APPRAISAL OF ABATTOIR OPERATIONS, WASTE GENERATION AND MANAGEMENT AT LAFENWA ABBATOIR

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ABSTRACT

The study was conducted to assess hygiene and waste management at Lafenwa abattoir is located in Odo eran, Lafenwa, in Abeokuta Ogun State. It also investigated the methods adopted in processing animal carcasses, including handling or transportation to retail centres. The results show that on average about 150 cattle are slaughtered on a daily basis. Handling and transporting carcasses to the various points of sale is generally done under unhygienic conditions, exposing the meat to all sorts of contaminants. Majority of butchers make use of motorcycles and taxis (booth) to transport meat to the market, posing a serious threat to the health of consumers. Wastes from the abattoir are dumped into a nearby river that also serves as source of water for the abattoir. It was concluded that proper waste disposal facilities should be provided to enable the abattoir process meat devoid of contaminations.

INTRODUCTION

Abattoir operations are meant to recover the edible portions of slaughtered animals for human consumption. In the process, significant quantities of waste materials including organic and inorganic solids are generated (Red Meat Abattoir Association (RMAA), 2010; Steffen and Kirsten Inc, 1989). Abattoir activities are responsible for the pollution of surface and underground waters as well as air quality which indirectly affect the health of residents living within the vicinity of abattoirs (Odoemelan and Ajunwa, 2008; Patra *et al.*, 2007; Raymond, 1977). Studies from Nigeria and Ghana show that many abattoirs in the respective countries either deposit waste materials in the immediate environs or dispose of them directly into water bodies, some of which serve as sources of water for the abattoirs (Adelegan, 2002; Osibanjo and Adie, 2007; Weobong, 2001). Some people argue that the practice is mainly due to lack of or inadequate waste recovery and treatment facilities (Adeyemo *et al.*, 2009). This study was conducted to assess the level of hygiene and methods of disposing the wastes from the abattoir.

MATERIALS AND METHOD

The investigative approach to data collection was adopted, where the officers on duty were asked questions, and also record books on activities in the abattoir were accessed and also visual inspection of abattoir activities. The abattoir in Lafenwa which is located in Abeokuta North with geographical coordinates of 7^0 9' 0" North 3^0 21' 0" East, was selected for this study which was conducted in June 2013, as it is the major place where animals are being slaughtered in the state capital of Abeokuta. Data on the number of cattle slaughtered daily, most prevalent disease, and staff number were obtained from the oral interview and also record books presented. The abattoir was inspected for basic facilities and also mode of operations. This was obtained from records on abattoir operations. Additional information was collected through interviews with veterinary experts and meat inspectors.

RESULTS AND DISCUSSION

This abattoir was opened for operation some 50 years ago. The initial capacity was between 20 and 30 cattle, but an average of 150 cattle, mainly White Fulani are slaughtered daily. Only one officer was posted to this abattoir as of inception gradually rising to 6 officials as of the time of this study. Many features of a standard abattoir are absent, but the very few that were seen are; the cold room, lairage and bathrooms. The cold room has been out of use for a very long time. The bathrooms are still well in use. An important feature of an abattoir is proper waste disposal system; this is a feature that is lacking in this abattoir. As the only means of waste disposal is a river (plate4) that flows behind the abattoir in which wastes are dumped on a daily basis. This could pose a threat to the health of residents living

close to the abattoir as reported by Odoemelan and Ajunwa (2008); Patra *et al.* (2007); Raymond, (1977), where it was stated that abattoir activities are responsible for the pollution of surface and underground waters as well as air quality which indirectly affect the health of residents living within the vicinity of abattoirs. Humans may also be affected through outbreak of water borne diseases and other respiratory and chest diseases (Mohammed and Musa, 2012).

The abattoir has a good drainage network that allows for efficient passage of effluents into the river. The wastes in this abattoir include ruminal contents (plate5), blood (plate6), animal hair as a result of scalding and also faeces. Nwachukwu *et al.* (2011) stated that improper disposal of animal faeces may cause oxygen depletion in the receiving environment, and could also lead to eutrophication of receiving system and increase rate of toxins accumulation in biological systems. Wrongful discharge of blood and animal faeces into streams may cause oxygen-depletion as well as nutrient-over enrichment of the receiving system which could cause increased rate of toxin accumulation (Nwachukwu *et al.*, 2011). This river also serves as the source of water. Water is usually pumped from the upper region of the river (Plate 9) while wastes from the abattoir are washed into the lower region of the river. The only source of water asides the river is a well that is hardly used by the butchers. Almost all activities in this abattoir usually take place on the floor (plate8) ranging from slaughtering, to scalding (Plate11) and subsequently evisceration (plate10). The mode of transportation of carcass is in basins (Plate7), on motorcycles, vehicles and sometimes with bare hands. These practices affect the quality of meat sold on the market, with serious consequences to the health of consumers as reported by Adzitey *et al.* (2010). It was observed that the whole abattoir premises is washed thoroughly and disinfected after close of work every day (plate12), as this helps to keep the abattoir clean and reduce offensive odour. It was also observed that the veterinary officers stationed at the abattoir are always dressed in their protective clothings and boots, as this would reduce chances of injury and also body contamination. They are also strategically located to inspect carcasses and either condemn or pass the carcass for human consumption. The records that were available to us indicated that; Tuberculosis, Dermatophilosis, Mange, Mastitis, Taeniasis, and Pnuemonia were most common diseases.

CONCLUSION

From what was observed, the waste disposal system is very inappropriate which could be harmful to the health of residents around. Source of water for this abattoir is also another cause for concern, as the same river in which waste is being deposited is what supplies the abattoir most of the time. The authorities in charge should pay serious attention to the source of water and waste disposal system, and make sure better alternatives are provided.

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Plate1


plate2


plate3


plate4


Plate5


plate6


plate7


plate8


plate9


Plate10


plate11


plate12


plate13