

CITIZEN SCIENCE FOR PUBLIC DECISION MAKING AND SOCIAL CHANGE: WHEN SCIENTIFIC OBJECTIVITY IS CHALLENGED

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Citizen science: new epistemological, ethical and political challenges
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Syndicat Mixte
Rivière Drôme
& ses affluents



Interreg
Alpine Space
SPARE



CITIZEN PARTICIPATION IN THE CONSTRUCTION OF WATER POLICIES IN FRANCE

EU

Water Framework Directive
Aarhus Convention

National

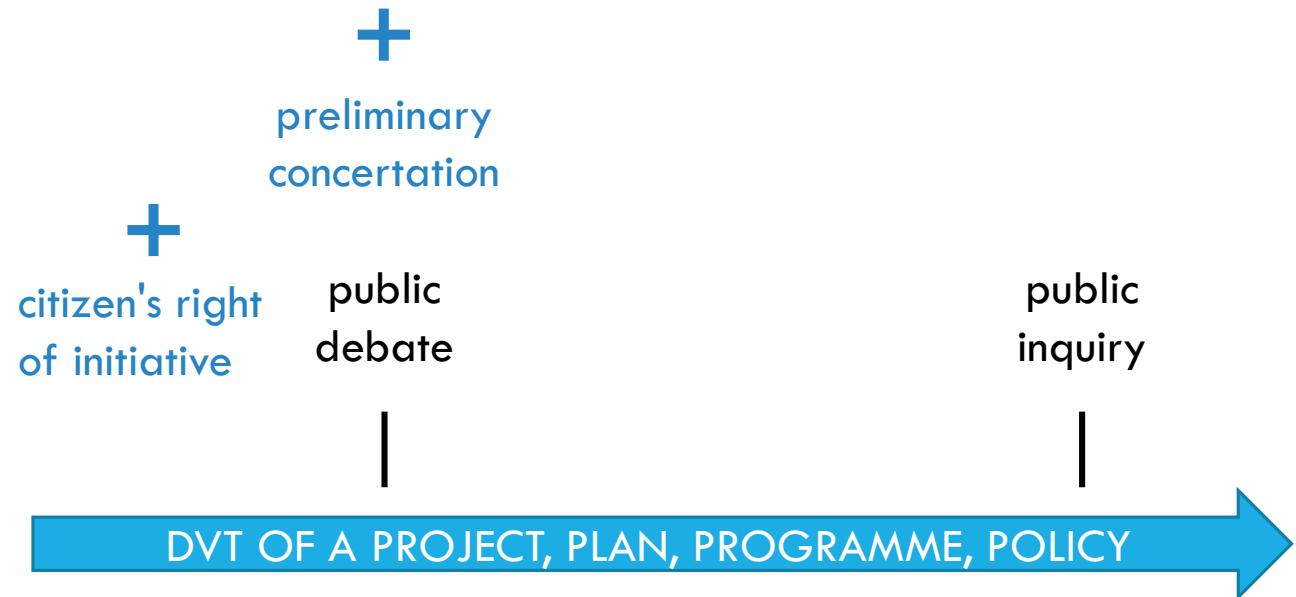
National Water & Environmental Laws

Regional

Regional River Basin Management Plan
(SDAGE)

Local

Local projects, plans, policies
Incl. River Basin Management Plan (SAGE)



OUR VISION OF CITIZEN SCIENCE

production of data useful for scientific research,
but also for citizens and decision-makers

Citizen science taken in a broad sense =

processes with a scientific purpose, among other possible purposes, and involving citizens in one or several steps of the process (agenda setting, data collection, analysis, etc.)



