

EVALUATION OF THE EFFECTIVENESS OF PRE-HANDLING TECHNIQUES AND WELFARE PRACTICES OF CATTLE FOR TRANSPORTATION IN ZANGO MARKET, BUKURU, JOS, PLATEAU STATE

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Abstract

Attention to the welfare of animals prior to transportation and observation of humane handling practices is important not only to consumers but also to meat production industry: inadequate transport condition can result in higher mortalities and meat quality problems. The aim of this study was to investigate the pre-handling and welfare practices for transportation with special focus on cattle flow and from zango market. Information and data were collected using a well structured questionnaire and random sampling techniques was employed to cover transporters, animals handlers, lower, sellers and miyyeitti Allah (Kungiyar Fulani). Face to face interview was conducted and physical observations were made on handling and welfare practices to ensure compliance with best practices. The study indicated that pre-handling and welfare practices of cattle for transportation were compromised. The animals were restrained (85%) using manual method (rope and sticks) and were whipped and lashed. The animals handlers beat or bend animals tails forcefully if the animal refused to cooperate and loaded. The facilities and equipment at the control post were improvised (70%) with (12%) being obsolete. It is therefore, recommended that best practices to observe and stakeholder be brought to bear on welfare issues

Key words: Pre-handling, technique, welfare, practices, transportation

Introduction

Transportation of non – human animals by any means is an integral part of animal production and management. It all begins with series of activities at the loading point and ends with unloading at the lairage in the abattoir or selling point. Transportation of animals involves various stressful procedures, such as herding on the farm, loading, travel, noise, vibration, and physical discomfort and unloading. The stress caused by these practices have been reported to have diverse and adverse effects on animal welfare and can cause a lot of economic losses related to mortality, carcass damage and decreased meat quality (Warris *et al.*, 1994 ;Giannetto *et al.*, 2011). In the case of increased physical stress or physical activities, muscle glycogen reserves maybe used before slaughter which can lead to higher ultimate meat P^H, darker meat colour, tougher meat and greater water holding capacity (Gregory, 1998). The adverse effects of transportation on the livestock welfare can be minimized by appropriate management (Fisher *et al.*, 2009). Animals handle at both loading and unloading point in a respectful manner, tend to be calmer and easier to control than those rough handled in a disrespectful manner.

Researchers have revealed that animals that are handled in a negative manner or contrary to acceptable standard and animal welfare, fear humans, have lower weight gain, fewer offspring's for multiparous animals and give less milk and, reduced egg production (Hemsworth, 1981; Barneth, *et al.*, 1992; Hemsworth *et al.*, 2000). Similarly, Kadim *et al.*, (2006) observed in they study that inhumane handling of non – human animal also increased plasma concentrations of Cortisol, adrenaline and nor-adrenaline dopamine, Shrinkage losses and deterioration in meat attributes. The Cardiovascular system is influenced by vibration, resulting in increase heart rate and blood pressure and peripheral vasoconstriction (Randall *et al.*, 1995). Handling and training animals to cooperate greatly improves welfare and removes some effect of restrain stress on physiological parameters. Tamed animals that are accustomed to frequent handling and close contact with people are usually less stress by restraining and handling than animals that seldom see humans (Fordyce *et al.*, 1985). Fordyce (1987) reported that training weanling heifer calves involved walking quietly among them, teaching them to follow a lead herdsman and quiet walking through chute. The adverse effects of

effectiveness of pre – handling techniques and welfare practices are all experienced by farm animals during transportation. The level of the stress is influenced by many factors, such as transport duration (fisher *et al.*, 2010; Dalmau *et al.*, 2013) stocking density (Cockram *et al.*, 1996; Fisher *et al.*, 2010), Social Mixing (Ekiz *et al.*, 2013), logistic stop over(Miranda la Lama *et al.*, 2010;2012*), driving style(Fishers *et al.*, 2005) and road conditions (Cockram *et al.*, 2004); Miranda de la Lama *et al.*, 2011).

In Nigeria, there are no laws regulating the handling, transportation and welfare of domestic farm animals that serve as source of animal protein. However, the amateurs and animal tax collectors are having a field day by collecting what they can squeeze from the unsuspecting transporters. Besides, there is paucity of information and awareness on this topic. Therefore, the study was designed to evaluate the effectiveness of pre – handling techniques and welfare practices of cattle for transportation in Zango market in Jos- Plateau.

Materials and Methods

The study was carried out at the Bukuru Control Out-Post. Bukuru is located in Jos – South Local Government Area of Plateau State. It is approximately 1285 metres above sea level. It has a mean annual rainfall of 1328mm with temperatures ranging from 10 – 28°C with a mean value of 23°C. The relative humidity values range from 14 – 74% depending on the time of the year (Knudsen and Soheli, 1970; National Veterinary Research Institute (NVRI,2006).

