

FIFTH WORKSHOP ON ADAPTATION TO CLIMATE CHANGE IN TRANSBOUNDARY BASINS
Adaptation strategies: which measures for which outcomes at transboundary level?
Geneva, 14-15 October 2014

Marketplace of tools: Adaptation Measures

Round Table Nr 1	Presenter: Mr. Ben van de WETERING - ICPR	Round 1:English Round 2:English
<p>Instrument for the assessment of the impact of flood risk measures</p> <p>The International Commission for the Protection of the Rhine (ICPR) is developing an instrument for assessing the flood risks and effects of measures on risk reduction in a reproducible and transparent way. It will be freely available on demand at the ICPR and is applicable to other river basins. The ICPR uses this tool to assess risk reduction and evolution from 1995 up to now as well as to carry out regular reviews of the impacts of measures on flood risk reduction for the new Flood risk management plan Rhine.</p> <p>This innovative GIS-based instrument has different links with the EU Floods directive (FD). It will be applicable for low, medium and high probabilities, various types of measures as well as 4 protection objectives of the FD (human health, environment, cultural heritage, economic activity and infrastructure). Indicators were defined for the quantification of the effects of measures (which can alter the flood probabilities, the damage potential or the damage functions). As an example, consider a retention measure which aims at reducing water levels, resulting in lower flood probabilities. Within the tool, this is translated into a modification/reduction of flood risk.</p>		
Round Table Nr 2	Presenter: Ms. Maija BERTULE- UNEP-DHI	Round 1: English Round 2: English (with Russian interpretation)
<p>Green Infrastructure solutions for water management: tools and case studies from the Green Infrastructure Guide</p> <p>Green Infrastructure (GI) plays a significant role in management of water, and targeted implementation of GI solutions (either as alternative or complimentary interventions to grey infrastructure) can yield significant benefits for water management and beyond.</p> <p>Examples of GI solutions include constructing wetlands, reconnecting rivers to floodplains, wetland conservation, and introducing flood bypasses, to name but a few. Most GI solutions also bring about a wide array of co-benefits, including building climate resilience.</p> <p>Despite the many benefits, wider implementation of GI faces valuation and quantification-related challenges. This presentation will have a practical focus, drawing on the recently published Green Infrastructure Guide for Water management, and will include a presentation of tools and case studies of GI application, as well as brief account of the general six step economic methodology, Green-Grey Analysis (GGA) Green-Grey Analysis is geared specifically for water management decision-making, and can be used to assist the evaluation of the most suitable solutions, either green, grey or a combination of both.</p>		
Round Table Nr 3	Presenter: Ms. Nienke ANSEMS- IGRAC	Round 1: English (with Russian interpretation) Round 2: English (with Spanish interpretation)
<p>Groundwater, a buffer against climate change: Managed Aquifer Recharge (MAR) and Ecosystem-based Adaptation (EbA)</p> <p>Managed Aquifer Recharge (MAR) is a climate change adaptation measure to improve water security. In particular in areas where an increase in frequency and severity of floods and droughts is expected, MAR can be a beneficial solution. The storage of water in periods when it is available will provide water in dry periods, thereby increasing the resilience to droughts.</p> <p>MAR involves building infrastructure and/or modifying the landscape to enhance groundwater recharge. A variety of MAR techniques exist, ranging from large scale recharge of deep transboundary aquifers to the application of small scale interventions. However, it can be difficult to assess the full scope of possible interventions that are most suitable within an area. Creating an overview and indicating the potential for different MAR techniques, based on the characteristics of the natural landscape, can form a sound basis for an integrated water supply strategy on a regional and transboundary scale.</p>		



Ecosystem-based adaptation (EbA) provides another range of climate change adaptation measures that can be implemented to conserve and protect natural groundwater recharge processes, thereby taking into account the services provided by ecosystems.

Round Table Nr 4	Presenters: Ms. Dinara ZIGANSHINA (first round) and Mr. Abdybai DZHAILOOBAEV (second round)	Round 1: Russian Round 2: Russian
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Water and climate change adaptation projects in Central Asia

First round: water management and climate change: SIC ICWC experience
 Given that a climate change is directly felt in the water sector of all Central Asian countries and its impact – combined with other factors – will only increase, all actions on improving water management and water use efficiency are the priority adaptation measures. This presentation describes SIC ICWC experience on water and climate related projects. Based on a few examples, it will argue that it is necessary to focus not only on water saving but also to prepare water users to live under conditions of water scarcity and uncertainty, producing better yields and improving land productivity.

