Workshop Output TT 3.1.F

Title of workshop: How to prevent future conflict over the use and management of water in mountain regions?

Prepared by

Moderators	**Leopold Füreder, Valerie Braun**
Participants*	**Elisabeth Sötz, Katja Schmölz**

* Workshop participants that have submitted contributions to the workshop

General questions to please be answered in the workshop reporting

1) What was the focus of the workshop? Methodological issues and advancements or thematic issues (systems knowledge, transformation knowledge, target knowledge). Please check and fill in the matrix in the output section.

Methodological issues and advancements	**Thematic issues**		
	System knowledge	Transformation knowledge	Target Knowledge
	X	X	X

2) Which key points were discussed in the workshop as a whole? (This should be more a synthesis and not simply a summary of the key points in each presentation)

There is action needed to prevent future conflict over the use and management of water in mountain regions (e.g. Rockies, Himalaya, South Africa, European Alps in general, Italian Alps). The reasons for conflicts correspond mainly to the reported ones from the Alps. The field of actions being discussed, are: Balance water availability and water use (irrigation, hydropower), reduce water pollution, prevent conflict along rivers and in riverine plains, preserve remaining near-natural aquatic ecosystems and landscapes, provide useful data and develop appropriate procedures. Water quantity issues consider the distribution, scarcity and storage of water in mountain regions and lowlands, changing drought and flood patterns and altered ecosystems services. The involvement of experts and stakeholders is important and the need to identify them is imperative. After decades of engineering for flood protection and hydropower development, money for restoration action is increasing.

3) What is your opinion on the current state of knowledge concerning your topic(s) (focusing on mountain regions)? *Please check and fill in the matrix on the following page.*

Overall assessment of the state of:

What is your personal opinion on the current state of knowledge concerning the topic(s) addressed in your workshop. Please tick the appropriate field. Brief explanations are appreciated.

State of knowledge	Very good	Good	Poor	Very poor	Not appropriate	*Comments*
Global		X				
Regional	X					*Which region? Austria, Switzerland, Italy, Germany, Utah, Himalaya, Africa*
Scattered case study-based knowledge	X					*Where? Tirol (Austrian, Italian); Germany, Switzerland*
Knowledge about past states/trends		X				
Knowledge about current situation	X					
Knowledge about future states/trends/thresholds		X				
Knowledge about the system		X				
Knowledge about shaping pathways to more sustainable development (transformation knowledge)	X					
Knowledge about envisaged goals (target knowledge)		X				

Ideas for questions to potentially be answered by the moderators after the workshop in the reporting (please delete what is not useful):

1) Were there any new insights and/or findings presented? If yes, which ones?
   Need for improving management actions on regional and cross-boundary level. Lack of data.
2) What was the main message/consensus of your workshop?
   Essential is the cooperation between stakeholders with or without directives!
3) Were major uncertainty issues identified and discussed? If yes, which ones?
   Yes: environmental / climate change effects on water systems, quantities and use
4) Was there any significant controversy (if so, what?) that requires new data (or further exploration of existing data) to resolve the issue? (explain) NO
5) Were new research questions raised? If yes, would working on these questions need to involve other disciplines (which ones)? Need of cooperation on a macroscale (over-regional, cross-boundary, inter-mountain actions. Without transboundary concepts the water problem can not be managed.
6) Did the workshop identify research topics (e.g. environmental drivers other than climate) that are, in your opinion, currently greatly underrepresented in mountain research, but should urgently be addressed?
   Water use (hydropower, irrigation) effects
   Evaluation of CO2 benefits versus ecosystem
   Efficiency of hydropower
   Long-term impact of hydropower on biodiversity and water quality

Further Comments