

Production, Environment and Biodiversity: Conflicting Dairy Discourses?

Mairi Jay, Department of Geography, University of Waikato

Introduction

Section 6 (c) of the Resource Management Act 1991 states that persons exercising functions and powers under the Act shall recognise and provide for "the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna". In February 2000 the government published a New Zealand Biodiversity Strategy (DoC/MfE, 2000). The Strategy includes as one of its four national goals, to "halt the decline in New Zealand's indigenous biodiversity" (D.o.C. and M.f.E. 2000, 18). Because of the severe loss of native ecosystems and species in lowland areas, protection of biodiversity by landowners on private land is presented in the Strategy as a key means to achieve the goal.

While farmers as private landowners are a prime target for native biodiversity conservation, they are also the focus of strong pressures to manage land for production. The pressure is particularly strong for dairy farmers who face a high capital outlay in the cost of land, dairy cows and milk company shares. This paper reflects on the messages that dairy farmers receive from the mass media about environment and production. It reports the results of a content analysis of articles from a popular New Zealand farmer magazine, and notes the news media reportage of a recent environmental policy initiative related to water quality. The aim of the content analysis was to compare the quantity of information that dairy farmers receive about environmental and production issues in a magazine that receives wide circulation within the dairy farming community.

The analysis is part of a wider research aim to identify factors which influence values and attitudes of dairy farmers towards the protection of native vegetation. An assumption was that environmental concerns could serve as an indicator of concern for native habitat — that protection of native bush would correlate positively with concern for other aspects of the environment.

Theoretical perspectives

The theoretical perspective which underlies the research derives from the insights of critical linguists such as Fairclough (1989, 1991, 1995; Fowler (1991), and Lee (1992) that words and language are a key element in the way people develop their worlds of meaning, and that language is a social process which reflects relationships of power. According to this view (Lee, 1992, 8), language shapes the way that people conceptualise the world by the way they categorise and highlight phenomena, and expresses or reveals those conceptualisations. Language selects properties of the world that are considered to be relevant by the speakers

and backgrounds others. Almost literally, we learn to see the world through the language that we use and the context in which it is used. For this researcher, for example, much of the world of dairy farming was inferred through discussion with farmers and what they said or, equally important, what was not said. I heard many times that "farming is a business" but never "a farm is an ecosystem". In relation to conservation of biodiversity, plants and animals come to have social significance only as they are recognized to have a separate existence. The plants and animals recognized by Waikato dairy farmers are, for the most part, those which are commercially significant (for their production value or as weeds). Thus the native vegetation on a New Zealand farm could include numerous native species unrecognised by the farmer and classified as a single entity, "bush".

Similarly, language can shape the way we conceptualise cause and relationship. Lee (1992, 7) describes "agentivity" as a property of language that directs attention to who or what is doing the action. "Thus not only are categories such as physical object and action the fundamental building blocks of the human world view, but so are the relational concepts that bind them together" (Lee, 1992:7). The headline, "*Fonterra keeps organics sweet*" in the rural tabloid *Rural News* (2002), for example, emphasizes the active role of the dairy company in the production and supply of organic milk. From a reading of the article, however, it is clear that the company is responding to initiatives and pressures from a market demand for organic milk. While the headline projects the company as the decisive agent in a bold new initiative, in practice the company is following market trends. In this way the causative relationship between actions and environmental consequences may be obscured for farmers.

A number of studies by social linguists have focused on the way that language is used in the mass media (Fairclough, 1995b; McHenry, 1996; Riffe et al. 1998). Fowler (1991) provided a ground-breaking analysis of how language is used in newspapers to shape ideas and beliefs of the readers. He argued that, "news is not a natural phenomenon emerging straight from 'reality', but a product. It is produced by an industry, by the relations between media and other industries, and most importantly, by relations with government and with other political organisations. From a broader perspective, it reflects, and in return shapes, the prevailing values of a society in a particular historical context (Fowler, 1991, 222).