Second round: pilot projects implemented in CACENA under WACDEP
 WACDEP CACENA was formulated by Global Water Partnership in Central Asia and Caucasus to initiate development of the regional agenda on climate change adaptation.

There is a big differentiation in renewable water resources availability among the countries within the GWP CACENA region. The biggest part of the territory is located in the arid and semi-arid climate, and irrigated agriculture accounts for about 80-90 % of total water use. The most common challenging issues for the Caucasian sub-region are the low access to proper drinking water supply and sanitation, water ecosystems degradation, floods and, in some zones - water scarcity. For Central Asia they are increasing water deficit (droughts in irrigated zones) and water ecosystems degradation. Climate change aggravates all these problems.

The programme will provide planning support to governments of CACENA countries for better preparing to climate change and for improving water security. Practical experience from pilot projects will be presented to demonstrate good practices and available tools for CCA on the local level.

Round Table Nr 5	Presenter: Mr. Emmanuel CHINYAMAKOBVU- UNCCD	Round 1: English Round 2: English
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Drought management from the perspective of the United Nations Convention to Combat Desertification
What UNCCD and partners have done to address drought issues?
 The majority of countries do not have comprehensive national drought management policies that are streamlined into their national development strategies and plans.
 Building capacity among national stakeholders towards the development of national drought management policies (NDMP) through:

- Mobilizing and convening stakeholders’ sessions targeting the preparation of the NDMP.
- Collecting and compiling inputs made by stakeholders and formulating the NDMP
- Writing and finalizing the NDMP
- Establishing national structures that operationalize the NDMP as and when a drought occurs.

What kinds of communication tools were used?

- International conference on drought
- Regional capacity building workshops
- Drought advocacy policy framework

What are the lessons learnt?

- Majority of countries do not have recognizable national institutional structures that have the authority and mandate to mobilize stakeholders towards national drought management policy development



- Need for countries to establish national entities to coordinate the operationalization of the national drought management policies.
- Countries need to prioritize the development of integrated national drought management policies that aim at building more drought resilient societies based on the sustainable use and management of natural resources (land / soil, forest, biodiversity, water, energy, etc.) in all socio-economic sectors (agriculture, industry, etc.).
- Countries need to set up as priority options for addressing the absence of an integrated national institutional authority on drought management
- From a local perspective, countries need to identify differentiated responsibility levels among different government jurisdictions.
- Gap analyses and similar tools can be used to identify and galvanize the policies and institutional capacities.

Round Table Nr 6	Presenter: Ms. Camelia IONESCU- WWF Romania	Round 1: English Round 2: English
<p>Climate-proofing the Danube Delta through integrated land and water management</p> <p>A unique ecosystem and home to more than half a million people, the fragile Danube Delta sub-basin is already experiencing the first impacts of climate change. Earlier spawning of herring, less snow during the winter and a higher water temperature in the summer have been reported. In the future, unprecedented sea level rise, water scarcity, and more frequent and severe extreme weather events will be the major drivers of change.</p> <p>The project “Climate-proofing the Danube Delta through integrated water and land management” creates the foundation for transboundary action for adaptation in the region. Based on the outcomes of the vulnerability assessment study, the climate change adaptation strategy and action plan for Danube Delta focus on facilitating an ecosystem-based approach. The list of measures presented in the strategy and action plan highlights urgent needs.</p> <p>Moreover, a demonstrative green business scheme using waste reed as a source of energy has been set up under the project in the benefit of a local community from Danube Delta. Thus, having more space for water and reed as an adaptation measure creates new opportunities for local people and entrepreneurs interested in sustaining their livelihoods.</p>		

