



Environment Division  
UN Economic Commission for  
Europe



Office of Co-ordinator of OSCE  
Economic and Environmental  
Activities



**Fifth meeting of the Working Group on Flood Management and Adaptation to Climate  
Change under the Dniester III floods and climate project  
7 June 2012, Chisinau 9.00- 17.00**

**List of participants**

1. Victor Bujac, Ministry of Environment, Apele Moldovei, Republic of Moldova
2. Ivan Gooch, Ministry of Agriculture and Food Industry, Republic of Moldova
3. Anatoliy Drozdov, Research Centre "Monitoring", Republic of Moldova
4. Ivan Ignatiev, NGO "Ecospectrum-Bendery", Republic of Moldova
5. Lazar Kirika, Ministry of Environment, Republic of Moldova
6. Roman Corobov, International Environmental Association of River Keepers "Eco-TIRAS", Republic of Moldova
7. Valeriy Kotet, Local Council, Speya, Republic of Moldova
8. Ruslan Melian, Institute ACVAPROJECT, Republic of Moldova
9. Larisa Mungiu, Local Council, Pugacheny, Republic of Moldova
10. Elena Nikolaeva, Village Council, Sherpeny, Republic of Moldova
11. Mihail Pencov, Ministry of Environment, Apele Moldovei, Republic of Moldova
12. Ludmila Serenco, State Hydromet Service, Republic of Moldova
13. Dmitry Sireteanu, National Centre for Public Health, Republic of Moldova
14. Vasily Scorpan, Ministry of Environment, Republic of Moldova
15. Gennadii Syrodoev, Institute of Ecology and Geography, Republic of Moldova
16. Ilya Trombitsky, International Environmental Association of River Keepers "Eco-TIRAS", Republic of Moldova
17. Mykola Babych, Independent expert, Ukraine
18. Valeriy Babchuk, State Agency on Water Resources of Ukraine
19. Vera Balabuh, Ukrainian Research Hydrometeorological Institute
20. Ludmila Gorbacheva, Ukrainian Hydrometeorological Center
21. Jan Dzyuba, Dniester-Prut Basin Board on Water Management, Ukraine
22. Mark Zhelezniak, Ukrainian Centre of Environmental and Water Projects
23. Natalia Zakorchevna, University "Krok", Ukraine
24. Aleksey Ishchuk, GIS Analyst Center, Ukraine
25. Pavel Kolomiets, Ukrainian Centre of Environmental and Water Projects
26. Ludmila Mala, Ukrainian Hydrometeorological Center
27. Lilya Michenko, National Environmental NGO "Mama-86", Ukraine
28. Yuriy Nabivanets, Ukrainian Research Hydrometeorological Institute
29. Anatoliy Shmurak, State Agency of Environmental Investments, Ukraine
30. Daniel Viltchnig, "Communal Public Consulting"
31. Nickolai Denisov, Environment Network "Zoi"
32. Maya Valivaara, Finland Embassy (Bucharest)
33. Sonja Koepfel, UNECE Water Convention Secretariat
34. Aleksandr Martusevich, Organization for Economic Cooperation and Development
35. Caterina Melnichenko, UNDP in Moldova, "Disaster and Climate Risk Reduction Project"
36. Boris Minarik, Slovak Hydrometeorological Institute, International Water Assessment Centre
37. Ales Pakl, AQUATEST a.s. Office
38. Hanna Plotnykova, Office of the Co-ordinator for OSCE Economic and Environmental Activities, OSCE Project Co-ordinator in Ukraine

The fifth meeting of the Working Group on Flood Management and Climate Change Adaptation was opened by representatives of the Republic of Moldova and Ukraine. The former referred to the recent discussion of the Ukrainian water strategy in the Ukrainian parliament, the latter highlighted that the Dniester covered more than 50% of the Moldovan territory.

Representatives of UNECE, OSCE and UNEP also addressed opening words to the participants describing the progress of the project which was one of the most advanced in the UNECE programme of pilot projects on climate change adaptation in transboundary basins.

### **Climate change impacts assessment, scenarios and modelling<sup>1</sup>** ***Modelling, forecasting and risk mapping***

Iurii Nabyvanets, UHMI Kyiv, presented the final results of the climate change modelling in the Dniester basin performed for the main river channel as well as 7 sub-basins. The study forecasted a temperature rise by 2050, while for precipitation the climate change impacts were less clear. The overall amount of precipitation would not change significantly, but the variability throughout the year would change. Especially in the Summer precipitation is expected to decrease which will also lead to a reduction of run-off. Winters may be milder and shorter, the vegetation period may be prolonged. Spring flooding will occur earlier. Extreme weather events, including droughts and heavy rains, are likely to become more frequent and intensive.

Several participants raised questions, for example on the data used from the Republic of Moldova, the consideration of groundwater in the modelling exercise as well as the selection of the models and calibration of data. Following comments it was agreed that the report will be revised, and that additional written comments could be sent by 15 July 2012. It was also suggested that, due to the high uncertainty about future flood levels, the resilience of the current flood protection system to deal with a 15% increase of flood levels could be analysed.

