

THE CONCEPTS OF ANIMAL WELFARE AND ITS CURRENT SITUATION IN TRADE CATTLE MANAGEMENT IN NIGERIA: AN OVERVIEW

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ABSTRACT

Animal welfare has arisen in society to express ethical concerns about the quality of life experienced by animals, particularly animals used in production agriculture. Although animal welfare studies originate more in developed countries, the topic is also emerging in developing nations. Animal welfare could be determined in terms of biological functioning that measures reactions to stress, including plasma levels of glucocorticoids, catecholamines, prolactin and endorphins, as well as heart rate and brain levels of neurotransmitters. Geographical and human conditions in sub-Saharan Africa suggest the welfare of trade animals for slaughter are negatively affected and that this also negatively affects meat quality and hence have economic impact. Nigeria has a Criminal Code which includes regulations on animal protection, that regulate markets bodies and road check points to monitor the welfare of trade cattle. Field reports indicate that these regulations are rarely – if ever – enforced.

Keywords: Animal welfare, trade cattle, agriculture, Nigeria

INTRODUCTION

Animal welfare concerns the state of an animal relative to the environment in which it lives. In recent times, animal welfare as a term, has arisen in society to express ethical concerns about the quality of life experienced by animals, particularly animals that are used in production agriculture. The term is therefore not one that necessarily expresses a scientific concept, nevertheless, because scientific methods are used to identify, interpret and implement societal concerns about animal quality of life issues, animal welfare has become established as a scientific field (Duncan, 2004).

Thus, animal welfare has now become measurable characteristics of an animal at a particular time or during a period (Grandin, 2015). Still animal welfare remains a complex and emotional topic which is difficult to define and assess. For example, the handling, loading, transporting and unloading of animals can have very substantial effects on their welfare and meat quality, which may be given different interpretations by different stakeholders. Therefore, there is the need to monitor welfare issues associated with trade animal handling and transportation, especially in developing countries where such topics are considered novel.

This paper reviews the concept of animal welfare and the current situation in trade cattle in Nigeria.

SCIENTIFIC PERSPECTIVES OF ANIMAL WELFARE

Animal welfare concern has become well established in many industrialized countries, particularly in the last 50 years. Increased ethical concerns about animal farming for food production and increased attention to animal rights drive these developments safeguard animal welfare (Fraser *et al.*, 1997) that has led to regulations on the production, transport, and slaughter of farm animals (Caporale *et al.*, 2005). Scientific research on animal welfare issues has also increased, especially in response to public concerns about intensive production systems (Grandin, 2015). Although animal welfare studies originate more in developed countries, the topic is also emerging in developing nations (Mugande and Croney, 2019). In applying animal welfare approaches developed in industrialized countries in developing countries, there may need to consider the economic, cultural and religious peculiarities of such countries (Mugande and Croney, 2019).

The scientific assessment of animal welfare involves measurements that capture different viewpoints on what constitute a good quality of life for animals. Development of scientific disciplines relevant to animal welfare has a long history and has been summed to include animal husbandry, animal science, veterinary

medicine and behavioral science, which contribute to the understanding of welfare problems of transport of farm animals to slaughter location (Grandin, 2015). Welfare is affected by many factors, as expressed by the five Freedoms (freedom from fear and distress; freedom to express normal behavior; freedom from hunger and thirst; freedom from discomfort; and freedom from pain, injury and distress) (Widowski *et al.*, 2016). It is also affected by the fact that people vary in the emphasis that they place on physical aspects, mental aspects and naturalness. Therefore, science has to cope with this complexity by applying a systematic approach to the asking of questions, and yielding answers that, as information accumulates from one or more comparable situations, are increasingly reliable and generalizable (Smith and Grandin, 2004). Similarly, scientific measurements of animal welfare have been shown to include health and biological fitness, the motion or subjective experiences of animals as well as ability to perform natural or specie-typical behavior pattern (Widowski *et al.*, 2016).

It is now understood that welfare and product quality are related and that poor welfare practices will result in inferior meat quality. Welfare varies on a scale from very good to very poor. Health is also an important part of welfare, while feelings, such as pain, fear and various forms of pleasure, are components of the mechanisms for attempting to cope and so should be evaluated where possible in welfare assessments (Broom, 2008). Where an individual is failing to cope with a problem, it is said to be stressed. Stress is an environmental effect on an individual, which overtaxes its control systems and reduces its fitness or appears likely to do so (Broom and Johnson, 2000). Welfare may be considered in terms of the subject experiences of animals or in terms of biological functioning that measures reactions to stress including plasma levels of glucocorticoids, catecholamines, prolactin and endorphins, as well as heart rate and brain levels of neurotransmitters (Broom, 2008).