Fairclough (1995a; 1995b) reinforced and extended these insights. He showed how mass media select and shape the way that news is reported in ways that reflect and reinforce the views and assumptions of politically

powerful interest groups. In the view of Fairclough, language can serve to reinforce assumptions of power without any of the speakers necessarily being aware of the process. As he explains (Fairclough, 1995b: 54):

"connections between the use of language and the exercise of power are often not clear to people, yet appear on closer examination to be vitally important to the workings of power. For instance, ways in which a conventional consultation between a doctor and a patient is organised, or a conventional interview between a reporter and a politician, take for granted a whole range of ideologically potent assumptions about the rights, relationships, knowledge and identities Such practices are shaped, with their common-sense assumptions, according to prevailing relations of power between groups of people. The normal opacity of these practices to those involved in them – the invisibility of their ideological assumptions, and of the power relations which underlie the practices – helps to sustain these power relationships."

It was with these reflections about the significance of language, both to reflect attitudes, values and assumptions, and to shape or reinforce them, that led to the content analysis of a popular dairy farming magazine.

Methodology

Content analysis has been defined as, "the systematic, objective, quantitative analysis approach to analysing texts" (Frey et al. 1992, 198). It involves coding of units of analysis (such as a journal article) according to a systematic set of predetermined criteria. The criteria for selection depend on the topic of analysis, and the method has been used for topics as diverse as analysis of the political ideology of newspapers to racist or sexist bias in student textbooks (Ferree and Hall, 1990; Neuendorf, 2002; Riffe et al. 1998). It was chosen for this analysis to minimise bias due to a purely subjective interpretation.

A random sample of 200 articles was selected from 30 issues of the *New Zealand Dairy Exporter* between 1999 and May 2002. The *Dairy Exporter* is a specialist dairy magazine distributed by subscription. It claims to be "NZ's leading dairy farming journal" and markets itself to advertisers on the claim that it is read by nearly 90% of dairy farmers (NZ Dairy Exporter, 2003). The articles were analysed and coded according to their subject matter and main themes. Main themes were "environment", "farm management and business", "human aspects of farming-", "dairy industry news" "production" and "miscellaneous". "Production" included any topic which related directly or indirectly to milk production. "Miscellaneous" was for items which did not fit any of the previous categories. Articles could include more than one theme.

'Production', 'farm management', 'human aspects', and 'industry news' were all themes that emerged easily from the articles themselves; the subject matter of most of the articles seemed to fall easily into one of these categories. The theme of 'environment' was not so easy to identify. It was seldom the focus of an article, and was often only an item in passing. For example, an article might be about the introduction of new grass cultivars to reduce the incidence of endophytes as a cause of facial eczema. I inferred the environmental factor as fungal disease. Similarly, I inferred an environmental factor from articles about summer drought; winter feed shortages, or soil and water limitations for production.

Results and discussion

Figure 1 shows that production is more frequently mentioned as a topic than any other item. Twenty one percent of articles were about production. "Farm management and business" was the next most frequent topic, with 20% of articles. "Industry news" and "Human aspects" were mentioned in 19% and 16% of articles respectively, while the environment (in any guise, whether soil, weather, disease or any other mediator of production) was mentioned least often in 10% of articles.

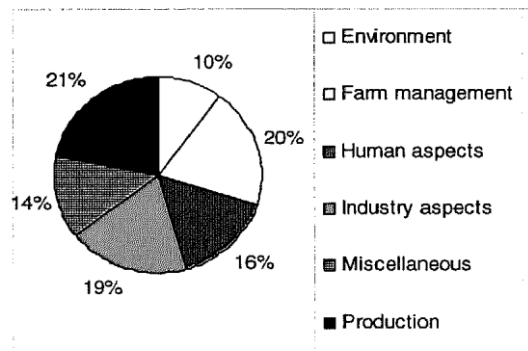


Figure 1 Themes of articles, by frequency and percent.

Production and farm management were frequently tied together as topics. Seventy five percent of articles about farm management were concerned about production. When production and farm management are added, one or the other of the themes was mentioned by nearly half (48%) of articles.

It was interesting to compare the way in which production and environmental issues were portrayed. Whereas production was almost always associated with positive values (e.g. as an end in itself, or the reason for writing the article) environment was often mentioned as a problem to be surmounted. Ninety-three percent mentioned production in a positive light and 7% mentioned it in negative terms, (e.g. as a source of environmental pollution or personal stress).