Subsequently, Mark Zhelesnyak, UCEWP Kyiv, presented the results of task 4-6, i.e. detailed flood modelling and mapping in two selected sites stressing that in this exercise 2D modelling was used for the first time on the Dniester basin. This approach, illustrating how infrastructure would be affected by different levels of floods, corresponded to practices used for risk assessment in the European Union. In addition to the modelling, hydrometeorological services had been trained. The modelling for Mogilev-Podolsky had demonstrated that flood risks in this area may increase, and that urgent preventive action was needed. For middle stream of the Dniester, due to the unavailability of some necessary data and limitations of resources in the project only 1D modelling could be implemented at this stage. That however already gave a reasonably detailed picture of possible dyke overflows in case of floods of various magnitude for the areas where data have been available.

Participants highly welcomed results of this flood modelling/ mapping which could be directly used by decision-makers. The representative of Moldova expressed the wish that 2D modelling could also be implemented for the Dniester Delta (this request has been followed-up and studied in detail by the project implementing agencies in consultation with Ukrainian and Moldovan counterparts).

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<sup>1</sup> All presentations are available at:  
<http://www1.unece.org/ehlm/platform/display/ClimateChange/Dniestr+project+meeting+07.06.2012+in+Chisinau>

## **Monitoring, information and communication**

Representatives of Ukraine and UNEP/ Zoi presented the plans for construction of 2 automatic monitoring stations in the Ukrainian part of the Dniester river, to be financed from the project. It was stressed that the data to be collected from these stations would also be shared with, and thus benefit, the Republic of Moldova and the Ukrainian part of the basin downstream.

In its turn, the representative of Moldovan Hydrometeorological service presented the project on the Prut where 18 automatic monitoring stations had been planned / constructed with funding from the Czech Republic and the World Bank. She stressed that data from these stations in combination with techniques such as the 2D flood modelling and mapping could help prevent flood damage. It was therefore agreed that training was needed to apply and use the 2D modelling methodology.

While originally it was foreseen within the project to also construct additional stations in the Republic of Moldova, this was deemed unnecessary since such stations were being or had already been constructed in the framework of other projects (see the paragraph above). The project resources which had become available through this development could be used for performing detailed flood modelling/ mapping in the Dniester delta area as it had been requested by the Republic Moldova.

Subsequently, Nickolai Denisov, UNEP/ Zoi presented the plans for activities on flood risk communication under the project to be implemented in the second half of 2012 which included the preparation of a study as well as the organization of a flood risk communication workshop in the basin and support to several local flood communication plans.

## **International / European projects and relevant activities**

Several representatives of various organisations presented their related international or European projects and activities. Most presentations are available on the meeting website:

- ECO-TIRAS projects: Ilya Trombitsky, Eco-Tiras and Ivan Ignatiev,
- relevant EU projects: EU CLIMATE ADAPT, Carpathians project: Sonja Koepfel, UNECE
- ENVSEC projects: Nickolai Denisov, Zoi
- OECD project: “Improving the environmental quality of the Black Sea through better waste water treatment and climate change adaptation of the water sector in Moldova” : Alexander Martoussevich, OECD/ Daniel Wiltschnigg
- UNECE: progress of other pilot projects under the Water Convention and the platform: Sonja Koepfel

In this regard, Ms. Melnichenko referred to the UNDP Moldova project on risk assessment where risks and coping strategies had been discussed in several local communities in the country.

In addition, the new project by the European Investment Bank was mentioned, as well as the need for cooperation with this project which included a significant amount for flood protection investment.

## **Integrated vulnerability assessment**

Subsequently, UNECE consultants Roman Corobov and Natalia Zakorchevna presented the first draft of the basin-wide vulnerability assessment report which will be the basis for discussion of adaptation measures. The presenters also mentioned difficulties and remaining gaps in the report such as availability of data as well as missing comparability of data from

Ukraine and Moldova, lack of clear results regarding future flooding etc. The draft report was generally positively evaluated by participants from the riparian countries as well as from international organizations. Several participants suggested the consideration of different literature and data sources for the revision and completion of the report. It was agreed to prepare the (near-)final version of the report by the next meeting of the working group, scheduled for December 2012.

### **Action plan for adaptation to climate change and flood risk management**

The action plan for adaptation to climate change and flood risk assessment will be developed as final project deliverable in 2013. As a first step for its development, the participants discussed in groups vulnerable locations, sectors, as well as potential adaptation measures, especially considering the transboundary perspective specific for the project. The following list contains selected results of this first brainstorming:

#### ***Vulnerable hotspots:***

- Carpathian part of the basin
- hydropower plant- Dniester reservoir
- Olanesti-Palanca
- lower Dniester / delta area

#### ***Possible adaptation measures:***

- improvement of sewage systems
- improvement of monitoring
- exchange of data
- implementation of EU Water Framework Directive, improvement of joint water management, development of river basin management plan for Dniester
- revision of rules for infrastructure especially, for the Dniester reservoirs
- modernization of infrastructure, water supply and sanitation systems
- regulation of different water uses especially in the lower Dniester, e.g. for irrigation etc., increasing of water use efficiency
- education and awareness-raising for water saving
- economic instruments, water pricing

#### ***Vulnerable sectors requiring action at the transboundary level:***

- water resources
- fish resources
- energy
- agriculture

### **Future activities, next meeting of the working group and closing**

The working group discussed possible future activities beyond 2012. The project management team informed that it was in the process of searching resources for a possible continuation of the project beyond 2012-13. Such a follow-up project would aim at developing a full adaptation strategy as well as at implementing selected measures, in particular in a transboundary context. Country representatives expressed hope that the Dniester treaty would be signed soon, and that its implementation too would be supported through ENVSEC. The working group agreed to hold its next meeting in December 2012 in Ukraine.