**Convention of the Protection and Use of**
**Transboundary Watercourses and International Lakes**
**Second meeting of the global network of basins working on climate change adaptation**
**13 - 14 February 2014**

# Progress report of the pilot projects and basins of the global network working on climate change adaptation

The programme of pilot projects on adaptation to climate change in transboundary basins under the UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention) started in 2010 with the aim to:

1. Support countries and specifically countries with economies in transition (in Eastern Europe, Caucasus and Central Asia as well as in South-Eastern Europe) in their efforts to develop adaptation strategies and measures; in transboundary basins
2. Assist UNECE countries in implementing the Water Convention and the European Union (EU) Water Framework Directive (WFD) under conditions of a changing climate, also in light of the EU White Paper on adapting to climate change[1];
3. Create positive examples demonstrating the benefits of and possible mechanisms for transboundary cooperation in adaptation planning and implementation, also beyond the UNECE region;
4. Implement the Guidance on Water and Adaptation to Climate Change;
5. Provide a forum for exchange of experience, good practices and lessons learnt regarding adaptation projects in different parts of the region.

The following pilot projects[2] are supported directly by the UNECE secretariat in the framework of the Environment and Security Initiative (ENVSEC) and in cooperation with other ENVSEC partners such as the United Nations Development Programme (UNDP), the Organization for Security and Cooperation in Europe (OSCE) and the United Nations Environmental Programme (UNEP):

a) Pilot project on the Chu Talas Basin[3], shared by Kazakhstan and Kyrgyzstan, implemented by UNDP and UNECE, in cooperation with OSCE,
b) Pilot project on the Dniester Basin, shared by the Republic of Moldova and Ukraine, implemented by UNECE and OSCE,
c) Pilot project on the Sava river basin[4], shared by Bosnia and Herzegovina, Croatia, Serbia and Slovenia, implemented by the Sava River Basin Commission and UNECE,
d) Pilot project on the Neman river basin, shared by Belarus, Lithuania and the Russian Federation

The following already ongoing activities have also been included in the programme of pilot projects:

e) Activities regarding water and climate change adaptation in the Rhine basin, shared by Austria, Belgium, France, Germany, Italy, Liechtenstein, Luxemburg, the Netherlands and Switzerland, implemented by the International Commission for the Protection of the Rhine (ICPR),
f) The project “Dauria going dry” on the Amur/ Argun/ Daursky Biosphere reserve, shared by the Russian Federation, Mongolia and China, implemented by WWF Russian Federation,
g) Activities regarding water and climate change adaptation in the Danube river basin, shared by Austria, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Germany, Hungary, Republic of Moldova, Romania, Serbia, Slovenia, Slovakia and Ukraine, implemented by the International Commission for the Protection of the Danube River (ICPDR).

In 2013, the programme of pilot projects was transformed into a global network of basins working on climate change adaptation, in cooperation with the International Network of Basin Organizations (INBO). This globalization was in line with the entry into force of the amendments opening the Convention for accession by all United Nations Member States in February 2013 and responded to the high interest by non-ECE countries and basins in the climate change activities under the Convention.

[1] White paper - Adapting to climate change: towards a European framework for action.
[2] The pilot projects directly implemented by UNECE and partners and the platform for exchanging experiences are funded by Austria, Finland, the Netherlands, Sweden, Switzerland and the European Commission.
[3] This project is ending in Spring 2014. A new phase might start depending on funding.
[4] This project ended in December 2013. A new phase might start depending on funding.

The global network aims to promote cooperation on adaptation in transboundary basins, to compare different methodologies and approaches for adapting to climate change and to promote a shared vision between the participating basins. While the different basins primarily work on their adaptation activities themselves in accordance with the agreed decisions of their governing bodies or with the terms of reference of international projects, joining the network would allow for the exchange of experience, learning from each other, establishing contacts between basins and their experts, discussing challenges and lessons learnt etc. The network includes annual meetings of all basins, regular larger workshops, etc.

In addition to the basins mentioned above under a)–j), at present the global network of basins working on climate change adaptation includes the following basins:

h) Drin, shared by Albania, the Former Yugoslav Republic of Macedonia, Montenegro and Greece,
i) Sahara and Sahel Observatory (OSS) / Consultation Mechanism of the North Sahara Aquifer System (SASS), shared by Algeria, Libya, Tunisia
j) Niger basin, shared by Benin, Burkina Faso, Cameroon, Chad, Côte d'Ivoire, Guinea, Mali, Niger and Nigeria : Projects implemented by the Niger Basin Authority
k) Congo, shared by Cameroon, Central African Republic, Democratic Republic of the Congo, Republic of the Congo, Equatorial Guinea and Gabon: Projects implemented by the International Commission of the Congo-Oubangui-Sangha Bassin (CICOS)
l) Senegal, shared by Guinea, Mali, Mauritania, Senegal: projects by the Senegal River Basin Development Authority.
m) Mekong River Commission Climate Change Adaptation Initiative (MRC-CCAI) on the Mekong River, shared by Cambodia, Laos, Thailand and Vietnam.

A request for joining the global network of basins was recently received from the Lake Victoria Basin, shared by Republic of Burundi, Republic of Kenya, United Republic of Tanzania, Republic of Uganda and Republic of Rwanda.

*More information about the activities and progress of the pilots and basins i) to m) is included in the annex* [5]

[5] Information on the activities in the Lake Victoria Basin (n) as well as on the MRC-CCAI activities (m) has not been provided at the time of preparation of this report.

## ANNEX: Description of progress of each pilot project/ basin in the network

### A) Promoting Cooperation to Adapt to Climate Change in the Chu and Talas Transboundary Basin

**1. Name and short description of the project –*this information will be put on the website***

Promoting Cooperation to Adapt to Climate Change in the Chu and Talas Transboundary Basin

**2. Concrete results achieved in 2013**

A draft of the final report of the project was prepared, covering physiographic characteristics , analysis of the water resources status and use , economic situation characteristics including water management and projects on research and management of water resources in the basin );
current and future vulnerability;
Expected consumption of water resources and related economic analysis. Preliminary options for types of adaptation measures at the transborder level.
The main findings of the project were presented to the Kazakh-Kyrgyz Chu-Talas Commission for feedback/dialogue
A visual summary of results of the project, including maps and graphics was developed.

**3. Which major challenges did you face with regard to transboundary cooperation and climate change adaptation? How did you overcome them?**

The main problem - lack of resources for implementation. It is not yet overcome.

**4. How did you work on improving the link between scientists, experts and decision-makers? What lessons did you learn from doing this?**

Basic approaches and areas of the project were discussed at the working meetings, seminars and conferences, as well as during personal meetings. It was very important for us to get the approval on the selected approaches.

**5. Did you work on awareness-raising and involving the local population within the project? How did you do this? What lessons did you learn from doing this?**

Awareness-raising took place during visits of the Chu-Talas Commission meetings. These meetings were not enough probably. A lack of awareness on climate change issues and their solutions in almost any circles should be noted. Additional actions for awareness-raising should be included in the project.

**6. Did you involve other sectors in the project? If yes how? What lessons did you learn from doing this?**

It is necessary to expand the work on climate related hazards and environmental problems related to water resources. It is lack of both initial data and professional researchers for these issues.

**7. How did you link transboundary climate change adaptation to national adaptation activities?**

The transboundary adaptation to climate change questions are included in " Priorities for adaptation to climate change in the Kyrgyz Republic up to 2017", approved by the Government of the Kyrgyz Republic resolution № 549 dated October 2, 2013.

**8. Future planned activities**

It is planned further to develop a model basin adaptation strategy based on the following actions in addition to those completed already:
1. Clarification of runoff scenarios for the future throughout the basin;
Extending the application of economic evaluation of the changes in water resources to the whole basin including Kazakhstan;
2 . Detailed economic evaluation of selected measures, including them in sectoral adaptation strategy;
3 . To analyze the climate change impacts on:
• Soil fertility;
• Changes in yields of major crops while aridity increases;
• Animal husbandry forage;
• Ecological environment of water resources;
• Climatic related hazards.

**9. Other important lessons learnt**

The measures needed:
1. To strengthen inter-country coordination for basin projects;
2. To eliminate the project time fragmentation;
3. To create and maintain an accessible database of the data sources and results obtained;
4. To raise awareness about the project at all levels;
5. To expand the extremely useful cooperation with the researchers of the countries, as well as national strategic

documents on climate change researchers.

