Convention of the Protection and Use of
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Activities of the pilot projects and other basins in the global network of basins on adaptation to climate change in transboundary basins

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) has started in 2010 and aims 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, 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 UNEP, UNECE and OSCE,
c) Pilot project on the Sava river basin, 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) Project AMICE on the Meuse basin, shared by Belgium, France, Germany, Luxembourg, Netherlands, implemented by the “Etablissement Public d’Aménagement de la Meuse” (EPAMA),
g) 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,
h) Activities on water and climate change on 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).

From 2013, this programme has been broadened to include additional basins also from other regions of the world, which corresponds to the outcome of the sixth World Water Forum, target 3.3.2, recommendation 3 to create a global network of basins working on adaptation to climate change. This network is managed by UNECE, the International Network of Basin Organizations (INBO), as well as other potential partners such as the Global Water Partnership (GWP).

[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.

The programme and network aim 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)-h) the following basins have so far joined the network:

i) Drin, shared by Albania, the Former Yugoslav Republic of Macedonia, Montenegro and Greece: project ”Internationally Shared Surface Water Bodies in the Balkan Region”
j) Sahara and Sahel Observatory (OSS) / Consultation Mechanism of the North Sahara Aquifer System (SASS), shared by Algeria, Libya, Tunisia
k) Niger basin, shared by Benin, Burkina Faso, Cameroon, Chad, Côte d'Ivoire, Guinea, Mali, Niger and Nigeria : project: “Reinforce the knowledge and capacities in integrated water resources management within the Niger Basin to benefit of communities and resilience of ecosystems” , implemented by the Niger Basin Authority
l) 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)
m) Upper Paraguay River Basin (BAP), shared by Brazil, Bolivia, Paraguay: activities planned by Conservation International
n) Mekong River Commission Climate Change Adaptation Initiative (MRC-CCAI) on the Mekong River, shared by Cambodia, Laos, Thailand and Vietnam
o) Senegal, shared by Guinea, Mali, Mauritania, Senegal: projects by the Senegal River Basin Development Authority.

More information about the activities and progress of the pilots and basins i) to m) is included in the annex.

ANNEX: Description of each pilot project

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

1. Name and short description of the project

Project UNDP - UNECE under the initiative "Environment and Security", "***Promoting Cooperation to Adapt to Climate Change in the Chu and Talas Transboundary Basin***" ***(Kazakhstan and Kyrgyzstan)***

The project aims to improve the adaptive capacity of Kazakhstan and Kyrgyzstan, to support dialogue and cooperation on the needed steps to design an adaptation strategy in the transboundary context and thereby prevent controversy on the use of water resources.

The specific objectives of the project are:

- Modelling of the possible changes in water resources of the Chu-Talas basin associated with climate conditions and elaboration of joint scenarios,
- Preparation of joint vulnerability assessment, focusing on selected areas/sectors of importance for the work of the Commission,
- Development of a package of possible adaptation measures and relevant procedures for the Commission, which may contribute to decreasing potential tensions over changing hydrological regimes.

The pilot project is a part of the general programme of projects "Support of the cooperation on adaptation to climate change in transboundary basins" under the auspices of the UNECE Water Convention and is partially funded and implemented by the "Environment and Security" Initiative, and this allows the exchange of experience with other similar projects and initiatives.

2. Concrete results achieved

The report and work plan on the assessment of vulnerability and possible adaptation measures was developed taking into account the transboundary nature of the basin. The work plan was discussed at working meetings of experts (most recently in March and May 2013), and was presented at the Chu-Talas Joint Commission session in May 2013. The vulnerability assessment focuses on the following sectors: agriculture and availability of water resources for agriculture, including hydro-technical installations infrastructure, emergency situations, ecosystems.

The following 2 report sections were prepared: Observed climate changes and Scenario climate changes forecasts in the Chu-Talas transboundary basin territory in this century.

The first section is devoted to the analysis of observed climate changes in the Chu-Talas basin. The analysis aims to provide an information to assess the relevance and the trends of current climate changes for the determination of observing impact on water resources and alleged changes in the near future for the most vulnerable sectors and for adoption of measures on joint transboundary water resources management.

Inconsistency of the results of earlier national assessments carried out with different approaches does not show a big picture of the nature of the observed changes for the Chu-Talas basin in general. Therefore, under the project the analysis was based on the common methodology for Kazakhstan's as well as for Kyrgyzstan's part of basin.

In the second section the assessments of a probable climate change in the Chu-Talas transboundary basin territory in this century were presented. This project used an integrated approach to the development of climate change scenarios for the territory of the basin, in particular the set of 15 models of the general circulation of the atmosphere and ocean, used by the IPCC in the preparation of the Fourth Assessments Report. Based on the results of these models results the assessments of probable changes in the monthly surface air temperature values and of the rainfall in the basin with a spatial resolution of 0,5° were obtained.

The main results of the possible climate changes assessment in the Chu-Talas transboundary basin are the following:

A significant increase in surface air temperature is expected, especially in the summer-autumn period. This change of temperature will be accompanied by the rainfall increase during the cold season and a decrease

in the warm half of the year. As a result, we can expect the deterioration of moisture conditions of the territory during the summer-autumn period.
Furthermore, we can expect mitigation of winters and hotter summers. The redaction of the below 0 °C period will increase the duration of the period of rain. With rising temperature in mountainous areas not only the period, but also the area where the precipitation will fall as a liquid will increase.
The existing uncertainty of scenario forecasts is mainly due to the imperfect climate models, to the assumptions made during the process of the development of scenarios of greenhouse gas concentrations changes in the atmosphere.
A rough and preliminary estimation of costs of predicted climate change impacts on agriculture in the basin was made. A tentative list of potential adaptation measures (or types of measures) was prepared for discussion with the different authorities/representatives of sectors and other stakeholders.
Identification of main points for developing a visual brochure on the findings was initiated and environmental communication experts were engaged in this work.

3. If you look back on the overall achievements of the past 3 years, what are the most important outcomes of the project with regard to transboundary cooperation

- The inclusion of climate change issues and its impact on the territory of the transboundary basin in the meetings' agenda of the Joint Commission.
- Establishment of the joint (the Kazakhstani -Kyrgyz) expert group on the assessment of vulnerability and adaptation to 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?

During the project stakeholder meetings were constantly organized, where project tasks and their solutions were discussed. Meetings of the Joint Commission are also a platform for discussion. The communication towards decision-makers needs to be further developed, taking into account their main interests and concerns. A closer linkage with the Joint Commission would have been valuable.

