SHORT TERM SCIENTIFIC MISSION (STSM)
SCIENTIFIC REPORT

This report is submitted for approval by the STSM applicant to the STSM coordinator

Action number: CA15206
STSM title: Creating guidelines for the engagement of the stakeholders and the collection of qualitative data for the implementation of Water PES
STSM start and end date: 28/10/2019 to 10/11/2019
Grantee name: Giacomo Pagot

PURPOSE OF THE STSM:

The purpose of the STSM is to:

1) Assess the needs of data for W-PES design and how qualitative research can effectively fulfill such need of data
2) Identify and describe appropriate appropriate methodologies of qualitative research amongst those available in rural development science, based on the expertise of the hosting institution's researchers, that can successfully be employed for W-PES design
3) Identify methods and protocols to stimulate stakeholders' engagement in W-PES design and implementation

As comprehensive result of the STSM, a set of guidelines should be drafted. The guidelines focus on *stakeholder engagagement methods* and *collection and analysis of data* to improve W-PES design and functioning. Along with the guidelines, also the group work who will contribute to the whole manual should be set up.

In order to achieve such objectives the grantee also is supposed to engage in literature reading and discussions with the hosting researchers. This should happen in order for the grantee to become familiar with theories and concepts related to the STSM topic which are field of expertise of the hosting researchers.

DESCRIPTION OF WORK CARRIED OUT DURING THE STSM

The work carried out during the STSM can be categorized in four main activities:
a) useful readings to get familiar with topics such as stepwise-deduction induction, role of qualitative research in PES development, participatory action research, participatory approaches in rural development and case study research approach
b) engaging discussions with the hosting researchers about: i) which kind of engagement methods are best to be used in a W-PES design situation, ii) which are the most useful data to be collected to improve PES design and iii) the importance and possibilities of qualitative methods in PES design.

Following the development of a table of contents for the guidelines manual, several discussion took place about the structure of the manual and the contents
c) attending lectures at the hosting institution
d) proposing a table of contents for the guidelines manual on Water PES implementation.

All these activities were performed in order to delve into qualitative approaches used in W-PES design and implementation.
I engaged with readings such as “Stepwise - deductive induction approach”, from Tjora, which allowed me to be familiar with the theory of the stepwise deductive induction approach, coding techniques to analyze qualitative data and theory on interview practices.
Among the readings I improved my knowledge about the case study approach, thanks to the work by R. Yin. Case study approach will have a central role in developing the guidelines for W-PES design and improvement.
Other aspects of participatory approach in rural development were studied, such as asset-based approaches to empower communities.
Among the literature I reviewed, I approached the scheme on process function from Amdam, 2010.
We analysed how each component of the scheme, context, mobilization, organization, implementation and learning, fit in a PES design and implementation process. This scheme can be the structure of the whole manual, as I see building an effective Water PES scheme as a process that include mobilitization, organization, implementation, learning, monitoring and evaluating. Another source I studied is the framework proposed by McGinnis and Ostrom in 2014, which helps identifying relevant variables for social-ecological systems. Along with Amdam work, such framework can be combined to create a complete representation of how a Water PES is composed and works.

Most of the discussions I had with the hosting researchers have been about Participatory Action Research and the role of qualitative research in W-PES development.
In particular we focused on the ability of qualitative data, such as the answers from interviews and questionnaires, to explain *how and why* PES schemes can work or cannot work effectively.

I then attended a lecture held by R. Evans about Participatory Action Research. I understood the use of such approach to involve communities in managing natural resources, through participation, reflection, emancipation and empowerment. Most of these elements can be considered common ground with W-PES development.

As final part of the STSM I proposed a table of contents for a guidelines manual on different approaches in stakeholders’ engagement and qualitative data needs and collection methods. The discussion with the hosting researchers focused on the rationale of the manual, the structure of it and the choice of the case studies to be used as examples through the manual.

DESCRIPTION OF THE MAIN RESULTS OBTAINED

Two main results were reached:

- I became more familiar with the use of qualitative approaches and qualitative data in W-PES design and evaluation.
  I improved my knowledge about Participatory Action Research, the use of interviews and the analysis of the data collected through this method. I explored alternative uses of Case study methodology, along with gaining significant literature references about participation in rural development and PES design.

- The hosting researchers and I prepared a table of contents for the guidelines booklet on designing and improving performances of W-PES employing qualitative data. The data we consider to be qualitative will be included in the appendix mentioned in the following paragraphs.
  The guidelines will be structured around a scheme (Figure 1) which is the result of a combination of both the work from Amdam, 2010, and McGinnis and Ostrom, 2014, mentioned in Bennet and Gosnell, 2015.

We reasoned behind the rationale that should guide the guidelines: as top-down approaches often do not give the best results in terms of efficiency and efficacy in W-PES design and implementation, participatory approaches, as part of a bottom-up strategy, should find more room in the creation of W-PES.