**10. Contact details**

607, Manasa av. 101/1, Bishkek, Kyrgyz Republic
Tel: 996312 472747, fax: 996312 694390
E-mail: shamil_il@mail.ru
Ms. Annukka Lipponen, UNECE

**B) Climate change and security in the Dniester river basin**

**1. Name and short description of the project**

**Project name: "Climate change and security in the Dniester river basin".**

Project aims to increase the adaptive capacity of the riparian countries sharing the Dniester river basin through improved transboundary cooperation. It will result in a strategic framework for basin adaptation as well as in some concrete adaptation measures that will be implemented.

**2. Concrete results achieved in 2013**

Informational-measurement system in the Dniester river basin has been improved particularly software at automatic gauging stations Galych and Zalischyky which allows water levels on-line monitoring. This consequently improved data exchange between Ukraine and Republic of Moldova.

Organizational issues have been resolved in 2013, namely:

- strategic objectives of the Dniester basin adaptation to climate change were formulated;
- A first draft of the strategic framework for basin adaptation was prepared and discussed at ;
- A new working group has been established within the frameworks of the project;
- A list of possible adaptation measures and their characteristics has been elaborated;
- National consultants have been selected and started working.

In the framework of the preceding project "Reducing vulnerability to extreme floods and climate change, the following activities were carried out:

- Flood modelling in the Dniester delta continued
- A workshop on flood risk communication was organized in May 2013 in Lviv.

**3. Which major challenges did you face with regard to transboundary cooperation and climate change adaptation? How did you overcome them?**

Major challenges: operational data exchange on hydrological parameters in the Dniester basin during floods; regime of natural protected areas on transboundary sections of the river. Problems were solved by information exchange.

**4. How did you work on improving the link between scientists, experts and decision-makers? What lessons did you learn from doing this?**

Improvement of the link has been done through workshops, seminars, consultations and establishment of personal contacts with stakeholders.

**5. Did you work on awareness-raising and involving the local population within the project? How did you do this? What lessons did you learn from doing this?**

Project's outputs were presented at the meeting of the Dniester Basin Council with participation of NGOs and local people. There was a contest entitled "Dniester without borders" organized for students of schools and other educational institutions. As a result of the contest the best performances were awarded.

**6. Did you involve other sectors in the project? If yes how? What lessons did you learn from doing this?**

Sectors involved: Environmental protection organizations; Hydrometeorological center; water, agricultural and transport sectors. List is planned to be broadened.

A stakeholder consultation workshop with representatives from other sectors and regions was organized in July 2013 in Moldova. Cooperation with the Alliance for Global Water Adaptation (AGWA) started and they organized a workshop on risk assessment back-to-back with the working group meeting in December 2013 in Kviv.

**7. How did you link transboundary climate change adaptation to national adaptation activities?**

Transboundary adaptation to climate change will be considered during the Dniester river basin management plan elaboration at national level. Problems of transboundary rivers basins will be taken into

account during working out of climate change adaptation plan as well.

**8. Future planned activities**

- Harmonization on the basin level and (or) on bilateral basis strategic priorities and major groups of adaptation measures.
- Performing for each area an approximate analysis of efficiency, compatibility and cost of individual activities, taking into account climatic trends and uncertainties, and determine the sequence and mechanisms of implementation.
- Conducting a detailed analysis of climate and basin components for each of the selected measures (or initially for a limited number of them), necessary tools of realization (information, legal, institutional, financial) according to given mechanisms and financial resources.
- Starting implementation of adaptation measures regarding to their selected sequence and mechanisms in cooperation with authorized and concerned agencies and organizations in the countries, regions and subjects of basin cooperation.

**9. Other important lessons learnt**

It is crucial to actualize information regarding climate change and consequences of such change at local level and disseminate this information to public.

**Contact details:**

Mykola Babych. National Consultant (Tel.: +380 95 015 08 78, e-mail: mykola.babych@gmail.com)
Yurii Nabyvanets. National Consultant (Tel.: +380 67 986 10 47, e-mail krava@uhmi.org.ua)
Information has been prepared with assistance of the State Agency of Water Resources of Ukraine

### C) Building the link between flood risk management planning and climate change assessment in the Sava River Basin

**1. Name and short description of the project**

**Project name ''Building the link between the FRM planning and climate change assessment in the Sava River Basin''**

The aim of the project was to address the issues of transboundary management of floods in the Sava River Basin, while taking into account the impacts of climate change under different scenarios and the perspective adaptation measures envisaged, and to prepare the basis for the preparation of the first Flood Risk Management Plan for the Sava River Basin.

**2. Concrete results achieved in 2013**

Based on the previously defined climate change scenarios and the assessment of their expected impacts on the occurrence of extreme flooding events, an assessment of the future flood vulnerability under long term impacts of climate change has been accomplished. Data and data sources for preparation of the joint FRM Plan for the Sava River Basin have been assessed. All outcomes of the pilot project were discussed with a broad group of stakeholders from all over the Sava River Basin, primarily those relevant for the flood risk management and climate change issues in the countries, at the 3rd Consultation Workshop and several meetings. The reports were amended on the bases of the discussions and the project resulted in the following final outcomes (reports, hydrologic model, databases):

A1 Report on already completed or ongoing FRM planning projects in the Sava River Basin
A2 Report on legislation related to FRM planning and climate change adaptation (transboundary and national)
A3 Meteorological report for the Sava River Basin
Hydrological report for the Sava River Basin
HBV hydrologic model of the Sava River Basin
A4 Initial flood vulnerability assessment in the Sava River Basin
ArcGIS project and accompanying spatial data
A5 Floods adaptation measures for the Sava River Basin
A6 Program for development of the Sava FRM Plan
A7 Assessment of data and information needs for the Sava FRM Plan
GIS model of the flood management related data in the form of ArcGIS file databases

**3. Which major challenges did you face with regard to transboundary cooperation and climate**

**change adaptation? How did you overcome them?**

The Sava riparian countries have rather similar goals and in their achievement rely on national legislation which follows the EU and international legislation to a different level. Not all bordering countries have bilateral commissions and therefore many decisions have to be agreed through the Sava Commission. This pilot project presented an important support to the efforts of the Sava countries to manage the water resources in the Sava River basin in a cooperative manner.

4. **How did you work on improving the link between scientists, experts and decision-makers? What lessons did you learn from doing this?**

The link between the researchers and policy makers has been fostered in both directions, since both Consultants are primarily engaged as university staff; while on the other hand, members of the Sava Commission Permanent Expert Group on Flood Prevention, who were involved in discussion during the entire project course, are recruited from the relevant ministries, water agencies and institutes. However, both groupings were also involved in the Consultation workshops.

5. **Did you work on awareness-raising and involving the local population within the project? How did you do this? What lessons did you learn from doing this?**

The information on the course of the project has been reported on the web site of the Sava Commission, in the Sava Commission official bulletin, as well as through the workshops (e.g. http://www.savacommission.org/event_detail/8/22/295).

6. **Did you involve other sectors in the project? If yes how? What lessons did you learn from doing this?**

The project addresses FRM planning linked to the climate change adaptation. The suggested adaptation measures will have to be harmonised with other sectors. The representatives of the sector of river basin management, navigation, spatial planning, as well as those related to the environmental protection have been involved in the project primarily through the workshops.

7. **How did you link transboundary climate change adaptation to national adaptation activities?**

The process ran vice versa. Through the national flood protection measures indicated in the Sub-basin level Flood Action Plan – Sava River Basin (ICPDR and ISRBC, 2009) taken as a basis for the consideration of the adaptation strategies to the climate change, the challenge of the preparation of a FRM Plan in a transboundary context has been encompassed and processed.

8. **Future planned activities**

The Sava pilot project will support the elaboration of the first Flood Risk Management Plan and climate change issue in the next cycle of the River Basin Management Plan for the Sava River Basin.

9. **Other important lessons learnt**

Data collection and data access can represent a challenge in project implementation. Also, use of different methodologies in riparian countries may result in incomparable outcomes, which is especially significant for transboundary rivers. One way to avoid this is to harmonise national methodologies and another is to implement integrated approach by carrying out projects at the river basin level. Engagement of local experts in project implementation can be crucial for a successful project implementation. Involvement of expert groups of the Sava Commission in discussion of the intermediate project outcomes and as a link to other relevant national experts and sectors represents a great support in the project execution.