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?

Nongovernmental organizations representing the interests of local people participate in the meetings of the Joint Committee. Experience shows that there is a lack of understanding of the climate change issue in the region. It is generally due to the lack of awareness on all levels.

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

Liaising with other sectors will become actual when the results of the project will be discussed with the stakeholders (tentatively in September 2013). In the meeting, the participants will seek to identify how the different sectors could take into account the predicted impacts of climate change.

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

Some approaches to the assessment of vulnerability and of adaptation measures in the Chu-Talas Transboundary Basin have been previously used in the preparation of the Second National Communication of the Kyrgyz Republic. In Kazakhstan, for example, there is practically no national policy on adaptation there.

8. Future planned activities

Seek to implement selected adaptation measures in the Chu-Talas transboundary basin and possibly carry out a more detailed economic assessment with additional resources to be sought. Some information gaps identified would also need to be addressed.
As full as possible economic assessment of some of the specific measures on adaptation with the direct support of experts from Finland
Improved awareness of the assessment results of all stakeholders, especially on the territory of the basin.
The exchange of experiences with other pilots projects.

9. Other important lessons learnt

Rather limited (with technical questions) mandate of the Joint Commission makes currently difficulties to identify strategies to implement some of the potentially required measures for adaptation, for example, on ecosystems, water use in agriculture sectors. Thus, for the successful implementation of adaptation measures the extension of the mandate of the Joint Commission is required. There is a need to establish working groups on various issues (hydrological modeling and water use, and other issues related to the need for adaptation), with the support of both countries under the Joint Commission.

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B) Reducing vulnerability to extreme floods and climate change in the Dniester river basin

1. Name and short description of the project

Project name: '*Reducing vulnerability to extreme floods and climate change in the Dniester river basin'***.** The project's main goal was to reduce risks from climate change, and specifically from floods, by improving the adaptive capacity of two riparian countries - Ukraine and Moldova. Along with this task, the project aimed to further expand and strengthen cooperative management of the Dniester River water in coping the today's and likely future floods, taking into account both climate change and variability, and corresponding long-term impacts on water resources and floods intensity.

2. Concrete results achieved

- The concept of climate change vulnerability assessment , based on the patterns of current and future climate as well as on ecological, economic and social situation in the Dniester River basin, was completely realized;
- The results of one-dimensional modelling of floods in the Lower Dniester were transformed in the flood zones, which were then specified during field expeditions, with their following mapping and description;
- The modelling and mapping of flood risks in selected territories (Mogyliv-Podilskyy, Ukraine – Ataki, Moldova, as well as the middle stretch of the Dniester); further modelling of flood risks in the Dniester Delta is initiated;
- A series of interviews on flood alerts and flood communication with national and local representatives of responsible organizations took place in the basin; the overview on flood communication and information exchange in the basin was prepared;
- Two automated stations for flow monitoring and data exchange infrastructure were installed, in the Ukrainian part of the basin
- The international workshop on flood communication was organized in the basin (Lviv, Ukraine) which gathered together more than 60 representatives of all key organizations from Ukraine and Moldova, international organizations and external experts from Great Britain, the Netherlands, Poland, the Danube and the Tisza rivers basins. The local plans on flood communication for 4 communities in the basin were elaborated during the workshop.

3. If you look back on the overall achievements of the past 3 years, what are the most important outcomes of the project with regard to transboundary cooperation?

- For the first time, there was really realised a joint teamwork of Ukraine and Moldova experts on the very important climate change issue;
- A good background for future transboundary cooperation was laid in the efforts for climate change adaptation of the Dniester River basin's natural and social systems.
- The project, which was focused on flood problems linked to climate change and its impacts on Dniester water resources, tried for the first time to address these problems as single transboundary concerns.
- For the first time, the climate change scenarios as well as the water flow forecasts for the whole river basin were developed;
- Capacities for the monitoring and warning of transboundary floods have improved thanks to the installation of automated flow monitoring stations in the upper part of the basin;

4. How did you work on improving the link between researchers and policy makers/politicians? What lessons did you learn from doing this?

Many of the project's outputs directly intend to support basin management policies as well as decision-making on specific issues, such as adaptation to climate change (the development of a strategic framework is initiated - and widely consulted with basin stakeholders) as well as flow and flood management. On the latter topic it can be mentioned that the monitoring infrastructure installed by the project is directly linked to governmental institutions; flood modelling exercise responds to policy demands and aims at strengthening risk assessment base for local and national decision-making; work around flood communication is directly centred around national and local emergency response and other relevant

authorities.

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?**

Because awareness-raising and involving the local population was not included in the project activity as separate items, these two very important tasks were addressed mainly through presentation of the project's results at different meetings with wide public participation.

One of the project' components is implementation of the communication study that aims to assess the existing capacities and practices for the assessment of flood risks and the information flow related to flood management in the basin at the transboundary, national and local levels, including flood communication training workshops at the local level. This study is not directly focused on awareness-raising and public participation, but during its implementation local people will be fully informed about the project.

Various project activities are continuously covered by the media for instance the installation of flow monitoring stations in December 2012 generated some 30 news items in Ukraine's media. The project has also benefitted from wider awareness-raising work conducted by ENVSEC in support of Dniester cooperation (i.a. through the now completed Dniester III project).

The project's component on flood communication is mostly focused on research the level of information delivering and awareness-raising on flood-related issues of the local people in the basin. The representatives of the local authorities from selected communities in Ukraine and Moldova, as well as the local NGOs were invited to the international workshop and they took part in elaboration of the local plans on flood communication for their communities.

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

Vulnerability to climate change is driven by a wide range of factors covering various aspects of life (physical, geographical, environmental, social, economic, etc.). Thus, the assessment of river basins vulnerability and its reducing are impossible without wide involvement of all relevant sectors in this process. Because the project frameworks did not provide opportunities for direct inviting experts from each of such sectors, the main lesson is: a vulnerability assessment should be also based on all available research and scientific achievements that to some extent relate to the problem under study.

The 6th project meeting that was held at the end of 2012 gathered together the representatives of different sectors and regions of the Ukrainian part of the basin for clarifying and discussing the current situation on climate change activities and adaptation initiatives at the national and the regional levels. The discussion was also important for further project development, particularly for understanding how the project's goals and planned activities match national and regional actions and priorities for adaptation to climate change.

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

One cannot say about direct links of Dniester River basin vulnerability assessment to Moldova national adaptation strategies because the latter are still under development. However, all national measures and activities contributing to reducing the vulnerability to climate change and floods were used to formulate adaptation policies and recommendations.

