



ISSN (E): 2277- 7695  
ISSN (P): 2349-8242  
NAAS Rating: 5.23  
TPI 2022; SP-11(4): 1506-1510  
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[www.thepharmajournal.com](http://www.thepharmajournal.com)  
Received: 16-02-2022  
Accepted: 18-03-2022

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## A comparative study on socio-economic characteristics of buffalo owners in two Taluks of North Karnataka region of India

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### Abstract

The present study was conducted to document the existing socio economic characteristics of buffalo owners in Kalaburagi district of Karnataka. A total of 90 buffalo farmers, 45 from each taluqa were randomly selected for survey. The study revealed that 63% of farmers were middle aged, 89% were literate with some educational background, 91% of the respondents had adequate land of more than 2.5 acres, 64% of them were in small family sized of four members, 84% of them belonged to nuclear family, 78% of the respondents came from OBC caste, 72% depended on TV/Radio for mass media knowledge, 68% of the farmers kept small herd size of one to three buffaloes and 75% kept non-descript buffaloes in their day to day vocation.

**Keywords:** Socio economic, Indian buffalo farmers

### Introduction

Buffalo is one of the most important dairy animals concentrated in tropical and sub tropical countries. They are the main stay of dairy industry, especially in Asia and form the frail rural economy in developing country like India. This animal is thrifty, versatile, adaptable and productive domestic animal and has drawn national, international attention in the few decades. India is world leader in buffalo population comprising, 57 per cent of the world's buffalo population contributing more than 49 per cent to the total milk production (DAHDF, 2018) [2]. Water buffalo (*Bubalus bubalis*) can rightly be called India's black gold because of its importance as the key dairy animal. It has made a major contribution to agrarian economy of India.

The world buffalo population is estimated at 207 million, spread in some 42 countries, of which 200.79 million (97%) are in Asia. Total Buffalo Population in India is 109.85 Million during 2019. The annual milk production is 186 million tons as of 2018. Indigenous/non-descript buffaloes had the highest share of milk production in India with 49 per cent in the year 2020 (Statista Research Department 2021) [27]. In tropical climates like India, buffaloes are preferred over cattle because they are able to utilize nutrients from poor quality fibrous tropical feeds efficiently and also possess better disease resistance and adaptability to hot climates (Paul *et al.*, 2003) [19]. Animal husbandry practices play a vital role in the improvement of animal productivity and livestock production. Scientific management will help in reducing mortality and morbidity of livestock which indirectly results in their health improvement. Presently large numbers of nondescript animals are kept, shortage in feed and fodder resources coupled with illiteracy of farmers are some of the reasons causing hindrance to the development of livestock sector. Therefore, it is imperative to assess the reasons for low performance and productivity in buffaloes. Hence, an investigation was undertaken to study the socio-economic characteristics of buffalo owners.

### Materials and Methods

The present study was conducted for a period of three months, in Afazlpur and Aland Taluks of Kalaburagi district of Karnataka. Personal interview technique using standard questionnaire was used as a tool through which first-hand information was collected. This district was selected due to familiarity of researcher with the area and local language. Random sample size of 90 buffalo owners (45 from each Taluqa) were selected for the study. The variables under study were selected on the basis of extensive review of literature related to the topic of

research and in consultation with experts. The semi-structured interview schedule was prepared keeping in view the objectives of the study and was common for all buffaloes owners. Before collection of data, interview schedule was pre-tested. Apart from interview schedule, observation technique was also used for data collection. Wherever required, data from secondary source was also collected. The Survey was conducted at their home with the help of local people from villages. Objectives of the study were explained with a view to facilitate giving correct responses. Assurance was given that the data collected were utilized for the purpose of research only.

## Results and Discussion

Table 1 revealed that, among all respondents 63.33 per cent of the respondents belonged to middle age followed by young

age and old age group. In Afzalpur taluqa, 66.66 per cent buffalo owners belonged to middle age group, while 22.22 per cent buffalo owners belonged to young age group and 12.22 per cent farmers belonged to older age group. In Aland taluqa (60.00%) buffalo owners belonged to middle age group followed by 24.44 per cent young age group and 12.22 per cent old age group. The above findings could be related to the fact that the buffalo provides a profitable product such as milk, which is a regular source of revenue. Farmers of middle age group are more responsible and mature in buffalo rearing and for undertaking innovations, by virtue of their adequate experience. This result is similar to the findings reported by Nishi *et al.* (2011)<sup>[16]</sup>, Prakashkumar Rathod *et al.* (2013), Manju Upadhyay and Yadav (2015), G. Chandra Sekhar Reddy (2016)<sup>[6]</sup>, and Pata Bharat A (2018)<sup>[17]</sup>.

