

## RELEVANCE OF ANIMAL WELFARE TO LIVESTOCK PRODUCTION IN NIGERIA

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### Abstract

The roles of farm animals as resources in human food production in the context of welfare and livestock production are in direct proportion to their productivity. Nigeria is currently the most populous among black nations in the world, and in sub-Saharan Africa. Threat to sustainable animal production has been blamed on the low performance of Nigerian workers, traditional customs and beliefs, lack of initiatives and drive in handling infectious diseases of livestock. Hence, there is a drastic decline in the production performance, health status of the animal which leads to a wide gap between the demand and supply of animal products. The prospects of achieving food security in rapidly growing population and relative sufficiency in animal protein supply calls for a meticulous and careful handling of all classes of our livestock notably poultry, swine, sheep, goat, cattle, rabbit among others which are currently on subsistence level. The future of animal welfare as a panacea to ensuring survivability of animals, sustenance of livestock production, in order to increase protein intake of Nigeria populace is brighter if Federal and State Government and those involved in policy formulation should realize that the animal welfare (their well-being) is a security factor and tackle the problems as appropriate. This should include forming animal welfare council and enacting laws and guidelines for keeping animals especially those kept in captivity. Strategic public awareness through media programs will also help in educating livestock farmers and stakeholders on modern techniques of handling livestock as well as best health practices. These and other deliberate efforts will greatly have a positive impact on the nutritional status of Nigerian population, standard of living and economic indices.

**Keywords:** Animal need, adapting, welfare, livestock and production

### Introduction

Livestock production plays important role in the economy of Nigeria. During the early days of agricultural boom, very little importance was attached to animal production which incidentally constituted a major input in protein requirements of the populace (Igboeli, 1984). In today's world, animal welfare is of concern to all including the breeder and producer of animals, the consumer as well as others such as animal rightists. In the past, concern about the treatment of animals and their welfare was essentially limited to the occasional incidence of animal cruelty. Hence, the importance of animal production in livestock industry cannot be over-emphasized. Animal welfare is a human responsibility that encompasses all aspects of animals well-being including proper housing, management, nutrition, diseases prevention and treatment, responsible care, human

handling and when necessary animal slaughtering. Animal welfare also involves the application of sensible and sensitive animal husbandry practices to the livestock on the farm. Good animal welfare has a positive effect on production. Animal management should aim at keeping animals free from thirst, hunger and malnutrition, discomfort, pain, injury and disease, fear and distress, and should also be able to engage in normal pattern of animal behavior (Bech *et al.*, 2008).

The American Veterinary Medical Association (AVMA) has defined animal welfare as: "An animal is in a good state of welfare if it is healthy, comfortable, and well nourished, safe, able to express innate behavior, and if it is not suffering from unpleasant states such as pain, fear, and distress.

Broom (2001) defined animal welfare as the psychological or

biochemical state of an animal as its attempts to cope or respond to internal challenges. These coping responses allow the animal to control and maintain mental and body stability. Coping include normal regulation of the body state and emergency responses such as high adrenal activity, heart rate or flight activity which requires more energy expenditure. Hence, some needs are used only when the animal predicts that normal regulatory action will be inadequate. The animal may succeed in its attempts to cope with this conditions in which it find itself being adapted to the condition and some time it may succeed only with great difficulty or may fail to cope in that its fitness is reduced as evidenced by death (Fraser and broom, 1990).

Animals have a wide range of need that is a consequence of many functional systems that make life possible. If an animal has a need, its motivational state is affected so that behavioural and physiological responses that should result in remedying that need can be made (Broom, 2001). A need is a deficiency in an animal that can be remedied by obtaining a particular resource or responding to a particular environmental or body stimulus. Therefore non fulfillment of these needs may expose the animal's stressors with detrimental effects on production (Gregory 1998, Bech *et al.*, 2008; Vessier *et al.*, 2008).

Prolonged exposure to stressors disrupts energy metabolism and reactions involved in stress response, thus affecting normal body functions, for example immunity, growth, reproduction and expression of normal behaviour (West *et al.*, 2003). The main purpose of this paper is to highlight the importance of animal welfare as its affects livestock production in Nigeria.

### **The Concept of Animal Welfare**

Animal welfare as a 'formal discipline' started with the publication of the Brambell report on the welfare of farm animals, issued by the British government in 1965.

Animal welfare as a concept has gained recognition by governmental and

non-governmental organization, academic institution and individual in order to safeguard this sentient being from mishandling by human. They encourage that animal should be kept in good health, comfortable, well nourished, safe to express innate behaviour, and not suffering from unpleasant states such as pain, fear, and distress (Fraser and Broom, 1990).