In Ukraine, a national adaptation strategy is under development. In 2012 the Ministry of Ecology and Natural Resources of Ukraine organized a series of regional meetings for discussing climate change adaptation plans. The Ministry's representatives took active part in project meeting for Ukraine's sectors and regions in the Dniester basin,with the aim of taking it into account or/and including Dniester-related findings and experience into further national and regional climate change adaptation strategies.

8. **Future planned activities**

- Elaboration of the Climate Change Adaptation Strategy for the Dniester river basin
- The modelling and mapping of flood risks in the Dniester Delta
- Support to flood risk communication at the local level, including training and improving early warning infrastructure.

9. Other important lessons learnt

- The development of common understanding of the concept of vulnerability to climate change of a transboundary river basin and the approaches to its assessment.
- Awareness of the vital importance and effectiveness of a river basin approach in solving the problems dealing with river water vulnerabilities to climate change and floods.
- The need to subordinate the national and narrow sectoral interests (in particular, energy) to preservation of the river as a single natural ecological system.
- Expanding the understanding of flood protection not only as a set of engineering flood protection measures, but also as the "soft" management and general environmental protection activities.
- The permanent need to develop, coordinate and update the basin-level scenarios of changes in climate and river hydrological regime, with the assessment of their implications for the basin's natural and social systems.

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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

Pilot project on climate change adaptation: Building the link between the FRM planning and climate change assessment in the Sava River Basin

The project addresses the issues of transboundary management of floods in the Sava River Basin, while taking into account the impact of climate change under the different existing scenarios. The ultimate goal of the project is providing a basis for the preparation of the first **Flood Risk Management Plan for the Sava River Basin.**

2. Concrete results achieved

After the **baseline studies** on the activities related to the FRM planning in the Sava River Basin, as well as on the existing legislation related to the FRM planning and climate change, the initial **flood vulnerability assessment** in the Sava River Basin has been accomplished. According to the **Protocol on Flood Protection to the Framework Agreement on the Sava River Basin** signed by the Parties to the **Framework Agreement on the Sava River Basin (FASRB)** (Bosnia&Herzegovina, Croatia, Serbia and Slovenia) in 2010, which is in the phase of ratification[3], a draft **Program for development of the first Flood Risk Management Plan for the Sava River Basin,** the central task of this project, has been discussed at the three **consultation workshops** held within the project. After the assessment of the existing climate change scenarios for the region, an analysis of their possible impact on the frequency and magnitude of flood events has been performed. Consequently, a preliminary identification of possible adaptation measures in order to minimize the risk of flooding in the Sava River Basin has been presented and 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.

3. If you look back on the overall achievements of the past 3 years, what are the most important outcomes of the project with regard to transboundary cooperation?

This pilot project presents an important support to the efforts of the Sava countries to manage the water resources in the Sava River Basin in a cooperative manner. A number of expert meeting and consultations were held with national stakeholders and international partners to coordinate this project with other interventions in the region. Further on, the project representatives participated and contributed to several meetings within the UNECE programme of pilot projects on climate change adaptation in transboundary basins.

4. How did you work on improving the link between researchers and policy makers/politicians? 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, the Sava Commission Flood Protection Expert Group members are recruited from the relevant ministries, water agencies and institutes. However, the 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 website 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 harmonized with other sectors. The representatives of the sector of river basin

[3] Ratified by Bosnia & Herzegovina (2011) and Croatia (2012)

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, ISRBC, 2009) taken as a basis for the consideration of the adaptation strategies to the CC, 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 CC issue in the next cycle of the RBM planning for the Sava River Basin.

9. Other important lessons learnt

- Data collection and data access are sometimes representing a challenge within the project implementation.
- Engagement of local experts is often crucial for a successful project implementation.
- Involvement of **expert groups of the Sava Commission** was a great support for the Secretariat and a link to the other relevant experts of the Parties

10. Contacts

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

1. Name and short description of the project

Aim of the project (implemented by United Nations Economic Commission for Europe 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

- Assessment of the current state of the water resources of the Niemen River basin (quantitative and qualitative aspects), elaboration of the climate change scenarios and forecasting of runoff changes;
- Pilot implementation of common Lithuanian and Belarusian approach for assessment of water quality of surface waters in the entire Niemen River Basin taking into account Lithuanian experience for selected list of water quality monitoring stations (WQMS) and for selected list of water quality parameters including preparation a series of basin-wide maps regarding classification of surface waters quality;
- Analysis of the meteorological, hydrological, hydrochemical and hydrobiological monitoring systems in the Neman River Basin and preparation of the proposals for meteorological and hydrological systems optimization for climate change monitoring;
- Development of the common information platform (Internet database), containing data on water resources management and adaptation to climate change for the Niemen River basin countries;
- Estimation and forecast of the future climate change impact on the water quality at the highest generalization level;
- Development of the preliminary recommendation for improvement of water resources management in connection with climate change adaptation for Belarus.
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3. If you look back on the overall achievements of the past 3 years, what are the most important outcomes of the project with regard to transboundary cooperation?

- Climate change scenarios developed for the entire Neman River Basin;
- Assessment and forecast of water resources formation with account of different climate change scenarios for the entire Neman River Basin with use of Lithuanian and Belarusian models;
- Agreed indicators of water bodies status, along with respective criteria (values), and systems for classification of water bodies' state and parameters;
- Assessment of water quality with using agreed indicators and criteria;
- Proposals to optimize the monitoring systems with account of climate change;
- Common information platform (Internet database), containing data on water resources management and adaptation to climate change for the Niemen River basin countries.

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

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

- Meeting in March 2012, Grodno (Belarus) with discussion about outcomes of baseline study, environmental assessment of the Neman basin including results of activities regarding meteorological and hydrological data collection, proceeding, trends analysis and mapping of results and assessment of the future run-off under conditions of climate change as well as different scenarios for socio-economic development;

- Field trip Hrodno (Belarus) - Druskininkai (Lithuania) and project meetings with presentation of the general information about the project, main achieved results on climate change, forecast of water runoff and water quality assessment to the main stakeholders as well as discussion about reached results and future activities.

Main lesson which was learnt from these activities – to involve more stakeholders in discussion about adaptation measures to increase their effectiveness and likelihood for future implementation.

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 field trip, meetings and through distribution of the press release about project activities and reached results

Lessons learned – 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?

It is planned to involve other sectors in the project in the future through participation in discussion and improvement of adaptation measures.

