

Farmers' knowledge, attitudes and intentions towards water quality and pollution risk mitigation actions^{1,2}

Wellington Osawe (UoG), John Curtis* (ESRI)

ESRI Research Bulletins provide short summaries of work published by ESRI researchers and overviews of thematic areas covered by ESRI programmes of research. Bulletins are designed to be easily accessible to a wide readership.

INTRODUCTION

The Agricultural Sustainability Support and Advisory Programme (ASSAP) is a collaborative initiative between government and industry to help address agricultural pressures on water quality. ASSAP is a free and confidential advisory service for farmers operating within 190 Priority Areas for Action identified under the River Basin Action Plan. The objective of this research is to gauge farmers' willingness to mitigate the risks of water pollution in line with ASSAP advice.

METHODS

The research engaged farmers via an online survey on their willingness to comply with specific ASSAP advice. Given the variety of potential pollution risks associated with individual farms, farmers were asked about a set of standardised scenarios that could potentially arise on their farms. For example, one scenario described silage effluent leaking from a pit, ultimately draining into a stream. The ASSAP advice in this instance is to fix the leak and divert effluent into a collection tank. The survey asked farmers whether they would comply with the advice and in what timeframe. Of the 9 scenarios and associated mitigation actions included in the survey, 3 are categorised as falling within current regulatory requirements, 5 of the 9 scenarios are classified as having both mandatory and voluntary aspects, and one scenario is entirely voluntary, i.e., not within current regulatory requirements. A total of 162 ASSAP participant farmers completed the survey.

¹ This Bulletin summaries the findings from: Osawe, W., and Curtis, J. "An assessment of farmers' knowledge, attitudes and intentions towards water quality and pollution risk mitigation actions", *Social Sciences & Humanities Open*. Available at: <https://doi.org/10.1016/j.ssaho.2024.100858>

² This research is an output of the Joint Research Programme on Water at the ESRI, funded by the Department of Housing, Local Government and Heritage.

* Correspondence: john.curtis@esri.ie

FINDINGS

In the case of the leaking silage pit scenario described earlier, all farmers indicated a willingness to fix the problem, but one-quarter of respondents indicated it would take them a month or longer before addressing the issue. Across all 484 instances of the scenario questions posed, farmers indicated they would implement the ASSAP guidance as a matter of priority in 75 per cent of time. The willingness to implement, or willingness to implement in a timely manner, varies across types of mitigation. In scenarios comprising a risk of diffuse pollution (where mitigation actions are more difficult to verify), the average stated compliance rate of ASSAP advice is almost 100%. For the farmyard-based scenarios comprising a risk of point source pollution (where mitigation actions are easier to verify), the average stated compliance rate is 54%.

Across scenarios, the most common reason given for willingness to implement ASSAP advice is that “it’s a high environmental risk & needs attention”. A concern about cross-compliance issues also motivates farmers’ intentions, which demonstrates that the risk of the financial penalty clearly influences farmers’ decisions. The reason given for not implementing ASSAP advice in a timely manner was generally related to insufficient time or resources to implement, whereas in some instances, it was not considered a priority.

Only 1 in 2 farmers believe that water pollution is a relevant issue in their local area. Almost 2 in 3 farmers believe that they are already doing enough to protect water quality. Considering that the ASSAP programme specifically operates in water catchments where agricultural pressure on water quality has been identified, such a relatively low level of acknowledgement that agriculture is a leading source of nutrient loads in local water catchments is a concern.

The overwhelming viewpoint among farmers is that they should receive payment for measures leading to improvement in water quality, either as payment for environmental performance or via grant schemes. This contrasts with the philosophy of the ASSAP programme, which is a voluntary advice scheme without any associated financial payments. If beliefs on financial payments are strongly held, i.e., that some type of payment is necessary, it raises a concern about the extent to which farmers will fully engage with the ASSAP programme and thereby adjust practices to deliver improvements in water quality.

POLICY RECOMMENDATIONS

Based on the survey responses, there was evidence that farmers were not always consistent in their responses to questions, in some instances responding in a strategic manner. If this is indicative of a wider trend, it suggests the need to verify the implementation of ASSAP advice to ensure that the programme will deliver on its water quality ambitions. However, developing a system to verify the implementation of all mitigation actions across all farms would be challenging. An alternative solution, reflecting experience in The Netherlands, could be to change from a confidential advisory scheme to one with greater transparency and public commitments among farmers.