More recently, a more comprehensive approach to animal welfare have been proposed stressing that it should be viewed according to four main issues:

- 1) Biological and technical definitions, which stress the fundamental needs of animals and the freedoms they should be given, as well as the possibilities to cope with the environmental challenges;
- 2) Regulation approaches, which recognize the animal as a sensitive being and as such it has to be put in conditions 'compatible with the biological needs of the species.' This leads to translate the concepts into laws;
- 3) Philosophical approaches, which consider the "animal's status" and its role in the human society;
- 4) Communication between man and animal, which give much importance to the farmer-animal interaction and its effects on industrial breeding systems.

The four issues may represent the whole meaning of animal welfare and its implications for animal husbandry. The different aspects of the concept of animal welfare have to be taken into consideration in the studies on animal science which means that all the biological components, both physical and psychological, concurring in determining the welfare level, have to be studied and linked together. Moreover physiological, immune and behavioural measures should be validated and their underlying biological mechanisms should be adequately understood (Rushen *et al.*, 1991).

The animals' biological mechanisms are directed to simultaneously adapt to many environmental stimuli, sometimes conflicting and potentially stressful stimuli, whose importance determines priorities of action. The challenge for animal welfare research is to

discover how animals 'feel' and how much it does matter to them.

United Kingdom government formed animal welfare council and set first guidelines for keeping animals as they recommended that animals require freedom to stand up, lie down, turn round, groom themselves and stretch their limbs. Is the animal functioning well (e.g. good health, productivity, etc.)? Is the animal feeling well (e.g. absence of pain, etc.)? Is the animal able to perform natural/species-typical behaviours that are thought to be important to them (e.g. grazing)? These guidelines have now been elaborated to become what is known as five freedoms of needs that are essential to the well-being of any animal kept in captivity. The guidelines are as follow:

Freedom from hunger or thirst through the provision of ready access to food and water in both quality and quantity to maintain health and behavior.

Freedom from pain, injury and diseases attained through disease prevention or treatments. Freedom from thermal or physical discomfort that could be attained through the provision of suitable environment.

Freedom from fear and distress attained through provision of conditions which avoid mental suffering.

Freedom to indulge in normal behavior patterns attained through provision of sufficient space and adequate facilities.

These concepts of 'suffering' and 'need,' as well as the 'five freedoms' which are more related to animal husbandry and management by man are related to the fact that animals are now acknowledged as "sentient beings" which confers special consideration for them under European Law. The concept of 'sentience' had been already given scientific validity by Darwin (Webster, 1987).

#### **Animal welfare and livestock production.**

Livestock industry is one of the sources of elementary means of life, food and raw materials. The deficient structure of primary production in Nigeria creates under-employment and generally low standard of living. Hence, it becomes imperative for Nigerians to redirect interest

in animal agriculture particularly animal welfare to ensure sustained production and the quality of the final products. By implication this would usher in an era of spontaneous development and growth by engineering a path way to abundant food and prosperous economy.

Effective animal welfare technique helps in developing animal husbandry practice that will promote quality animal products from ethically acceptable production system. The use of appropriate handling techniques and equipment in the slaughtering process will minimize pain, fear distress and prevent defects in meat notably pale soft and exudative (PSE) in pork and dark firm and dry (DFD) in beef. Improved animal welfare and health through improved sanitation and hygiene improve the safety of animal foods e.g salmonellosis and also reduce risk to human health. For example vaccination against diseases such as brucellosis, tuberculosis and rabies can decrease animal mortality, morbidity and reduce the potential for transmission of diseases to human.

An individual animal, group of animal, breed and species represent a particular biological potential to produce economically valuable output. The stakeholders through incentives of commercial livestock production such as input of fixed, housing, disease control and prevention, environmental management, fertility enhancement will be able to pursue this potential as far as possible.

According to Duncan (1987), animals' welfare corresponds to the absence of "negative subjective emotional states, usually called suffering," and probably with the presence of "positive subjective emotional states, usually called pleasure. Animals use behavior as one of the important means of adapting to their physical and social environment. Animals communicate in a variety of ways. They send a wide range of messages as well as receive communication and interpreted signals in a variety of ways. They do so by reacting according to a genetically predisposed pattern to relevant causal factors inside and outside of the body.

When the animal is in an environment that allows it to perform

adequate reactions and to get adequate feedback from its behaviour, the animal is adapting (Curtis, 1986). If such adaptation is prevented, welfare will be poor. Deviations from the behaviour which is normal for the species, age and sex considered may therefore be important signs of welfare risks (Duncan, 1987). Various behaviours including abnormalities of behaviours are indicators of pain, fear or other poor welfare. Among such indicators is locomotive disturbance. Welfare is poorer if body condition is worse or there is unbalanced organ function, damaging muscular hypertrophy.