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

National Strategy on water resources management taking into account climate change can be proposed for development. Some pilot projects for the concrete water users can be proposed for process optimization, improvement of water supply and water utilization systems with account to climate change.

8. Future planned activities

Presentation and discussion about main project results and about recommendation for improvement of water management in connection with climate change adaptation (two seminars: in Belarus and in Lithuania during 1-6 month of 2013).

Development of common strategy of adaptation to climate change for Neman River Basin.

Development of adaptation measures for particular sectors: energy, land use and planning, agriculture, urban development.

Maintenance and improvement of the informational platform.

Analysis and development of recommendations for improvement of the draft of the agreement between BY-RU-LT and EU.

Preparation of the Monograph on results of project including recommendations for the improvement of the water management in the Neman River Basin with account of adaptation to climate change.

9. Other important lessons learnt

First international experience in modeling and forecasting of climatic and hydrological characteristics for the entire transboundary Neman River Basin.

Pilot implementation of the assessment of surface water quality using agreed indicators and criteria.

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

1. Name and short description of the project

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) are still being 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.
Within the framework of the second part of the mandate to the ICPR it will now be examined:

- Which problems appear in which sector of water management due to existing knowledge or which problems are to be expected,
- how sensitive and vulnerable the current uses are or can be with respect to climate change,
- which ecosystem disruptions must be expected and
- whether and how one could react to the effects of climate changes.

At the end of January 2013, the ICPR stages a workshop on climate change and adaptation where these above mentioned aspects will be further discussed along with potential impacts of climate change on the Rhine, new project results and adaptation approaches and measures.
With this workshop, the current work of the ICPR working groups (ecology, water quality, floods) will make important progress - also considering the next Conference of Rhine Ministers in October 2013.

2. Concrete results achieved

We are in a transitional phase where results of the study are being discussed in our working groups. Therefore we do not have real concrete results in 2012 apart from the finalization of our report on the effects of climate change on the ecology of the Rhine, a draft catalogue of flood protection and low water management measures (based on a summary of regional, national and European measures) and the start of a model analysis to identify the (past and future) changes of Rhine water temperature. The results of this analysis will be further integrated into our climate report.

3. If you look back on the overall achievements of the past 3 years, what are the most important outcomes of the project with regard to transboundary cooperation?

First consistent basin-wide study (multi-model), improvement of knowledge on observed changes and future changes, relevant climate change scenarios in form of bandwidth of changes for two time-scales: 2050 and 2100 as a good basis for the development of a common adaptation strategy.

4. How did you work on improving the link between researchers and policy makers/politicians? 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 charged the ICPR to draft a climate change study and an adaptation strategy. At the end of 2013 a new Conference of Rhine Ministers will draw a balance of the work achieved by the ICPR.
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 the adaptation strategy. It is also very important to use or take into account measures that are already realized or planned.

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?

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.

6. 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. In the January 2013 workshop we hope to have more of a cross-sector discussion about adaptation measures.

7. 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.

8. Future planned activities

Summarize the workshop results and discuss them in our working groups, identify measures in each of our working fields (ecology, water quality, water quantity), prepare a summary for the Conference of Rhine Ministers 2013 and unite all the partial findings of the 3 different technical groups in one common adaptation strategy.

9. Other important lessons learnt

There are and will always be some uncertainties about climate change impacts but the trends are robust enough to act and develop an adaptation strategy.

10. Contacts

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F) AMICE: Adaptation of the Meuse to the Impacts of Climate Evolutions

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

AMICE-Adaptation of the Meuse to the Impact of Climate Evolutions-aims to give robust elements for a roadmap for a sustainable strategy face to climate evolutions at the Meuse international catchment scale.

2. Concrete results achieved

- The climate scenarios are now established and have shown interesting results about floods and low-flows trends. The method to obtain the projections is described in the final report which can be found on the website in EN (http://www.amice-project.eu/fr/amice-project.php?refaction=10) – Summaries are also available in FR, DE, NL and EN.
- A study on the statistical analysis of low-flows in Wallonia was published. Read more at http://www.amice-project.eu/en/news.php?refactu=98
- The hydraulic modelling to predict the water level in the frame of the climate scenarios is now achieved from spring to mouth (aggregating several local models) but also from Ampsin to Maaseik to validate the defined model. Results of this action are confidential for instance but summaries can be found in the 4 languages (http://www.amice-project.eu/fr/amice-project.php?refaction=11)
- The study on the quantification of the impacts of future floods and low flows on the economy in the transnational Meuse Basin is now ready. In the summaries and reports, the method for flood risk calculation is developed and outlined. The results are presented both at international and regional level. Report is in EN, summaries are available in FR, DE, NL and EN. More can be found on the website: http://www.amice-project.eu/en/news.php?refactu=95
- The roadmap for a strategy of adaptation is now written and can be found on the website in EN (http://www.amice-project.eu/en/amice-project.php?refaction=14). Flexibility and Multi-functionnality of the measures are notably recommended.
- Some actions were dedicated to promote the use of natural or agricultural areas to adapt face to floods and low-flows issues. In Belgian Ardennes, a study on how farmers can help in water management and flood protection by allowing their grasslands to be temporarily flooded was carried out in the Belgian Ardennes. Report is in FR, with a short summary in EN. Read more on our website: http://www.amice-project.eu/en/news.php?refactu=99. In the same area, a comparison between 2 little catchments, one with a restored wetland and one which is an agricultural area without wetland, was made to evaluate the buffer capacity of this restored wetland. Results of this hydroligcal monitoring will be available soon on the website in the EN version. The ecological monitoring of the wetland was finished. The report on the vegetation will be ready next summer but the one on dragonflies and butterflies is already available (not yet on the website, but this will be done shortly). At the community of Hotton, the works on the floodplain of the river Naives are finished too. In June there was a site visit to compare the situation in 2009 (we were there at the official launch of the project) and now and to admire the work done. The project is a combination of adaptation to Climate Change, Ecological restoration, Natura 2000 stakes, Innovative urbanism plans, Communication, Flood protection, Natural water storage and Water quality. Read more on the website http://www.amice-project.eu/en/news.php?refactu=85 and in issue n° 6 of our newsletter. At the Steenbergse Vliet, the dyke is now relocated, the riverbed was dug and the area was depolderized in order to create more space for water. Agricultural areas were transformed into natural areas, with the installation of bat homes notably, and a GPS route for the smartphones was created to develop the recreative properties of the area (some documents on the website in EN: http://www.amice-project.eu/en/amice-project.php?refaction=21).
- The works at the lock of Ham, where 4 huge Archimedes screws are being installed are ready. A field visit was organised the day the 4th screw arrived and was put in place. During winter (January-February 2013) the whole of the installation will be tested to be operational by spring. Read more on the website http://www.amice-project.eu/en/news.php?refactu=91 and in our latest newsletter (n°7)
- The AMICE-part of the works in ‘s Hertogenbosch (the HOWABO project) are finished. In September a site visit to this investment was coupled to a symposium on the WFD: ‘River of dreams’. Read more about this event in our last newsletter or on the website http://www.amice-project.eu/en/news.php?refactu=90
- The hydraulic modelling on the Rur basin was also achieved in order to improve the management rules of the hydropower reservoirs and to optimize the water flows both in flood and low-flows periods. The final

report is not available yet but some documents related to this action can be found on the website in the EN version (http://www.amice-project.eu/en/amice-project.php?refaction=32).