**Table 1:** Distribution of the buffalo owners according to their age (n=90)

Sl. No	Category	Afzalpur	Aland	Overall
1	Young age ( $\leq 35$ years)	22.22 (10)	26.66 (12)	24.44 (22)
2	Middle age (36–50 years)	66.66 (30)	60 (27)	63.33 (57)
3	Older age ( $> 50$ years)	11.11 (5)	13.33 (6)	12.22 (11)
	Total	100 (45)	100 (45)	100 (90)

Percentages are mentioned without bracket (Frequencies are mentioned in bracket).

**Table 2:** Distribution of the buffalo owners according to their education (n=90)

Sl. No	Category	Afzalpur	Aland	Overall
11	Illiterate	8.88 (4)	13.33 (6)	11.11 (10)
12	Literate	91.11(41)	86.66 (39)	88.88 (80)
	Total	100 (45)	100 (45)	100 (90)

Per centages are mentioned without bracket (Frequencies are mentioned in bracket).

Table 2 indicates that in Afzalpur taluqa, majority of buffalo owners (91.11%) were literate and remain 8.88 per cent were illiterate, while in Aland 86.66 per cent were literate and 13.3 per cent were illiterate. It could be considered that most of the buffalo owners had some educational back ground which might help them in obtaining information on Scientific buffalo rearing. These results were in agreement with the findings of Shinde (2011)<sup>[26]</sup>, Meena *et al.* (2012)<sup>[13]</sup>, Rajput *et al.* (2012)

<sup>[21]</sup>, Prakashkumar Rathod *et al.* (2013), Naresh Prasad *et al.* (2013)<sup>[15]</sup>, Jadav *et al.* (2014)<sup>[8]</sup>, Manju Upadhyay and Yadav (2015)<sup>[12]</sup>, G. Chandra Sekhar Reddy (2016)<sup>[6]</sup> and Pata Bharat A (2018)<sup>[17]</sup> who reported that majority of the respondents were literates in rural and urban areas, whereas the present results were contrary to the findings of Debasish *et al.* (2010)<sup>[3]</sup> who stated that majority of the respondents were illiterate in their study area.

**Table 3:** Distribution of the buffalo owners according to their land holding (n=90)

Sl. No	Category	Afzalpur	Aland	Overall
1	Landless	6.66 (3)	11.11(5)	8.88 (8)
2	Marginal (up to 2.5acres)	26.66 (12)	31.11(14)	28.88 (26)
3	Small (2.5 to 5 acres)	24.44 (11)	28.88 (13)	26.66 (24)
4	Large (above 5 acres)	42.22 (19)	28.88 (13)	35.55 (22)
	Total	100 (45)	100 (45)	100 (90)

Per centage are mentioned without bracket (Frequencies are mentioned in bracket).

6.66 per cent, 26.66 per cent, 24.44 per cent, and 42.22 per cent of respondents in Afzalpur taluqa, were landless, marginal, small, and large land owners, respectively. In Aland, 11.11 per cent, 31.11 per cent, 28.88 per cent, and 28.88 per cent of respondents, were landless, marginal, small, and large land owners, respectively (Table 3). It was attributed that buffalo owner's main occupation was farming and they were capable to afford large scale dairy farming. The present findings were similar to findings of Kishore *et al.*

(2013)<sup>[9]</sup>, Patel *et al.* (2013)<sup>[18]</sup> and Pata Bharat A (2018)<sup>[17]</sup>. These results are contrary to the findings of Gautam *et al.* (2007)<sup>[5]</sup>, Ahirwar *et al.* (2010), G. Chandra Sekhar Reddy (2016)<sup>[6]</sup>, and Nagrale (2016)<sup>[14]</sup>. In the present study area, buffalo farming was more prevalent in large, marginal, small and land less buffalo owners which indicated that dairying was considered as a source of income and employment to the family members of landless, marginal small farmers and large farmers of Kalaburagi district.

**Table 4:** Distribution of the buffalo owners according to their family size (n=90)

Sl. No	Category	Afzalpur	Aland	Overall
1	Small size (up to 4 member)	60.00 (27 )	68.88 (31)	64.44 (58)
2	Big size (above 4 member)	40.00 (19)	31.11(14)	35.55 (32)
Total		100 (45)	100 (45)	100 (90)

Percentages are mentioned without bracket (Frequencies are mentioned in bracket).

In the Afzalpur, majority of the respondents (60.00 per cent) belonged to a small family, while 40.00 per cent belonged to a big family. Majority of the buffalo owners in Aland (68.88%) belonged to a small family, while 31.11 per cent of buffalo owners belonged to a large family. Together (64.44%) belonged to a large family, while 35.55 per cent belonged to a small family (Table 4). The reason for this could be that

majority of the respondents family type were nuclear type and it indicates that all buffalo owners realized the importance of small family in Kalaburagi district. These findings are in accordance to Sathyanarayan *et al.* (2010) [25], Raval and Chandawat (2011) [23], Upadhyay and Desai (2011) [29], G. Chandra Sekhar Reddy (2016) [6]. But contrary to the study of Jadav *et al.* (2014) [8] and Pata Bharat A (2018) [17].

