Understanding shepherding within lambing, and organic farming systems through acknowledging cultural, community and individual influences

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ABSTRACT

The way we farm depends on the species farmed, the environment, and on our beliefs, prejudices and expectations. A model was developed to consider cultural influences, community ethics, and individual goals to help understand shepherding and organic farming. Assisting sheep at lambing is reinforced by cultural expectations of what shepherds should do. Different management strategies are used depending on the sheep, their environment, and the costs and practicalities of supervision. Finally, the weight given to different factors may depend on the motivation of individuals in deciding to "live with the flock" or find better ways of managing lambing. Reflecting the different goals of agriculture, individuals were motivated to convert to organic farming by economic returns, the environment, chemical use, food safety and quality, animal health and welfare, and a desire to maintain rural communities. The safety of chemicals, food quality, and the environment are central to undertsanding the value of organics to the community. Finally, organic farming is informed by stories of "being at one with nature." An understanding of the different beliefs that inform us of the way farming is, or should be, may result in a greater shared understanding of complex issues, and more equitable farming practices.

Keywords: behaviour; ethics; myths; farming; organic; shepherding.

INTRODUCTON

There are many different ways of farming depending in part on the biology of the plants and animals and on the environment. However, farming is also dependent on our innate and culturally ingrained beliefs, prejudices and expectations of how different species should be treated. Similarly, how food should be produced and consumed, and how we make our livelihoods. This is reflected in the complex nature of interactions between people and the natural world. For instance, the cow is a sacred and revered symbol in some cultures, and the icon of domestication, one of the world's most productive animals, in others. Not surprisingly, many aspects of modern agriculture, such as how we treat animals and care for the environment, are contentious and difficult to understand.

Recently, we have had recourse to consider the implications of shepherding sheep during lambing in extensive pastoral systems (Fisher & Mellor, 2002; Fisher 2003). What on the face of it seemed obvious – supervision during parturition is beneficial – turned out to be more complex. Also to be considered were the biology of the animal, the environment, the shepherd's motivation, community expectations, and cultural influences. In this contribution, we describe that process and the development of a method for acknowledging the complexity. Additionally the method is used to further understand organic farming systems (Mackay *et al*., 2001).

Shepherding during lambing

The period during which an animal gives birth, is notable for the complex interactions of maternal and foetal/newborn physiology and behaviour. These include the ewe, normally a social animal, seeking isolation that may have once reduced the risk of predation, and aid in the exclusive bonding of dam and offspring. Disturbance during this period can contribute to difficulties in giving birth and an increase in lamb mortality. However, human intervention during the birth period can also assist with difficult births and treatment of animals that would otherwise die. This apparent dilemma has been addressed by developing different management strategies during lambing (Fisher & Mellor, 2002; Brock *et al.*, 2003).

One of the notable aspects of farmer perspectives (Fisher, 2003) was the cultural expectation to shepherd – "it appeared as if everyone had been brought up with the 'good shepherding' tradition and was prepared to work all hours …" (Dalton, 1981). Indeed, there is a rich cultural legacy of sheep and shepherds, something reflected in the biblical statement "the good shepherd giveth his life for the sheep." Historically, the relationship between humans and sheep was probably based on small numbers of animals and may have meant that intensive husbandry was practical if not imperative. Shepherds may have had to watch their flocks by night, guarding them against predators and features of this relationship remain in some parts of the world. Modern sheep farming is however, largely characterised by large flocks and a lack of predators, suggesting that part of the demand for intensive shepherding is a cultural vestige

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from historical farming practices. Have we created the modern sheep, and sheep farming system, but retained the historical shepherd?

The second feature which became apparent when considering shepherding was that different ways of managing sheep at lambing highlighted different and sometimes contrasting values. For instance, giving animals the opportunity to behave normally versus minimising any significant harms. Principally, individuals had to consider the importance of not disturbing the animal, being able to assist with difficult births and identifying orphan lambs, and the cost and practicalities of undertaking lambing beats in easy or difficult terrain. Finally, consideration of society's expectations of how animals should be treated (AWAC, 1996) suggested there was no simple or universal way to manage sheep around lambing time.

