

# **The New Zealand Sustainability Dashboard: Online sustainability assessment and reporting tools to achieve quality water outcomes in a low regulation political environment.**

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## **1.1. Abstract**

Efforts to mitigate environmental impacts are increasing globally using very different governance and incentive strategies. New Zealand (NZ) has hardly regulated land use and water quality outcomes and there are no agricultural subsidies, although regulation is now increasing. The European Union (EU) approach is 'top down' in that universal measures are applied across broad areas using regulation and payments for ecosystem services, while NZ has taken a more 'bottom up' approach since the mid 1980s based on modelling soils, climate, hydrological and farming practices, and community set water quality objectives. Therefore, the NZ approach to improve and secure water quality relies on market mechanisms and the active involvement and engagement of agricultural industries working with producers, legislator and society.

In this paper we analyse how the New Zealand Sustainability Dashboard (NZSD), a bottom-up and industry led project could improve water quality. NZSD is a multi-industry and transdisciplinary project aiming at facilitate practical change at the farm level. It deploys a package of tools for sustainability assessment, auditing, reporting, benchmarking performance to incentivise farming change, and learning. It monitors and reports indicators relevant to New Zealand industry, society, ecology, land and water care. It is being developed in close co-operation between industry and academics covering a wide spectrum of disciplines from physics, chemistry and biology through to computing, economics and sociology. Although the primary goal is to empower local producers to improve their management and sustainability, it also allows overseas consumers and governments to benchmark and verify the sustainability credentials of NZ agricultural produce.

We conducted a self-reflexive analysis of the NZSD program, which included stakeholder interviews, observation of industry-driven workshops along with reviews of industry literature and media. We show in this paper how such collaborative and industry driven approach produce legitimate and relevant incentive to change at the farmer level. We also identify success factors and barriers hindering farmer participation and adoption in sustainability programs and in particular the use of sustainability assessment tools. From our results, we derive specific and generic recommendations about the NZSD, and apply these more widely to agricultural industries committed to enhancing their environmental sustainability including water quality. In doing so, we also consider how bottom-up, market-based approaches differ from regulatory governance as practice in the EU, and how these different approaches might influence the development of a more sustainable farming economy in the future.