of adaptation measures. Further, there is no clarity between the measures on adaptation to climate change and the main line of development, especially in the sphere of financial support. Lastly, there is a need to understand on how to study adaptation needs and identify priorities.

Ms. Yessenova gave information on Cancun (2010) and Durban (2011) Conferences of Parties, in the frame of which Adaptation Committee and the Green Climate Fund were established. The expectations from the Conference of Parties in Doha are connected to the implementation of decisions taken in Cancun and Durban, especially in parts regarding the transfer of technologies, financing, and operationalization of Green Climate Fund.

She then focused on Central Asia, which is considered one of the 'hotspots' of the planet. Yet, the countries of Central Asia do not have a consolidated position on questions of adaptation to climate change, which poses a barrier for a regional representation at the Conference of Parties.

Ms. Yessenova concluded her presentation with a set of essential recommendations, among which: the delegations of the Central Asian countries could cooperate in the negotiation process of the conference of parties; there is a need to effectively distribute and coordinate the financial resources within the country and in the region.

INTERSECTORAL DIALOGUE

Moderator: Dr. Puja Sawhney, Coordinator for Asia-Pacific Adaptation Network (APAN)

Comments on: CC Adaptation in Water Resource Management

Mr. Volovik has commented that one of efficient ways to adapt to CC is to develop water strategies on adaptation. From his experience he explained that policies should be developed by governments or, if it's a transboundary adaptation strategy, then it should be associated with an institutional platform, for example, the

ChuTalass Commission. He raised a question about the Central Asia platform for CC adaptation, on what platform could it be implemented. He asked on what institutional framework could it fit.

Reply from the representative of the small group on water resources as that in order to create an adaptation platform certain political issues will have to avoided and focus should be made on certain technical tasks, such as best practice distribution, e.g. water saving technologies, everything implemented on the governmental level.

Another comment to the statement and question of Mr. Volovik was made by asking what first steps should be done in this direction. The first comment was that the challenge is in the case if the policy is to be taken, it is to be taken by all the countries, in the first place. The second comment was that there should be a clear implementation plan. It was explained that currently the region doesn't have any such platform that could ensure discussion of the issues relating to CC at the region level.

It was mentioned that to discuss water issues and CC related issues there is IFAS, which is almost nothing. Therefore the conclusion was made that it would be perfect to secure in the recommendations of the conference the creation of such platform for discussion. The hope was expressed that such regional adaptation platform could develop from such meetings as this dialogue, and then evolve into something more feasible.

The example of the Carpathian Convention was provided. It involves the 7 countries of the Carpathian Mountains region. On the basis of this Convention these countries have established a Working Group on Adaptation to CC in the region, and they developed the CC Adaptation Strategic Agenda. The Institution will be the Interim Secretariat of the Carpathian Convention. According to this Agenda each country will customize its projects and proposals.

It was stated that without an institutional basis it would be difficult to implement projects/events. An example of the Indian Ocean was provided. There already exist a lot of conventions, and there was no point in creating a new Convention on ecosystem management. There was founded an Alliance on sustainable development of ecosystems. This was a kind of a virtual platform where representatives of all stakeholders could meet. They met on a regular basis, and then formed a secretariat, and so on. In CA there is nothing which could become a prototype for whatever like that. There are only potential moments. For example, there is the CA Regional Risk Assessment (CARA) carried out by the UN Office in

Almaty. The comment concluded with a statement that this point should also be thought over, as without it there is no move forward.

Question from the audience was raised on whether in Central Asia are any countries ready to sign one regional document. The representative of the water group (group working on water management issue during the conference) replied that Mr. Victor Duhovny proposes to create a regional Basin Council on the rivers Amudarya and Syrdarya. The membership would be similar to that of working groups, but it would be a council. The supposition was made that governments in this Council would finance their own people.

A short note from the audience was made that though making just small steps we're still moving forward towards some sort of cooperation in the sphere of climate change. It was mentioned that Aulbek spoke about the Chu-Talass project that is being developed for two countries, meaning that CC adaptation strategy being developed for two transboundary basins. It was emphasized that its implementation is very difficult, but as both parties made such a decision, we hope its implementation and activity execution will be successful. On top of this, the Kyrgyz-Tajik Interstate Commission for the Isfara and Khojabakirgan rivers was created. The commenter stated that recently there has been adopted a decision on the development of the basin plan on these rivers with account of CC, which means that there is movement towards cooperation. Besides, within IFAS there is a project implemented which aims at reforming the IFAS structure. One of the options of this reform is the creation of two river committees on the rivers Amudarya and Syrdarya. The committees would include representatives of these states, MES, specialists in the water, energy, and hydrometeorological sectors. Finally the question was raised on why not call it a platform that could be a basis for developing the strategy which would later be implemented.