10. **Contact details:**

International Sava River Basin Commission
Kneza Branimira 29, 10000 Zagreb, Croatia
T: +385 1 488 69 60
E: isrbc@savacommission.org

**D) Pilot project on river basin management and climate change adaptation in the Neman river basin**

1. **Name and short description of the project**

**Pilot project on river basin management and climate change adaptation in the Neman river basin**

Aim of the project (implemented by United Nations Economic Commission for Europe under Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention) and UNDP Belarus, with funding from Finland and Sweden through the Environment and Security Initiative

(ENVSEC): The overall objective of the project is to improve integrated river basin management and transboundary cooperation in times of a changing climate in the Neman river basin. The project aims to strengthen the capacity to adapt to climate change of the countries sharing the Neman river through supporting dialogue and cooperation on the needed steps to design an adaptation strategy in the transboundary context. It will aim to reach a common understanding on future water availability and water use taking into account possible climate change impacts.

**2. Concrete results achieved in 2013**

Development of the summary of the vulnerability assessment of the basin for different types of natural resources and for different sectors of economy based on project's results and on intersectoral cooperation.

Development of draft version of the maps for the entire Neman River Basin illustrating the vulnerability assessment results for agriculture, forestry, industry and power engineering, population, natural resources (ecosystems) and integrated map.

Improvement of the common information platform (Internet database) with concern new user interface for improvement of data proceeding including edition and updating as well as data and results presentation in graph and in map format (www.cricuwr.by/neman).

Development of the draft Strategic Framework of the Neman River Basin Adaptation to Climate Change.

**3. Which major challenges did you face with regard to transboundary cooperation and climate change adaptation? How did you overcome them?**

There were no significant challenges in the frame of the Neman pilot project realization phase. The dominant problem in the Neman River Basin in communication is different status of membership – EU and non EU members with additional procedures for visa application etc.

**4. How did you work on improving the link between scientists, experts and decision-makers? What lessons did you learn from doing this?**

Two meetings were organized in the frame of project activities with participation of scientists, experts and decision-makers in 2013:

- Multi-stakeholder seminar in Belarus, 19 March 2013, Minsk;
- Multi-stakeholder consultations and bilateral meetings in Lithuania, 16 May 2013, Vilnius.

Experts of the project and decision-makers participated in the meetings of the pilot projects on adaptation to climate change (Geneva, February and June, 2013) and in the first meeting of the drafting group for the collection of good practices (Geneva, December, 2013).

Main lesson which was learnt from these activities:

- to involve more stakeholders in discussion about vulnerability assessment of the basin for different types of natural resources and for different sectors of economy including adaptation measures to increase their effectiveness and likelihood for future implementation;
- to use experience and good practices from other pilot projects in the Neman-project especially under adaptation measures preparation;
- to propose on including good practice in the frame of Neman-project in the publication, including its launch at the Seventh World Water Forum.

**5. Did you work on awareness-raising and involving the local population within the project? How did you do this? What lessons did you learn from doing this?**

Representatives of local authorities, population and mass media (TV, newspaper, news agency) in Belarus and in Lithuania were involved by participation in the meetings and through distribution of the press release about project activities and reached results.

Lessons learnt – project is very interesting for all because it is the first experience in transboundary cooperation in adaptation to climate change as well as problem of possible climate change in general.

**6. Did you involve other sectors in the project? If yes how? What lessons did you learn from doing this?**

Other sectors were involved in the project in 2013 through multi-stakeholder consultations via participation in seminars, including the multi-stakeholder seminar in Kaliningrad "Local climate change in the Neman River Basin and needs for adaptation measures" in the framework of the projects "River basin management and climate change adaptation in the Neman river basin (NEMAN)" and "Integrated water resources and coastal zone management in European lagoons in the context of climate change (LAGOONS)" (21 January, 2014, Kaliningrad region, Russian Federation)

**7. How did you link transboundary climate change adaptation to national adaptation activities?**

Updating of the Water Management Plan for the Neman River Basin (Lithuania) and Scheme of Complex Use of Water Resources of the Neman River Basin (Belarus) take into account adaptation to climate change based on the main project's results.

Improvement of the national strategies and plans on water resources management taking into account the main project's results.

Some pilot projects for the concrete water users can be proposed taking into account climate change.

**8. Future planned activities**

Finalization and publishing of the Strategic Framework for the Neman River Basin Adaptation to Climate Change.

Maintenance and improvement of the informational platform.

Participation in preparation of the publication with good practices, including its launch at the Seventh World Water Forum.

Implementation of some adaptation measures

**9. Other important lessons learnt**

First international experience for the entire transboundary Neman River Basin in:

- modelling and forecasting of climatic and hydrological characteristics;
- preparation of common strategic directions (measures) on adaptation to climate change;
- pilot implementation of the assessment of surface water quality using agreed indicators and criteria.

**10. Contact details:**

Mr. Vladimir Korneev, Central Research Institute for Complex Use of Water Resources, Belarus, tel:+375 17 263 4833, e-mail: v_korn@rambler.ru

Ms. Iryna Usava, Project Manager: tel./fax: + 375 (17) 263 53 31, e-mail: iryna.usava@undp.by

Mr. Egidijus Rimkus, Vilnius University, tel.: +370 52 398 295, e-mail: egidijus.rimkus@gf.vu.lt

Mr. Audrius Sepikas, Environment Protection Agency, Lithuania, tel:+3705266 28 15, e-mail: a.sepikas@aaa.am.lt

Ms. Sonja Koeppel, Manager of the project at UNECE, +41 22 917 1218, e-mail: sonja.koeppel@unece.org

### E) Jointly developing a transboundary climate change impact assessment in the Rhine

**11. Name and short description of the project**

***Project:*** *Climate change adaptation strategy for the Rhine basin (in development)*

Since modifications of climate values impact the hydrological processes as well as the water regime, the Conference of Rhine Ministers charged the ICPR in 2007 to draft a "Study of Scenarios for the Discharge Regime of the Rhine" and work out an adaptation strategy. Following a literature evaluation issued in 2008, the new study was published in July 2011. The results (in form of climate scenarios for 2050 and 2100) have been discussed within the different ICPR working groups (ecology, water quality, water quantity) in order to develop an interdisciplinary adaptation strategy for the Rhine and its catchment. The three main ICPR working groups will make a step forward in developing the common strategy during an interdisciplinary meeting in March 2014 according to the new mandate from the 15th Conference of Rhine Ministers (October 28, 2013; Basel). A preliminary strategy should be finished by end of 2014/begin of 2015.

Detailed information is available here.

**12. Concrete results achieved in 2013**

The main results are (see all reports here):

- Workshop "Effects of climate change on the Rhine river basin" (30 and 31 January 2013)
- The publication of important reports linked to ecological consequences of climate change and possible effects of climate change on water temperature evolution, amongst others:
  - Report "Present state of knowledge on possible consequences of changes of the discharge pattern and water temperature on the Rhine ecosystem and possible perspectives for action"
  - Reports (summary and extensive version) "Estimation of the effects of climate change scenarios on future Rhine water temperature development" (results of model calculation from a specific expert group)
- The results and new mandate from the 15th Conference of Rhine Ministers (October 28, 2013; Basel) (see

below the extract of the Ministerial Declaration 2013 concerning "Climate Change and Adaptation")

"The Ministers and the Representative of the European Commission (…) state that:

- the flood prevention measures implemented so far within the Action Plan on Floods to reduce flood risks go in the right direction and that measures already taken (…) must in future be reinforced, taking into account aspects of climate change;
- (…) low flow events, in particular in summer and in connection with high water temperatures must be followed with more attention.

They ask the ICPR:

- **to draft a preliminary ICPR climate adaptation strategy for the Rhine catchment**, based on the assessment of available studies/the diagnosis on the discharge regime (floods and low flow) and on the temperature regime and to check proposals for adaptation measures concerning the expected effects of climate change, based on management plans existing in the different states/regions. In the near future the ICPR will decide on further steps, eventually on an ICPR low water (management) plan;
- to take into account socio-economic developments (…) to include all actors concerned."