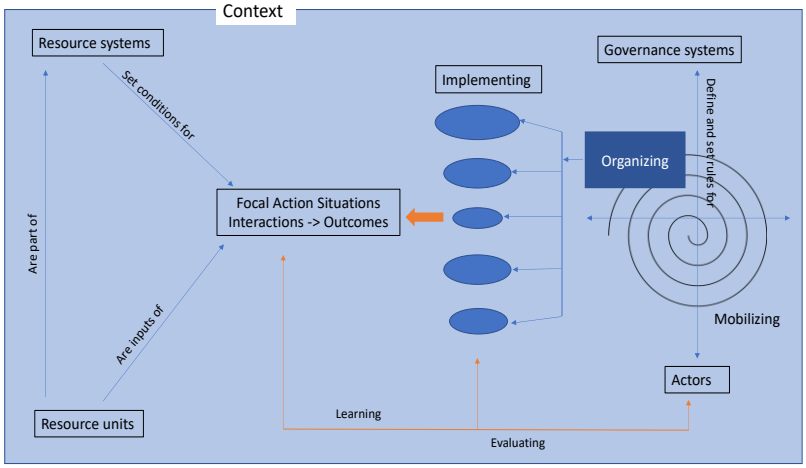

Figure 1. The process and functioning of a PES mechanism (by Amdam (2010), McGinnis and Ostrom (2014), Modified.

In order to build better PES and improve the management we need better understanding of how and why W-PES do and do not work. And to answer to how and why, when people are involved, qualitative data are fundamental, hence the guidelines.
As a result of the discussions between me and the hosting researchers a draft of the table of contents has been made.
The guidelines will contain four main sections:

1. The first one dedicated to the introduction, which will describe the methodology for the structuring of the guidelines and the scope and use of it. Here the case study approach will be presented: based on three main case studies of W-PES which will serve as examples on how the different methods can be applied. The case study choice has been discussed and will likely include one example from Land4Flood project, one Italian case study (e.g. Bosco Limite) and one that still has to be selected;
2. The second section will focus on the different component of W-PES designing, implementation and evaluation, describing the following components: the context, the resource system, in this case water, the actors involved, the governance, mobilization, organization implementation, focal action situations, monitoring, learning and evaluation;
3. The third section will be about outcomes and reccomendations;
4. The fourth section will provide literature and suggestions on the use of different qualitative data collection methods. Among the titles suggested there will be the work of R. Yin, “Case Study Research-Design and Methods”, “Participatory Research in Conservation and Rural Livelihoods” by Louse Fortmann and “Qualitative Research as Stepwise-Deductive Induction” by Aksel Tjora;

The hosting researchers and I discussed about including an appendix which should include the most common qualitative data that are used to design and evaluate W-PES schemes.
Qualitative data could be divided in two macro-categories:

1. data needed to set up W-PES mechanisms
2. data needed to evaluate the success or failure of W-PES mechanisms.

The first category could include data such as freshwater ownership regime, freshwater regulation rights, water issues and more, while the second category could include data about barriers (Brown and Farrelly, 2009) like evaluation of coordination in institutional networks, quality of communication between the different actors, limits of the regulatory framework and other similar information.

We also discussed on the working group that could contribute in writing the manual.
I will focus on organizing the whole manual, along with coordinating the efforts of writing the different chapters. I will mostly work on the introduction section, the conclusion section and on the theoretical paragraphs of some chapters.
The selection of the case study parts that belong to the different chapters will be made by the researchers responsible for the chapters.
Each chapter should include, in the final part, few take-away notes which would be provided by the researchers contributing to the chapter, as their experience is fundamental to choose the most important pieces of information and tips on how to put into practice methods and analysis.
Those who could contribute to the manual are Associate Professors R. Evans and J. Barstad, who hosted me during my STSM, Associate Professor P. Gatto, who is an expert in PES design and functioning and part of the board for the PESFOR-W, and R. Da Re, a researcher from University of Padova, expert in participatory approaches and responsible for many practical activities with stakeholders. Members of WG1 of PESFORW will also be invited to contribute. It is proposed that a short synthesis of the principles inspiring the guidelines is also included in the PESFOR-W Used Manual under preparation.

References

- Amdam, Roar. "Empowerment planning in regional development." *European Planning Studies* 18.11 (2010): 1805-1819.
- Bennett, Drew E., and Hannah Gosnell. "Integrating multiple perspectives on payments for ecosystem services through a social–ecological systems framework." *Ecological Economics*116 (2015): 172-181.
- Brown, Rebekah R., and Megan A. Farrelly. "Delivering sustainable urban water management: a review of the hurdles we face." *Water science and technology* 59.5 (2009): 839-846.
- Tjora, Aksel. *Qualitative Research as Stepwise-Deductive Induction: A Stepwise-Deductive Inductive Approach*. Routledge, 2018.
- Yin, Robert K. *Case study research and applications: Design and methods*. Sage publications, 2017.

FUTURE COLLABORATIONS (if applicable)