Our focus = Participation in public policies
(vs. emergent/spontaneous participation)
> Deliberative democracy

Citizens = everyone who is NOT
representative of an administration, civil
society organisation, private company, etc.
relatively to the topic at hand (water)

SCIENTIFIC GROUND

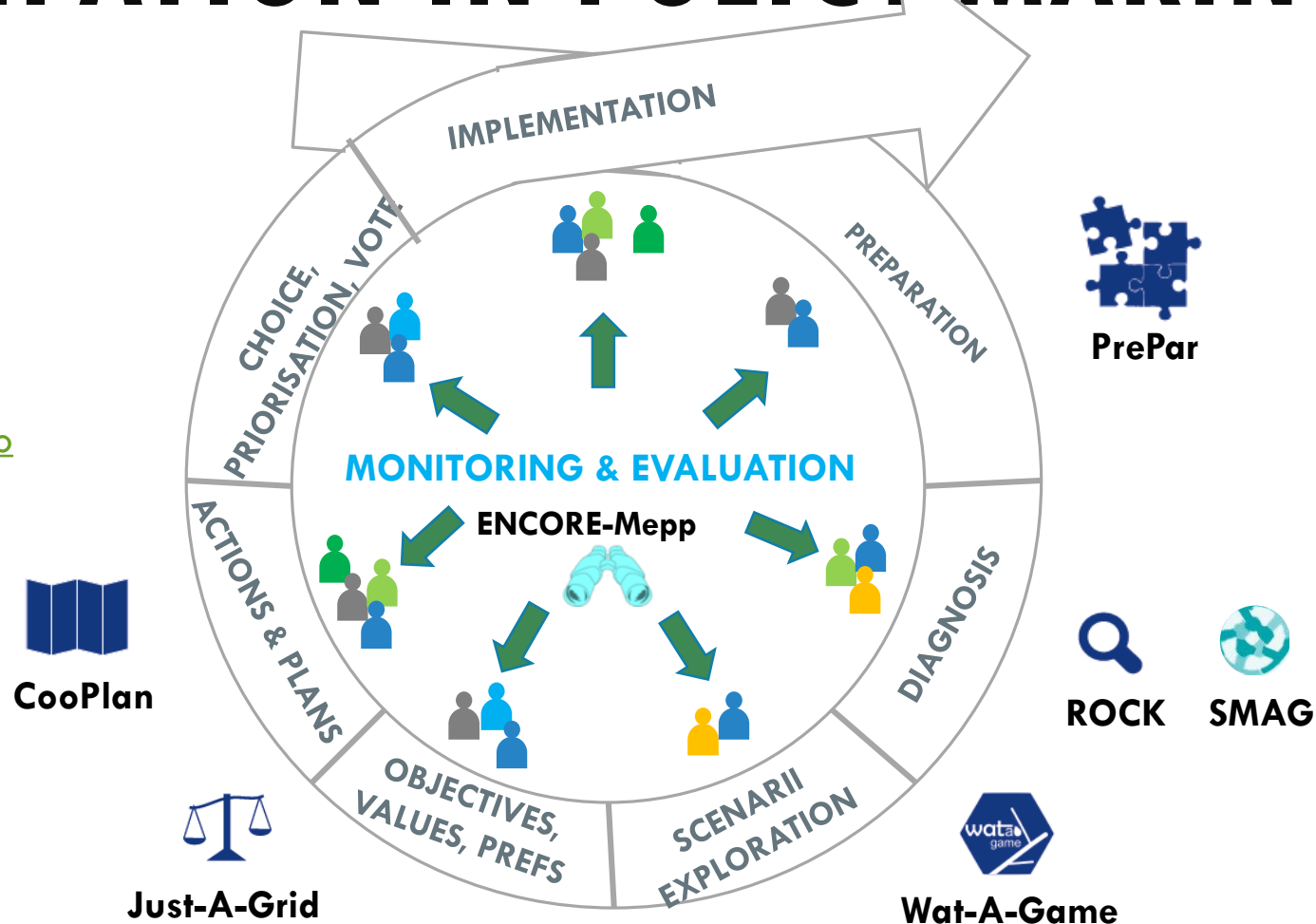
POSTURE:	action research (David 2008), cooperative research action (Souchard & Bonny, 2015) 'accompagnement critique' (Barnaud, 2008)
POST NORMAL SCIENCE	(Ravetz & Funtowicz, 1993)
PARTICIPATION	(Blondiaux & Fourniau, 2011)
POLICY ANALYTICS	(De Marchi et al., 2012)
PLANNING	participatory, collaborative, communicative and consensus-building planning (Forester, 1999; Healey, 2003; Innes & Booher, 1999; Sager, 1994; Smith, 1973)
EVALUATION:	empowerment evaluation (Fetterman, Kaftarian, & Wandersman, 1996) fourth generation evaluation (Lincoln & Guba, 1989) critical evaluation (Everitt, 1996), utilization-focused evaluation (Patton, 1997) pluralist evaluation (Duran, Monnier, & Smith, 1995) systemic evaluation (Boyd et al., 2007), systematic evaluation (Rossi et al., 1999) and democratic evaluation (Floc'hlay & Plottu, 1998)
MODELLING	participatory modelling (Voinov & Bousquet, 2010)