Another question to the water group was on what exactly they propose in their recommendation 'capacity building in water resources management'. The request was made to clarify in what sphere and for whom are these trainings supposed to be targeted.

Representative of the water group has replied that at all levels, from the IFAS and to agencies managing dams, water storage reservoirs, and waterworks: everywhere we suffer from workforce shortages, especially at the lower levels. In the agencies that manage, most often, water storage reservoirs, where there is old staff available, often of retired age but still working, rules and regulations are observed, and things are done in accordance with the rules. Other places where there aren't such personnel, the things with management are much worse. It was concluded that capacity building should start from the lower levels of the government.

Mr. Volovik made a comment to the question about capacity building that it is important not to see it only in the framework of trainings. He continued that referring to water resources we are working with both - the events and extra strengthened logistics, e.g. gauge facility. Referring to the issues of softer capacity building methods, this could well be modelling. He mentioned that in CA hardly

anyone is works on hydrological modelling. There are a few (Western) projects, e.g. CAWA. However it was concluded that there is no hydrological modelling in Central Asia.

Comments on: Capacity building for climate adaptation

The moderator started the discussion with the question on any specific capacity building needs at the national level as well as at the regional level. These needs could be based on the sector, or any other issue. Hte moderator referred to the morning session, when the feedback on the necessary trainings was given in relation to climate finance. There were some common issues that were presented in the group discussions, so the request was to mention some areas with a need to build the capacity for the region.

Mr. Volovik has replied that even at the stage of programme development – either that of education or capacity building – it's not only the subject matter which is important, but also the target audience for whom this training is planned, as this involves a whole set of circumstances, including methods. He said that it is important to differentiate trainings for public officials, or NGOs, etc., and plan them accordingly. Interactivity, language.

Mr. Volovik continued that building the capacity in the region for the government officials is very important. By the region he meant the whole Asia and Pacific. The proposal was made on the technical trainings: Within the framework of the Convention the Advisory Group provides trainings on preparation of the national communications on various topics. This time, there was a good training on the development of climate and socio-economic scenarios, and, accordingly, on the vulnerability and climate risk assessment. These trainings are organized for technical experts, experts of hydrometeorological services, departments, all those for whom it will be important to study various instruments: for example, the DESSAT model for assessment and forecasts in the agricultural sector, and WIAP for consumers of water resources.

Finally, Mr. Volovik added that when speaking about capacity-building various things should be touched upon, including the climate change concept. Raising public awareness, technical trainings, then collecting statistical data, data processing, carrying out epidemiological studies – all should be done in view of new approaches (as 10-year-old approaches to trainings are different) and not only for CC. People are often unaware of this modern perspective and of today's CC issues.

Dr. Puja Sawhney has shared some examples from South and South-East Asia: "The governments asked us to conduct trainings on how to integrate the CC into different sectors. So, cross-sectoral training. They kept using the word "mainstreaming", but people don't understand what mainstreaming is. So, they requested us to conduct training on "Mainstreaming climate adaptation". Very fundamental thing, for decision-makers. Do you feel there is a need for it? Do you already know how to do cross-sectoral adaptation to CC? If we're speaking about trainings specifically for one service, for example, nature conservation, their key aim is to preserve trees. What prospects does it have? Bringing the CC relevance to their daily practice.

Climate change is something that is becoming important in all the sectors and all strays of life. But the reason why we're asking this question you today is because many of you are working with governments and government officials, and you're having to deal more and more with the issues of CC in every sector you're working the word CC is there. And mostly, because of the many conventions that are there, and governments are parts to some, and some are interested. So, in your day to day work you come across the word "climate adaptation" and how to integrate the climate change or how to know about the climate change in such a way to make your work more efficient and better. So that's the reason we're going to discuss. What kind of gaps or needs you see that you need information for?"

The other comment from the audience was on the importance of proving relevance of CC adaptation, e.g. fof public officials it is crucial to understand the monetary cost of inaction. Therefore it was recommended that economic assessment of adaptation measures and expected or present damage (either in money, or human lives) is lacking and should be conducted.

Mr. Volovik has made a comment by emphasizing the need in multisector approach to adaptation, similar to integrated water resource management and ecosystem approach. He stated that UNDP and the countries fully understand it. He continued that all these issues should be drawn to the fact that for the long-term development plans accounting for various factors are needed. Such mechanisms exist; maybe they are not that efficient in the CACs. But in principal, commissions on sustainable development exist in any country. When we refer to interdepartmental coordination, we shouldn't forget that decision-makers/public officials come and act within their competences. Therefore, however high their awareness might be of what is to be done, if it contradicts legislative, legal or institutional bases, there won't be any such cooperation. Therefore he suggested to start with strategies, management plans to the uppermost level, then as soon as legislation and competences of relevant agencies are reviewed, the issues integration or coordination should be continued with.