**13. Which major challenges did you face with regard to transboundary cooperation and climate change adaptation? How did you overcome them?**

Our main challenge is to develop a common, interdisciplinary and transboundary adaptation strategy by end of the year. This has to be somehow linked to national strategies and the work already done for the implementation of the WFD and FD. Within the ICPR we overcome this challenge by assessing national climate strategies, setting up special groups/bodies like the ones on water temperature modelling and HBS (which gather together the 3 main working groups) and a lot of discussions!

**14. How did you work on improving the link between scientists, experts and decision-makers? What lessons did you learn from doing this?**

The results of the climate study – which was based on several research projects (amongst other Rheinblick2050) - have been adopted and are currently being discussed in the different subsidiary bodies of the ICPR reaching from working and technical groups to the Strategy group and the Plenary assembly. The two last bodies are strategic but also, in a certain way, political. In addition, conferences of Rhine Ministers decide on important political issues. Their decisions are binding for the Governments concerned. The Conference of Rhine Ministers in 2007 but also the last Ministers Conference of October 2013 charged the ICPR to draft a climate change study and an adaptation strategy.

We learned so far that a mix of top-down and bottom-up measures (from the transboundary/international level to the national and regional level and vice-versa) is the best option when developing an adaptation strategy. It is also very important to use or take into account measures that are already realized or planned (on national or international levels).

**15. Did you work on awareness-raising and involving the local population within the project? How did you do this? What lessons did you learn from doing this?**

Within the ICPR we have two main ways to involve the public: publications in paper or digital form through our website and the active participation of NGO's in our expert and working groups. These NGO's act as an intermediary to reach the local population. Furthermore we are presenting our work on climate change to visitors and in different workshops at EU level or within other river commissions.

Besides we are already doing public awareness-raising in different fields that are or will be impacted by climate change: ecology, pollution and micropollution, flood risks, etc.

**16. Did you involve other sectors in the project? If yes how? What lessons did you learn from doing this?**

Different sectors are represented through national delegations, observers and NGOs (nature conservation, flood management, drinking water …). But more work could be done to integrate other sectors into our discussion on adaptation measures (agriculture, spatial planning, energy production…). By identifying potential adaptation measures we try to think about win-win measures with other non-water related sectors.

**17. How did you link transboundary climate change adaptation to national adaptation activities?**

By national/regional reporting through our delegates in our meetings, by doing summaries of national adaptation strategies, by giving priority to the measures that are linked to European directives and have transnational effects. Besides, we also consider that when national activities and measures are being added together it leads to a reduction of the vulnerability to climate change.

**18. Future planned activities**

In March 2014 a common meeting of the three main ICPR working groups "floods (+ low water)", "ecology" and

"water quality" will be held. The first draft of a common climate change adaptation strategy will be presented and discussed at this occasion. A preliminary adaptation strategy should be finalized by the end of the year.
Furthermore a joint symposium will be organized in May 2014 between the ICPR, the Mekong River Commission and the Commission for the hydrology of the Rhine (CHR) to exchange information on climate change effects and adaptation as well as highlight/bring out some possible cooperation/common work between these commissions.

**19. Other important lessons learnt**

There are and will always be some uncertainties about climate change impacts but the Rhine countries think that the trends are robust enough to act and develop an (international) adaptation strategy.
Do not reinvent the wheel: try to use available, realized or planned measures linked to the Water Framework Directive and Floods Directive implementation or coming from "old" programmes (e.g. ICPR's Action Plan on Floods since 1998).

**20. Contact details**

Adrian Schmid-Breton
*International Commission for the Protection of the Rhine*
Kaiserin-Augusta-Anlagen 15,
DE – 56068 – Koblenz, Germany
Email: adrian.schmidbreton@iksr.de
Tel: 0049 (0) 261 94252 22
Internet: www.iksr.org

**F) Dauria Going Dry: adaptation to climate change** in **transboundary headwaters of the Amur River Basin**

**1. Name and short description of the project (Maximum 100 words)**

**Name of the project**: "Dauria Going Dry: adaptation to climate change in transboundary headwaters of the Amur River"
"Dauria Going Dry" project was initiated by Russian-Mongolian-Chinese Dauria International Protected Area (DIPA) and WWF under auspices of UNECE Convention on Transboundary Waters. The key aim of the project is to prevent the destruction of Daurian ecosystems, enhance their resilience and save globally endangered species in circumstances of intensive economic development and climate-caused periodical water deficit in the region. The project collects and analyses scientific information on climate-dependent ecosystem processes, their natural conditions and dynamics and anthropogenic influence**.**

**2. Concrete results achieved in 2013**

- Development of transboundary monitoring network for wetlands observation continued;
- Monitoring results collected within the climate part of the project;
- International biological station in Utochi established;
- Report "Modern Problems of Environmental Safety in Transboundary Areas" published;
- Case study on implementation of Environmental Flows as one of adaptation measures to climate change in the transboundary Argun River basin conducted;
- Materials on Important Bird Areas of international significance at Dauria prepared and submitted to BirdLife International;
- Brochures for local communities prepared:
  *Rare Water Birds Living Nearby*
  *How to Save Rare Water Birds Living Nearby*
- Preparation of the report "Salty Lakes of the Torey Depression and Adjacent Areas in Terms of Climate Changes (including characteristics of the Ulz River basin)" started;
- Assessment of climate implications on possible hydropower development (resulting the catastrophic flood in the Amur basin in summer 2013) in the Shilka River basin started;
- Feasibility study on establishment of Verkhneamursky Protected Area within the Shilka and Argun River basins prepared.

**3. Which major challenges did you face with regard to transboundary cooperation and climate**

**change adaptation? How did you overcome them?**

- Catastrophic flood of 2013 in the Amur River basin abruptly changed public concerns and state policy for water resource management, especially when dealing with hydropower development;
- Lack of financial resources caused challenges in the project implementation.

**4. How did you work on improving the link between scientists, experts and decision-makers? What lessons did you learn from doing this?**

The project addresses domestic and international policy-making, as well as selected conservation and monitoring practices in the field. In 2010-13 the project formed partnerships with Administration of Zabaikalsky Province, International Crane Foundation, Rivers without Boundaries Coalition, Institute of Natural Resources and Cryology of Russian Academy of Sciences, East Asian-Australasian Flyway Partnership and a number of Mongolian and Chinese NGOs and researchers. Some project activities were supported in 2011 by UNDP\GEF "Russian Steppe Conservation" project managed by the Ministry of Natural Resources and the Environment of the Russian Federation.

**5. Did you work on awareness-raising and involving the local population within the project? How did you do this? What lessons did you learn from doing this?**

Awareness raising mostly done through dissemination of publications, work with local communities during fieldwork, carrying out educational lessons at schools.

**6. Did you involve other sectors in the project? If yes how? What lessons did you learn from doing this?**

The project is planned to create a platform for scientists from interested countries to advance understanding dynamics of the Dauria ecosystems under climatic and anthropogenic influences.

**7. How did you link transboundary climate change adaptation to national adaptation activities?**

Project representatives and information support were widely used in regional development and water management processes such as official inspection of the Hailaer river – Dalai lake Water Transfer Canal (2011), bilateral assessment of gold mining impacts on transboundary watercourses (2011), planning of a low-carbon development under UN-Habitat Program (2012), development of Sino-Russian Strategy for Transboundary Protected Areas Network (2010-11), etc.

**8. Future planned activities**

- Finalize and publish "Salty Lakes of the Torey Depression and Adjacent Areas in Terms of Climate Changes";
- Discuss adaptation-related outcomes of the lakes study with management agencies responsible for the Ulz River basin in Russia and Mongolia and develop framework for transboundary climate adaptation plan;
- Develop a report on climate and ecosystem dynamics implications on the Kherlen River basin management;
- Use a report for the local stakeholders' education in Mongolia and China to enable them to participate in a decision-making process;
- Undertake an assessment of potential consequences of a "flood-control" hydropower development in the Shilka and other river basins in Daurian region;
- Develop a scoping report to study viable alternatives with consideration of climate adaptation (preferably with assistance of the WMO AFP);
- Hold a meeting in DIPA in Mongolia and discuss a long-term workplan for climate-related studies;
- Finalize construction and procure the equipment for international biological station at Utochi (currently it can accommodate around 25 people; by Autumn 2014 the number should be raised up to 50);
- Continue regular monitoring of climate impacts on ecosystem dynamics using monitoring system established in three adjacent countries;
- Provide project information for environmental impact assessment (EIA) of Comprehensive Scheme for Water Resource Management of the Amur River basin;
- Continue protected areas development in climatic refuge and other sensitive places identified at earlier stages of the project (the Shilka and Argun rivers confluence, the Middle Argun, etc);

- Undertake an inventory of mining impacts on transboundary rivers of Dauria with consideration of climate cycles;
- Continue the E-Flow evaluation for future possible implementation in the transboundary Argun River basin.