The third feature of shepherding was the motivation of the shepherd or farmer in deciding what level of intervention was appropriate at lambing time. During lambing some individuals may be moved "to live with the flock" while others might stress "do not disturb" (Gunning 1966; Anon., 1995). This was apparently due to different considerations for the needs of the animals to be left undisturbed or to be assisted, the financial costs of shepherding, or the returns for saving animals which might otherwise die. While some farmers may shepherd because of the tradition they have been brought up into, others were determined to find a better way. Indeed it was acknowledged that reducing the level of intervention at lambing was difficult – "… deciding to leave his flock completely alone at lambing for the first time is the hardest decision the average cockie can make" (Rennie, 1975). Similarly, it was asked (Jones, 1976) "… does supervision achieve anything more than easing your conscience?"

There appeared then, three general aspects influencing a consideration of the value of human intervention at lambing. The first was our cultural expectations; the second was the way we as members of a community or society deal with competing ideals; and the third related to what motivated the individual to act in a certain way. Each of these aspects were then more formally explored and incorporated into a method for understanding complex issues.

Cultural, community & individual perspectives

Firstly, the cultural aspect which acknowledges our society's cultural influences, the perceptions and values we inherit from past generations. In other words, the way we "see" the world, the map or paradigm we use to interpret the things which we experience. These are the assumptions and beliefs which help us come to terms with the world, the source of our attitudes and behaviours (Browne *et al*., 1992; Fisher, 2002). They are expressed most commonly in myths (stories rather than fallacies) and narratives and inform us of what we believe to be real and want to be real. On the one hand, intensive shepherding is in keeping with a pastoral or care worldview and a "mechanistic" farming theme. Nature, or the natural world, provides the resource and humans exploit and control it. The harder we work and the more we produce, the more successful we are, a stance very much in keeping with the agrarian ideal (Thompson, 1995). In a sense, like the mythical heroes, humans have taken over a divine beings role and are now controlling nature. On the other hand reduced shepherding could be motivated by a more holistic or ecological worldview, reinforced by ideals of respect for nature. Though also strongly informed by agrarian ideals these beliefs tend to reflect a more "organic" or "ecological" farming theme characterised more by working with nature.

Secondly, in order to acknowledge competing ideals, we have used an ethical matrix based on the principles of common morality (Mepham, 2000). This involves interpreting the perspectives of a number of interest groups (sheep, farmers, consumers, etc) using the four principles or obligations which make up common morality. These principles are: (1) to provide benefits and balance benefits against risks; (2) to avoid causing harm; (3) to respect the decision-making capacities of free-willed beings; and (4) to be fair in distributing benefits and risks. This process allows identification of important questions and interpretation of the answers using justified moral standards. How much value should we give to sheep having the freedom to lamb undisturbed? Is not supervising domestic animals in keeping with society's ethical norms for the care of animals? Will the expectations for shepherding, rightly or wrongly, influence society's attitudes to and treatment of other animals? Does shepherding have psychological implications for the humans involved?

The final component is founded on the individual and uses a psychological model of planned behaviour (Ajzen, 1991) to describe decision-making. A person's behaviour (e.g. to interact with animals during lambing), reflects their intention (desire to assist with difficulties or respect an animal's need for isolation) which is informed by both how they evaluate the outcome of a farming practice and by society's expectations (regulations, peer pressure, consumer acceptance etc). What goals (Parminter & Perkins, 1997) are driving the individual to farm in certain ways and how do these affect their expectations of shepherding?

The three perspectives, cultural, community and individual, have been combined into a model (Figure 1) for assessing the different sorts of influences on our understanding of complex issues. In order to evaluate this model, it was used to investigate one type of farming system, organic farming. This was based on a study where New Zealand sheep and beef farmers were considering converting to organic production standards (Mackay *et al.*, 2001). Using the model, organic farming was qualitatively interpreted using both data from the published literature and the knowledge generated from the New Zealand livestock study.