PARTICIPATORY RESEARCH ON PARTICIPATION IN POLICY-MAKING

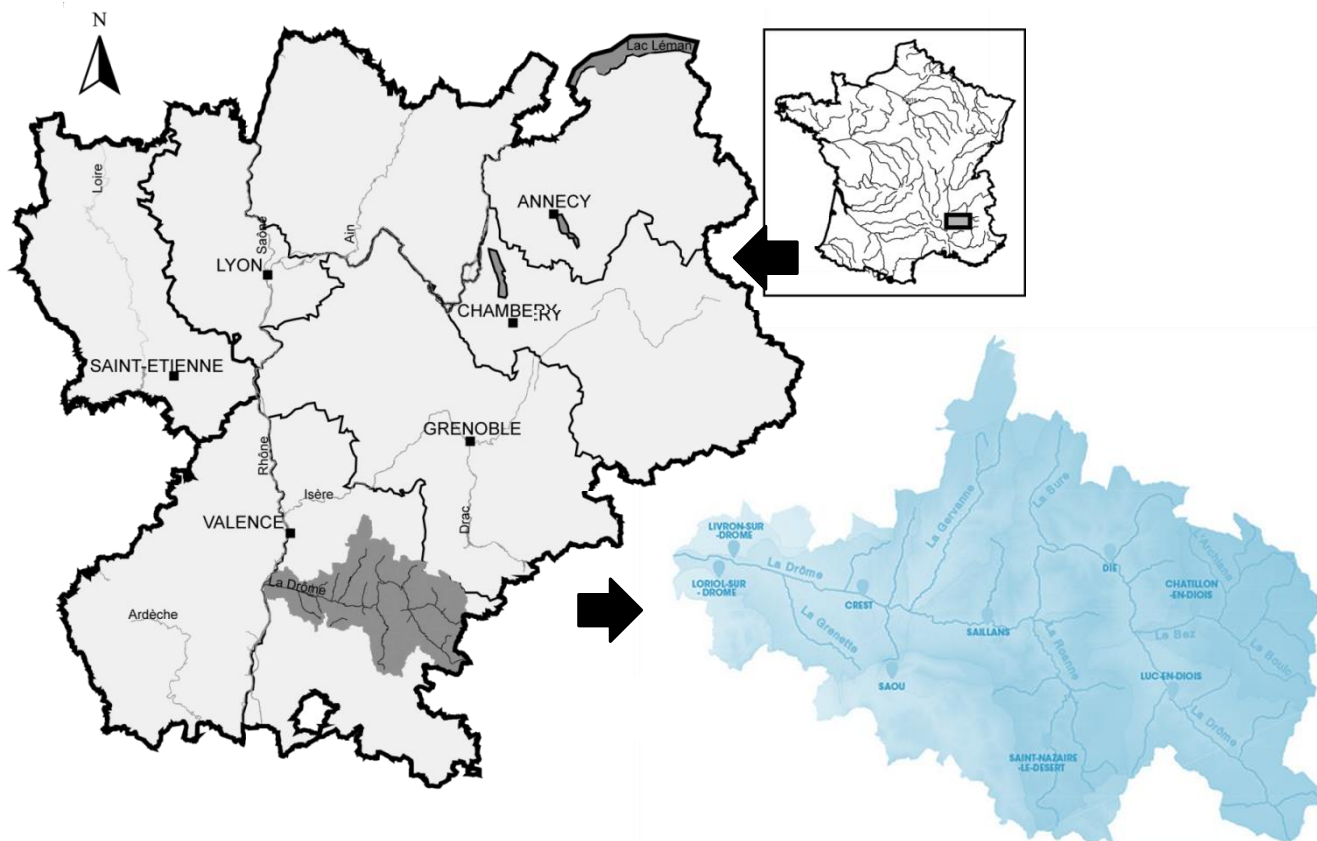
7 DECISION STEPS

CoOPLAaGE

<http://cooplaage.watagame.info>



PRESENTATION OF THE CASE: PARTICIPATORY REVISION OF THE DRÔME RIVER BASIN MANAGEMENT PLAN

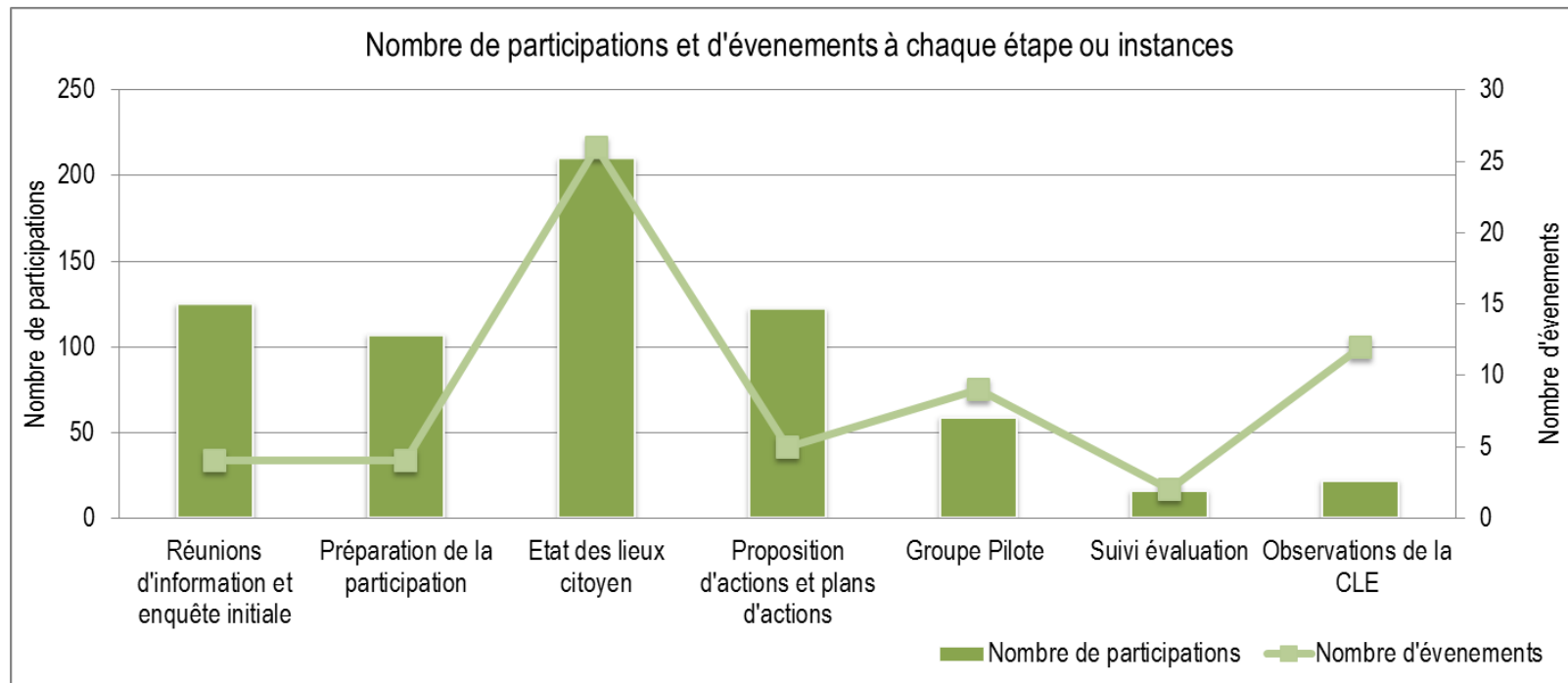


MAJOR STEPS OF THE DRÔME PARTICIPATORY PROCESS



PARTICIPANTS

- **344** different people participated in 62 events between Nov 2016 - Oct 2018 (Total = 661 participations)
- The highest participation was in the diagnosis phase
- More citizens from the upper river basin (Diois) and retirees