Poor welfare may also be indicated by poor reproductive ability (Dawkins, 1980). Physiological indicators of welfare include measurements of main regulatory functions, such as heart rate and adrenal hormones and immune response (Curtis, 1986 and Duncan, 1987). A treatment that interferes with the main physiological regulatory functions would be regarded as associated with poor welfare.

### **Measures of Animal Welfare**

#### **Criteria for Assessment of Animal Welfare**

Animal welfare can be assessed under the following conditions:

##### **1. Mortality and morbidity**

Death on farm may be due to many factors. For example it may be caused by disease, injury, physiological system failure or unidentified causes which show that the welfare has been poor (Dawkins, 1990).

##### **2. Body condition:**

Welfare is poor if body condition is worse or there is unbalanced organ function or damaging muscular hypertrophy (Curtis, 1986). An individual might be injured without feeling pain because endogenous analgesic opioids, or indeed artificial analgesics, prevent the pain. However, if injury occurs, the state of the animal is affected and welfare is poor. Welfare would be poorer still if pain accompanied the injury, but

the injury itself is an indicator of poor welfare.

##### **3. Behaviour**

Various behaviours including abnormalities of behaviours are indicators of pain, fear or other poor welfare and if animal fail to adapt to physical or social environment it indicates bad welfare. According to Morton and Griffiths (1985), careful measurement of behavior can give a good indication of the extent of pain. Behaviour disturbance when pain is experienced will disappear if adequate artificial analgesic is provided.

##### **4. Reproduction**

In general, reproduction is given high priority in the allocation of resources within an animal species. Impaired reproductive success is indicated by delayed onset of reproduction during development, lengthened intervals between successive breeding, reduced litter size, and early death. Welfare is poor in situations in which reproduction proves impossible. The animals cannot cope with their environment. There might be suffering associated with such effects on the animal, but the welfare is poor whether or not suffering occurs (Dawkins, 1980).

##### **5. Body deformity**

Body damage is clearly relevant in welfare assessment. Broken bones or wound can be identified and their frequency assessed. For example, it has recently been discovered that 27 % of hens from battery cage have at least one bone broken between removal from the cage and stunning (Gregory and Wikina, 1989). The major cause of this is that of hens kept in conditions in which more exercise is possible (Knowles and Broom, 1990). Another measure of body damage is the measure of body ulcer.

##### **6. Diseases**

Susceptibility to disease is also an important indicator of welfare. If animals are kept in such a way that immune systems are less effective in combating diseases, there is clearly some inadequacy in the management and housing system. The efficiency of antibody responses and of cell-mediated immunity can be adversely affected by exposing the animals to difficult conditions (Kelley, 1980; Siegel, 1987)

**7. Pathologies(breast blisters, chronic dermatitis and leg disorders)**

These are the result of high stoking and presence of infectious agents. This can also indicate bad welfare.

**Conclusion and Recommendations**

This review showed that adequate knowledge of animal welfare by livestock farmers and other stake holders in the animal production sector becomes imperative as it has a direct impact on the level of production, the nutritional status of Nigerian population, standard of living and economic indices. Hence, the need for government, non-governmental organizations and livestock farmers to synergize efforts to ensure a sustainable animal production through proper care and handling of the animals.

- 1 Government should form animal welfare council and enact laws and guidelines for keeping animals especially those kept in captivity.
- 2 Review of government agricultural policies affecting animal production in line with the millenium development goals and rigid execution with good planning and implementation.
- 3 Government should ensure adequate prevention and control of livestock diseases by way of encouraging local production of vaccines and other veterinary drugs.
- 4 Government should create public awareness through media programs as a means of educating livestock farmers and stake holders on modern techniques of handling livestock.

- 5 Government should also provide platform for interaction between livestock farmers and extension agents for dissemination of information on modern techniques of effective management and livestock handling.
- 6 Livestock farmers should provide suitable diets and adequate water in order to maintain the health and productivity of animals.
- 7 Close attention to animals by their caretakers will improve the potential for early diagnosis of diseases, prevention of diseases and behavioral problems and thus increases the possibilities of effective intervention.
- 8 Farmers should improve sanitation and hygiene in order to avoid risk to human health. For example local production of vaccines and veterinary drugs for diseases such as brucellosis, tuberculosis and rabies can decrease animal mortality and morbidity and also reduce the potential for transmission of diseases to human.
- 9 Livestock farmers should provide safe, comfortable environments and equipment (penning, flooring, harnessing) as this will prevent injuries which may result in loss of production.
- 10 Loading and transport of animals should be improved on as this will reduce bruises and injuries that may result in death or carcass down grading.
- 11 The use of appropriate handling techniques and equipment in the slaughtering process will minimize pain, fear and distress and prevent defects in meat notably pale soft and exidative (PSE) in pork and dark firm and dry (DFD) in beef.

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