Call for papers – Special Issue

Innovating for sustainable and participatory water management

Guest Editor(s): Olivier BARRETEAU (UMR-G-eau, centre Unesco IceReward),
Frances CLEAVER (Univ Lancaster), Jean-Marc TOUZARD (Inrae, UMR Innovation)

The acceleration of climate change, the demographic and urban pressures, the increase in water extraction for various uses, the growing challenges of preserving biodiversity and ensuring food and energy security are putting water management under more pressure than ever, all over the world. In this often conflicting context, technological, agro-ecological, organisational and political innovations are proposed, tested or developed to implement new water management on a territorial scale, involving a diversity of activities and actors. These innovations may be led by companies, local authorities, communities of users or researchers, by urban or rural actors... The economic, social and political conditions under which they emerge and are deployed have yet to be studied, and are currently being examined by several scientific communities in the social sciences:

On the one hand, researchers already working on water management ('water studies') are broadening their analyses by questioning the processes of innovation, transition and transformation in the territories and systems studied, in order to understand changes in practices, the redistribution of access to the resource, and the integration of the diversity of interests and constraints within a hydrosocial territory (Leenhardt et al, 2020; Venot et al., 2021; Mayaux, Lejars et al., 2022; Seijger, Hellegers, 2023).

On the other hand, researchers studying responsible innovation processes, ecological and climate transitions, bioeconomy, new circular economy activities or innovation ecosystems are increasingly taking water into account (Touzard, Boutillier, 2017 ; Herzog et al., 2022 ; Debref et al., 2022 ; Heiber et al., 2022 ; Zimmermann, 2023).

The 2023 Innovation Forum, organised in Montpellier by the RNI and the Research units G-eau and Innovation, was an opportunity to build a dialogue between these two scientific communities around the theme of "innovating for responsible and sustainable water management". Based on the papers presented at this conference, and on other possible contributions, a call for articles has been launched for a special issue of the Journal of Innovation Economics and Management.
Papers proposed will highlight contributions from research in economics, management, sociology of science and technology and, more broadly, social sciences or engineering, which are interested in these innovations, with a focus on territorial approaches and the integration of a plurality of issues, players and activities. Papers could include the following topics :

- analysis of technological innovations (processes, conditions, impacts) contributing to new water management on a regional scale: use of NICTs to manage water networks and consumption, new equipment, new irrigation techniques, desalination, Re-use, etc.
- the development of agro-ecological innovations or, more broadly, innovations based on nature and local knowledge (Berthet et al., 2016 ; Herzog et al., 2022), offering new prospects for the overall management of water in a given area;
- the adaptation of innovations through technical and institutional "bricolage" processes (Cleaver, 2012), the development of low-cost technologies and their effects in terms of redistributing powers to control and regulate water use in a given area;
- the development of new circular economic models in the water sector or the integration of water into innovations aimed at developing bioeconomy or industrial ecology (Vence et al, 2022 ; Arfaoui et al., 2023);
- the design and implementation of new tools for concerted planning and adaptive management of water as a common good, led by local communities or authorities (Bertrand et al., 2017) ;
- the role of governance, public policy, innovation (eco)systems and funding mechanisms (e.g. green funding) as incentives or barriers to the spread of innovations applied to water management and the resolution of conflicts of use in a given area.
- evaluation of new schemes to support R&D and innovation in the water sector, involving researchers in water management, along the lines of living labs, open laboratories, etc.
- Innovations for better management of water-related risks, in a context of climate change and crisis: floods, torrential rain, droughts, etc.

Targeted work on innovations in the use of water in a particular sector (agricultural irrigation, industrial or domestic uses, leisure activities, etc.) is appropriate as long as it takes into account the new issues and conditions of use in a given area, which could lead to a review or transformation of activities in this sector.

References

Arfaoui N., Le Bas C., Vernier M., Vo L., 2023. Innovation Strategies and Implementation of Various Circular Economy Practices: Findings from an Empirical Study in France. *Journal of Innovation Economics & Management*, 42, 149-183. https://doi.org/10.3917/jie.pr1.0141

Bertrand F., Petit S., Vergote M., Brayer J., 2017. Design territorial et changement climatique : innover pour s'adapter à une ressource en eau incertaine. *Innovations*, 54, 41-63. https://doi.org/10.3917/inno.pr1.0019

Cleaver F., 2012. *Development Through Bricolage. Rethinking Institutions for Natural Resource Management*, London, Routledge.

Debref R., Pyka A., Morone P., 2022. For an Institutionalist Approach to the Bioeconomy: Innovation, Green Growth and the Rise of New Development Models. *Journal of Innovation Economics & Managemen*t, 38, 1-9. https://doi.org/10.3917/jie.038.0001

Herzog C., Freitas T., Wiedman G., 2022, *Nature-based solutions and the challenges of water: accelerating the transition to more sustainable cities*, Publications Office of the European Union.

Heiberg J., Truffer B., Binz C., 2022. Assessing transitions through socio-technical configuration analysis – a methodological framework and a case study in the water sector, *Research Policy*, 51, 104363.

Leenhardt D., Voltz M., Barreteau O., 2020. *L'eau en milieu agricole : Outils et méthodes pour une gestion intégrée et territoriale*, Versailles editions Quae.

Mayaux L.P., Lejars C., Farolfi S., Adamczewski-Hertzog A., Hassenforde E., Faysse N., Jamin J.Y. 2022. *Enabling institutional environments conducive to livelihood improvement and adapted investments in sustainable land and water uses*. Rome, FAO

Seijger C., Hellegers P., 2023. How do societies reform their agricultural water management towards new priorities for water, agriculture, and the environment? *Agricultural Water Management*, 277, 108104,

Touzard J.M., Boutillier S., 2017. Innovations and Solutions for Climate Change. *Journal of Innovation Economics & Management*, 24, 3-8. https://doi.org/10.3917/jie.024.0003

Vence X., Pereira A., Laperche B., 2022. Overcoming the Circular Economy Paradox through Innovation. *Journal of Innovation Economics & Management*, 39, 1-13. https://doi.org/10.3917/jie.039.0001

Venot J.-P. et al., 2021. Bridge over troubled waters. *Nature Sustainability*. doi.org/10.1038/s41893-021-00835-y

Zimmermann J.B., 2023. Communs et innovation : une relation paradoxale. *Innovations*, 72, 149-179. https://doi.org/10.3917/inno.pr2.0144

Timetable for submission and acceptance of papers:

- **March 31th, 2024:** deadline for complete manuscripts through online paper submission: https://jiem.manuscriptmanager.net
- **September 30th, 2024:** first notification for acceptance
- **2025, final acceptance and publication**
- Guideline for authors: http://innovations.cairn.info/en/instructions-for-authors/

Submit questions to: Jean-Marc TOUZARD jean-marc.touzard@inrae.fr, Olivier BARRETEAU olivier.barreteau@inrae.fr , Frances Cleaver f.cleaver@lancaster.ac.uk