



Water governance facing environmental challenges

Water and mountain linkages under changing climate: ensuring integrated approach and policy coordination in the Alpine Convention area and beyond



Alps water-tower of Europe

The Alps are usually defined the water tower of Europe. With a population of nearly 15.000.000 inhabitants, they retain the water supply for about 55.000.000

Capital for biodiversity, Alps have a key role to play towards other territories

Alpine ecosystem services –including freshwater, forests-CO2 storage, wood, recreation, etc.- are fundamental for a wide portion of Europe

Therefore, **their protection goes beyond the supra-national dimension**

Name	Area (10 ³ kmq)	Population in the basin (Millions)	Mean contribution of the Alps to total discharge (%)	Areal Proportion of total Alps (%)
Danube	801	81	26	10
Rhine	185	55	34	15
Rhone	95	16	41	23
Po	74	16	53	35

The Alpine Convention experience

In 1991 has been established the Convention for the Protection of the Alps (Alpine Convention), to which participate 8 Alpine Countries as well as the EU.

Water management addressed as a cross-cutting issue in the Alpine Convention



Adaptation to climate change

Water management includes the necessary adaptation to climate change

Vaste production of strategies on adaptation to climate change but difficulties to implement these strategies, for example in mountain areas

How to adapt at a sub-national / local level?

How to deal with climate change in a mountain territory?

With the strong will of the Italian in-turn Presidency of the Alpine Convention, the way opened by the Declaration of Alpine Ministers in Alpbach (2006) and the Action Plan on Climate Change in the Alps (2009) continued

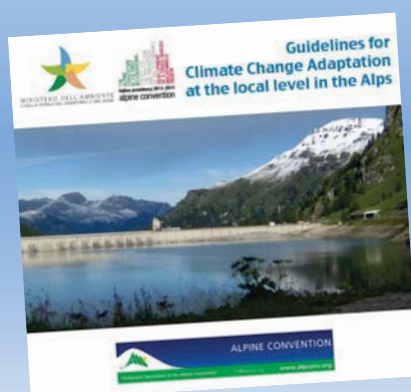
The XIII COP of the Alpine Convention (Turin, 2014) adopted the [Guidelines for Climate Change Adaptation at the local level in the Alps](#)

The guidelines have been presented also to the attention of the 20th COP of the UNFCCC in Lima

The Guidelines for Climate Change Adaptation at the local level in the Alps

Need to create a shared and accessible instrument targeted for sub-national and local decision makers and private investors

Aim of harmonizing and promoting local adaptation policies and measures in the Alps, helping **assessing vulnerability factors & resilience capacity, supporting the prioritization of the interventions**





How to adapt to climate change?

Adaptation is a fundamental task and should be considered:

on a **multi-level perspective of governance**

in a **integrated approach** including the different economic sectors linked with water and their respective relationships



Reducing the vulnerability

The **sensitivity of the Alpine territory** impose to make substantial efforts in order to **reduce vulnerability and increasing resilience**

Land use planning is fundamental in order to reduce vulnerability and exposed goods and human lives

Win-win strategies to implement the EU Directives on Water (2000/60/CE) and Floods (2007/60/CE), such as **river restoration and enlargement**, help improving the territorial resilience



Cost-effectiveness of the measures

Economically speaking, the main targets of the adaptation strategy are:

- minimize or avoid all or at least some of the expected or observed impacts;
- maintain current levels of risk or reduce them cost-effectively within agreed budgets or pre-defined acceptable levels;
- return levels of human well-being to pre-climate change levels.