Round Table Nr 7	Presenter: Mr. Mohamed Elrawady-CEDARE	Round 1: English (with French interpretation) Round 2: English
<p>The Monitoring and Evaluation for Water in North Africa (MEWINA) project</p> <p>The Monitoring and Evaluation for Water in North Africa (MEWINA) project has been launched in January 2012. Its overall goal is to report regularly on the State of the Water through a set of institutional, technical, environmental, socio-economic, and governance indicators. It aims at increasing North-African countries’ capacity in Water Sector Monitoring and Evaluation, through setting up a Water Sector Monitoring and Evaluation Mechanism that allows the North-African Ministers’ Council on Water (N-AMCOW) to annually report on the State of the Water Sector within North Africa including the transboundary basins and aquifers in which the countries are riparians, using harmonized and comparable information generated by standardized data collected by the countries’ M&E systems.</p> <p>The project does not only promote the joint developmental efforts, harmonization and standardization of monitoring and information systems across North African Countries, but also emphasizes its harmonization with the Pan-African indicators and the Arab Region indicators and the State of the Water Reporting in both regions. It will therefore facilitate decision-making in water infrastructure investments and serve as a sub-regional and regional platforms to inform the impacts of climate change on surface and groundwater resources with standardized data and harmonized information.</p>		

Round Table Nr 8	Presenter: Ms. Lucia TRINDADE- Peru	Round 1: Spanish Round 2: Spanish
<p>Climate Change and Vulnerability in Peru</p> <p>A great vulnerability to climate variations is beginning to appear, evidences are losses in availability of water resources due to glacier recession; agricultural primary and fisheries productivity resulting of increased sea temperatures, biodiversity.</p>		



The main source of GHG emission is the conversion of forests and pastures, attributed to deforestation of the Amazon to modify land use for agricultural and livestock purposes.

Peru is home to almost 70% of the world's tropical glaciers, which have experienced a considerable decrease; the diminution of the ice cover of tropical glaciers is a key indicator of climate change.

This deglaciation shows the formation of 250 new lagoons, some of which have presented increased level causing overflow, flooding, torrents, pollution, since part of the mineral covered by the ice has been exposed, it got to contaminate surface waters affecting people, aquaculture activities such as trout farms in the high Andin regions.

Titicaca Lake: climate change has affected the hydrological cycle of superficial waters causing little rain contributions resulting in a gradual decline in lake level.

Amazon Basin: extreme events such as droughts and floods in the MAP region (Madre de Dios, Acre and Pando Region), ACTO is developing a hydro-climatic vulnerability atlas.

Round Table Nr 9	Presenter: Mr. Blaise-Leandre TONDO, Mr. Damien Brunel, CICOS	Round 1: French Round 2: French
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Decision support tool to plan large hydroelectric structures in the Congo River Basin

CICOS is setting up a modelling of the Congo Basin: hydrological and water resources allocation model in order to allow CICOS member states to plan in a concerted way large transboundary infrastructures. The project is financed by the French Global Environment Facility (FGEF) and is implemented by CICOS thanks to a consultant.

There are numerous challenges: an outstanding ecological heritage in particular in the central basin and its primary flooded forests housing numerous endemic species, a hydroelectric potential estimated at 150GW still not untapped, natural fluvial highways, fishing ...

The modelling will allow testing different IPCC scenarios to test potential impacts of climate change on water resources and uses. The infrastructure development scenarios will be analyzed through hydrological indicators and use impact to enable States to take major decisions being informed.

Round Table Nr 10	Presenter: Ms. Nikola RASS- OSS	Round 1: English Round 2: French
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Presentation of the Operational Recommendations for the sustainable management of the North-western Sahara Aquifer System

The North Western Sahara Aquifer System (NWSA), better known under the acronym SASS for its French name Système Aquifère du Sahara Septentrional, is a large aquifer extending over more than 1000 000 km² shared by Algeria, Libya, and Tunisia. The Sahara and Sahel Observatory in collaboration with the three concerned countries launched in 1999 the SASS project, which has now concluded its third implementation phase. While the first phase 1(SASS I 1999-2002) focused on acquiring a deeper knowledge of the SASS resource in terms of its hydrologic and hydro-geologic aspects, the second phase (SASS II 2003-2006) consolidated the results of the first phase by the establishment of a permanent Consultation Mechanism whose Coordination Unit is hosted by OSS. The third phase (SASS III 2007-2013) specifically focuses on water use (agricultural use) and generally on the environmental and socio-economic aspects related to the irrigation practices in the SASS region. Six operational demonstration pilots were selected, notably in the zones where the water, the soil and/or the ecosystem are most vulnerable, to address the problems of unsustainable irrigation water management. Operational recommendations for the utilization, management, and measurement of water extracted for agricultural purposes were elaborated.