3. If you look back on the overall achievements of the past 3 years, what are the most important outcomes of the project with regard to transboundary cooperation?

Well, that there is actually cooperation, which was certainly not the case before the project. That we're able to have fun together and even managed to make an AMICE song.

4. How did you work on improving the link between researchers and policy makers/politicians? What lessons did you learn from doing this?

AMICE did bridge a couple of gaps: between science and practice, between countries, between people, but we must say that the bridge between science and policy makers is rather weak. We hope to amend this during our final conference where a political debate will be held on this subject. Moreover, in the last phase of the project it is planned to provide a complete overview of the results for the International Meuse Commission. A summary and a brief inventory of the outputs were ever sent for the next meeting of the Heads of the Delegations which will held on the 28th of June. Moreover, the IMC and the leader partner of the AMICE project signed a convention stipulating that the AMICE data will be hosted by the website of the IMC (EPAMA)

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 was done by the different partners in their own way; on project scale there are the newsletters (Meuse and Climate) that are send to some 700 people all over the Meuse basin and there is the internet-film which was done in the 3 languages (www.amice-film.eu). Partners in Hotton, Steenbergse Vliet, Aachenand 's Hertogenbosch organised information sessions for local stakeholders; Riou's local partners BNVS did a playful action for all inhabitants of the region and there were articles in their magazine Naturzeit about twice a year. A site visit was also organised on the Site of the Rur reservoirs in May 2013.

Moreover, based on the Wat-a-game concept, a decision-support tool will be conceived, targeting both students and elected personalities. For now, this "serious game" will be only designed on the French part of the Meuse basin but could be extended with an international approach.

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

AMICE is globally a partnership between water managers (on different levels) and scientists; most of the actions also have a nature conservation part in them; some partners also involved the agriculture sector.

We now feel this is not enough. On the other hand we don't think it would have been possible at the beginning to involve more sectors, as even the partners working in the same sector did not know each other and needed time to build up a good collaboration. The big absent party is of course the private sector (SME's as well as bigger companies); we now feel that in a further project they surely should be integrated. We then think about tourism, energy, architects, sand/clay/gravel exploitants, etc.

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

This was also done by the partners. In The Netherlands, the AMICE-actions in the SteenbergseVliet and 's Hertogenbosch were linked to the WFD during a conference which was organised especially with this aim. In Wallonia there is a very direct link between AMICE and the Groupe Transversal Inondations from the Walloon government which is an AMICE partner. The link is also directly done thanks to the involvement of public institutions directly attached to a Ministry in the partnership: it is the case of the CETMEF in France but also the Rijkswaterstaat in the Netherlands.

8. Future planned activities

Our final conference happened on March 13th-15th in Sedan, France. It gathered 200 participants.

5 workshops were organized to clarify ins and outs of the AMICE project, and the gaps which are still remaining. The conclusions of this event are also available on the website (http://www.amice-project.eu/en/amice-project.php?refaction=6) and permitted to identify some perspectives to keep the partnership active. There is a shared willingness to submit a new project based on the gaps identified in AMICE for the next Interreg programming period.

9. Others important lessons learnt

- It is great and a really good thing to be working along just one river (and its tributaries): the link and the common interests are obvious; it is also easy to make this visible; we're now assisting at

the development of something you could call a 'Meuse-identity'; it is still fragile, but if collaboration continues it can strengthen.
- International cooperation, however sincerely wanted by all of the partners, is not always easy as in some cases political blocks occurred which are difficult to overcome (new priorities defined in the Partners' organisations limit their time available for AMICE);
- It is useful to involve many stake holders (17 partners in the AMICE-project), but this leads to challenges in coordination and communication. Some Partners also faced difficulties with their local stakeholders;
- It is uncertain whether AMICE's recommendations will be implemented after the project ends, for example by the International Meuse Commission and by the different countries.

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

1. Name and short description of the project

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

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

2. Concrete results achieved

- The ecosystem monitoring system formation is in progress (70% of monitoring system established by Fall 2012 and construction of main international monitoring station started)
- For the multiyear (since 2002) vegetation monitoring transect between Torey Lakes the data for 2010-2011 were analyzed; vegetation cover dynamics in 2010-2011 in Mongolian part of Torey Lakes basin was analyzed
- The results of water- and shorebirds monitoring were used for the justification of decision of Zabaikalsky government to ban water-bird hunting in spring season
- New national wildlife refuge "The Gazelle Valley" was established, initial documentation for transboundary "Dauria" World Heritage Site prepared and submitted to WH Center
- The first report on the results of "Dauria going dry" project was prepared for publication in Russian, English and Chinese
- Assisted Water Agency in expert review and public hearings on "norms of allowable impacts" for Dauria water bodies

3. If you look back on the overall achievements of the past 3 years, what are the most important outcomes of the project with regard to transboundary cooperation?

- Strategic assessment of river management situation in the light of climate adaptation (published in report)
- Establishing wetland monitoring system in both Argun and Ulz basins
- Planning enhancement of protected areas network as one of key adaptation measures
- Mutual inspections and information exchange on water infrastructure and mining pollution impacts on transboundary river facilitated by the project

4. How did you work on improving the link between researchers and policy makers/politicians? 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 2010-12 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 granted support in 2011 from UNDP\GEF "Russian Steppe Conservation" Project administered by the Russian Ministry of Natural Resources.

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 schools, contacts with local communities during fieldwork. New report "Adaptation to climate change in river basins of Dauria" used to raise awareness among experts and decision makers.

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 of dynamics in 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 was used extensively in regional development and water

management processes such as official inspection of the Hailaer river-Dalai-lake Water Transfer Canal in 2011, bilateral assessment of gold mining impacts on transboundary watercourses in 2011, planning of low-carbon development under UN-Habitat Program in Erguna City in 2012, development of Sino-Russian Strategy for Transboundary Protected Areas Network 2010-11, etc.