BREAKOUT SESSION

Moderator: Mr. Rustam Arstanov, Environmental Management Programme Manager, CAREC

Mr. Volovik start the session with the comment that there are only two sectors mentioned in the resolution: water and agriculture, however the other sectors should be also taken into account, such as mitigation of natural hazards, climate-dependent and climate-independent countries. This issues were listed as very important to include, since CA is a region of high seismic activity, and such issues can throw the countries many years back in development. Therefore, he stated that this issue should be integrated both in the process of planning and development, especially talking about sustainable development.

The other suggestions from Mr. Volovik to add to the resolution draft were:

- Since the people are both the source and the object of adaptation, the health and education sector should be included into resolution;
- Education and awareness on adaptation should start from the secondary school;
- Resolution should be made more Central Asia oriented, e.g. by emphasizing the aggravating situation in the regional cooperation;
- Concerning IWRM and international water agreements, no new international agreements are needed, the previous 19 international agreements should be enhanced and implemented;
- The early warning systems and climate-related economic instruments (e.g. subsidies, index insurance) should be developed and implemented in Central Asia.

Mrs. Nemtsan has commented on the statement of Mr. Volovik on education in the adaptation sector. Therefore, this idea should be clearly introduced from the primary school on, because in order to form the eco-culture, just waving flags 'We are for a clean green world' won't work. She stated that there is a need for a clearly defined idea, when since childhood a kid starts receiving information, and not only information but also can practically prove that he can make this life better with these new approaches.

Mrs. Nemtsan has shared their small rural school, which found recognition in Uzbekistan. And today we, the states working in this direction and advanced pedagogical circles in particular, could focus our effort on creating such contests, local mini-projects, which would provide practical assistance to children, young people, students in implementing their ideas locally. Such projects could later develop into good sustainable practices which would involve families, local and neighbouring communities into this network.

She added that they have now started working in the sphere of energy saving, which is owing to the Global Environment Facility Small Grant Programme within their rural communities.

Mr. Volovik reminded that there is fairly often promoted programme "South-South", which could ease the intergovernmental cooperation and experience exchange mechanisms.

The comment from the audience was made that there are trends of population growth, per capita income, and lack of food security. Therefore, the resolution describes in full detail the activities on the regional, national and local levels – it gives approached for tackling certain issues. For example, in rain-fed agriculture, livestock breeding, etc. but the most important essence of all these events is ensuring food security in the region. Therefore, the recommendations was made that the resolution should clearly state the recommendation «to develop regional cooperation to ensure food security in the CA».

Mr. Volovik made a comment that Central Asian counties should be ready for other emerging problems, such as immigration and the changes in the water consumption of the neighbouring countries, such as China.

Mr. Azamat Alisherov, National University of Uzbekistan has added on the point of capacity building and education, that not a single programme, not a single task will be solved, unless there are good specialists. In his opinion the emphasize in education should be made in thinking analytical skills, rather than simply remembering the information.

On the same matter Mr. Anatoliy Krutov has added that the European Union started to finance a new programme «Education for CA», within which there is a rather large niche for developing those ideas mentioned previously.

Mr. Petrakov has commented on the same matter that environmental education is the basis, since we can't have a consumer attitude to nature or water resources. The other comment from him was that most projects are not replicated widely enough.

Ms. Yushenko has made a comment on the subject of education - CAREC developed a resource which has been now introduced in the system of secondary education in Kazakhstan. It's called «Green pack». This pack includes courses about the whole CA region. And this approach – education for sustainable development is presented to its full extent. This resource can be used to start implementing

certain steps into our system of education. She also commented on the issue of replication: is the practice shows to be efficient and effective, we have a right to promote it to the national level and introduce the policies and programmes implemented at the national level, this is the step which will allow replicating these practices at the country level with the budget money.

On the same topic of replication, it was commented that Uzbekistan has experience in creating a manual 'Education in the sphere of sustainable development'. In 2009 it was published on the UNESCO web-site and it can be used in work. Recently, the UNDP developed another manual 'Sustainable use of natural resources'.

Mrs. Lyudmila Kiktenko has added to the discussion such information that CAREC holds a workshop in January with the aim to define the interests of the countries, of stakeholders in building up network cooperation for trainings on water issues, CC issues and agricultural issues. So far there is preparation work ongoing. Capacity building issue is also very important.

Natalya Akinshina, National University of Uzbekistan proposed that adaptation programs should be mainstreamed to the national programs on sustainable development, which will make them intersectoral and complex, e.g. 'Green Development' in Kazakhstan.

CONCLUDING REMARKS

There were several general **feedback remarks** given from participants to organizers that should taken into account.

