

animals have 'abusive competitors' (p 176); 'animal interactions ... may have characteristic purposes such as ... spite ...' (p 126); and the suggestion that 'individuals ... may be influenced by a controller that signals approval by following the leader' (p 127). These latter statements smack of anthropomorphism, which is at odds with the criticism of an anthropomorphic view of judging an animal's condition (p 89). To my amazement, the reader is also given instructions on which buttons to press on a calculator to calculate metabolic body size (p 270)!

For me, one of the most annoying aspects of this book was the jumble of units of measure used. Even within a sentence, paragraph or table the authors switch between metric and Imperial. I know that the North Americans (and British) still cling to the Imperial system for many of their measurements, but the authors should have made the effort to standardize the units. Further, if they had any intention that this would be an international book then they should have used the 'Système Internationale' system and provided measures in Imperial units in brackets. This is not simply pedantry; consider the use of the 'gallon'. Which gallon is this, the American or the British?

This is definitely not a book to be read from cover to cover; there is too much repetition for that (how many times did I read about poultry workers knocking on building doors before entry?) and in many parts the style, sentence construction and grammar do not make for easy or enjoyable reading. Having said that, the chapters on stress are informative and well written. Part IV will be of considerable interest if readers are considering setting up in animal production, providing they are prepared to grapple with the muddle of units of measure. The chapters on behaviour are well worth a read, but need to be treated with some caution; there are other valid interpretations to those presented here. If, on the other hand and as stated in Part I of this book, animal well-being is the ultimate goal, then this book has gone wide of the mark.

#### Reference

Lawrence A B and Rushen J 1993 *Stereotypic Animal Behaviour: Fundamentals and Applications to Welfare*. CAB International: Wallingford, UK. 212pp

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#### *Animal Management in Disasters*

S E Heath (1999). Mosby: London, UK. 320pp. Paperback. Obtainable from the publishers, 24-28 Oval Rd, London NW1 7DX (ISBN 1556644191). Price £26.50/US\$39.95.

Disasters can be 'natural' such as hurricanes, volcanic eruptions, floods, earthquakes, fire and extremes of temperature or they can be 'man-made' from nuclear accidents, bioterrorism, war, civil unrest and ethnic cleansing. Recent examples of 'man-made' disasters have occurred in Chernobyl, the Gulf War, Afghanistan, Rwanda, Croatia, Bosnia and Kosovo.

Dr Sebastian Heath, the author of *Animal Management in Disasters*, is an assistant professor at the School of Veterinary Medicine, West Lafayette, Indiana and despite his academic background, has been personally involved in a number of natural disasters which have occurred in the United States.

From his experience he describes four phases for effective disaster reduction:

**Mitigation** is the construction of structural features and implementation of policies to reduce the impact of disasters before they occur.

**Preparedness** occurs through planning, public education and safety advisories in the face of pending disaster such as awareness campaigns.

**Response and Recovery** are the two post-disaster phases. **Response** usually occurs in the first few hours or days after the disaster and involves the rescue of animals and treatment of injuries. Dr Heath believes *'that the response is most effective when carried out by persons and groups that deal with the same issues in their regular work ie local veterinary practices and animal shelters.'* **Recovery** starts as soon as actions are taken to restore the community's social and infra structure.

Sadly, the response to some unforeseen international disasters, especially in the Third World, like the recent cyclone in Eastern India, is fraught with practical problems including difficulties of access to reach remote areas, a lack of local infrastructure, impossible logistics and poverty of the people.

The principal responsibility of the Government is to promote public health and safety through emergency management. The care of the animal is therefore relegated in official importance unless it impinges on public health.

Whilst the saving of human life has to take first priority in a disaster situation, animal welfare associated with the human-animal bond must be taken into account, as well as the economic damage following loss of livestock.

Dr Heath defines animal welfare as *'a human responsibility that encompassed all aspects of animal well-being, including proper housing, management, nutrition, disease prevention and treatment, responsible care, humane handling and, when necessary, humane euthanasia.'*

He is rightly dismissive of the actions of animals rights groups who may use disasters to further their own agenda. There is a cynical view that some animal rights workers go to the disaster, look for the photo opportunity to be seen saving animals, and then go back home to raise funds on the back of a publicity campaign.

Also, beware the charlatans who seek to benefit from the disaster. At the start of the Balkan war, when Serbia invaded Croatia, a well spoken Croatian businessman came over to the UK and obtained donations, medical and veterinary supplies from gullible charities – all of which were later sold for his personal gain.

On the other hand, one must recognize the important role that the more professional animal welfare groups such as WSPA have played in international disasters where, working alongside the United Nations, the military, official Government agencies and other NGO's, they have organised the provision of emergency services, food for starving animals and the supply of veterinary drugs.

One chapter of the book is devoted to the many myths and realities related to animals in disasters. These home truths are intended to steer the reader away from misleading paths which may distract from the development of effective emergency management programmes. Dr Heath recommends that veterinarians should have training to become more proficient in the practice of disaster veterinary medicine.

This book is well written and is the first publication to set out the basics of veterinary disaster management. It is an essential buy for any veterinarian or animal welfare worker associated with disaster relief at both a local and international level.

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