

How Natural Water Retention Measures (NWRM) can help rural and urban environments improve their resilience?

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The challenges related to water resources management are exacerbated by climate change which implies additional complexity and uncertainty. The impacts of climate change have thus to be taken into account, from today on the next decades, to ensure a sustainable integrated water resources management.

One of the main environmental objective of the Water Framework Directive (2000/30/CE) was to achieve and maintain a good status for all water bodies by the target date of 2015. Unfortunately, Member States didn't manage to reach this goal and in this context, the European Commission (EC), since many years, have started many initiatives and reforms to improve the global situation.

In 2012 the DG Environment (DGENV) of the EC published a "Blueprint to safeguard Europe's water resources" that states the need for further implementation of water resource management measures and in particular Natural Water Retention Measures (NWRMs).

NWRM are measures that aim to safeguard and enhance the water storage potential of landscape, soils and aquifers, by restoring ecosystems, natural features and characteristics of water courses, and by using natural processes. They are Nature-Based Solutions supporting adaptation and reducing vulnerability of water resources. Their interest lies with the multiple benefits they can deliver, and their capacity to contribute simultaneously to the achievement of the objectives of different European policies (WFD, FD, Biodiversity strategy ...).

However the knowledge on NWRM is scattered and addressed differently in the countries, whereas the NWRM potential for improving the state of the environment and resilience (drought, flood, biodiversity...) in a changing environment is high. In 2013, all EU countries started the elaboration of the second River Basin Management Plan and associated Programme of Measures.

To support MS authorities and local implementers of these measures DGENV launched a 14 month project for collaboratively building knowledge and promoting best practice on NWRM in Europe. The project aimed to move from local environmental expertise and dispersed knowledge to a technically sound and structured system allowing NWRM implementation within a European context.

The International Office for Water (IOW), which has coordinated this project, has developed, with the consortium of 11 partners throughout Europe, the new official European Platform on NWRM (www.nwrm.eu) which gathers the available knowledge about these measures. The catalogue of NWRM is composed of 53 measures divided in 4 sectors: urban, hydromorphology, forest and agriculture. A catalogue of case studies with data and lessons learnt is also available and is destined to rise continuously. In 2016, the IOW is mandated by the EC to continue looking for new case studies and also to improve the web-platform in order to transfer it to the Joint Research Center (JRC) who is going to host the platform in the future.

IOW will explain how NWRM can help improving the resilience of rural, semi-urban and urban environments by presenting the 12 urban measures and the 14 rural ones (among the list of 53 NWRM identified), their benefits on biophysical impact and the ecosystem services they cover. Then, by the presentation of 2 case studies, IOW will show the multiple benefits of NWRM, not only on biophysical aspects such as water quantity and flooding and drought mitigation but also on SPI aspects because of the need to mobilise a wider set of actors from stakeholders to policy makers to implement them.