Comment from Ms. Yushenko was related to the necessity of analysing and ensuring a good follow up from the previous adaptation conferences and workshops in order to avoid overlaps and duplication. As an example she mentioned the regional workshop on adaptation held in Almaty, where similar recommendations were given.

Ms. Lesya Nikolayeva has expressed her opinion that these two days gave her an impression that all activities and efforts on the part of NGOs and international organizations were very well presented. At the same time very little was said by official country representatives. For example, official delegations and ministries didn't word a single problem. She hasn't heard of a single interstate problem either. Just an example, if a similar conference was held in Western Europe we would have heard much more of common issues and problematic zones. Finally she proposed to involve representatives of public agencies more actively.

Ms. Zhanara Essenova had mentioned that the conference was held in the run-up to the XVIII of the Parties and as a matter of fact referred to the elaboration of recommendations, then it might make sense at the next event to work directly with the delegates. Normally these delegations are formed in advance in the countries. One or two persons are the leaders or chief delegates, and have the right

to represent the country. She said that it is possible and would quiet effective to work with them directly in elaborating all the issues of a common shared position, and gather them at a negotiation table.

Mrs. Gudzhamal Nurmuhammedova has responded to the comment of Ms. Lesya Nikolayeva by saying to pay attention to what terminology we use: you say 'problems', and we say 'issues'. Perhaps, everyone is tied of this proverb «The East is a delicate matter», but when you talk to government officials you'd better avoid using the word 'problem' you'd better write 'issues'. She also commented that Turkmenistan delegation had one governmental representative who gave a presentation and he spoke of serious activities and big achievements.

Dr. Puja Sawhney, Coordinator for Asia-Pacific Adaptation Network (APAN)

In the beginning, Dr. Sawhney, expressed her gratitude to all the participants for coming to Uzbekistan and participation in the conference. She also thanked the audience for cquestions, proposals and interesting discussions. Thanking words were spoken to Uzbekistan government for hosting the meeting. The other words of gratitiude were addressed to CAREC and speakers for interesting and valuable offers. Dr. Sawhney thanked the translators and has expressed her willingness to the conference particioants to meet again in the nearest future.

MAIN RECOMMENDATIONS

Taking into account the urgency of the problem and necessity to pursue a common approach in the course of negotiations in the 18th session of the Conference of the Parties to the UNFCCC, the participants of the Regional Conference in Tashkent have agreed on the importance and necessity of the following actions at the regional level:

- a platform for cross-country institutional framework shall be created for identification of uniform approaches to climate change adaptation;
- the issues of climate change shall be incorporated in sustainable management of natural resources;
- economic evaluation shall be carried out in respect of loss and damage to be caused in case of occurrence of climate risks events and appropriate adaptation measures should be implemented;
- an integrated financial strategy on climate change adaptation shall be drawn out;
- data and information, best available practices on climate adaptation implemented in Central Asian countries shall be collected to share and exchange the knowledge and avoid duplication;
- mandatory participation of official representatives of Central Asian delegations to conferences of the parties to the UNFCCC shall be ensured in the negotiating conferences on climate change adaptation;

- climate change risk transfer mechanisms shall be drawn out, in particular, the development and introduction of index –based insurance system for agricultural sector;
- a unified drought index shall be introduced in Central Asian region to improve agricultural insurance system;
- educational programs and public awareness plans on climate change risks and adaptation measures in various vulnerable sectors shall be designed for Central Asian countries;
- regional cooperation platform shall be established to facilitate sharing of expertise and development of methods promoting food security in Central Asia;
- remote sensing control data for forecasting seasonal climate fluctuations shall be employed;
- international standards on quality of agricultural products shall be introduced;
- to attain sustainable development climate change adaptation measures shall be implemented based on integrated principle taking into account all sectors vulnerable to climate risks such as water, agriculture, healthcare, emergency situations etc.

More detailed recommendations by sector can be found in the Conference Resolution (see Annexes).

NEXT STEPS

The Tashkent conference has resulted in the developed Resolution with the key messages on climate change adaptation from the Central Asian region to COP18 of UNFCCC, which were given to the representative of Drynet network to announce at the conference. The conference has also provided a platform for: a) sub-regional multi-stakeholder dialogue on the priority adaptation measures and technology needs in water and agricultural sectors in Central Asia; b) information and knowledge exchange on the financing options to meet national climate change adaptation costs.

The participants of the conference have highlighted the need in further functioning and development of Asia-Pacific Adaptation Network (APAN) to improve capacity and generate knowledge. The following decision was included into the conference resolution: "The participants of the conference ask all interested parties to support information and knowledge exchange within the APAN Network and CAREC regional activities to find a joint solution to the problem of vulnerability to climate risks".