Organic farming systems

Firstly, the cultural beliefs surrounding organic farming. Arising from a distrust of agricultural chemistry and synthetic fertilizers, the popularity of organics was

FIGURE 1: An outline of the society, community and individual influences used to help understand complex issues in agriculture.

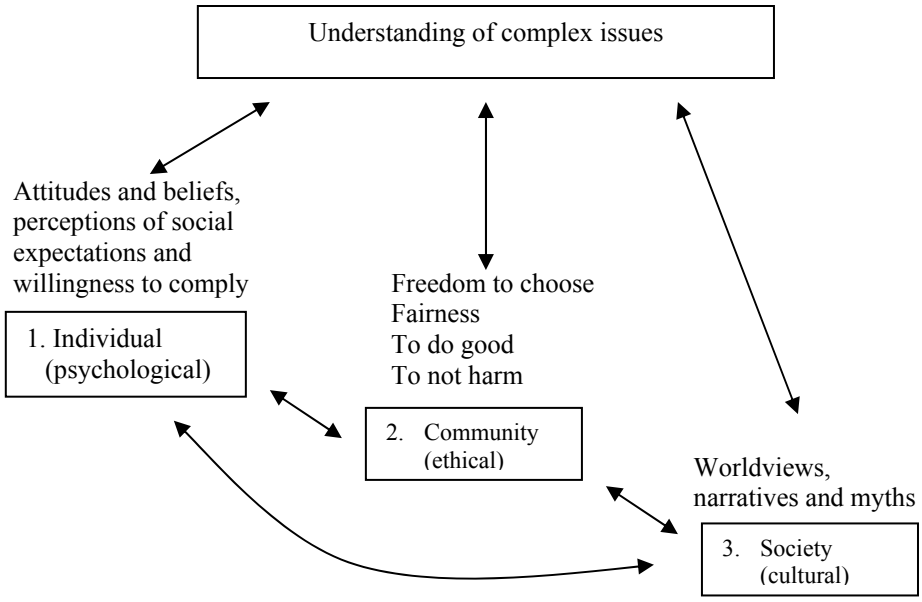


TABLE 1: An ethical matrix highlighting some of the issues faced by different groups in a community considering of the value of organic farming.

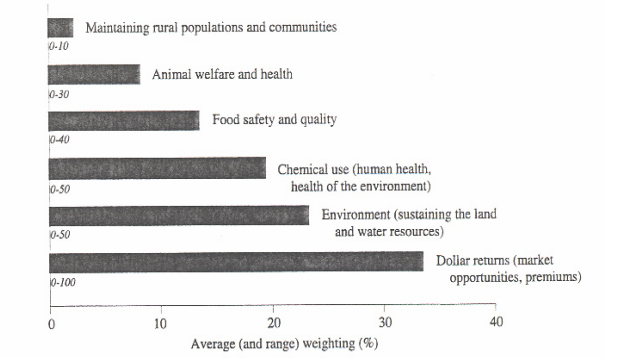
Group	Moral Standard			
	To Not Harm	To Do Good	Fairness	Freedom
Animal	Will organic farming practices reduce animal welfare?	Will animal selection for organic systems result in fitter animals?	Is organic farming in keeping with the continued evolution of domesticated sheep?	Do organic systems allow animals to behave more naturally?
Farmer	Will there be sufficient R&D, technical support, and training?	Will organic farming result in greater work satisfaction?	If reducing chemicals is valued by society, should farmers alone bear the cost?	Should farmers be able to determine their own standards?
Consumer	Is organic produce safe?	Will a reduction in conventional farm chemicals benefit consumer health?	Will the adoption of organic farming result in universally affordable food?	Will organic produce be sufficiently labelled?