8. Future planned activities

- To complete development of monitoring station network, organize regular observations at wetland and steppe ecosystems
- To develop Russian-Mongolian mechanisms to control and prevent negative human impact in transboundary Ulz River basin that is crucial for the Dauria International Protected Area (DIPA)
- To assess possible climate change implications on hydropower development and its likely impacts on the transboundary river ecosystems
- To assess effects and prospects of gold mining impact on transboundary river ecosystems along with effects of proposed hydropower
- To enhance transboundary cooperation and adaptation to climate change (including environmental flow) in the transboundary Ulz, Onon river basins
- To introduce Project findings and recommendations to target audiences: local population, media, local and national government, business, international development assistance agencies, etc.

9. Other important lessons learnt

National adaptation projects even with international funding are difficult to transform to address transboundary issues if this is not apart of initial project design.

10. Contacts

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H) Danube River Basin

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

"ICPDR Strategy on Adaptation to Climate Change" - In order to take the required steps on adaptation, the ICPDR was asked in the Danube Declaration to develop until 2012 a Climate Adaptation Strategy for the Danube River Basin.

2. **Concrete results achieved**

Strategy finalised and adopted by the ICPDR Contracting Parties in December 2012. The Strategy is available following the link: http://www.icpdr.org/main/activities-projects/climate-adaptation

3. **If you look back on the overall achievements of the past 3 years, what are the most important outcomes of the project with regard to transboundary cooperation?**

- First Strategy on adaptation to climate change which was developed for the whole Danube River Basin
- Generation of a common basin-wide understanding and development of a joint approach towards addressing the issue

4. **How did you work on improving the link between researchers and policy makers/politicians? What lessons did you learn from doing this?**

- A Study was elaborated by colleagues from research, collecting all available and relevant information on climate change and adaptation for the whole basin;
- The Study was presented and discussed in the frame of a workshop with experts from the different countries as well as with policy makers from the whole region;
- The results of the Study and the Workshop allowed for the elaboration of the draft Strategy, which was further elaborated with input and expertise from the countries;
- The elaboration process was set up in a way to allowed for the necessary exchange and improvement of the linkage between policy and research.

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 was done by making use of our communication channels (e.g. Danube Watch, Website, etc.) as well as the distribution of information via our network of experts and observers. The participation of experts and representatives from the whole basin was important for the process and the generation of a common understanding. The Strategy is targeting issues which are relevant to be coordinated on the basin-wide scale, to be complemented by further detailed strategies and activities on the sub-basin/national/local level.

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

The ICPDR is working in close cooperation with its Observer Organisations which include representatives from different sectors (e.g. navigation, hydropower, etc.), NGOs and other interested parties. The Observer Organisations are regularly participating in the different meetings of the ICPDR Expert Groups and provide their direct input during the elaboration process of respective documents, including the Strategy on Adaptation to Climate Change. The involvement of different sectors was in addition ensured by participation in the workshop. The ICPDR is significantly benefiting from the involvement of and open discussions with the different sectors, improving the quality of the different products and documents.

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

National adaptation activities were analysed and taken on board during the elaboration of the Study, which provides the basis for the Strategy. Furthermore, national experts were involved during the elaboration process of the Strategy, ensuring coherence between basin-wide adaptation and national adaptation activities. This approach is also used for the coordinated implementation of the EU Water Framework Directive and the EU Floods Directive in the Danube River Basin, where significant experience

could be gained during the last decade.

8. Future planned activities

Following the finalisation of the ICPDR Strategy on Adaptation to Climate Change, the Strategy needs to be implemented. The main tools therefore are the EU Water Framework Directive and the EU Floods Directive and related (updates of) management plans, to be finalsed by the end of 2015. The preparation phase for those management plans already started and adaptation to climate change is taken on board during the related discussions. Following a cyclic and adaptive approach, the need for an update of the Strategy will be checked by 2018. The Strategy also indicates gaps and further research requirements, which have to be addressed in the coming years.

9. Contacts

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I) Drin River Basin

1. Name and short description of the project

Internationally Shared Surface Water Bodies in the Balkan Region (funded by GIZ)
http://archive.iwlearn.net/watersee.net/watersee.net/drin-river.html
http://www.gwp.org/GWP-Mediterranean/gwp-in-action1/News-List-Page/Drin
According to the national communications to UNFCCC from Albania, Montenegro and Macedonia, as well as to the report 'The state of water in Kosovo', climate change will have serious impacts in the Drin river basin. Scientific evidence shows that climate change and increasing climate variability can pose a double challenge to the development of the countries of the Drin river basin. Firstly, increases are expected in the frequency, extent and intensity of weather and climatic hazards.

On 27-28 May 2013 in Tirana Albania, the Inception meeting for the GEF Drin Project (approved by GEF council on November 15, 2012) was held, as well as the First Meeting of the Parties.
At the meeting, the Parties of the MoU reported on latest development in the basin and Ministers adopted the Conclusions on proceeding with Preparational Phase of the GEF Drin Project and for the implementation of the Action Plan within MoU. Parties also made a conclusion to invite European Commission to become a ful member of Drin Core Group. The Drin Core Group on its 8th meeting also adopted a proposal for a communication strategy on the following period proposed by GIZ.

2. Future planned activities

- The web-based monitoring and alert platform will include real time data for establishing a flood alert system and no real time data for analysis purpose. The data will be jointly assessed at regional level (based on modelling tools) in order to develop an early warning system, as well as a common understanding of the hydro-meteorological processes leading to the floods. Furthermore, the needs for additional stations in the Drin basin will be assessed.
- Joint, regional review of the legal and regulatory framework regarding to climate change adaptation, as well as advisory services for preparing legal and regulatory texts in some countries. The focal points for climate change will lead this process, in cooperation with existing or to be created inter-ministerial commissions in the different countries. In some countries, this process will lead to the development of national adaptation strategies.
- Development of flood hazard maps and floods risks maps by national institutions (for the areas where they are not yet available), as well as the preparation of local flood risk management plans including preparation, protection and preparedness. The local governments will have a lead function and the land owners/users will participate to the process.

The overall time frame is 2012-2017. The activities will be mainly implemented from 2013 to 2016.
The intervention area is the Drin river basin including all connected water bodies in Albania, Montenegro, Kosovo and Macedonia.
Greece, having a very small part of the Drin river basin, has not been included in the project directly, but will participate indirectly through the Lake Prespa working group and the Drin Dialogue.