A multi-level approach

Climate-resilience can be built by means of cost-effective adaptation measures. This may require enhancing the preparedness and capacity to respond to the impacts of climate change at various levels, developing a coherent approach and improving coordination → **multi-level governance approach**

Climate impacts and vulnerabilities emerge in many ways at the regional and local levels, due to the diversity of bio-physical and socio-economic situations



A multi-level approach

Table III: Actions at different governmental levels towards adaptation in Europe

Local action	Regional action	National action	European action
Implementing action			
<ul style="list-style-type: none"> • Planning and implementation of local adaptation strategies • Mainstreaming of adaptation concerns into other policy areas • Spatial integration of adaptation needs through urban planning • Local emergency plans • Allocation of municipal resources and raising of other funds • Upgrading local infrastructure to make it resilient to climate change • Engaging civil society and private actors 	<ul style="list-style-type: none"> • Providing incentives, funding and authorisation to enable local action • Addressing inter-municipal and urban-rural relations of climate change impacts and vulnerabilities • Developing and implementing with cities regional approaches, e.g. in river basins • Ensuring regional coherence of local /municipal plans and measures 	<ul style="list-style-type: none"> • Providing a supportive national legal framework, e.g. appropriate building standards • Mainstreaming of urban adaptation into the different national policy areas and the national adaptation strategy • Funding of local adaptation measures • Providing national information related to climate change and regionally downscaled information • Funding of research and knowledge development for urban adaptation • Supporting boundary organisations that link science and policy to local adaptation needs • Adjusting the degree of decentralisation of competences and authorities 	<ul style="list-style-type: none"> • Providing a supportive European legal framework • Mainstreaming of urban adaptation needs into the different European policy areas, e.g. cohesion policy • Funding of local adaptation measures as well as knowledge development for urban adaptation; • Providing European and global information related to climate change • Enabling and coordinating exchange of knowledge and experience across national borders • Addressing and coordinating cross-border adaptation issues



A multi-sectoral approach

The interconnectedness of different regions makes adaptation to climate change an interregional issue → **need for inter-regional coordination of adaptation policies**

Adaptation to climate change is a multi-sectoral issue since it affects most economic sectors, but it is also cross-sectoral, due to the diversity of the affected sectors

Water management involve different economic and social areas (sanitation, agriculture and fishery, energy production, natural hazards management, ecosystems protection) being a strategic sector to be assessed and evaluated → **need of a “nexus approach”**

The Water-Food-Energy-Ecosystems “Nexus”

Aim of translating into concrete actions the recommendations and the know-how of the Alpine Convention and to jointly implement the EU Directives

Cooperation between the UNECE Water Convention and the Alpine Convention



On-going case study of the Water-Food-Energy-Ecosystem Nexus assessment on an Alpine transboundary basin: the Soca/Isonzo

Cooperation and communication

Identifying the best solutions that could be implemented and ensuring the policy coherence of the measures requires both **coordination among different levels of government** and **exchange of experiences and best practices among different networks of cooperation**

Alpine Convention speaks to general public, public administrations and other international treaties and organisations: OSCE, UNFCCC, UNECE, UNEP, UE, etc.

An example of public communication at Expo 2015



Awareness raising and improvement of policy coherence

Among all the activities, in 2015, the Italian Delegation to the Alpine Convention has given a particular contribution i.e. to:

- experts and general public at **EXPO Milano 2015** with the **Mountain Week**;
- an high level audience of decision makers and experts with the active contribution to the **High Level International Conference on the Implememntation of the International Decade for Action "Water for Life" 2005-2015**, held in Dushanbe – Tajikistan.

Conclusions

Climate change is the highest environmental challenge for a sensitive environment as the Alpine region

Water management in an integrated approach is a central priority to tackle climate change impacts

Adaptation to climate change in water-related sector requires public awareness and the participation of civil society and local stakeholders

Conclusions

The transboundary cooperation in water governance is even more fundamental than in other sectors due to the strategic relevance of water and the geography of its distribution

International agreements and cooperation projects in water sector help preventing shortcuts and conflicts among economic sectors and Countries

Sharing experiences and good practices in the international fora helps assessing measures to be taken



MINISTERO DELL'AMBIENTE
E DELLA TUTELA DEL TERRITORIO E DEL MARE

THE ALPINE CONVENTION IS THE FIRST INTERNATIONAL INSTRUMENT FOR THE PROTECTION AND PROMOTION OF THE SUSTAINABLE DEVELOPMENT OF A CROSS-BORDER MOUNTAINOUS REGION
italian delegation
alpine convention

Thank you for the attention

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