**9. Other important lessons learnt**

There are numerous impediments for E-Flows implementation in transboundary river basins, as well as for its implementation in Russia where E-Flow is not legislated in the Water Code. International agreements on E-Flows realization are highly desirable for transboundary river basins.

**10. Contact details**

Dr. E. Simonov, Rivers without Boundaries International Coalition
e-mail: simonov@riverswithoutboundaries.org
Dr. V. Kiriliuk, Daursky Biosphere reserve (DIPA)
e-mail: vkiriliuk@bk.ru
Oxana Nikitina, Coordinator for Freshwater Ecosystem Conservation, WWF-Russia
e-mail: onikitina@wwf.ru

## G) Danube River Basin

**1. Name and short description of the project**

**Name of the project**: "ICPDR Strategy on Adaptation to Climate Change"

The need to take the necessary steps to adapt the water sector to climate change was recognised by the countries of the Danube River Basin. Therefore, the International Commission for the Protection of the Danube River (ICPDR) was asked by the Ministers of the Danube countries to prepare a Climate Adaptation Strategy for the whole basin. The Strategy was finalised and adopted in December 2012, an is based on a scientific research study which summarises all relevant information on climate change and expected impacts on water for the Danube. The Strategy is currently under implementation, whereas the most important tools for taking the required adaptation measures are the 2nd Danube River Basin Management Plan and the 1st Danube Flood Risk Management Plan, both to be finalised and adopted in December 2015.

The Climate Change Adaptation Strategy and Study are online available following the link:
http://www.icpdr.org/main/activities-projects/climate-change-adaptation

**2. Concrete results achieved in 2013**

Following the finalisation and adoption of the climate adaptation strategy and scientific study, the following activities took place during the year 2013:

- Elaboration and publication of printed version in English of the Climate Adaptation Strategy;
- Dissemination of Strategy to water management experts in the Danube basin;
- Presentation and further dissemination of Strategy and related results in the frame of the meetings and climate change conferences in and outside the Danube basin;
- Discussion on next concrete steps with water management experts of the Danube basin towards the practical implementation of the Strategy and integration into water management planning processes towards the elaboration of the 2nd Danube River Basin Management Plan and the 1st Danube Flood Risk Management Plan

**3. Which major challenges did you face with regard to transboundary cooperation and climate change adaptation? How did you overcome them?**

- Inhomogenic data base and information on climate change and expected impacts in the basin. In order to overcome this challenge a scientific study for the whole basin was elaborated.
- Clear political mandate to work towards climate change and adaptation was a key, allowing to get active on the issue

**4. How did you work on improving the link between scientists, experts and decision-makers? What lessons did you learn from doing this?**

- Towards the creation of a common understanding an interdisciplinary and international working group was established, with participation of representatives from the different Danube countries. scientists and relevant water-related sectors;
- Establishing of the exchange between scientists and policy makers is crucial for taking practical and

informed steps on climate adaptation.

5. **Did you work on awareness-raising and involving the local population within the project? How did you do this? What lessons did you learn from doing this?**
   - Representatives from the whole basin were participating in the elaboration of the Climate Adaptation Strategy. The Strategy is currently implemented via the water management planning processes, which require public consultation procedures allowing to involve stakeholders but also the broader public.
   - Via these procedures, also the issue of climate change adaptation will be addressed, allowing for further awareness raising and involvement of the local population, i.e. also in the frame of national planning processes.

6. **Did you involve other sectors in the project? If yes how? What lessons did you learn from doing this?**
   - Sectors and observer organisations are generally involved in water management planning processes for the Danube basin. This was also the case during the elaboration of the Climate Adaptation Strategy and will be the case during the implementation process via the preparation of the 2nd Danube River Basin Management Plan and 1st Danube Flood Risk Management Plan, which are the main tools for taking climate adaptation measures.
   - The involvement of sectors is crucial for taking informed and balanced decisions.

7. **How did you link transboundary climate change adaptation to national adaptation activities?**

The link is established through the involvement of national representatives in the international working groups in the ICPDR. This allows to take national issues and views on board in the international planning process and vice versa.

8. **Future planned activities**

Currently, the preparation of the 2nd Danube River Basin Management Plan and the 1st Danube Flood Risk Management Plan is ongoing. Different expert groups are working on different water management issues in the frame of the ICPDR for the preparation of these plans. A questionnaire is currently under preparation, where the respective expert groups are asked to address and discuss different relevant issues from the Climate Adaptation Strategy. This will allow to further proceed with the discussion process on climate adaptation towards properly addressing the issue in the planning process and to take the necessary adaptation measures.

9. **Contact details**

For further information please consult the ICPDR website http://www.icpdr.org or get in contact with the ICPDR Secretariat: Raimund Mair, Technical Expert River Basin Management; email: Raimund.Mair@unvienna.org phone: +43 1 26060 5333

### H) Drin River Basin

1. **Name and short description of the project**

**Name of the project** "Enabling Transboundary Cooperation and Integrated Water Resources Management in the Extended Drin River Basin„
Sub –project - 'Climate Change Adaptation in Western Balkan' GIZ with AL,MKD,MKD,MNE,KS,SRB

2. **Concrete results achieved in 2013**

The Inception Meeting of the GEF project "Enabling Transboundary Cooperation and Integrated Water Resources Management in the Extended Drin River Basin" (Tirana, Albania, on 27-28 May 2013) signaled the initiation of the preparation phase during which the beneficiary Drin Riparians and the partners will work to develop the Project Document. The full phase of the project is expected to start in early 2014.The meeting was organized by the implementing agency and the executing partners of the project, i.e. UNDP and UNECE, GWP-Med, UNOPS respectively and hosted by the Albanian Ministry of Environment, Forestry and Water Administration. Fifty one participants representing the beneficiary and non-beneficiary Drin Riparians as well as national, regional and international stakeholders, discussed the structure and content of the Project and provided advice to the implementing and executing partners with regard to the next steps to be followed.

3. **Which major challenges did you face with regard to transboundary cooperation and climate**

**change adaptation? How did you overcome them?**

(1)Improving access to comprehensive data and adequate information to fully understand the current state of the environment and the water resources and the hydrologic system (including surface, underground and coastal waters) as well as ecosystems of the Drin Basin;
(2) Establish conditions for a sustainable use of water and other natural resources;
(3) Develop cooperation and measures to minimise flooding especially in the lower parts of the Drin Basin;
(4) Improve management and appropriate disposal of solid wastes;
(5) Decrease nutrient pollution deriving from untreated or poorly treated wastewater discharges and unsustainable agricultural practices;
(6) Decrease pollution from hazardous substances such as heavy metals and pesticides;
(7) Minimise effects of hydro-morphologic interventions.
Establishment of a flood early warning system , drafting of national climate change adaptation strategies formulation and implementation of flood or drought management plans on the communal level , regional cooperation in integrated water resources management (IWRM) , integrating climate adaptation strategies on urban planning.

4. **How did you work on improving the link between scientists, experts and decision-makers? What lessons did you learn from doing this?**

Three working groups of experts are established. All of them are working on special issues involving challenges from climate changes of the Basin. Work from joint expert groups is presented on the Drin Core group meeting and forward to decision makers.
Developing of the joint structures is crucial for improving the links between stakeholders.

5. **Did you work on awareness-raising and involving the local population within the project? How did you do this? What lessons did you learn from doing this?**

Official statements, media, campaigns and involvement of NGO's is a way for raising sensibility of the local population. Several interviews, campaign with schools and NGO's are done.
Drin DAY EVENT will be organized in May 2014.
It appears that critical statements of the officials are the most crucial in raising the awareness.

6. **Did you involve other sectors in the project? If yes how? What lessons did you learn from doing this?**

In this phase, sectors are informed about project and about importance of adaptation to climate change in the Basin. Since many interest crosses in the Basin (mostly energy sector) the plans to organize lots of public events, hearings and decision making processes for minor acts.
Potential conflicts of interests are very obvious in the Basin, so a lot of efforts must be taken in managing the process. Joint meetings of different sectors are crucial.