3. Contacts

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

1. Name and short description of the project

The consultation mechanism of the Northern Sahara Aquifer System (SASS) was established in 2002. In June 2007, the Ministers in charge of Water Resources of the three countries (Algeria, Libya and Tunisia) defined its structure, coordination and budget. OSS hosts the consultation mechanism.

2. If you look back on the overall achievements of the past 3 years, what are the most important outcomes of the project with regard to transboundary cooperation?

The work of the OSS, have integrated directly or indirectly a set of potential impacts of climate change on the SASS Basin:

Since 2009, the work of SASS program enters a new phase and is moving towards the agricultural use and the users of the resource (about 80% of SASS water is used for agriculture) while strengthening the system monitoring of the aquifer. Thus activities focus on (i) the development of a hydro-economic model from a series of surveys on 3,000 farmers across the Basin and (ii) the establishment of six pilot demonstrations for sustainable use of the resource in the farms (desalination, photovoltaic systems for water pumping, improved drainage, etc..), improving the added value of water and farm incomes.

3. Future planned activities

As part of its 2020 strategy, OSS and its national partners plan to support countries in the consideration of climate change in their policies / sectoral strategies (Water, Energy, Agriculture, ...)

- The progressive integration of socio-economic aspects related to the water use and its efficiency, especially for agriculture and water quality (pollution from human activities, saline groundwater intrusion) in OSS programs will strengthen the integrated management of this resource. Particular attention should be paid to (i) updating the database (WISDOM) of the water points common to the three countries, (ii) sustainability of the optimal monitoring network of piezometers and water quality to make it representative of the evolution of withdrawals and (iii) the implementation of tools based on data from Earth Observation to help in the estimation of water withdrawals in the basin.
- The institutional evolution of the dialogue mechanism into a real permanent observatory of the SASS focusing on monitoring of withdrawals and water quality. Strengthening the role of the consultation mechanism on the SASS by:
  • A detailed identification of issues and outcomes of national development policies with regard to the area of the SASS;
  • An improved knowledge of sectoral investment issues;
  • A progressive implementation of the resolution of the UN General Assembly on transboundary aquifers based on a thorough analysis of national legislation.

4. Contacts

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K) Niger River Basin

1. Name and short description of the project

TITLE: ***Reinforce the knowledge and capacities in integrated water resources management within the Niger Basin to benefit of communities and resilience of ecosystems***

This project is coherent with the GEF Strategy related to the International Waters. It is about the implementation of the Strategic Action Programme of the Niger Basin which was adopted in 2010 by the Niger Basin Authority country members. It should catalyse the cooperation among the nine States, in order to provide a balance in the conflicting water uses in the surface and groundwater transboundary basins, taking into account the climate change variability.

2. Concrete results achieved

Under the first title, « To reverse the *Trends of Ground and Water degradation* » , the project has the main following outcomes: (I) Institutional and operational System for management of the Project; (II) awareness raising to environmental issues and challenges within the basin and reinforcement of local and national capacities; (III) Capitalisation of environmental and socio-economic data at basin scale et elaboration of monitoring indicators (IV) Setting up of regional links and networks of GEF international water projects, adoption of Strategic Action Plan (PAS) for the management of transboundary environmental issues in the basin by 2027; integration of the PAS into the PADD (V) Joint Actions to help local populations in environment field (108 micro-projects et 9 Pilot Projects).

3. **If you look back on the overall achievements of the past 3 years, what are the most important outcomes of the project with regard to transboundary cooperation?**

The cooperation allowed :

- The facilitation of exchanges on lessons learnt and good practices
- The facilitation of the user and manger participation in the transboundary groundwater management
- The creation of a platform for exchange of experience at various scales and the support of better communication and fund-raising

The support to member-states to allow implementing their commitments related to international conventions and agreements: Biodiversity, international waters, UNFCCC, UNCDD, etc..) which are an international joint action to face the basin challenges.

4. **How did you work on improving the link between researchers and policy makers/politicians? What lessons did you learn from doing this?**

- To increase awareness in the communities about the environment and facilitate the consultations
- to reinforce capacities in the field of environmental management by developing synergies with other actions and linking efforts with national and local capacity building. This was done through the following programs:

• Support the International Waters Programs IW: Learn

• Strengthening relations with the Pan-African and international networks basin organizations (INBO RAOB, AMCOW, etc.)

• Cap-Net Programme (UNDP): support to the Monitoring and Indicators Program (TMP)

• UNDP Projects : assessment project on partner aid, Millennium Villages Programme (CMR), support Project to civil society in Niger, Mali, Burkina Faso and Guinea, other initiatives in risk management and vulnerability to CC.

- German Cooperation (BGR / BMZ): project "Support to the NBA for the groundwater management in the Niger basin " (period 2010-2017);
- World Bank: PDREGDE / ABN (period 2009-2019;
- Involvement of Community Based Organizations (CBOs), private operators in achieving the grassroots' level actions for ITDTE is realistic and has to be replicated through micro-grants projects and pilots;
- The provision of CBOs with legal statutes and competences is a stake for the sustainability of their achievements as activities generating incomes;
- The need to build capacity (actors and tools) for the production of information resources and transboundary environmental data.
- The outcomes of the International waters Programme *IW : Learn*

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 implementation of the project has implied a large number of stakeholders (UGCP, ENP, CRP, CNP, CLCS, SCST, SFN, ETR, ETN, OCB, ONG, etc.) but the cost of their activities has been too high according to the project budget.

If some have played their roles properly, others have seen their performance below expected results.

The implementation of micro-grant projects shows that the assertion of the shared vision and the visibility of the NBA is based on the involvement of grassroots communities through concrete socio-economic development.

At the political level, political, institutional and financial commitment of NBA, Heads of state and governments of the two countries and agencies implementing the GEF subsidy (World Bank and UNDP / UNOPS) have been a catalyst and factor of success. These commitments are a guarantee of success and sustainability of achievements and should be encouraged.

The involvement of all the different categories of stakeholders (state in areas of water, agriculture, livestock and fisheries, forestry, local governments, NGOs , traditional leaders, private operators, etc..) in the implementation of the local program, has achieved all the objectives and activities of the micro-grant program.