Therefore the next steps that are planned in the short-term are:
1) To develop the policy brief on adaptation and distribute it widely in the region with the focus on decision-makers (after confirmation with APAN coordinators);
2) To actively distribute the adaptation related news across the wide group of stakeholders in the region (APAN E-communiqué and regional newsletter on adaptation in Russian language);

3) To develop several project ideas for capacity building and awareness raising for high-level decision-makers in the region;
4) To conduct a survey on capacity building needs in adaptation sector of Central Asia.

CONCLUSION

Having heard and discussed presentations, the participants of the regional conference noted that climate change in Central Asia results in the increased temperature, increased drought and dry hot winds. These changes tend to intensify and affect: water table, state of soil, productivity of land, quality and species composition of vegetation cover, natural ecosystems, human health, etc. Climate change and increasing aridity lead to the deterioration of pasture and plough land. Shortage of water for irrigation of agricultural crops in summer reduces the area of irrigated agriculture. The apparent reality of climate change, growing scale of its consequences, and the interconnectedness of natural and climatic, and commercial and economic conditions in the Central Asian countries generate a need for well-timed response, coordination of action and exchange of experience on adaptation to climate change at all levels of government with the active participation of local communities in our countries.

The participants of the sub-regional conference have agreed on the following:
- Tendency towards deterioration of land and decrease of water resources in conditions of increased climate aridity;
- Positive results of the work carried out by the Central Asian countries to develop concepts and programs for adaptation to climate risks;
- Efforts made by international organizations in terms of regional cooperation on adaptation of the Central Asian population in the most vulnerable sectors: agriculture and water resources.
- Necessity of sustainable education, adaptation practices and policies knowledge exchange, activities and best practices exchange in the region
- The importance of cooperation for food security in Central Asia.

The Sub-regional conference has demonstrated a real possibility of uniting forces and resources to reduce vulnerability in such sectors as agriculture and water resources. At the same time participants of this regional conference pointed out insufficient coordination in the actions of adapting to climate risks, lack of continuity and duplication in activities at all levels of civil society: government, executive and public organizations.

Taking into account the progressive nature of the climate change processes in the Central Asian countries and interconnectedness of nature resources – in particular water ones – participants of the Sub-regional conference recommend to consolidate efforts of government agencies, local authorities, research institutions, farmers, managers and professionals agroformations, international and non-governmental organizations to resolve the problem of adaptation to climate change in Central Asia.

ANNEXES

Annex 1: AGENDA
SUBREGIONAL CONFERENCE
"Multi-stakeholder Dialogue on Adaptation to Climate Change in Central Asia facing COP 18 to the UNFCCC"
November 12-13th, Tashkent city

Day 1, 12th November 2012

Time	Session/Presentation name	Speaker
Session 1. Priority adaptation measures and technology needs in water and agricultural sectors		
9:00 – 9:30	Registration of participants	
9:30 – 10:00	Opening speeches	Representative of the State Committee for Environment of Uzbekistan **Ms. Puja Sawhney,** Coordinator for APAN **Mr. Rustam Arstanov,** Environmental Management Programme Manager, CAREC **Mr. Yegor Volovik,** Coordinator of Central Asian multi-country program UNDP for risk management in the field of climate changes (CA-CRM)
10:00 – 10:15	Impact of climate change on water and agricultural sector in Central Asia.	**Ms. Lesya Nikolayeva,** ZOI Environment Network

10:15 – 10:30	Climate Change and Current Climate Variability - Experience of UNDP CA-CRM Programme in the Field of Climate Risk Management (CRM) in Central Asia.	**Mr. Yegor Volovik,** Regional Programme Coordinator, UNDP Central Asian Climate Risk Management Programme (CA-CRM)
10:30 – 10:45	"Climate Change adaptation practices with the involvement of local communities" GEF/ UNDP Program implementation in Kazakhstan .	**Ms. Katerina Yushenko,** Coordinator of Small Grants Program of GEF in Kazakhstan
10:45 – 11:00	Results and recommendations of WHO project for climate change adaptation in the field of public health in CA.	**Dr. Aliya Kosbayeva**, World Health Organization
11:00 – 11:15	***Coffee break***	
Priorities of the Republic of Kazakhstan in the field of adaptation to Climate Change		
Moderator: Mrs. Tatyana Nemtsan		
11:15 – 11:30	The key strategic documents of the Republic of Kazakhstan in the field of water resources, agriculture and adaptation to climate change	**Mr. Yerlan Zhumabayev**, National Coordinator of UNDP/GEF/GTZ/GM CACILM CPP: Multi-Country capacity building project
11:30 – 11:45	Climate risks in the agricultural sector. Adaptation practices at the local level in Kazakhstan	**Dr. Gulnara Bekturova,** expert at "Farmer of Kazakhstan" Public Fund
11:45 – 12:15	*Dialogue on priority adaptation measures and technological needs in water and agriculture sectors in Kazakhstan*	*Moderator:* **Ms. Tatyana Nemtsan,** Director of Akbota Public Fund
Priorities of the Kyrgyz Republic in the field of Adaptation to Climate Change		
Moderator: Mrs. Kamila Toktogulova		