further reinforced by accounts of the adverse effects of chemicals. The rise of an "ecological consciousness", the modern articulation of an ecological view of the world and the desire to market produce and farm as "clean and green" have probably also contributed. However, the organic philosophy also has social and religious aspects aimed at restoring the "spiritual benefits of contact with nature" and "drawing all human activities into an integrated whole" (Conford & Walsingham, 1997). Aspects of this are evident in the belief that organic farming "brings producers and consumers back into old-fashioned food relationships built on trust and quality" (Aitchison, 1999). Purist organic farmers might be more informed by a spiritual philosophy, while the more pragmatic organic farmers may be influenced more by economic returns.

Secondly, the ethical matrix (Table 1) can be used to identify the issues which contribute to individuals' or communities' acceptance or rejection of organics. These include whether organic farming imparts beneficial characteristics to the food produced, is better for the environment, or is safer because of its reduced reliance on chemicals used in conventional farming. And we can use science and other knowledge to support or challenge these beliefs. For example, agricultural chemical use has been linked to decreased stamina, gross and fine eye-hand coordination, memory and the ability to draw in Mexican pre-school children (Guillette *et al.*, 1998), and an abnormally high incidence of pre-menopausal breast cancer in Israel (Westin & Richter, 1990). However, "natural" or "organic" chemicals can also be harmful to health or the environment (Ames & Gold, 1989; Edwards-Jones & Howells, 2001) particularly if they need to be applied more often.

Finally, what about an individual's motivation for organic farming systems. These factors were reflected in the variety of reasons farmers had for considering converting to an organic beef and sheep farming system (Figure 2). Though the predominant motivating factor was economic returns, nearly all participants were motivated by other environmental, food safety and quality, animal health and welfare, and social factors.

FIGURE 2: The diversity of factors which motivated farmers in the Meat New Zealand North Island Docus Group (n=20) to consider converting to organic farming (Mackay *et al*., 2001). Each member was asked to identify and informally weight (out of 100) the major drivers (from a list provided) behind their interest in low-chemical or organic production.



DISCUSSION

Acknowledging individual, community and cultural perspectives contributing to an understanding of aspects of agriculture, as outlined in this study, provides a means of methodically incorporating the different factors involved. In the case of organic farming, it highlights the complexity and diversity (Fairweather, 1999) of issues which an individual considers in choosing to farm organically. These include the more well known financial incentives, and the avoidance of conventional agricultural chemicals. It also draws attention to perhaps one of the more pervasive influences, the belief that "natural" is synonymous with "organic" or "chemical-free". The link between natural and safe is a powerful one, even though organic food may contain fungi, insects, viruses and natural carcinogens (Krimsky & Wrubel, 1996). Furthermore, there are different concepts of naturalness in organic farming, including those related to life processes (farming without chemicals), ecological processes (agro-ecological farming), and a respect for the integrity of life (Verhoog *et al.*, 2003). (Similarly, animal welfare can be understood in terms of the animal's physiology and its environment, how it is feeling, and how well it is living according to its nature – Fraser, 2003.) Until all these sorts of influences are fully acknowledged and critically examined, we will not understand different people's stances and therefore know whether organic farming is the best way to meet the diverse objectives of agriculture. Or whether in fact there are other more appropriate means of producing food.

The approach described in this study provides a means of acknowledging the wider range of issues which contribute to our understanding of complex subjects, only part of which is likely to be the domain of science. In addition, it also highlights the inadequacy of relying on specific examples of, say a practice or a technology's benefits (or costs) in supporting (or opposing) that practice or technology when individuals hold different cultural or philosophical positions, or are motivated by different factors. This study has only touched upon these sorts of influences and there are many opportunities to explore them further. For instance, are our cultural beliefs accurate? Do they have to be? How is concern for individual and environmental health weighed against economic benefits? Acknowledging these influences may enhance our understanding of some of the contentious aspects of farming, and also of science, leading to more equitable agricultural and public policy.

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