Sampling Techniques and Data Analysis

Zango market otherwise known as Kukiya market.(Karaal) was purposively selected because of its high livestock population density occasion by its location within Jos and environs. Random sampling technique was employed to cover transporters, animal handlers, buyers and sellers, miyyati(Allah Kungiyani fulani) and veterinary health officers. A total of 80 questionnaires were administered. A well structured questionnaire was used to collect the data. For better planning of the fieldwork, preceding exploration visits and interview with the key persons were conducted to investigate how transport and pre-handling practices and welfare were done at the control post. The researcher observed loading and unloading from smaller markets within and transportation to ensure compliance with the regulations and experimental procedures. Face-to-face interview was conducted. The data collected were analysed using simple descriptive statistics

and presented in a tabular form.

Results and Discussion

Table 1 shows the distribution of respondents on pre-handling and welfare practices. It was revealed that they do not conform to the general standards and best practices. From the data 85% of the cattle were restrained using manual method (ropes and sticks) and were whipped and lashed. During loading animal's horn or neck was tied by rod towards the vehicle. Animal's handlers beat or bend animal's tails forcefully if the animal refused to be loaded. All these have welfare and economic negative side effects. This is because the lashes could cause bruises, which may have to be trimmed. This trimming may reduce the quality of the carcass as well as the profits gained. This practice can also add physical stress and physical stress attribute to hunger, fatigue and tension besides the physiological stress, which can lead to depletion of muscle glycogen reserves (warriss, 1990).The data also shows that most of the facilities and equipment were improvised (70%) with some being obsolete (15%). This gives reason for seeking the alternatives thereby compromising the welfare animals. The loading ramp was poorly constructed by hilling and leveling the land. Its height and dimension are not conformed to standard and was not suitable to load animals' properly thereby making handling a very stressful practice. The table also shows that the fate of animals at the point of dying on transit was to sale them to the nearest butchers (52.50%), stop , slaughtered and carry on (28.75%) while (18.75%) of the respondents agreed that it depends on the severity of the case. The result also revealed that most of animals were brought in or transported using vehicles (trucks) (58.75%), on hoof (32.50% and enclosed vehicle (8.75%). it was observed that the animals transported by vehicles were exposed to radiation, had no enough space on the vehicle; were tied by rope to the side or body of the vehicle and the animals were swinging here and there due to bad road and driving conditions. In addition the trucks were covered with straw wood chips or leaves to minimize the chance of falling due to its slippery floor. These conditions affect the welfare of the loaded animals as agreed by (Tarrant 1990; Parrot *et al.*,1998), that period of confinement in a moving vehicle is more distressing resulting to the elevation of heart rate and Cortisol levels. From the results, it was indicated that the cattle were not allowed to rest or feed at all at any point (75%) rather feeding was continuous on transit, but resting was conditional if emergency case emanated (18.7%).

Conclusion

In conclusion, it was found that pre-handling techniques and welfare practices of cattle meant for transportation were compromised. From the restraining method during loading, standard of facilities/equipment, handling on transit, mode of transportation, overcrowding in vehicles and no appropriate loading facilities were compromised and the vehicles were not designed for cattle transport. Therefore, a range of factors need to be addressed when considering optimal and acceptable transport conditions including handling loading and unloading procedures, selection of fit animals, condition of the vehicles, details of the journey and smoothness of the driving. It is however, recommended that from the study concerning compromising the welfare, cattle welfare and handling should be brought to the bear of stakeholders, and legislation on the welfare and right of animals be made.

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Table 1: Distribution of Respondents on Pre-handling Techniques and Welfare Practices.

Variables	Frequency (n)	Percentage(%)
a. Restraining methods		
i. Manual (Ropes and Sticks)	68	85.00
ii. Chemical (Sedatives)	00	00.00
iii. Physical (physical strength)	12	15.00
b. Standard of facilities equipment available at the control post.		
i. Improvised	56	70.00
ii. Standard	02	02.50
iii. Obsolete	12	15.00
iv. Absent	10	12.50
c. How often are the cattle allowed to rest and feed on transit?		
i. Not at all	60	75.00
ii. 1 – 2 hours	05	06.25
iii. 3 – 4 hours	00	00.00
iv. Conditional (emergency cases)	15	18.75
d. Fate of cattle at the point of dying on transit.		
i. Slaughtered and carried to their destination	23	28.75
ii. Sale to the nearest butches	42	52.50
iii. Consult the nearest vet. office	00	00.00
iv. Allow to die and proceed	00	00.00
v. Depending on the severity	15	18.75
e. How often do you wash the trucks?		
i. Daily basis	26	32.50
ii. Weekly basis	14	17.50
iii. Once in two day	36	45.00
iv. Once in three days	04	05.00
f. Mode of transport to the market		
i. Vehicle (Trucks)	04	58.75
ii. On hoof	26	32.50
iii. Enclosed vehicle	07	08.75

Source: Field Survey (2013)