MAIN OUTPUTS

A citizen diagnosis of the river basin incl. 630 contributions

189 action proposals

3 versions of action plans

1 final report
& 5 thematic synthesis
for the local water committee



+ 3 scientific papers
+ 7 presentations at scientific
conferences or seminars

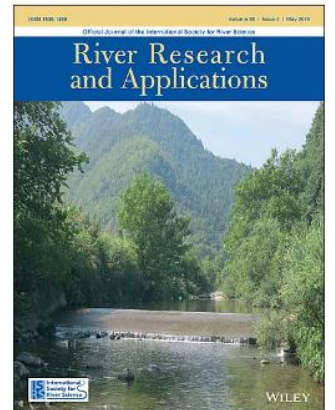
+ MOOC
+ Methodological guidelines
+ Action and Policy Support
Service platform (APSS)
(<https://spare.boku.ac.at/index.php/en/>)
+ Vidéos
...

IMPACTS IN TERMS OF SOCIAL LEARNING

Social learning (based on Reed et al, 2010)

- Social interactions and networks
 - > But limited by power unbalances, tensions and political decisions
- Changes in participant's understanding
 - > To be put into perspective depending on number of events which participants attended, their pre-existing knowledge about the topic, their involvement in water, etc.
- Changes within water organization: revision of their communication strategy, more frequent contacts with citizens, use of participatory methods within the local water committee itself, etc.

« j'ai failli pas venir parce que dans la presse on disait 'gestion de l'eau' et ça c'est une conception d'hydraulicien, de tuyaux »

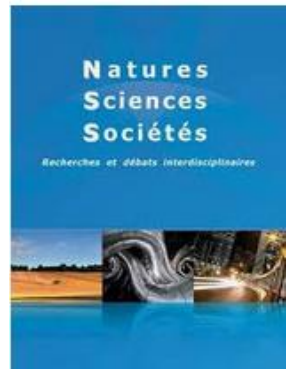


IMPACTS OF PARTICIPATORY MODELLING OF THE DECISION-MAKING PROCESS (PREPAR)

- An awareness of the importance and interest of participatory engineering but an exercise that remains difficult and theoretical
- The emergence of social regulation but limited in a non-captive group and called into question by dematerialized exchanges
- Social learning and a sense of belonging to the group
- The possibility of clarifying the articulation of participation with institutional governance
- The emphasis on the need to translate the technical vocabulary and participation that led to the search for information

What we learned:

- A shorter duration
- Assume the non-representativity of the citizen group and co-construct legitimacy (unless we have the means to ensure representativity through a mechanism such as a citizens' conference)
- Limit participatory engineering to key phases and leave operationalization to 'experts' (unless real training in citizen participation is requested and feasible)



EPISTEMOLOGICAL, ETHICAL AND POLITICAL CHALLENGES

Epistemological challenges:

- Citizen's expectations for absolute transparency
- Citizens challenging scientific expertise on participation
- Recognition of the pluralism of value perspectives
- Legitimization, by all participants, of various forms of knowledge
- Acknowledgement from all stakeholders that decision-making has to be made based on non-exhaustive and uncertain information

EPISTEMOLOGICAL, ETHICAL AND POLITICAL CHALLENGES

Ethical challenges:

- Limited thanks to the co-design and co-evaluation of the process + participation charter
- Fairness: some citizens not at ease with modelling processes > cognitive bias + little space for open debate and conflict/tensions
- Transparency about our research agenda : 'pushing' innovation and experimentation
- Contributive justice: citizens decide who will participate: can potentially exclude someone
- Feedbacking research conclusions in time to support the process + efforts put in transparency of tracing participants contributions

Political challenges:

- A political risk: a relative loss of power for politicians
- Researcher used as a fuse/scapegoat



www.watagame.info



THANK YOU !

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