By comparison, Figure 2 shows that of the articles which mentioned any element of the environment, 47% portrayed it as a negative (e.g. a barrier to production or as a source of struggle), and 11% portrayed it as something to be valued (e.g. as a source or better production or quality of life). Twenty nine percent mentioned the environmental element in confrontational terms as something that could be overcome by technology or good management, and 13% mentioned it as a resource that required good care.

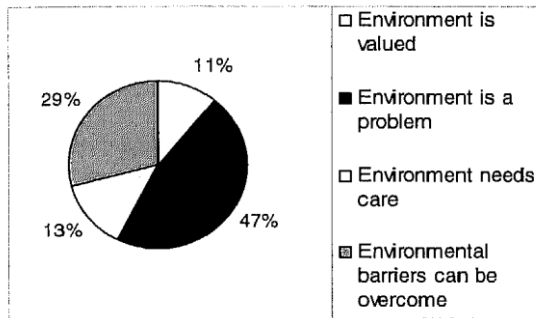


Figure 2. Frequency of articles with an environmental theme, by attitude toward the environment.

This analysis of articles suggests that, to the extent that the environment is considered by the dairying community, it is viewed mainly as a barrier to production rather than a source of value. Only 7 of the 200 articles mentioned the environment as something which deserves protective management despite the fact that it forms the biophysical base of the production enterprise.

It is tempting to point the finger at farmers and blame them for most of the damaging environmental consequences of farming. However, while farmers may be the immediate agents of environmental damage, they are subject to wider social forces that influence their management practices and opportunities. Many of the *Dairy Exporter* articles report the news and views of dairy industry leaders and agricultural experts. They reflect the interests, values and concerns of the wider dairy community. This wider community includes the dairy companies (Fonterra with more than 13,000 of New Zealand's 14,000 dairy farmers, Tatua Co-operative Dairy Company near Morrinsville, and Westland Milk Products in Hokitika), dairy and agricultural research organisations such as Dexcel and AgResearch, agricultural firms, farm equipment and technology services, financial services, and agricultural advisory services.

These organisations, and New Zealand society at large, benefit from an industrial agriculture which detaches elements of the environment from their organic and holistic context (as parts of local and regional ecosystems) and converts them into separate objects which can be manipulated according to the dictates of economic efficiency and market calculation. Farmers' income depends on the successful manufacture and marketing of milk products in a highly volatile and

competitive global marketplace. Ninety six percent of Fonterra's milk production is exported (Fonterra 2003). The values expressed by key dairy industry leaders include a strong commercial focus, economic and managerial rationality, technical and scientific optimism, innovation and a continual striving for production efficiencies (for example, Larsen, 2000; Norgate, 2001; Norgate, 2003a and b). The viewpoints reflected by the *Dairy Exporter* articles are part of a power hierarchy that depends on business efficiency. In this hierarchy, "nature" and the land are at the bottom, dairy industry chiefs at the top, and farmers are the interface between the environmental base of the industry and the industrialised, marketised milk product system. Popular views that dairy farming is a lucrative business notwithstanding, dairy farmers can and do go out of business. They have to balance the welfare of land and animals with economic survival.

While farmers are constantly encouraged to increase milk production and productivity, there is little positive incentive to improve their environmental performance. Instead, the incentives tend to be negative. To take the most recent example, Fonterra has signed a '*Clean Streams Accord*' with central government and regional councils which will require farmers to fence off their streams from stock access by 2007. An assessment of farm environmental performance will be part of the terms and conditions of supply that each farmer holds with the company.

While the *Accord* demonstrates environmental concern by the dairy industry leadership, the costs of implementing the agreement will fall on farmers who claim they have been little involved in the decision (Collins, 2003; Murdoch, 2003; Smale, 2003). Furthermore, it is clear from the language of dairy company announcements that the concern is less for environmental impacts than the marketing consequences of undermining New Zealand's clean green image (The Nelson Mail, 14/1/2003). Thus according to a statement by Fonterra, "Fonterra Chairman, Henry van der Heyden, said the co-operative's decision to go ahead with two key environmental initiatives would strengthen Fonterra's international reputation for high environmental standards and values" (Fonterra, 2003b)

The significance of power differences within the industry is reflected by a news item from the Waikato Times (13/3/03, 2) as follows²:

"Fonterra eyes rules to clean out dirty farmers"

