

# CONTRACTS TO IMPROVE UPTAKE OF NUTRIENT MANAGEMENT TECHNOLOGIES

Capacity building, environmental attitudes and incentives constitute the main pathways towards uptake of nutrient management in Catalonia livestock fields



This case study focuses on the improvement measures for the uptake of **sustainable nutrient management practices in Catalonia**, and it takes into account the results from stakeholder engagement practices derived from the Rural Development Programme of 2014–2020. This programme regulates the contracts established with farmers and provides technical support. The **contracts were discontinued** due to their low uptake. Therefore, this case study investigates the explanatory factors for the low uptake and explores possible new contract designs and the potential for application of a **theory of change**. The aim is to delineate different pathways to increase the uptake in future AES applications.

Catalonia constitutes a very **large livestock unit**, and **one of its environmental challenges** is the implementation of best available practices regarding mineral fertilisation and the use of manure. Farmers' surveys and interviews show that the involvement of respondents and stakeholders is strictly dependent on **farmers' age**, their environmental **risk perception**, **attitudes** and **proportion between size of the field and productivity**.



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The desired impact would provide financial incentives, environmental education and capacity building. The **aim of the contract** is to compensate for the costs of analytical procedures to optimise fertilizer application by soil analysis, which is the mandatory measure. Other complementary measures include livestock manure analysis and the use of distributors and automatic equipment. Many features such as flexibility, monitoring practices and sanctions are being considered for possible improvements of the process from inputs to impact.

## Outcomes

The **three main pathways for increasing the uptake of nutrients** are all based on the **power of change**:

1. changing the technical **design features** of the AES,
2. changing **environmental values and attitudes**,
3. and changing the **approaches to transfer** of technical knowledge and farmers' mobilisation.

In terms of incentives, the **farmers can adapt the scheme** to their context and **be flexible in the management of practices**. Payments and bonuses can be administered based on efficiency and continuity, and farmers would collaborate. Environmental attitudes can benefit from **workshops and networks** with agricultural colleges; however, the risk of a lack of involvement due to the age of farmers and consolidated practices is always pending. A more **technological approach to fertilisation practices** and soil analysis, and the consequent transfer of knowledge are envisioned in order to facilitate the farmers' behavioural transition. All experts, technicians and stakeholders involved have to communicate efficiently with farmers, choose the scope of their service and generally increase economic efficiency as well as provide monitoring and clarify information when needed.



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