12:15 – 12:30	Impact of Climate Change on Water Management sector in the Kyrgyz Republic	**Ms. Ekaterina Sakhvaeva,** Head of Water Management and Melioration Department, Ministry of Agriculture, Kyrgyz Republic
12:30 – 12:45	Examples of the most effective local adaptation measures in the water and agricultural sectors of Kyrgyzstan	**Mr. Christoph Wiedemann,** CAMP Alatoo, Kyrgyzstan
12:45 – 13:15	*Dialogue on priority adaptation measures and technological needs in water and agriculture sectors in Kyrgyzstan*	*Moderator:* **Mrs. Kamila Toktogulova**, Chief Specialist at the Department of the Environmental Strategy and Policy, State Agency for Environmental Protection and Forestry under the Government of Kyrgyzstan
13:15 – 14:00	***Break for lunch***	
Priorities of the Republic of Tajikistan in the field of Adaptation to Climate Change		
Moderator: Mrs. Malika Babajanova		
14:00 – 14:15	National actions and strategies for adaptation to the climate changes in the water and agricultural sectors of the Republic of Tajikistan	Representative of the Ministry of Nature Protection of Turkmenistan
14:15 – 14:30	Examples of the most effective local adaptation measures in the water and agricultural sectors of the Tajikistan	Representative of civil society sector
14:30 – 15:00	*Dialogue on priority adaptation measures and technological needs in water and agriculture sectors in Tajikistan*	*Moderator:* **Ms. Malika Babadjanova,** Director of CAREC country office in Tajikistan
Priorities of Turkmenistan in the field of Adaptation to Climate Change		
Moderator: Ms. Guldzhamal Nurmuhammedova		
15:00 – 15:15	National actions and strategies for adaptation to the climate changes in the water and agricultural sectors of Turkmenistan	Representative of the Ministry of Nature Protection of Turkmenistan

15:15 – 15:30	Examples of the most effective local adaptation measures in the water and agricultural sectors of Turkmenistan	**Ms. Guldzhamal Nurmuhammedova,** Head of economic society "Ynanch-Vepa"
15:30 – 16:00	*Dialogue on priority adaptation measures and technological needs in water and agriculture sectors in Turkmenistan*	*Moderator:* Ms. Guldzhamal Nurmuhammedova
16:00 – 16:15	***Coffee break***	
Priorities of the Republic of Uzbekistan in the field of Adaptation to Climate Change		
Moderator: Ms. Natalya Agaltseva		
16:15 – 16:30	National actions and strategies for adaptation to the climate changes in the water and agricultural sectors of the Republic of Uzbekistan	**Mr. Alexander Merkushkin,** Deputy Head of Monitoring of Environmental Pollution Unit, Uzhydromet
16:30 – 16:45	Examples of the most effective local adaptation measures in the water and agricultural sectors of the Uzbekistan	**Mr. Aleksei Volkov**, National Coordinator for GEF SGP in Uzbekistan
16:45 – 17:15	*Dialogue on priority adaptation measures and technological needs in water and agriculture sectors in Uzbekistan*	*Moderator:* **Ms. Natalya Agaltseva,** Project Manager, Climate Risk Management in Uzbekistan, UNDP Uzbekistan
17:15- 18:00	**Multi-stakeholder dialogue on adaptation in the water and agricultural sector in Central Asia.** **Development of general vision and drawing the conclusions on the Session 1**	*Moderator:* **Mr. Yegor Volovik,** Coordinator of Central Asian multi-country program UNDP for risk management in the field of climate changes

Day 2, 13th November 2012

Session 2. Expanding financing options to meet national climate change adaptation costs		
Moderator: Mrs. Ludmila Kiktenko		
10:00 – 10:30	Financial mechanisms and approaches in sustainable land management	**Ms. Ludmila Kiktenko,** CAREC financial resources mobilization coordinator. Review of the presentation made by Mr. Ivan Ruzicka, consulting economist
10:30 – 11:00	Recommendations from the experience of developing integrated financing strategies for sustainable land management in Kazakhstan, Kyrgyzstan and Tajikistan *Q&A*	**Mr. Yerlan Zhumabayev**, National Coordinator of UNDP/GEF/GTZ/GM CACILM CPP: Multi-Country capacity building project **Ms. Natalya Shulgina,** National manager of CACILM program in Uzbekistan
11:00 – 11:20	*Coffee break*	
11:20 - 11:40	WECOOP Project – an instrument for strengthening cooperation between Central Asia countries and European Union in the field of environmental protection and climate change *Q&A*	**Mr. Anatolyi Krutov,** Project Manager. "Regional Coordination and support for strengthening cooperation between Central Asia countries and European Union in the field of environmental protection and climate change"