1. **How did you link transboundary climate change adaptation to national adaptation activities?**

Still in beginning, need of the experience from other basins.

- GIZ Climate change Project can help on this issue. An expert team was established to visit all 4 providers of hydro-meteorological information in Albania, Macedonia, Kosovo and Montenegro, and to estimate their needs of developing national Early Warning Systems and for the integration into EFAS.
- The project seeks to mitigate negative social, economic and environmental effects by the way of improved flood and drought risk management.

7. **Future planned activities**

In following period several activities will be done:
-Workshop on Climate changes effect in Drin Basin (involving stakeholders)
-Water and Energy workshop (UN day of Water) (national and transboundary teams)
-DRIN DAY celebration (May 2014) , public campaign (NGO organized)
-Start of implementation phase of GEF DRIN Project (CORDA) (DrinCore Group meetings)
-Finish of the GIZ Climate change project – indicators, results

8. **Other important lessons learnt**

Question of climate change adaptation in the river basin is new approach and will require long period of meetings, pubic hearings, cross-sectorial communication. This will be crucial in the first phase of the Adaptation activities.

9. **Contact details :**

Dejan Panovski
Drin Core Group , Ohrid ,MKD
dejpan11@gmail.com +389 75 263 000

**I) Sahara and Sahel Observatory (OSS) / Consultation Mechanism of the North Sahara Aquifer System (SASS)**

**1. Name and short description of the project**

The North Western Sahara Aquifer (French: SASS) is a basin extending over more than 1000 000 km2 and shared by three North African countries, namely Algeria, Tunisia and Libya. It contains considerable yet little renewable and quasi-fossil water resources.

The promotion of a sustainable management of the SASS water resources in the three concerned countries represents a major challenge to ensure a sustainable life in a highly venerable region. In fact, this region has succeeded in maintaining a sustainable life throughout centuries thanks to its extraordinary capacity of adaptation to a harsh environment by opting for a fair and wise management of its water resources. However, this equilibrium has been disrupted by the excessive and uncontrolled use of this resource.

With a view of establishing a sustainable development in the region, the Sahara and Sahel Observatory in collaboration with the three concerned countries, had launched in a first phase a study that enabled a better knowledge of the SASS resources. This study was consolidated by the establishment of a permanent Consultation Mechanism whose coordination unity is hosted by OSS. The functioning of this unity is funded by the three countries.

Following the first phase that aimed to gain a better knowledge of the SASS water resources, OSS is currently implementing a project that aims to promote a sustainable management of the SASS resource which represents a vital and inherent factor for all economic development of the region. The objective of this project is twofold:

- To enhance the hydro-geologic knowledge of the aquifer by conducting a survey campaign on 5500 farmers with the aim of providing socio-economic and environmental data on the agricultural systems practised in the region.
- Instruct the farmers of the region on the way to reconstruct a more sustainable and effective agricultural system through the implementation of six demonstration pilots in the three concerned countries to promote a more effective irrigated agriculture at the economic, social, and environmental level.

The main objective of this project is to build a hydro-economic model capable of responding to the questions of the threatening risks and provide accurate information for the resource managers, stakeholders and decision-makers within a framework of a common management of a trans-boundary aquifer.

**2. Concrete results achieved in 2013**

- Realisation of 5500 socio-economic surveys, analysis of questionnaires and elaboration of preliminary recommendations;
- Building of the hydro-economic model;
- Implementation of six demonstration pilots.

**3. Which major challenges did you face with regard to trans-boundary cooperation and climate change adaptation? How did you overcome them?**

The results of the demonstration pilots showed that with a good agricultural governance using solar energy and water desalinisation, we can easily improve the situation of farmers, restore the soil quality and alleviate the impacts of climate change.

**4. How did you work on improving the link between scientists, experts and decision-makers? What lessons did you learn from doing this?**

At the level of the demonstration pilots, the work was completed thanks to the joint effort of farmers, research institutes and decision-makers at the local level.

**5. Did you work on awareness-raising and involving the local population within the project? How did you do this? What lessons did you learn from doing this?**

We have adopted a participatory management approach and the pilot site was selected by the farmers of

the region.

**6. How did you link transboundary climate change adaptation to national adaptation activities?**

The recommendations are currently under development.

**7. Future planned activities:**

Organize workshops for the decision-makers; edit the videos of the results valorisation and elaborate the final report.

**8. Contact details:** djamel.latrech@oss.org.tn

**J) Niger River Basin**

**1. Name and short description of the project**

**The name of the project**: Improving IWRM, knowledge-based management and governance of the Niger Basin and the Iullemeden-Taoudeni/Tanezrouft Aquifer System (ITTAS);
**Countries:** Benin, Burkina Faso, Cameroon, Chad, Côte d'Ivoire, Guinea, Mali, Mauritania, Niger, and Nigeria; **GEF Agencies**: UNDP, UNEP; **Other executing partner** (s):Niger Basin Authority (NBA), Observatory of the Sahara and Sahel (OSS), UNESCO-IHP.

**2. Concrete results achieved in 2013**

**Project: Submission date**: 13 August 2013; **Resubmission date:** 10 December 2013; **GEF focal area**: International Waters; **Project duration (months)**: 60

**a) Changing: from former title** :IWRM through the implementation of the Niger River SAP and extension of the TDA/SAP approach to the Iullemeden-Taoudeni/Taezrouft aquifer System (ITTAS) leading to conjunctive management of surface and ground waters **to Am ore precise project title:** Improving IWRM, knowledge-based management and governance of the Niger Basin and the Iullemeden-Taoudeni/Tanezrouft Aquifer System (ITTAS);

b) **Reorganize accordingly Focal area objectives : *IW-Objective 1***: Catalyse multi-state cooperation to balance conflicting water uses in Transboundary surface and groundwater basins while considering climatic variability and change***; *IW-Objective 3***: Support foundational capacity building, portfolio learning, and targeted research needs for joint, ecosystem based management of trans-boundary water systems.

c) **Including one more country and component related:** Mauritania.

d) **Re-ajust the Total cost of the project:** Indicative Grant Amount: ($)**12, 390,000 vs** Indicative Co-financing ($)**77,956,945**

**e) Re-ask and obtain an Endorsement letter for the preparation** of project from each of all the 10 countries involved in the project.

**3. Which major challenges did you face with regard to transboundary cooperation and climate change adaptation? How did you overcome them?**

a) **The adjustment of the Project Objective**: Knowledge-based management, governance and resources conservation of the Niger Basin and the Iullemeden-Taoudeni/Tanezrouft Aquifer System (ITTAS) improved to support IWRM for the benefit of communities and the resilience of ecosystems;

b) Management recommendations emphasizing the conjunctive management of **Transboundary ground and surface waters** addressed by the SDAP, National plans and strategies (IWRM, NAPs among others); considering the output 1.3 and 3.1,there was a need to clearly aim not only at regional recommendations for conjunctive management, but also address reforms of national policies and plans accordingly and in line with article 11 of the Niger Basin Water Charter. These outputs have been merged to better link the consultative mechanism as a step for the revision of policies aiming to integrate conjunctive management of transboundary ground and surface waters

c) **Provide a cleared indication of the respective roles of the Executing Partners in the project**: The Executive Secretariat of the NBA is the Implementing agency through the Division of Operations of the Technical Division who will then delegate the implementation to a Regional Coordination Unit of the Programme (CCRP) for the regional component. NBA will sub-contract and delegates specific implementation tasks (related to UNEP component) to the Sahara and Sahel Observatory (OSS), UNESCO-IHP.

- The RCU will implement the institutional and Investment components in coordination with National Coordination Unit for the Programme (CCNP) that will take in charge / responsibility of the management and execution of the country.
- The GEF small Grants Units and International NGO (IUCN, Wetlands International) will support the implementation of communities actions in deep coordination with RCU and CCNP. The PPG will engage partners and further develop these relationships. More details of coordination mechanism and project governance framework will be provided at CEO endorsement.

