Executive Summary

Over the past decade, water quality has become increasingly important to the New Zealand public. The effect of 150 years of clearing land, developing and intensifying agriculture is taking its toll on the environment.

Agriculture and tourism are among NZ’s largest export earners bringing in $22.3 billion (Statistics New Zealand, 2011) and $22.4 billion NZD respectively in 2008 (Statistics New Zealand, 2011).

New Zealand has built a reputation on the uniqueness and pristine nature of the country. This ‘clean and green’ reputation has been estimated to be worth $80 million dollars per annum to the agriculture and tourism industries. To strengthen New Zealand’s ‘clean and green’ brand may not lead directly to obtaining additional markets but it will help to maintain New Zealand’s current markets that.

Not only is water quality important to attract tourists and for export markets, but it is important to local communities. Rivers and lakes provide not only a source of food and recreation for many New Zealanders, but are a source of national pride. However, increasing nutrient loadings has led to a steady decline in the quality of these waterways and has resulted in an increase in the occurrence of algal blooms and decreased water clarity.

In response to this, the NZ government has made a clear statement that actions need to be taken to address water quality issues. This has been incorporated into the 2011 National Policy Statement on freshwater. As a result, this will require Regional councils to develop a plan to address declining water quality in their regional policy statements. It is therefore inevitable; change is coming!
Purpose of report

This report investigates how countries within Europe and the USA are addressing the issue of water quality and the impact that agriculture has on water quality. Have they used the carrot (incentives) or the stick (regulation) approach? Has the selected approach been successful? What can NZ learn from their successes and mistakes? The aim was to obtain a balanced viewpoint from various levels of the agriculture industry in order to gain a good representation of the process to initiate the required changes.

Methodology

This report compiles information after interviewing a range of people within various sectors and levels of the agriculture industry from parts of Europe and USA. It provides recommendations on how New Zealand should approach the issue of reducing the environmental footprint of agriculture. This information has then been developed into a proposal for how the author believes this issue should be dealt with in NZ using a case study of the Waikato region.

Background

The removal of government intervention in New Zealand in the 1980s led to a revolution with a shift in focus within agriculture towards productivity and profitability. This led to significant gains in technology and on-farm efficiency but is now known to have contributed to increasing nutrient loading in both ground and surface water.

During this same period in the European Union (EU), government intervention increased. Since then subsidies have been used as a method of influencing on-farm practices with an increasing focus towards conservation. Additionally agri-environmental schemes have been introduced to financially incentivise farmers to implement conservation practices. This has led to a shift in focus away from productivity towards conservation in order to maximise profitability.

In the USA a combination of subsidies, incentives and regulatory methods are used to influence on farm practices.

Keys to success of creating change

Regulation is necessary in order to achieve change in the early majority, late majority and laggard sectors of the population. Providing support and incentives to the innovators and early adopters to encourage their involvement in the policy process can lead to the development of practical workable policy which achieves the desired outcomes. In order to achieve farmer involvement in regulatory issues the following factors are important:

- Develop acceptable targets and goals that satisfy all parties and are based on science. In order to achieve, stakeholders involvement is important. These stakeholders need to be clear on what their needs are (distinct from their wants!) and be prepared to listen to various perspectives and negotiate.
A report for the New Zealand Nuffield Farming Scholarship Trust

- Empower farmers by involving them in the process of policy development
- Transparency with target setting and throughout the regulation process
- Having flexibility to allow farmers choices of mitigation to suit their circumstances
- Having the right people on the ground to achieve the buy-in from farmers at the implementation stage
- Minimising the duplication in paperwork required for compliance
- Monitoring and measuring the progress and success of proposed policy to ensure the targets and goals are being met

The Waikato

The Waikato Regional Council (WRC) has identified the Upper Waikato catchment (from Huka Falls, Taupo to the Karapiro Dam, Cambridge) as a sensitive farming catchment. Consequently, the WRC and various industry organisations have carried out a significant amount of work to increase the understanding and awareness of the issues and how agriculture contributes. This has resulted in farmers and industry in this area having a much greater understanding compared to those in other parts of the region. It has also led to greater collaboration between organisations in this area.

WRC have been collecting information through various case study based projects including the Integrated Catchment Management project (Waikato Regional Council, 2009) and the Upper Waikato Nutrient Efficiency Study (Waikato Regional Council, 2010) that use modeling to identify mitigation options and the impacts of these mitigations.

There are also a number of educational programs such as ‘DairyPush’ and ‘Tomorrows farms Today’ aimed at increasing the awareness and understanding of water quality issues amongst the farming community. These integrate environmental with financial and productivity discussions.

Practical on-farm case studies now need to be carried out to ‘road-test’ proposed targets/policy. This road testing needs to include innovator/early adopter farmers, policy makers and industry. It must be a collaborative approach to develop practical, workable policy that achieve desired targets but also has the buy-in from farmers and the industry.

Alongside the case studies, industry capability and capacity gaps need to be identified to ensure that enough support is available during the implementation period of the regulation.

Who Pays?

After considering a range of perspectives the author concludes that the costs should be shared by the all New Zealanders including farmers, government and the urban community. This is a problem that has been caused by our forefathers’ activities as well as recent farming and community activities and all New Zealanders benefit from improvements. Therefore, NZ needs to be working together to address this problem. Funds should be allocated to science, research and providing the support networks to initiate and encourage changes.

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Recommendations

- New Zealand needs to continue to emphasise the importance of collaboration between policy makers, industry and farmers throughout the policy development process
- When ‘selling’ the concept to farmers it is important to use a multi-faceted approach; improving water quality and maintaining markets through strengthening the NZ brand
- A combination of the carrot (incentives) and stick (regulation) approach should be used
- The next step requires policy makers to collaborate with farmers and the industry throughout the policy development process
- Farmers need to be prepared to have open conversations around regulation with the councils and policy makers and be prepared to get involved
- Programs need to cater for different sectors of the farming community; innovators, early adopters, early majority, late majority and laggards
- The cost needs to be shared among the all New Zealanders including the agriculture industry, government and the urban community
- Funding should be utilised in the development of initiatives using case studies to ‘road test’ proposed policy
- Work needs to be done to increase the capability and capacity within the industry

The full report is available at
- [www.nuffield.org.nz](http://www.nuffield.org.nz)