



## Danube River Basin Lifelines – Chances and Threats to Sustainable Development

### No deterioration: Green Infrastructure instead of new dams!

2015 is the year of the second Danube District River Basin Management Plan 2016 to 2021 organized by the International Commission for the Protection of the Danube (ICPDR). 2015 is a year to care for sustainable development across the basin with EU's Danube Regional Strategy, too. Are we on a good way to sustainable development?

Yes and no. Yes, because river basin management planning with the aims of the European Water Framework Directive (WFD) can lead us to better water quality and to a better status of water habitats. The Danube Strategy can help us to find common solutions and to improve basin wide communication on sustainable development, biodiversity, tourism, energy and other issues.

No, because many developments are not really sustainable. Yet, nowadays nearly everybody claims to have sustainable solutions but often a closer look is necessary. The biggest threat to river ecosystems and aquatic biodiversity are structural measures in the rivers, energy policy and the intensification of agriculture. Also of importance are the issues of good drinking water, of sewage water treatment and flood protection.

The implementation of the European Floods Directive is on the agenda for 2015, too. Floodrisk-managementplans should help to be better prepared for flooding. Implemented together with the river basin management plans they can help to improve flood protection as well as river and wetland habitats. The European Commission advocates to prioritise natural water retention measures and to use the Green Infrastructure for solutions in favour of wildlife and natural ecosystems. Yet in reality we often see polders and reservoirs as dominant measures, we see more dam building which often blocks natural water retention measures.

Building dams is the most destructive measure for a river. At rivers with dams you can see a watercourse with water in it. But under the water surface in the mud of the impoundments there is no more spawning ground and habitat for most of the river species and downstream the river incises its own bed because the gravel transportation has been blocked. Above all, water velocity, important for river ecosystems and the dynamics of high and low water is destroyed, which is also a fundamental basis for floodplain ecosystems. The problem of fish migration is only the last element of this sad performance.

Nevertheless the Danube river basin faces a wave of destruction, thousands of new dams, big and small, often cascades of dams to use or destroy a river completely. Why this in times of sustainability and the objectives of rivers in a good status? It is said this would be needed for

climate protection because hydropower would be a clean kind of energy. Is it sustainable to destroy rivers to save the planet? And all the destroyed rivers cannot compensate increasing emissions of greenhouse gases and there are alternatives. Above all, dams and their impoundments are not only producing greenhouse gases, too, but also are reducing climate resilience of rivers and wetlands which is an important element of climate change adaptation.

Some people with no idea of river ecology and alternatives but of economic interest try to play down these facts. Too often is tried to trivialize the effects of dams, suggesting that impacts could be mitigated by fish ladders or even that there would be win-win-situations by building new dams while the problems with existing dams are not solved. Building new dams is the ultimate attack on Danube river basin biodiversity. We are at the crossroads: Dams should be stopped because dams are destroying rivers. To keep up the objectives of the Water Framework Directive and the objectives of European biodiversity policy further deterioration by dam building should be stopped. Climate protection is important but better environmental solutions are possible.

New infrastructure for waterways has also deteriorating effects for rivers. It is not correct if the Lower Danube and the Lower Sava are designed to be heavily modified to minimize environmental objectives. For flood protection reservoirs and polders, technical solutions are often implemented instead of integrated comprehensive concepts prioritizing natural water retention and Green Infrastructure. We need to care for the effects and results of hydro-morphological alterations: We must recognize the effects of past and planned degradation for river basins and regional stretches.

The intensification of agriculture and biomass production increasing maize cultivation also puts massive threats for landscapes and biodiversity, especially for river, water and even marine ecosystems of the Black Sea, often endangering groundwater and drinking water from rivers by erosion of fine sediments, by nutrients and pesticides.

The Water Framework Directive offers some chances to protect drinking water and to improve the purification of sewage from settlements and from industrial sources. To get cost recovery and to have money for improvement it is necessary to include environmental and resource costs of all water uses and services. The polluter pays principle can help to avoid harmful developments. This is not only true for classical water pollution but also for hydro-morphological changes and agriculture. This approach can ease the burdens of citizens, municipalities and taxpayers.

The Danube river is the most important lifeline in Europe for biodiversity. This should be recognized in all planning for different purposes. Only recently an IUCN report showed the new age of mass extinction of species and habitats. River and wetland biodiversity is highly endangered in the Danube river basin, too. Therefore it is not only necessary to stop further deterioration but also to develop the implementation of the European Green Infrastructure on this most important part of European habitat connection. We need river corridors to protect habitats and biodiversity along the rivers, most important along the Danube. This is fostering not only nature protection but also flood protection, water cleaning, tourism and recreation, climate resilience and in the end sustainable development of economy. It should be accompanied by a biodiversity strategy analysing problems, chances and most urgent tasks. Public information and participation in biodiversity and water protection should be improved in the countries on a common way to sustainability.

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