11:40 – 12:00	Stimulating economic instruments to finance adaptation measures in Central Asia: Payments for Ecosystem Services *Q&A*	**Ms. Mariya Genina,** Environmental Management Program Specialist, CAREC
12:00 – 13:00	General discussion	*Moderator:* **Ms. Ludmila Kiktenko,** CAREC financial resources mobilization coordinator
13:00 – 14:00	*Lunch*	
Session 3. Preparation of recommendations for 18th session of the Conference of the Parties (COP 18) to the UNFCCC, Doha, Katar, 26th November – 7th December 2012		
Moderator: Mrs. Puja Sawhney		
14:00 – 14:30	Thematic priorities, opportunities and expectations for the 18th session of the Conference of the UN FCCC parties on adaptation to Climate Changes in Central Asia *Q&A*	**Ms. Zhanar Yessenova,** Head of the expert group on adaptation and vulnerability in the frame of the preparation of the Third RoK National Report to UNFCCC
14:45 – 15:45	Group discussions Developing recommendations on regional level on adaptation to climate change in water and agricultural sectors in Central Asia	Multisectoral discussions in groups: 3-4 groups *Moderator in groups:* Rustam Arstanov Mariya Genina Gulnar Bekturova Simon Charre
15:45 – 16:00	*Q&A*	

16:00 – 16:15	*Coffee break*	
16:15 – 17:15	Intersectoral dialogue	*Moderator:* **Ms. Puja Sawhney,** Coordinator for Asia-Pacific Adaptation Network (APAN)
17:15 – 17:45	Conclusions, discussion of the Resolution	*Moderator:* **Mr. Rustam Arstanov,** Environmental Management Programme Manager, CAREC
17:45 – 18:00	Conference Closure	Representative of the State Committee for Environmental Protection of the Republic of Uzbekistan

Annex 2: List of Participants

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Interpreters

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Annex 3: RESOLUTION
Sub-regional conference
"Multi-sector Dialogue for Adaptation to Climate Change in Central Asia on the threshold of the 18th Conference of the UNFCCC Parties"
12th-13th November 2012
Tashkent, Uzbekistan

Having heard and discussed presentations, the participants of the regional conference noted that climate change in Central Asia results in the increased temperature, increased drought and dry hot winds. These changes tend tointensify and affect: water table, state of soil, productivity of land, quality and species composition of vegetation cover, natural ecosystems, human health, etc. Climate change and increasing aridity lead to the deterioration of pasture and plough land. Shortage of water for irrigation of agricultural crops in summer reduces the area of irrigated agriculture.The apparent reality of climate change, growing scale of its consequences, and the interconnectedness of natural and climatic, and commercial and economic conditions in the Central Asian countries generate a need for well-timed response, coordination of action and exchange of experience on adaptation to climate change at all levels of government with the active participation of local communities in our countries.

The participants of the sub-regional conference have agreed on the following:

- Tendency towards deterioration of land and decrease of water resources in conditions of increased climate aridity;
- Positive results of the work carried out by the Central Asian countries to develop concepts and programs for adaptation to climate risks;
- Efforts made by international organizations in terms of regional cooperation on adaptation of the Central Asian population in the most vulnerable sectors: agriculture and water resources.
- Necessity of sustainable education, adaptation practices and policies knowledge exchange, activities and best practices exchange in the region
- The importance of cooperation for food security in Central Asia.

The Sub-regional conference has demonstrated a real possibility of uniting forces and resources to reduce vulnerability in such sectors as agriculture and water resources.

At the same time participants of the regional conference pointed out insufficient coordination in the actions of adapting to climate risks, lack of continuity and duplication in activities at all levels of civil society: government, executive and public organizations.

Taking into account the progressive nature of the climate change processes in the Central Asian countries and interconnectedness of nature resources – in particular water ones – participants of the Sub-regional conference recommend to consolidate efforts of government agencies, local authorities, research institutions, farmers, managers and professionals agroformations, international and non-

governmental organizations in Central Asian countries to solve the problem of adaptation to climate change in the CA countries.

The participants of the conference ask all interested parties to support information and knowledge exchange within the APAN Network and CAREC regional activities to find a joint solution to the problem of vulnerability to climate risks.

