

NZIAHS Forum

“Where do we want our dairy industry to be in 20 years time?”

Friday 3rd September, 2010 – Lincoln University

Is the dairy industry sustainable with respect to the impact on the environment?

By Chrissie Williams
Christchurch City Councillor

Sustainable development is much more than environmentalism. An accepted definition says development is sustainable when ‘all people have their basic needs satisfied, so they can live in dignity, while ensuring the minimum adverse impact on nature, now and in the future’. It requires behavioural change to ensure the maintenance of biodiversity, ecological integrity, natural capital, social integrity and economic viability.

In a strong sustainability model the economy is a subset of society, and society is wholly dependent on the natural environment (see Figure 1). A smart dairy strategy accordingly must make dairying sustainable so we sell dairy produce internationally knowing it has environmental integrity.

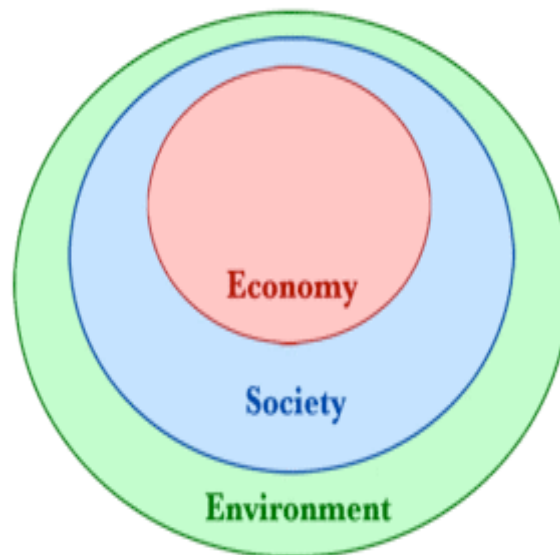


Figure 1: Strong Sustainability Model

The intensification and rapid growth of dairying have contributed many environmental problems. Among them, the primary sector has become heavily dependent on a continued supply of water, In Canterbury most of the irrigation water comes from groundwater with some zones over-allocated. Water abstraction from

rivers reduces flows, negatively affecting braided rivers and coastal dynamics. Animal waste and fertilisers result in pollution of groundwater and surface waters. Destruction of wetlands and forest for farm development causes a loss of native biodiversity.

Greenhouse gas emissions from agriculture contribute nearly half of New Zealand's total emissions. Dairying has high energy consumption for irrigation, collection, transportation and processing of milk. As a result, the dairy industry receives public criticism of its environmental impacts, while community expectations for environmental standards, animal welfare and food safety rise.

Future plans put annual dairy production growth at 4% with a rise in cow numbers, a greater demand for irrigation and fertiliser, and an increased growth in animal waste and greenhouse gas volumes. There is a contradiction between ambitious industry production goals and the need to reduce the environmental footprint of dairying.

Farmers, industry, regional councils and government have instigated many plans to mitigate these impacts. These include the Dairying and Clean Streams Accord, the Farm EnviroWalk checklist, and industry programmes to support farmers to improve compliance. On-farm practices include more efficient water use; nutrient budgeting, nitrification inhibitors and effluent controls to reduce the loss of nutrients to water; bridges, fencing, and riparian planting to protect streams from contamination; and biodigesters to process nutrients and reduce electricity demand. At the catchment level integrated plans increase understanding of cumulative effects and can lead to nutrient or water abstraction caps.

Recent collaborative approaches include the Canterbury Dairy Effluent Group, Canterbury Water Management Strategy, Primary Sector Water Partnership, Land and Water Forum, and Pastoral Greenhouse gases consortium.

Only two of the five targets of the Clean Streams Accord have been met. Less progress has been made towards compliance with dairy effluent consents, although there was some improvement in Canterbury in 2009/10. There has generally been a continuing decline of water quality in areas used for dairying, particularly in lowland streams. Encouragement of best practice voluntarily is clearly not working with some farmers ignoring environmental standards.

An option of a more stringent regulatory approach would require costly monitoring and reporting. Proving the source of a problem can be difficult because of diffuse and cumulative effects and the time lag until impacts are observed. There is a risk with regulation that environmental sustainability is seen as merely an issue of compliance, rather than an integral part of farm practice. Best environmental management will occur if farmers realise the value in efficiency gains in water, nutrient and energy use.

Temptation to off-set efficiency gains with intensification of production, which negate environmental benefits, must be resisted. An option of financial incentives is provided through biodiversity funds and support for landcare groups, and disincentives affecting payouts are being considered by industry. Lower intensity farming systems with lower capital outlay, less financial risk, and improved return on investment should be investigated further.

Even if every farm complied with best practice we do not know if environmental trends would reverse and dairying become truly sustainable.

The benefits of dairy exports to the national economy are large, providing 25% of total merchandise export earnings worth \$10 billion. Embedded in these exports is a high content of New Zealand's available energy and water, and production of 20% of our greenhouse gas emissions. Is this the best use of these national resources? What are the alternative uses for these precious resources? Do we spend the export dollars earned sensibly when we use them to import palm kernel, Italian tomatoes and large flat screen TVs?

To sum up, it is difficult to weigh the national economic benefits of dairying against the environmental costs because they impact at a local or regional level. If the dairy industry can find ways to internalise its environmental costs then the benefits compared with the real costs of dairying could be reassessed.