Fonterra is developing a set of environmental rules which could see dirty dairy farmers kicked out of the co-op. The dairy giant is this week showing its farmers a set of assessment criteria, which measure farmers against a set of guidelines — dubbed Market Focus — for water quality, effluent, fertiliser use and animal welfare. ... Asked if milk supply would be conditional on passing the assessments after that, [Chairman of the dairy company, Henry van der

Conclusion

Heyden] said the proposal had not reached its final form but it was "likely". Farmers would not be worried by a rules-based environment policy, he said. "Through all the submissions we've had from farmers and all the survey work we've done it's become very very clear that farmers want to be the master of their own destiny, not subject to the whim of lawmakers." A clean green image was critical to Fonterra's overseas trading partners and the New Zealand public expected a high level of environmental safety.

But Te Kauwhata farmer. Jim Cotman, said a rules-based system was "not credible and will not work. I think they should drop this completely. ... The way they have structured the proposal to be pass or fail says to me that it will fail. He said farming situations were different all over the country and a rules-based system could not take that in to account."

The story is about a struggle over the issue of environmental management in which the dairy company, as manufacturing and marketing agent, is particularly concerned about maintaining its image with overseas trading partners and the New Zealand public. Farmers, on the other hand, who are expected to pay the cost regardless of local and personal circumstances, are resisting.

The style and form of the article reveal and reinforce power relationships. Fonterra is the active agent, "eyeing" the rules and making the judgements about acceptable criteria. Fonterra have the power to decide which farmers are "dirty", and to "kick them out". The authority of the company spokesman is reinforced by referring to him in a formal way with his full title as "Chairman Henry van der Heyden". The farmer spokesman, who is a member of Federated Farmers, a former chairman of the Waikato Farm Environment Award, and a former member of NZ Landcare Trust, is referred to as "Jim Cotman". In environmental terms, Mr Cotman has a significant depth of experience from which to judge the effects of the proposed rules, but by ignoring this background, and referring to him informally, the article downplays this experience and right to comment. It is unlikely that readers of the article will notice the way that the authority of the farmer spokesperson has been downplayed, or that Fonterra is absolved of responsibility for any of the environmental effects of dairying.

Equally significant, the article reflects the characteristically narrow environmental perspective of dairy industry leaders. This perspective is focused mainly on issues that relate to marketing image and public concerns with water quality. Other environmental consequences such as landscape amenity and loss of native habitat are not perceived.

Farming and general news media have ignored environmental issues until they have reached a point where damaging environmental impacts have threatened the commercial image of the dairy company, and its political standing in the wider community³. The values and concerns of dairy industry chiefs and agricultural experts are reflected in news media articles. These values and concerns focus mainly on issues related to economically efficient production and marketing of milk products in a volatile and competitive global marketplace. Environmental management has emerged as an issue primarily in response to consumer pressures for "clean green" products, and political concerns of central and regional government about dairy impacts on water quality.

Environmental concerns as represented by a popular farming magazine have been closely linked to issues of production as a means to reduce or circumvent a production barrier. In the regional and national news media environmental concerns linked to dairy farming have again focused heavily on issues of water quality rather than quality of the landscape or the natural environment more broadly.

In conclusion, environmental concerns related to dairy farming as reflected in a popular dairy farming magazine and regional and national news media have been narrowly focused on those issues which impinge most closely on production. Concerns for broader environmental issues such as protection of native biodiversity have not been part of the discourse, despite the concerns of environmental groups such as the Fish and Game Council and Royal Forest and Bird Protection Society. The narrow focus of the discourse is consistent with, and reflects, dairy industry power structures that are based on the sale of a commodity product in a competitive global marketplace.

Notes:

1. Between 1974/75 and 1999/00 the number of dairy herds fell by a quarter from 18,540 to 13,861, while the number of dairy cows grew from 2.1 to 3.3 million (LIC, 2000)

2. The *Clean Streams Accord* has been extensively covered by the national and regional news media (for example, NZ Herald, 26/5/03 and 28/5/03; The Dominion Post, 3/1/03) but the Waikato Times is significant as the regional newspaper for the Waikato, a region which supports more than a third of NZ dairy farmers.

3. It is noteworthy, for example, that the environmental issue of most concern is water quality, whereas other issues such as biodiversity continue to be ignored.

