



# Factors Influencing Mortality Rates of Murrah Buffaloes in an Organised Farm of Andhra Pradesh

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## Abstract

*Andhra Pradesh's coastal region has the largest population of cattle and buffaloes both in organised sectors as well as backyard farming by farmers. Buffalo research station in Venkataramannagudem, West Godavari is located in Andhra Pradesh, maintains nearly 160 Murrah buffaloes and is managed by Sri Venkateswara Veterinary University. The data on mortality of buffaloes in the farm was collected for the past six years and was categorised based on sex and age. The data was analysed using standard statistical methods. The present studies reported an overall mortality rate of 2.92%. It was noted that mortality was higher in adults than in calves and there is no much sex variation in the death of the calves. The mortality rate was very less in the farm over the past six years reciprocating the strict manamgemental practices that were carried in the organised farm.*

**Keywords:** Andhra Pradesh, *Bubalus bubalis*, Murrah, Mortality

## Introduction

Murrah buffaloes, originated from the tracts of Haryana and Punjab which comprised the districts Rohtak, Hisar, Jind, Nabha and Patiala (Sangwan *et al.*, 2012). Amongst the different breeds of water buffaloes, Murrah breeds attained a better adaptability throughout India. Murrah buffaloes promote a significant contribution in the production of milk and also sustains the livelihood of small marginal farmers through the income generated through its milk, meat and draught work (Shivahre *et al.*, 2014). According to 19<sup>th</sup> Livestock Census of India, Andhra Pradesh stands 4<sup>th</sup> in India in the buffalo milk production contributing 7.4 million metric tonnes of milk (Sivaji *et al.*, 2018).

Agriculture, the main backbone of Indian livelihood for landless farmers was attained by rearing cattle and buffaloes for generating their income. Safeguarding the life of cattle and buffaloes are very important especially the calves as their mortality can decrease the farm profits (Martin and Wiggins, 1973). Mortality in cattle and buffaloes calves ranged usually from 29.1% to 39.8% as per Afzal (1983). Efficient management of the adult buffaloes and calves in the farms play a vital role in decreasing the mortality rates thus helps in income generation as well as herd expansion of the farm. The present study was taken up to analyse the mortality rate during the past years thus reciprocating the managemental factors being taken up in the farm.

## Materials and Methods

Records on deaths occurred during the period 2013-2019, at Buffalo Research station, Venkataramannagudem were analysed to study the rate of mortality in the Murrah buffaloes.

## Results and Discussion

The number of animals died and the various reasons that caused mortality in the past six years were listed in the Table 1 and 2.

**Table 1:** The total number of deaths in the farm year-wise

S. No.	Year	Total number of Murrah buffaloes	Number of deaths			Total deaths (Percentage)
			Calves		Adults	
			Males	Females		
1	2013-2014	139	2	2	3	7 (5.03%)
2	2014-2015	171	-	2	2	4 (2.33%)
3	2015-2016	139	2	1	2	5 (3.59%)
4	2016-2017	141	1	1	4	6 (4.25%)
5	2017-2018	204	-	-	2	2 (0.98%)
6	2018-2019	163	-	1	3	4 (2.45%)
						28 (2.92%)

**Table 2:** Reasons for the occurrence of mortality in the Buffalo farm based on age group

S. No.	Age group	Total dead	Gastro-intestinal	Respiratory	Obstetrical complications	Miscellaneous
1	Below 2 months	11	10	1		
2	Below 6 months	1		1		
3	Below 5 years	9	7		2	
4	Above 5 years	5	1		3	1
5	Above 15 years	2			2	

From the above data, it could be predicted that the major cause for mortality was gastro-intestinal (64.28%) followed by the obstetrical complications (25.00%), respiratory (7.14%) and miscellaneous (3.57%). In the present study,

deaths in calves were mainly in the neonatal stage i.e., less than two months and was mainly due to the diarrhoea caused by the gastro – intestinal digestive problems, white scours and to lesser extent with the respiratory distress and dysnea during the winter seasons. Reports of earlier studies mentioned that calves were succumbed to death below one month age in Surti buffalo (Patil *et al.*, 1991) and Murrah buffalo calves (Pradhan and Panda 1994). Similar reports of deaths mostly in neonatal calves due to diarrhoea and pneumonia were mentioned by Shimugu and Natagoma (1987). Several authors in their findings found out that disturbances in nutritional deficiencies was also a cause for the deaths (Waldner *et al.*, 2009 and Bangar *et al.*, 2013) in the calves below one year. As per the findings in the Buffalo research station mortality varied with age and was higher in calves below two months which was in accordance to the reports of Khan *et al.* (2007) in which he reported that deaths were more in younger age group of three months. The main cause for mortality in adults was found to be acute bloat (50.0 %) and prolapse of genitalia (43.75 %) in the final trimester of pregnancy. In the farm, there was a report of the viral disease Infectious bovine rhinotracheitis in a single animal and was culled. According to Taraphder *et al.* (2011), mortality in murrah buffaloes was nearly 30.89% due to the digestive disturbances. The overall mortality rate was higher in buffaloes above two years than the neonatal and younger calves below 6 months indicating that intensive care and management practices implied in the farm were good enough to minimize the neonatal calf deaths. Based on the mortality percentage from the above data, the overall death rate in the farm was very meagre i.e., only 2.92 % and the figure reciprocates the level of managerial practices carried out in the farm.

The farm takes up strict managerial practices starting from rain water gun practice for washing of buffaloes both in the morning and evening. Regular cleaning and disinfection of farms with sanitizers and disinfectants was done in the farm. The findings were similar to Aulakh and Rajbir (2012) and contrary to Vrandra *et al.* (2017). Using of nets and spraying of insect repellants to protect from flies during rainy seasons was strictly followed. Immediate services to the sick and ailing animals were carried in the veterinary hospital maintained in the organised farm and proper care was taken by the paraveterinary staff. Similar observations were reported by Yadav *et al.* (2009). Round the year vaccination schedule for various bacterial and viral infections like FMD (Foot and mouth disease) and HS (Haemorrhagic septicaemia) was carried out regularly for all the buffaloes. Kalyankar *et al.* (2008) and Sabapara *et al.* (2010) also reported regular vaccinations for the goodwill of buffaloes health. Pregnant animals were taken utmost care with special managements and similar reports were given by Meena *et al.* (2007) they provided 45% extra ration in advanced pregnancy and after parturition the placenta was deeply buried in the soil away from the farm and any remnants of placenta was removed with the aid of medical care. The newly born calves were thoroughly cleaned, removal of mucus and disinfection of the naval cord was carried out to avoid the infections. Mortality rate upto 5% is acceptable in well managed farms, maintaining all the standard norms and practices and the death rate is considered as non-specific (Khan *et al.* 2007). It could be concluded that the mortality rates in the farm was very less and deaths reported during the past six years in the organised farm were not much specific. Hence the farm managerial practices were good enough to safeguard the health of the murrah buffaloes and aids in the contribution of upgrading the farm economically.

## **Conclusion**

From the above data, it could be concluded that the mortality rates in the farm was very less and deaths reported during the past six years in the organised farm were not much specific. Hence the farm managerial practices were good enough to safeguard the health of the Murrah buffaloes and aids in the contribution of upgrading the farm economically.

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## **Conflict of Interests**

There is no conflict of interest.

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