Taking into account the urgency of the problem and necessity to pursue a common approach in the course of negotiations in the 18th session of the Conference of the Parties to the UNFCCC, the participants of the Regional Conference in Tashkent have agreed on the importance and necessity of the following actions at the regional level:

- a platform for cross-country institutional framework shall be created for identification of uniform approaches to climate change adaptation;
- the issues of climate change shall be incorporated in sustainable management of natural resources;
- economic evaluation shall be carried out in respect of loss and damage to be caused in case of occurrence of climate risks events and appropriate adaptation measures should be implemented;
- an integrated financial strategy on climate change adaptation shall be drawn out;
- data and information, best available practices on climate adaptation implemented in Central Asian countries shall be collected to share and exchange the knowledge and avoid duplication;
- mandatory participation of official representatives of Central Asian delegations to conferences of the parties to the UNFCCC shall be ensured in the negotiating conferences on climate change adaptation;
- climate change risk transfer mechanisms shall be drawn out, in particular, the development and introduction of index –based insurance system for agricultural sector;
- a unified drought index shall be introduced in Central Asian region to improve agricultural insurance system;
- educational programs and public awareness plans on climate change risks and adaptation measures in various vulnerable sectors shall be designed for Central Asian countries;
- regional cooperation platform shall be established to facilitate sharing of expertise and development of methods promoting food security in Central Asia;
- remote sensing control data for forecasting seasonal climate fluctuations shall be employed;
- international standards on quality of agricultural products shall be introduced;
- to attain sustainable development climate change adaptation measures shall be implemented based on integrated principle taking into account all sectors vulnerable to climate risks such as water, agriculture, healthcare, emergency situations etc.

Water management issues

- agreements on transboundary water and cooperation in water resources management shall be further promoted;
- integrated water resources management (IWRM) shall be implemented at all levels;
- the water distribution system shall be constructed to improve water use counting and monitoring;
- irrigation systems shall be rehabilitated to improve efficiency of water use in irrigation;
- irrigation rates and agri-technical norms shall be reviewed and readjusted to climate change;
- economic incentive mechanism for rational water use shall be worked out;
- water use efficiency shall be improved in temporary canals and groundwater sources;
- water saving technologies shall be introduced in irrigated agricultural sector.

Agriculture issue

- the meteo- station network shall be expanded to ensure farmers with prompt assess to short-and long-term weather forecasts;
- models of agricultural adaptation to climate change and anticipated impact on agricultural production shall be designed;
- the regional seed center shall be established to save and share duplicate collection of seeds of drought / salt tolerant crops;
- new agri-technologies in rainfed and irrigated agriculture shall be developed and distributed to mitigate climate change consequences in the sector;
- of crops resistant to drought and saline soils shall be breed to replace the water-intensive crops;
- organic farming shall be introduced;
- "no-till" technology shall be introduced;
- green belts shall be arranged and crop rotation shall be introduced;
- season-based mobile cattle breeding technology shall be employed;
- water supply of pastures shall be improved;
- cultural hayfields shall be created to increase forage base for livestock;
- a unified drought index shall be introduced in Central Asian region to improve agricultural insurance system;
- economic incentive tools promoting introduction of agricultural innovative technologies shall be designed or improved.

Health care issues

- inventory survey on CC programs and accordingly involved organizations in health care sector shall be conducted;
- a platform for exchange of information, data and experience on climate change risks and impact on public health shall be established; it shall be recommended to employ the successful experience of the ICSD and ICWC;
- manuals and guidelines on economic and environmental impact assessment of climate change on human health and appropriate adaptation measures shall be worked out and access to them shall be ensured;

- the access to databases of statistical, economic, social and health data by regions and timing period (daily, weekly or monthly) shall be ensured;
- public and medical staff awareness on behavior in extreme weather conditions shall be raised.

Emergency situation risks

- indicators on cross relation of climate change and emergency situations shall be designed;
- capacity building of hydrometeorological services and information sharing between the countries of Central Asia shall be strengthened and improved;
- automatic information gathering and early warning system for flood prevention at regional, national and local levels shall be improved;
- mapping and modeling of flood, landslides, mudflows and drought area zoning shall be improved;
- the network of hydrological stations shall be rehabilitated and expanded to ensure monitoring and prevention of flooding on rivers (including transboundary rivers);
- the safety of hydraulic structures shall be strengthened;
- constant monitoring of glaciers in Central Asia shall be ensured; assessment of glaciers melting impact and appropriate mitigation plan shall be conducted;
- programs on protection and maintenance of riparian ecosystems as emergency prevention tool shall be drawn out;
- capacity building of fire prevention shall be improved to ensure proper monitoring of fire prone territories and containment of fires;
- the guide of rules for personal emergency response and preparedness shall be developed or improved;
- increase awareness and education of decision-makers and the public about the risks of climate change;
- education and awareness on climate change risks amongst the public and decision makers shall be improved;
- program for population reallocation from high emergency risk areas shall be worked out;
- involvement of departments of MES in climate change adaptation and climate risk mitigation processes shall be ensured.

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