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

Some difficulties were experienced: (I) The connection of the institutional National Project Team (ENP) systematically housed within the directorates responsible for water resources have not allowed other technical departments (environment, livestock, agriculture, sanitation) to owner the activities of their prerogatives; (II) The distance (500-800 km in some countries such as Benin, Ivory Coast, Guinea, Mali, Niger and Chad) of the micro projects according to the headquarter of the ENPs (located in capitals) did not allow the subsidy advisors to begin their regular supervision missions and supervision of community organisms (OCB). In order to promote the transfer of achievements at the end of the project, the effective involvement of relevant technical departments is a necessity.

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

Through the financing of projects by micro-grants, directly targeting socioeconomic needs and concerns of OCBs which is a key element to ensure effective involvement of all local stakeholders.

The implementation of pilot projects and micro-grants has achieved tangible results in terms of revenue generation, improve food security and protect the environment.

However their sustainability cannot be guaranteed without operational support of CBOs and reconciliation of their socio-economic needs with those actions to protect the environment.

8. **Future planned activities**

- It is important to adapt the water and water use management to climate change issues: droughts, floods, in a concerted inclusive framework (managers, users and vulnerable communities);
- To improve the forecasting computer system (SIP) in order to take into account the risk management associated with CC;
- To propose, in a sub-basin pilot, management measures to reduce flood risk and / or the magnitude of its consequences;
- To develop, in wide coordination, a drought management plan in areas at high risk of drought (zone with intensive hydro agriculture or high ground water withdrawal)

9. **Other important lessons learnt**

The sustainability of certain actions of the OCB developed on borrowed lands such as vegetable production perimeters of women (Bamako, Boula in Burkina Faso, etc.), without long-term lease, are subject to insecurity and land conflicts, as it is the case in PPD of Batamani (Mali), the reforested plots in rural municipality of Konan in Guinea. ABN should pay more attention to issues of tenure security as a prerequisite to implementing local ground actions.

Mechanisms for monitoring and evaluation of project activities did not regularly measure progress and assess achievements on an objective basis of qualitative and quantitative indicators specified in the logical framework matrix and results. This has reduced the performance and the impacts of the project.

10. **Contacts**

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L) International Commission of the Congo-Oubangui-Sangha Bassin (CICOS)

1. Name and short description of the project

- Project African Monitoring of the Environment for Sustainable Development (AMESD)
- Project support to the management of the water resources in the Congo Basin

AMESD is a continental project. For Central Africa (based in CICOS) the thematic focus is IWRM. One of the products realized is a water level forecasting model for Ubangi basin. The aim of this product is to make available forecasting level for navigators to adapt their loads or date of departure.
FFEM project will permit to build an hydrological and allocated model of Congo Basin in which climate forcing will be integrated.
Congo HYCOS project aims at establishing sustainable hydrometric network in the Congo basin.

2. Concrete results achieved

The AMESD project is to be completed soon, the model is constructed and a newsletter for awareness-raising has been sent to actors involved in navigation.
Tenders for the FFEM allocated model have been carried out.
The launching seminar of the Congo HYCOS was held in November with support from the UE and FFEM funds.
Capacity building of the National Hydrological Service within the OIEAU project (UE funds)

3. If you look back on the overall achievements of the past 3 years, what are the most important outcomes of the project with regard to transboundary cooperation?

AMESD and Congo-HYCOS have given opportunities to share experiences between CICOS countries on hydrological services and also on how to sensitize policy makers toward water resources

4. How did you work on improving the link between researchers and policy makers/politicians? What lessons did you learn from doing this?

CICOS works with scientists (like IRD) but such a cooperation is not very developed yet. CICOS it's an official institution so links to policy makers are established but there still a lot of work to be done in this field. CICOS is working on creating a platform for collaboration in the countries .

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 meetings listed above included experts and policy makers. Local population did not take part in meetings but we are working on this.

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

IWRM is a large mandate so we have to discuss with many sectors (hydropower, navigation, fishery, environment, etc.). Representatives are invited to some of our workshops and we involve them in a specific project like SNEL (DRC electric conveyor) in AMESD but it still difficult to have a sustainable partnership.

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

Some products like AMESD are directly provided to final users.
For Congo-HYCOS, the experts of the hydrological services are involved at each step of the project and are trained as well as the CICOS expert within OIEAU project.

8. Future planned activities

We need to estimate with more accuracy what is the dynamic extend of the flooded areas. We've initiated works on this aspect but we couldn't succeed due to a lack of funds.
Hydropower is one of the main axes of development in the region and learning more about the possible consequences on the production is strategic to make sustainable development plan.

9. Other important lessons learnt

The sustainability of a service depends on many factors and has to be very careful (for example having always updated data is really difficult)

The capacity building is very important because experts in the countries are not used to new technologies and are not sensitized toward climate change effect.

10. Contacts

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M) Upper Paraguay River Basin (BAP)

1. Name and short description of the project

Upper Paraguay River Basin (BAP): The BAP contains the headwaters of the Paraguay River (in the upland Cerrado area) and the Pantanal a complex seasonal flooding and drainage area. The region is threatened by increasing pressure from deforestation and fires to clear space for allow for spreading agriculture and cattle ranching and an increasing demand for energy. Currently, in the Brazilian portion of the Basin there are 18 hydro dams in operation. In the coming years, 23 additional hydro dams are planned. The aim of this project is to develop a protocol for monitoring the state of the ecosystems in the basin and establish long term monitoring that can inform policies on the best water management arrangement to meet the different needs in the region.

2. Concrete results achieved

This project is in fund-raising phase so there are no results to report for 2012.

3. If you look back on the overall achievements of the past 3 years, what are the most important outcomes of the project with regard to transboundary cooperation?

See response to question number two.

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

See response to question number two.

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?

As part of our fund-raising strategy we are working directly with the local environmental agency (State Secretariat of Environment) to develop proposals to major funding sources such as the Amazon Fund (BNDES). We have also conducted multi-stakeholder workshops in each of the countries (Brazil, Bolivia, and Paraguay) in order to engage these stakeholders and to assess ongoing research programs that can contribute to the monitoring program.

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

We are involving the state government of Mato Grosso do Sul (MS) in the fundraising strategy. We have done this by providing technical support for them to submit proposals to major funding agencies. We have involved academia in all three countries, through workshops, in order to assess ongoing research that can contribute to the monitoring program. Finally, we have engaged funding agencies.

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

We are making the link through the new Brazilian Forestry Law. According to the law, rural properties have to enroll in a national registry system (CAR – Cadastro Ambiental Rural) which is the first step in the assessment of environmental compliance, that will be followed by corrective measures such as restoration of legal reserves and other permanent protection areas.

8. Future planned activities

Submission of proposals to the Amazon Fund.

9. Contacts

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