

## Appendix 1. Study context and citizen science program

### Study context

Catalonia is situated in the north-east of Spain (Figure 1 of the manuscript). Despite its population density (234.3 inh./km<sup>2</sup>) and the importance of the services sector (80% of Catalan GDP, IDESCAT 2017), most of its territory is still catalogued as rural or intermediate-rural based on indicators of population density and economic activity (73% of the municipalities have less than 130 inh./km<sup>2</sup> and 48% have a strong or moderate presence of the agrarian sector, Domínguez i Amorós et al. 2010).

As in most of Europe, agricultural intensification has shaped the Catalan rural sector with severe environmental, social and demographic consequences, including nitrification of soils, loss of biodiversity, rural depopulation, and loss of TAeK (Naredo 2004; Gómez-Baggethun et al. 2010; Menció et al. 2011). In the spirit of this intensification and modernization, in the 1970's and 80's agricultural technical schools were opened in some Catalan rural areas. The original aim of these schools was to continue the mission of the agricultural extension schools founded in the 1950's and 60's, i.e., to promote agricultural extension systems and train future farmers in the techniques and practices of the green revolution (Minguet Pla 2009; Generalitat de Catalunya 2018). However, the increasing demand for more sustainable agricultural systems led to the introduction of organic agriculture as part of the curriculum of some of these schools, and to the opening of new schools and curricular programs that incorporate training on agroecological techniques and environmental management. Moreover, agricultural technical studies have also started to be an option in other high schools from rural and intermediate-rural areas.

Nowadays, 23 schools teach agricultural technical studies in Catalonia (7 high schools, 14 agricultural technical schools, and 2 private schools) covering the four Catalan provinces (Minguet Pla 2009; Generalitat de Catalunya 2018, Figure 1). The students (about 1300 in 2009) receive training in a specific profession after finishing the secondary school basic level. The offered study programs vary from agroecological farming and conventional farming to ornamental gardening or forest management, and last between two and four years.

### The citizen science school program

CONNECT-e is a citizen science initiative that was born to document, share, and protect Traditional Ecological Knowledge (TEK) as a commons and in a participatory way (Calvet-Mir et al. 2018, Reyes-García et al. 2018a). The initiative's main tool is an online wiki platform in which registered users can enter traditional knowledge related to wild or cultivated plants ([www.conecte.es](http://www.conecte.es)).

The initiative has been co-designed by researchers from seven institutions (including most of this manuscript's authors) and the Spanish seed network ("Red de Semillas: Resembrando e Intercambiando"), a non-profit, decentralized organization that brings together more than 20 regional and local seed networks from all over Spain (Red de Semillas 2015). The project's intuition is that TAeK documentation, sharing and protection could be boosted by the use of information technologies, as these technologies help to de-centralize data collection and allow protecting the knowledge in the public domain under copy-left licenses (Calvet-Mir et al. 2018, Reyes-García et al. 2018b).

To bridge the technological gap that traditional knowledge holders might face, young volunteers were recruited through dissemination activities (e.g., articles in the news, presentations in local fairs, workshops within university volunteer programs), the idea being that these volunteers would be the link between the elder's knowledge and the digital platform. As part of this dissemination plan, a school program was also designed to recruit technologically literate students with an interest in nature and farming (i.e., agricultural technical students) that would interview their elders and enter their TAeK in the platform.

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