References

- Collins, W. 2003: Big brother bully tactics fail to impress suppliers, *Nelson Evening Mail*, 9 January.
- Dann, L., 2003: Back Fonterra, farmers are warned, *New Zealand Herald*, 28 May.
- DoC/MfE (Department of Conservation and Ministry for the Environment) 2000: *New Zealand Biodiversity Strategy*, Department of Conservation, Wellington.
- Fairclough, N. 1989: *Language and Power*, Longman, London.
- Fairclough, N. 1995a: *Critical Discourse Analysis: The Critical Study of Language*, Longman, London.
- Fairclough, N., 1995b: *Media Discourse*, Edward Arnold, London
- Ferree, M. M. and Hall, E. J. 1990: Visual images of American society: gender and race in introductory sociology texts, *Gender and Society*, 4(4), 500-533.
- Fonterra, 2003a: Facts and Figures, Company overview, http://www.fonterra.co.nz/content/about_fonterra/factsandfigures/default.jsp
- Fonterra, 2003b: Fonterra Confirms Environmental Initiatives, http://www.fonterra.com/fonterra/content/news/fonterraneews/displayarticle.jsp?elementId=k%3A%5Cfonterraprod%5Cineptu_b%5Cwwwroot%5Cfonterrantediarelease%5C20030523EnvironmentallInitiatives.xml, last accessed 23 May 2003.
- Fowler, R. 1991: *Language in the News, Discourse and Ideology in the Press*, Routledge, London.
- Frey, L. R., Botan, C. H., Friedman, P. G. and Kreps, G. L. 1992: *Interpreting Communication Research - A Case Study Approach*, Prentice Hall, Englewood Cliffs, New Jersey.
- Larsen, W. 2000: Chief executive's overview. In *This is Winning Worldwide, New Zealand Dairy Board Annual Report 2000*, New Zealand Dairy Board, Wellington, 18-19.
- Lee, D. 1992: *Competing Discourses: Perspectives and Ideology in Language*, Longman, London.
- LIC (Livestock Improvement Corporation), 2000: Dairy Statistics 1999/2000, Livestock Improvement Corporation, Hamilton.
- McHenry, H. 1996: Farming and environmental discourses: a study of the depiction of environmental issues in a German farming newspaper, *Journal of Rural Studies*, 12(4), 375-386.
- Murdoch, H. 2002: Dairy farmers oppose accord. *The Nelson Mail*, 17th December.
- Neuendorf, K. A. 2002: *The Content Analysis Guidebook*, Sage Publications, Thousand Oaks.
- New Zealand Dairy Exporter 2003: Independent readership data, <http://www.dairymag.co.nz/>, last accessed 1/6/03.
- Norgate, C. 2001: Helping New Zealand Catch the Knowledge Wave, address to the Wellington Chamber of Commerce, 9th October, 2001. Fonterra, New Zealand, <http://fonterra.com/com/news/news>, last accessed 14 May 2002.
- Norgate, C. 2003a: Partnerships - the Past and Future of Dairying, speech to the Large Herds Conference in Paihia on 28th April, <http://www.fonterra.co.nz/fonterra/content/news/fonterraneews/> last accessed 2/6/03.
- Norgate, C. 2003b: The Role of Co-operatives in the Modern Dairy Marketplace - The Fonterra Experience, speech at the Dairy Industry Newsletter Conference in London, <http://www.fonterra.com/fonterra/content/news/fonterraneews/displayarticle.jsp>, last accessed 2/6/03.
- Pickering, S. 2003: Fonterra eyes rules to clean out dirty farmers, *Waikato Times*, 15 May, 2.
- Riffe, D., Lacy, S. and Fico, F. G. 1998: *Analyzing Media Messages, Using Quantitative Content Analysis in Research*, Erlbaum, Mahwah, New Jersey.
- Rural News 2002: Fonterra keeps organics sweet, 8 July, 292.
- Smale, A. 2003: Locals dirty over claims by Fonterra, *The Evening Standard*, 3 June.
- The Dominion Post 2003: Fonterra pressing ahead with tougher standards, 3 January.
- The Nelson Mail 2003: Fonterra moves 'market driven', 14 January.
- Waikato Times 2003: Fonterra eyes rules to clean out dirty farmers, 13th May.