

How to address Nitrogen waste abatement in the SUDOE territory: A co-creation approach based on the experience of three workshops

Hamid Yammine^{1*}, Ivanka Puigdueta^{2,3}, Alberto Sanz-Cobeña¹, Carmen Galea¹, Juliana Hurtado¹, Alba Monistrol¹, José Miguel Sánchez-Pérez⁴, Sabine Sauvage⁴, Irene Blanco¹.

¹ CEIGRAM-ETSIAAB. Universidad Politécnica de Madrid, 28040 Madrid

² Universitat Politècnica de València (UPV), 46022 València

³ ICATALIST, 28232 Madrid

⁴ Laboratoire Ecologie Fonctionnelle et Environnement, Université de Toulouse, CNRS, INPT, UPS, 31062 Toulouse, France

* hamid.yammine@upm.es

Mitigating Nitrogen waste is a challenging issue due to the involvement of contrasting actors and interests. With this work we aim to get a collective vision of the challenges and opportunities regarding Nitrogen abatement within the Garonne and Tajo waters.

Methodology

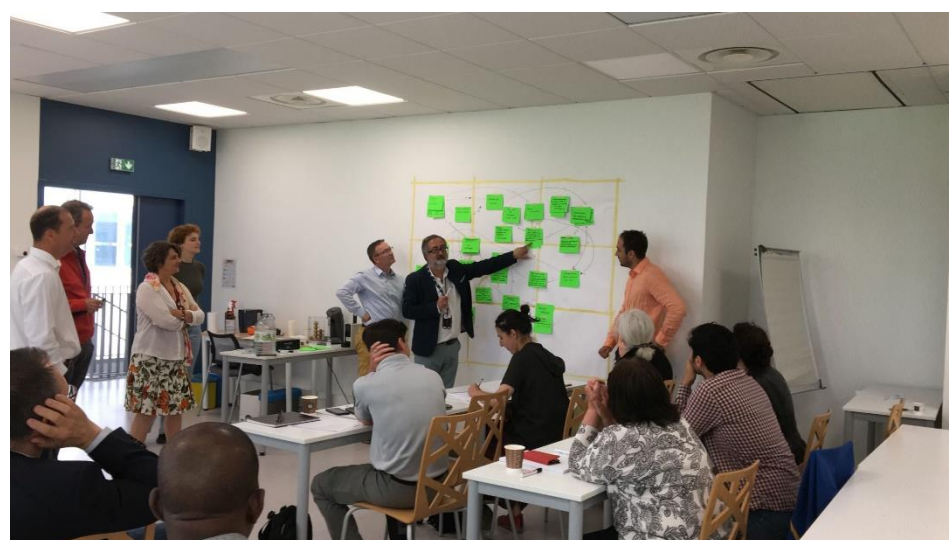
In the first semester of 2022, we carried out three workshops in Spain, France and Portugal with different actors to discuss the situation of agriculture in the Garonne and Tajo basins. These workshops were based on the Fuzzy Cognitive Maps Methodology (FCM).

Fuzzy Cognitive Maps are models (diagrams) that are built with groups of actors and show how an individual or a group conceives a given system or environment. The system is represented by nodes that are the factors that determine the system and arrows that represent the relationships/influences between these, whose intensity can be measured.

In total, more than fifty people participated in these workshops in the three countries. For the methodology, it is important to have actors from different sectors. Thus, during the workshops we have had the presence of farmers, scientists, representatives of local NGOs and representatives of political institutions.



Madrid, 28/04/2022



Toulouse, 12/05/2022



Coruche, 30/06/2022

Transnational cooperation for the design of more sustainable agricultural production strategies in the SUDOE territory.

<https://agrogreensudoe.org/>

The question in our workshops was:

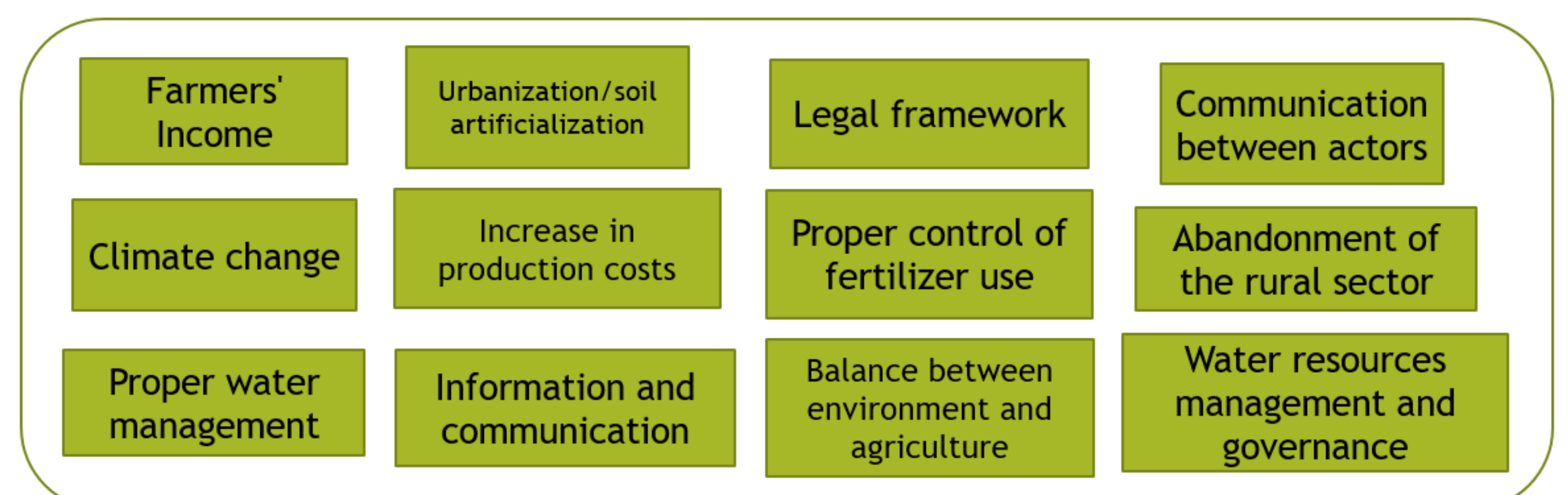
What problems or challenges does agriculture face in the Tajo/Garonne Basin region?

Preliminary results

It is interesting that at the time the workshops were held, in Spain the topic of profitability predominated, in France the topic of water use, and finally in Portugal the discussions revolved around these two topics combined.

Now that we have the data from the three workshops, we will propose scenarios that allow us to observe what would happen if a factor is modified. For example: the level of fertilizer use.

Principals problems or challenges identified until now in the three countries:



Preliminary conclusions

In general terms, for now, after the three workshops were successfully carried out, it can be said that the most recurrent problems or factors related to agriculture among the actors who attended the activities were those related to profitability issues in agriculture and the use of water in agricultural activity.

Although it is true that the study is still at a very early stage, the idea is to take advantage of the data collected during these workshops to propose later, in accordance with other data from the AgroGreen-SUDOE project, strategies and agricultural practices that allow to reduce in the future nitrogen waste derived from agricultural activity in the SUDOE territory.