**4. How did you work on improving the link between scientists, experts and decision-makers? What lessons did you learn from doing this?**

The NBA and the World Bank are jointly implementing a Climate Risk Assessment (CRA) initiative for the Niger River Basin (NRB) to assess the risks from CC to the performance of NBA's Strategic Development Action Plan (SDAP), adopted in 2008 by the 9 member countries of the NBA. SDAP involves the investment of US$ 8 billion over the period 2005 – 2025. The overall aim of this CRA initiative is to build resilience to climate risks into the SDAP, (80%) of which focuses on the construction of 3 new dams (Fomi, Taoussa, and Kandadji dams, referred to in this paper as the FO-TA-KD development scenario) and reservoirs on the Upper and Middle Niger with associated development of irrigated agriculture and hydro-energy generation, along with the rehabilitation of existing dams (Kainji, Jebba, and Lagdo dams), navigation and water supply development. (CRA) came out with among others the following findings that are not easy to be understood. And as a result, it is hard for any political leader, development experts or few citizens to generate and sustain broader public support for climate policies**:**
**(i)**Rainy and dry season irrigated agriculture is insensitive to projected climate changes, however prolonged droughts might pose risks**.(ii)** Crop water requirements expected to increase with 5% by 2050**. (iii)** FO-TA-KD scheme causes an overall loss of hydro-energy, which can be compensated by Run-of-River hydro-schemes and HP development in Benue Basin**.(iv)** Climate Change impacts on hydro-energy are projected to be mild (<10% decrease) to moderate (<20% decrease) with runoff elasticity in the order of +1.0

**Lesson learnt***:* The major challenge facing climate scientist is to explain to non-specialists the risks and uncertainties surrounding potential changes over coming decades, and centuries. Climate scientists really bear a heavy burden : CRA finding acknowledge that the Climate change have occurred in Niger basin before and might occur again. Perhaps, the future of the world lies partly in their hands. It is an issue of climate communication in a context of uncertainties. Thus, climate communication is not hopeless. It must improve.

**5. Did you work on awareness-raising and involving the local population within the project? How did you do this? What lessons did you learn from doing this?**

Community based actions are appreciated and important to create benefits on the ground and improve livelihoods. They are, however, in most cases not resulting in larger stress reduction. Hence, the indicated amount of USD 7 million for this is too large in relative terms for Niger SAP implementation. We have to comment and address why there are valid/valuable community projects for pollution control proposed. While these are likely benefitting on local scale, **this project in the end will risk to reach any scale to address the wider actions on water quality control outlined as priorities in the SAP under LTEQO 4 to address water quality threats**, e.g. from mining, agro-industries, irrigation, and others through actions on regional and national level.

**Lessons learnt**: a)GEF resources are requested to rebuild and restore degraded ecosystems with the engagement of communities through small grant approach. The TDA recognized that the development of human activities along the Niger river contributed to the degradation of ecosystem and loss of main biodiversity. As most of communities depend on Niger basin resources for their development, **their responsibility to rebuild and restore ecosystems will be engaged in support and complementary to on-going policy efforts.**

b) Target activities proposed in the revised Project are supporting **to reduce stress due to overexploitation of wetlands resources and the invasive aquatic plant species** (output 2.1); **community pressure on protected areas** (Output 2.2); the **deforestation, land clearing, wood cutting, bush fires, overgrazing and poor practices of cutting vegetable portions reducing the floristic diversity and habitats** (Output 2.3); **and overexploitation of groundwater** (Output 2.4).

c) According to the SDAP, the necessary financing for target activities proposed in the Project is estimated to be more than 50 millions US dollars. The GEF financing required is 7 millions (including capacity building) that will benefits to about 120 community organisation in the 9 countries and have impacts on about 6000 households leaving along the Niger basin and contributing to increase family income while maintaining the good health of the environment.
d) Regarding the pollution control. It is recognise that small project intervention will not have greater impacts, as they are not the greater polluters. In complementary to action to be undertaken by AFDB on developing strategy for the management of pollution, UNDP component will contribute to sensitize community on water quality preservation practices and pollution control/management practices to reduce the deterioration of environment and risks proliferation of diseases in the affected zones (Output 2.6)
Finally regarding Flood and drought early warning system: After discussion with AfDB, it is proposed that AfDB will fully support NBA on Climate Changes issues towards an Integrated Program for Development and Climate Change Adaptation in the Niger Basin (IPDCCA/NB) fund by AfDB to avoid duplication, for USD 75million fund by AfDB of which 40% is from FADXIII

**6. Did you involve other sectors in the project? If yes how? What lessons did you learn from doing this?**

The risks section though was entirely written based on the ITTAS/groundwater collaboration. It was lacking realistic assessment of risks working with large numbers of countries (10 countries); risks to get traction on needed national reforms to move to effective policy, regulatory and management actions for conjunctive management (such as the challenge to connect land and water uses(Land-Water Nexus ), and limited capacities on national level as well as any specific, relevant country risks.
Lessons: The section on risks was therefore improved to include **institutional and coordination risks, and mitigation actions on capacity building related to ecosystem based management.**

**7. How did you link transboundary climate change adaptation to national adaptation activities?**

The NBA SAP for Environment is a negotiated policy document that had been endorsed at the highest level of all relevant sectors of governments of the NBA members countries. It establishes clear priorities for action (for example, policy, legal, institutional reforms, or investments) to resolve the **priority transboundary problems identified in the TDA**. A key element of this SAP is **a well-defined baseline**. This **enables a clear distinction between actions with purely national benefits and those addressing transboundary concerns with global benefits**. Another key element involves the development of institutional mechanisms (including consultative mechanism ) at the regional and national levels for implementing the SAP and monitoring and evaluation procedures to measure effectiveness of the outcomes of the process.
Meanwhile, GEF-funded International Waters (IW) projects are concerned with water-related environmental problems that transcend the boundaries of any one country, hence transboundary. In this case project, we have in the same spot both: River **Niger basin system** and **the Iullemeden, Taoudeni-Tanzerouft Aquifers (ITTA) System**s, which linkages were not identified neither during the TDA study nor during the SAP elaboration. This is a very complicated issue which needs a specific-defined baseline that had to be previously discussed and mainstreamed among involved countries.
As already mentioned above regarding the regional SAP, the National Action Plans for the IIAS ( Aquifers) to be developed need to be integrated with or at minimum aligned and approved by same actors as the Niger Basin SAPs

**8. Future planned activities**

a) Introduce conjunctive management of transboundary ground and surface waters into River Basin management and Assess how will conjunctive management in the basin be addressed institutionally (management role & actions of NBA and national agencies for management of transboundary aquifers and conjunctive management; relation to/role of OSS, Niger Basin Observatory);
b) Include the results of the study on the Climate Variability and Change done by CRA initiative, whose conclusion is that SDAP maximizes water use for dry season irrigation; as such minimum flows (e-flows) become very sensitive to climate change. Thus, Climate Change impacts on environmental flows (e-flows) can be severe and may require minor adaptations of dry season irrigation.
c) Assess how techniques for resource efficiency at local level can address innovations on Water –Energy Nexus considerations

**9. Other important lessons learnt**

With the Climate Change Adaptation, we quickly jump from a physical project (interconnection, infrastructures, investments) to a non physical project (capacity building, research, innovation) without any transition.
Thus, International River Basin Organizations (RBOs are Institutions that have been set up by riparian states to internationally govern shared water resources –). They have been given a key role to play in river basin governance. Increasingly, RBOs are on the agenda of policy-makers who accord them a key role in promoting cooperation over shared water resources. Despite the increased attention paid to Observatories in international relations and water scholarship, there has been little focus on definitions and conceptualization of Regional Observatories such as OSS specialized on ground water resources. This has also challenged attention and research around linkages (spatial and institutional) between RBOs and Observatories in both methodological and theoretical ways. Climate Change Adaptation program seems to bridge this gap by offering a platform for synergy and interconnection that gives an added value to the overall management of a River Basin Organization.

