

Workshop on social perception and ecosystem services of intermittent rivers and ephemeral streams

In the 6th Working group meeting WG2 of the COST Action CA15103 “Science and Management of Intermittent Rivers and Ephemeral Streams (SMIRES)” that took place in Niš (Serbia), in February 4th – 5th 2019, the WG2 members Cristina Quintas-Soriano, Irene Iniesta-Arandia and Dídac Jorda-Capdevila organised a workshop on Social Perception and Temporary Rivers.

The workshop was divided in three blocs:

- 1st, a brainstorming of the research needs that exist on the field of social perception of IRES
- 2nd, a socio-cultural valuation that explores the perception of different ecosystem services from the perspective of different experts from a variety of COST countries.
- 3rd, an analysis of socio-environmental conflicts in IRES, by exploring two exemplary case studies, their stakeholders, their interests and influence capacity.

The attendees in the workshop were members of WG1, WG2 and the SHC, in particular, Helena Alves, Aikaterini Basdeki, Atila Bezdan, Eman Calleja, Anna Maria de Girolamo, Gerald Dörflinger, David Gilvear, Maria Ilhéu, Jurate Kriauciuniene, Ivana Logar, Luís Loures, and Tomasz Padło. This list included natural scientists, social scientists and managers from a varied range of countries from different climate zones: Portugal, Greece, Serbia, Malta, Italy, Cyprus, United Kingdom, Lithuania, Switzerland, and Poland.

Brainstorming of research needs

There was a discussion on different aspects of research needs, and different proposals came out (see Pic 1):

- Public participation: Public participation in the decision making of IRES.
- Trade-offs: Conflicts related to environmental flows.
- Public information and environmental education: Considering art for education.
- Ecology and hydrology: Specific methods for assessing environmental flows in IRES in order to improve social perception and ES provision
- Economic valuation: ES provided by IRES by comparing Northern versus Southern
- Interdisciplinary management: river resilience

Socio-cultural valuation

In order to assess the socio-cultural values of IRES, an individual survey was performed to all attendees. They had to think about a well-known temporary river and ask the questions thinking on how the local people perceive them. The questions of the survey were the following:

1. Do you think IRES provides benefits to maintain the human well-being of local public?
2. Could you provide some examples of those benefits?
3. Thinking in an IRES case study that you know and maybe you have already working, could you indicate how important you think are the benefits/ES provided by that IRES for maintaining well-being or quality of life of local people? how do think they have changed a long time?

4. What type of IRES did you think? (description)
5. How many months per year does the IRES stay in each phase (flowing / zero-flow)
6. Where is it located? (country, region)
7. What type of intermittency of IRES is? (dry / frozen / others)

Then, the participants got together in three groups and discussed their opinions and the level of agreement. Then the discussion results from the three groups were compared (Pic 2). Table 1 shows the level of importance of ecosystem services as perceived by participants, and the level of consensus among groups.



Pic 1. Brainstorming of research needs on social perception of IRES

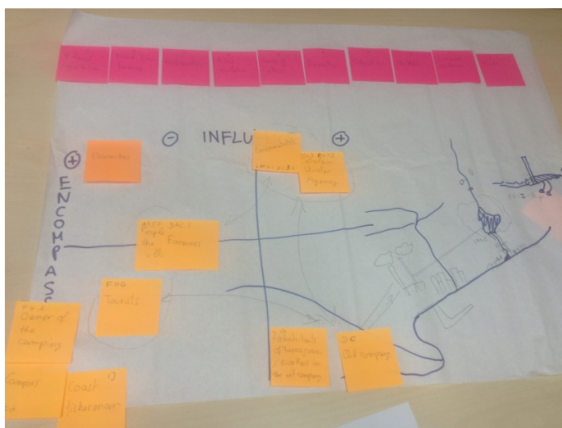


Pic 2. Pooling of the discussions performed during the workshop

Socio-environmental conflict analysis

Two case studies were selected: one conflict for the construction and operation of a dam (Spain) and one the presence of cattle in the river channel (Portugal). Participants were split in two groups, one for each case study. Then, participants were asked to

1. Elaborate a list of all the stakeholders that participate in the conflict.
2. Describe all the ecosystem services at stake in the conflict and associate them to the different stakeholders.
3. Classify the stakeholders according to their level of influence on the environmental decision making and to their level of breath of interests in terms of variety of ecosystem services they defend (Pics 3 and 4).



Pic 3. Results of the case in Spain



Pic 4. Results of the case in Portugal

Table 1. Level of importance of ecosystem services of temporary rivers in the flowing and non-flowing phases as perceived by workshop participants, and level of consensus among groups.

CONSENSUS AFTER DISCUSSION

Level of importance	Very low	Low	Medium	High	Very high
<i>Provisioning</i>					
Freshwater					
Food from fish					
Food from livestock					
Fuelwood					
Health products					
<i>Regulation</i>					
Climate regulation					
Erosion control					
Fire regulation					
Flood-drought regulation					
Water flow regulation					
Pollination					
Water quality regulation					
Nutrient cycling					
<i>Cultural</i>					
Aesthetics					
Education					
Recreation					
Sense of place					
Spiritual					

Level of consensus	1 group	2 groups	3 groups

■ Flowing phase
■ Non-flowing phase