



Time to start on our future

Environmental issues pose the greatest risk to dairy farmers.

While the outlook for milk is very positive, environmental problems will worsen. The challenge is maintaining environmentally sustainable production while retaining broad community support in the face of diminishing natural resources and biological limits.

Only a positive approach will permit increased milk production while enhancing global competitiveness.

Natural resources that underpin our farming systems, such as petroleum, water, nutrients (phosphate, potassium) and land, are finite. For instance, *The Economist* special report on water in May predicted an extra 2.5b people world in 2050 but no more water than now. We can expect increased and more volatile farm input prices.

Meanwhile, the biological limits of the ecosystems supporting dairy production are being reached.

The ability of the earth to absorb increased greenhouse gas (GHG) emissions without dangerous climate change is one. And the capacity of our soils to process the increased nutrient flows from more intensive production systems (such as irrigated dairying compared to mixed sheep-arable production systems) is already compromised.

When biological limits are exceeded, environmental performance crashes (for instance, salinisation of large tracts in Australia).

Reduction in ecosystem function reduces the services that nature can provide including nutrient cycling, the breakdown of soil contaminants (eg DDT), and carbon



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sequestration in forests and soils.

Environmental issues are not trivial – the May 2010 issue of *The Harvard Business Review* identifies sustainability as a global megatrend. They conclude: “Like the IT and quality megatrends, sustainability will touch every function, every business line, every employee.

“On the way to this future, firms with a clear vision and the execution capabilities to navigate the megatrend will come out ahead. Those that don’t will be left by the wayside”.

Consumers want verifiable evidence that their dairy products come from environmentally responsible farms. The New Zealand dairy industry has started on this journey, but somewhat reluctantly. Some in the industry, while admitting that our performance is not ideal, argue that as we’re not worst in class, why should we be at the forefront of change?

And environmentally sustainable agriculture will incur real costs. When agricultural subsidies were removed in 1984, New Zealand farmers quickly adapted and improved their competitiveness. I believe the same can be done with respect to the environment.

Good progress will be made if the

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environment is viewed both as a strategic asset and a source of long-term competitive advantage. If not, an environmental reform similar to the economic reforms of the 1980s seems inevitable.

Understanding biodiversity and how to manage it will be crucial. Biodiversity provides the building blocks of essential ecosystem services needed for efficient, profitable and environmentally sustainable pasture-based production.

As well as the plants and animals seen in bush remnants, wetlands and riparian strips, biodiversity includes the bacteria and fungi vital for environmental processes such as nutrient cycling.

New Zealand has one of the most diverse and unique ranges of plants and animals in the world. However, native biodiversity is declining through land use change,

invasive weeds, pests and diseases, and pollution. Development such as removal of shelterbelts for large-scale irrigation often has had unforeseen impacts on biodiversity.

However, there's now a better understanding of how farms can be designed to protect and restore valuable biodiversity to everyone's benefit. Some loss of biodiversity is inevitable with development but we can compensate through gains in biodiversity elsewhere. ■

Warren Parker is the chief executive of Landcare Research. This is the first in a series of six articles on the importance of biodiversity to dairy farms, showing practical ways to enhance its contribution to milk production, environmental stewardship and social responsibility.



Irrigation on the MacKenzie Country – sustainability incurs costs