



ROADMAP FOR AN ACTION

Priority Area 5 – To manage environmental risks

Action 8 – “To develop spatial planning and construction activities in the context of climate change and increased threats of floods”. Flood prevention activities imply the cooperation of national, regional and local authorities in terms of land-use and physical planning. Spatial Data Infrastructure for the Danube Region needs to be developed through increased cooperation, coordination and data exchange, as required under the INSPIRE Directive. Adequate land-use needs to be identified and agreed in an integrated way, and priority actions such as the promotion of sound forest and pasture management, the minimising of plough lands on the slopes of hills or the protection of biodiversity and restoration of ecosystems and natural river courses need to be taken across the Danube Basin area. Urban and housing development need to take account of climate change factors. Cities and towns in the Basin should be encouraged to share experience and best practice in this field.

Milestone n°1: Exploring areas stricken by droughts and water shortage, problem management in the Danube region

- **Work:**
 - a) Exploring areas stricken by droughts and water shortage, and classifying them into clusters taking into account of the impacts of climate changes (spatial characteristic of the exposure and sensitivity to climate change)
 - b) Developing special actions for each cluster to manage problems caused by droughts and water shortage
 - c) Assessment of the spatial characteristic of the adaptive capacity and adaptation options for each cluster
 - d) Elaborating integrated professional principles for transboundary regions
 - e) Preparing action plan
 - f) Preparing intervention plans
 - g) Implementing interventions
- **Output n° 1:** Executing intervention plans
 - **Responsible:** SG
 - **Deadline:** 2015 for Works a.)-f.)
end of 2020 for Work g.) (depending on Work f.)

Output no 1: In line with the agreed PA5 Target: „To address the challenges of water scarcity and droughts based on the 2013 update of the Danube Basin Analysis and the ongoing work in the field of climate adaptation, in the Danube River Basin Management Plan

to be adopted by 2015”, work is ongoing in the frame of the ICPDR on the issue of water scarcity and drought. A questionnaire on the issue was developed and feedback provided by the Danube countries, and discussed at the 37th RBM EG Meeting and 11th ICPDR Standing Working Group Meeting in May and June 2013. Based on the results of the discussions it can be summarised that water scarcity and drought is not considered at this stage as a significant water management issue at the Danube basin-wide scale but at national level in some countries. The main sectors which were reported by countries to be affected by water scarcity and drought include agriculture, water supply, biodiversity, other energy production, hydropower, navigation and public health. Water scarcity and drought was reported to be addressed by a number of countries in the national River Basin Management Plans, where specific measures are planned or already under implementation (e.g. increase of irrigation efficiency, reduction of leakages in water distribution networks, drought mapping and forecasting, education of public on water-saving measures, market-based instruments, wastewater recycling and rain water harvesting). Relevant steps will be taken to address the issue in the 2013 Update of the Danube Basin Analysis and the 2nd Danube River Basin Management Plan by 2015. In case measures are foreseen and agreed by the Danube countries to address water scarcity and drought on the basin-wide scale, they are planned to be incorporated in the Joint Programme of Measures of the Danube River Basin Management Plan. However, a further exchange on the topic in the frame of the ICPDR via the exchange of best practice examples was indicated to be the preferred approach for addressing the issue at this stage.

Milestone n°2: Measurement of land use aspects (forestry, agricultural and land cover related land uses etc.) of protection against flood, and developing recommendations for the application of land use aspects in flood risk management plans.

- *Work:* Evaluating and comparing the land use of the flood prone area and land cover changes due to climate change; evaluating the land use of the regions exposed to flash floods taking into account the climate change impact; developing model recommendations on land use changes, integration into flood risk management plans.
- *Output n° 1:* land use maps (current status and planned land use); flood risk management plans
→ *Responsible:* SG
→ *Deadline:* 2017

Output no 1: Not relevant as yet.

Milestone n°3: Development of spatial planning research program and methodology for the sake of harmful effects mitigation of climate change

- *Work:* Laying down principles; underlying R&D (spatial vulnerability assessment, spatial characteristic of mitigation capacity); delimitation of special areas (zones) regarding climate change sensitivity and vulnerability; developing spatial planning and regulation directives; action plan
- *Output n° 1:* spatial planning and regulation directives; action plans
→ *Responsible:* SG
→ *Deadline:* 2018

Output no 1: Not relevant as yet.

Milestone n°4: Principles of climate-friendly city structure and integration of climate-aware architecture solutions in the regulation of different sectors

- *Work:* R&D for understanding the maturation and dynamism of ‘urban heat islands’; erection of urban energy cycle model; elaborating planning and regulation directives for reduce heat-load; working out standard regulation background in connection flood-safe building construction and preparation of buildings for water shortage; action plans;
- *Output n° 1:* model of urban heat islands; planning directives for reducing heat-load; regulation
 - *Responsible:* SG
 - *Deadline:* 2021

Output no 1: Not relevant as yet

GAPS:

1. ???