**10. Contact details:**

-**Mrs Mame DAGOU DIOP, Ph.D**.Technical Advisor, West –Central Africa UNDP - mame.diop@undp.org Cell: +27 71 8738 482
-**Kelly WEST, PhD** ,Task Manager, International Waters; UNEP ;email :kelly.west@unep.org ; phone :+254 20 762 4147
-**Dr. Abdou GUERO**, Technical Director, NBA, email: *a.guero@abn.ne*, *abdou.guero@gmail.com*
- **Dr. Abdelkader Dodo** ,Sahara and Sahel Observatory ;email: abdelkader.dodo@oss.org.tn
- **Mr ENOUMBA Henri-Claude, PhD**; Head of Planning and Studies Division,NBA, email:hcenoumba@abn.ne; hcenoumba@gmail.com ; tel +22796579032: +22791911016

## K) International Commission of the Congo-Oubangui-Sangha Basin (CICOS)

**1. Name and short description of the project –*this information will be put on the website***

**Prospective tool in the Congo Basin**

Development of the forecasting decision support tool based on the hydrological and socio-economic data for sustainable management of the Congo Basin, which will facilitate the review and optimal planning of the major hydraulic infrastructure projects (dams for hydropower production, support during the low-water period, irrigation - water transfers), their environmental and social impact and their consistency with the basin. The decision support tool will also be used to simulate climate changes (changes in rainfall, temperatures) and their impacts on water resources and associated ecosystems.

- Facilitate the review and planning of hydraulic infrastructures (dams, hydropower production, support during the low-water period, irrigation), their environmental impact, water sharing, benefits sharing, assessment of the consequences of the development project on the basin;
- Allow to simulate the variability and climate changes. Input chronic (rainfall, temperature) will be altered by the global climate models (IPCC) or regional climate models (IRD).

**Congo HYCOS program**

Contribution to the improvement of the hydrological monitoring of water resources through the development and early implementation of an information system in the basin of the Congo (Congo-HYCOS project) supplied with the recent data and quality, easily accessible to all types of users in particular through Internet.

- Establish a regional system for the collection and archiving of the hydrological data which would be able being perpetuated in the end of the project;
- Provide the basis of hydrological knowledge that is required for the integrated and sustainable water resources management and the natural environment in general

**2. Concrete results achieved in 2013**

**Forward-looking decision support tool in the Congo Basin**

Call for tenders and recruitment of the Consultant (BRL Ingénierie) for the implementation of the modeling and allocation tool of water resources in the Congo Basin based on French funds.

**Congo HYCOS program**

Since September 2013, recruitment of the coordinator for the development of the final project document (paper for fundraising implementation).
Collecting data in the Member States of CICOS, public and institutional awareness -raising on the need for

monitoring resources.

3. **Which major challenges did you face with regard to transboundary cooperation and climate change adaptation? How did you overcome them?**

Collection of hydrological data and the complex and little known functioning of the Central basin (la *Cuvette centrale*) of the Congo (flooded forests). Solution: Drafting of the data exchange protocol and implementation of the Congo HYCOS program, innovative research work with scientists in order to estimate the dynamics of the Central basin (la *Cuvette centrale*).

Climate change issue is still mainly associated with the challenges in the field of forestry rather than with water problems. Solution: systematic dialogue with key stakeholders' on this theme, a film will soon be made.

Staff training for the implementation of the Congo HYCOS program and sustainable funding of the structures beyond the duration of the project itself. Solution: awareness –raising among policymakers of the importance of monitoring of the resources

4. **How did you work on improving the link between scientists, experts and decision-makers? What lessons did you learn from doing this?**

In the framework of the model is envisaged to involve international scientific partners such as French Institute for Research and Development (IRD) in order to provide scientific and technical support for the whole project. The CICOS participates/is in charge of coordinating various research networks (friend Congo, net cap etc.). CICOS is considered as a state body, relationships with decision-makers are institutional.

5. **Did you work on awareness-raising and involving the local population within the project? How did you do this? What lessons did you learn from doing this?**

6. **Did you involve other sectors in the project? If yes how? What lessons did you learn from doing this?**

We begin the process of participative approach to CICOS (census of the stakeholders, the implementation of the platform for consultations in the states)

7. **How did you link transboundary climate change adaptation to national adaptation activities?**

The project just has been launched, it is too early for that

8. **Future planned activities**

The contract between CICOS and BRLi for the implementation of the modeling and allocation tool of water resources in the Congo Basin was signed at the end of January 2014.

Undertaking activities of the implementation of the tool CICOS in 2014, the model training will occur in 2015.

Awareness-raising of Member States of CICOS about the Water Convention

9. **Other important lessons learnt**

10. **Contact details:**

Mr. Damien BRUNEL dbrunel.atcicos@yahoo.fr, cicos_inst@yahoo.fr,
Mr. Georges GULEMVUGA georges_gul@yahoo.fr,
Mr. Blaise-Léandre TONDO blaisetondo@yahoo.fr

**L) Senegal River Basin**

1. **Name and short description of the project – *this information will be put on the website***
   a) The Diama anti-salt dam: dam built by the OMVS as a result of recurrent droughts experienced in the 1970s. Built between 1982 and 1986, it aims to prevent the increasing salt intrusion in the dry season in order to promote the development of irrigated crops as alternative to rain fed agriculture;
   b) The Manatali hydroelectric dam, with 11 billion cubic metre reservoir, has among other objectives to regulate river flows and facilitate the irrigated agriculture;
   c) Project of balance multiple uses through integrated water resources management (PGIRE), whose objective is the integrated development of the basin with particular emphasis on local development.

2. **Concrete results achieved in 2013**
   a) Significant and progressive development of the irrigated agriculture to the detriment of rain fed agriculture in Senegal and Mauritania;

b) Development of irrigated agriculture and flood recession agriculture instead of rain fed agriculture, which is subject to climatic variations;
c) Substantial increase of the area of irrigated and recession crops in Senegal and Mauritania, especially in Mali and Guinea;
- Development of agroforestry in Mali and Guinea
- Protection of the heads of the river source
- Quantitative and qualitative monitoring of surface waters and partly of groundwaters
- Improvement of communities' living conditions
- Reinforcement of the mechanisms for collecting and sharing knowledge

**3. Which major challenges did you face with regard to transboundary cooperation and climate change adaptation? How did you overcome them?**

**a)** Low development of the potential: awareness-raising among policy makers for implementation of the Action Plan for the Improvement of Irrigated Crops (PARACI);
b) Low development of the recession agriculture while there was a significant amount of water: implementation of PARACI
c) Sustainability of efforts to escape the climatic variations and to ensure proper protection of shared water resources. The funding is found for next 7 years, time to find appropriate funding for its needs.

**4. How did you work on improving the link between scientists, experts and decision-makers? What lessons did you learn from doing this?**

- Strengthening of the partnerships with universities, especially with the Doctoral Water School, Quality and Water Use at the University of Dakar in order to encourage research in the field of climate change;
- Exploiting the capabilities of the Department of Meteorology for seasonal forecasting and training of members of the Permanent Water Commission, an advisory body of the OMVS for collaborative resource management and especially for forecasts;

Lessons learnt

- Cooperation with universities allows to find a lot of information and an external viewpoint on development activities
- The forecast is one of the best tools to find appropriate adaptation strategies and to optimize available measures

**5. Did you work on awareness-raising and involving the local population within the project? How did you do this? What lessons did you learn from doing this?**

- Establishment of local structures emphasis on the participation of users: local coordinating committees and associations of water users;
- Contracts with local radio stations in order to disseminate forecast products and hydrological information;
- Meetings with local authorities for awareness-raising on flood risk with the approach of warning signal.

Lessons learnt

- Effectiveness of activities carried out with the involvement of the population

**6. Did you involve other sectors in the project? If yes how? What lessons did you learn from doing this?**

Participation of the national technical services and non-governmental organizations in PGIRE as Executive Agencies or Soft assistance

Lessons learned

This cooperation contributed to the greater success and visibility of the carried out activities

**7. How did you link transboundary climate change adaptation to national adaptation activities?**

Transboundary activities are carried with taking into account national policies, as consequence it takes into account national plans on climate change

**8. Future planned activities**

- Implementation of the Strategic Action Plan for the Environment, especially of its climate change components;
- Construction of regulating dams (Gourbassi)

**9. Other important lessons learnt**

- Complexity of funding for adaptation actions in river basins in developing countries;
- Difficulties in sustainability of carried out activities after the end of large-scale projects;

- High diversity of adaptation activities according to the different areas of the same river basin

**10. Contact details**

Amadou Lamine NDIAYE
*Mr. Amadou Lamine NDIAYE, Director of Environment and sustainable Development, Organisation pour la Mise en Valeur du Fleuve Sénégal* OMVS
BP 3152 Dakar Tel +221338598181 / +221 338598101 / +221775370000
Mail : elaminendiaye@gmail.com amadnd@yahoo.fr