Animal Transportation and Welfare

Around 60 billion animals are reared for food each year worldwide, most of which are transported for slaughter, often for long distances, both within and between countries. This massive movement of live animals takes place against a background of increasing concern and understanding of factors that affect animal welfare during transportation and increasing awareness that animal welfare may be correlated with food safety and quality. Physical welfare problems caused by transportation include injury, disease and stress which may be detected from behavior and from physical effects such as failure to grow or from physiological measurements (Ukwu, 2013). Transported animals may die or mortality may be increased by high or low temperatures, by long journey times and by transporting very young animals (Hong *et al.*, 2019).

Evidences of mental welfare are usually based on whether animals have what they want and whether they are suffering. For example, many preferences of animals may be frustrated by transport, both to avoid conditions such as vibration and noise, and to express normal behavior (Hong *et al.*, 2019). Forms of suffering caused by transport include hunger, thirst, discomfort, pain, frustration, fear and distress (Appleby *et al.*, 2008), which generally increase with time of deprivation or exposure, such as during long-distance transport. In order to reduce the adverse effects on food animals and the economic losses encountered during animal transportation, The EU developed the Welfare of Animal Transport Order 1997, which allows a maximum journey time of 19 hours that must include a one-hour break for food, water and rest after each 8-9 hours.

EFFECTS OF TRANSPORTATION ON TRADE ANIMAL WELFARE

The necessity of transportation in trade animal production for meat cannot be over emphasised as the need to transport food animals occurs essentially in commercial agriculture and to a lesser extent in the rural or subsistence sector. Animals are usually moved due to marketing, slaughter, re-stocking, and drought areas to better grazing and change of ownership. It involves several stages starting with gathering of animals from farms, driving or trekking them to markets, where they are gathered in corrals and pens, loading them

into vehicles, transporting them to the slaughterhouse, unloading them, and then driving them to lairage pens and to slaughter (Gallo *et al.*, 2018). For trade animals that go through livestock markets, the whole processes get repeated several times as they are not directly from farm to slaughter (Appleby *et al.*, 2008). According to Minka and Ayo (2009), geographical and human conditions in sub-Saharan Africa suggest that in many occasions, the welfare of trade animals for slaughter are negatively affected and that this also negatively affects meat quality and hence have economic impact. Therefore, animal welfare improvement is necessary to reduce suffering in food animals, which will better the conditions of the livestock and the safety of the handlers.

EFFECT OF ANIMAL HANDLING ON TRADE ANIMAL WELFARE

Inappropriate handling of trade cattle during the entire transport operation as loading, journey time and unloading can be more stress-inducing than the transportation itself. Arney and Aland (2010) reported that improper handling due to poor welfare causes impairment of meat quality, not only through mechanical damage to the carcase, but also through chemical changes in the meat, such as reduced pH and the consequences of high levels of cortisol, which is released during periods of stress. The risk of injury and stress during handling of livestock can be high, causing financial loss to producers, transporters and the slaughterhouse (FAO, 2002).

Gallo *et al.* (2018) reviewed the standard regulation for handling trade animals in South America countries that cover production systems, transport and slaughter, with the general aim of acknowledging that farm animals are sentient beings and that there is a need to reduce pain and unnecessary suffering in them. The regulation for industrial production systems as outlined by the EU includes indications regarding feeding, health, and housing conditions; with specific prohibitions during handling like hitting, pricking, or grabbing animals as well as training obligations. These make it compulsory to have at least one person trained as an animal handler in each productive system (Gallo *et al.*, 2018).

Loading of animals into a transport vehicle has been reported as one of the most stressful procedures and a critical point within the general transport process, which interfere with animal welfare (Miranda *et al.*, 2009). The standard for maintaining welfare is that the stockmen are trained in animal handling, understanding when the animals are calm and that the infrastructure is adequate, particularly loading ramps (Gallo *et al.*, 2018).

WELFARE OF TRADE CATTLE IN NIGERIA

The welfare of trade cattle in Nigeria is an issue worth reviewing because the livestock production approach employed by the farmers is usually the traditional system of production. This system involves traditional methods of production, including health and marketing. (Okoli *et al.*, 2005). Livestock is exchanged not only between northern markets but also between the northern and southern parts of Nigeria (Okoli and Kalla, 2008). The welfare concerns of trade cattle in Nigeria therefore rise from activities in the local markets in the north, handling and disease management as well as the long distance journey during road transportation to the markets in the South (Minka and Ayo, 2009). These processes expose trade cattle to environments that cause injuries, sickness, fear agitations and in some cases death.

Nigeria has a Criminal Code (amended 1991), which includes regulations on animal protection that regulations markets bodies and road check points to monitor the welfare of trade cattle (Appleby *et al.*, 2008). Owners guilty of cruelty to animals are first given the option of a fine, and are not liable to imprisonment unless they are unable to pay the fine. Field reports indicate that these regulations are rarely – if ever – enforced (Appleby *et al.*, 2008).

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