**Table 5:** Distribution of the buffalo owners according to their family type (n=90)

Sl. No.	Category	Afzalpur	Aland	Overall
1	Nuclear family	86.66 (39)	82.22 (37)	84.44 (76)
2	Joint family	13.33 (6)	17.77 (8)	15.55 (14)
Total		100 (45)	100 (45)	100 (90)

Percentages are mentioned without bracket (Frequencies are mentioned in bracket).

Table 5 revealed that, majority of the buffalo owners in Afzalpur (86.66%) came from a nuclear family, while 13.33 per cent came from a joint family. Majority of buffalo owners in Aland (82.22%) came from a nuclear family, while 17.77 per cent came from a joint family. Overall (84.44%) came

from a nuclear family, while 15.55 per cent came from a joint family. The reason for this could be people prefer to live in nuclear families and to avail more benefit from government schemes. These findings are supported by Saha *et al.* (2010) [24] and Pata Bharat A (2018) [17].

**Table 6:** Distribution of the buffalo owners according to their caste (n=90)

Sl. No	Category	Afzalpur	Aland	Overall
1	General	2.22 (1)	4.44 (2)	3.33 (3)
2	OBC	80.00 (36)	75.55 (34)	77.77 (70)
3	SC	15.55 (7)	20.00 (9)	17.77 (16)
4	ST	2.22 (1)	0	1.11 (1)
Total		100 (45)	100 (45)	100 (90)

Percentages are mentioned without bracket (Frequencies are mentioned in bracket).

Table 6 shows that 80 per cent of the respondents in Afzalpur were from other backward classes (OBC), followed by scheduled caste (15.55%), (2.22%) in the scheduled tribes and (2.22%) general categories. 75.55 per cent of the respondents in Aland were from other backward classes, followed by 20.00 per cent from scheduled caste, and 4.44 per cent from general categories. Overall majority of respondents (77.77%)

were from the OBC community, with 17.77 per cent from scheduled caste and 1.11 per cent from the scheduled tribe groups. It can be inferred that OBC farmers are involved in buffalo rearing. These findings are similar to Ahirwar *et al.* (2010), G. Chandra Sekhar Reddy (2016) [6] and Pata Bharat A (2018) [17]. These findings are contrary to Gautam *et al.* (2007) [5], and Gangasagare and Karanjkar (2009) [4].

**Table 7:** Distribution of the buffalo owners according to usage of mass media (n=90)

Sl. No	Category	Afzalpur	Aland	Overall
1	News paper	6.66 (3)	4.44 (2)	5.55 (5)
2	Farm magazine	2.22 (1)	-	1.11 (1)
3	A literature	-	-	-
4	Radio/ T.V.	68.88 (31)	75.55 (34)	72.22 (65)
5	Internet	22.22 (10)	20.00 (9)	21.11(19)
Total		100 (45)	100 (45)	100 (90)

Percentages are mentioned without bracket (Frequencies are mentioned in bracket)

Table 7 revealed that 68.88 per cent of respondents in Afzalpur used radio/TV, followed by internet (22.22%), news paper (6.66%) and, farm magazine (2.22%) for education and awareness of buffalo farming. In Aland 75.55 per cent of respondents used radio/TV, followed by internet (20.00%) and newspaper (4.44%), and farm magazine (3.33%). Overall (72.22%) of buffalo owners used radio or television, followed by the internet (21.11%), newspapers (5.55%), and Farm

magazine (1.11%) for getting Scientific information on buffalo husbandry practices. It indicates that middle age farmers were watching TV for information and young farmers along with TV using internet for information as majority of young farmers had smart phone. These results are in accordance to Lal *et al.* (2012) [10], Rangamma *et al.* (2017) [22] and Pata Bharat A (2018) [17].

**Table 8:** Distribution of the buffalo owners according to their herd size (n=300)

Sl.no	Category	Afzalpur	Aland	Overall
1	Small herd size (1 to 3 animals)	64.44 (29)	71.11 (32)	67.77 (61)
2	Medium herd (4 to10 animals)	17.77 (8)	13.33 (6)	15.55 (14)
3	Large herd size (>10 animals)	17.77(8)	15.55 (7)	16.66 (15)
Total		100 (45)	100 (45)	100 (90)

Percentages are mentioned without bracket (Frequencies are mentioned in bracket).

Table 8, revealed that 64.44 per cent of respondents in Afzalpur kept small herds of animals, followed by medium size (17.77%) and large size (17.77%). In Aland, the majority of buffalo owners (71.11%) kept small herds, followed by large size (15.55%) and medium size (13.33%). Overall majority of respondents kept a small herd size (67.77%),

followed by a large herd size (16.66%), and a medium herd size (15.55%). The reasons for possessing small herd size might be due to expensive cost of purchasing buffalo and less fodder availability and labour scarcity. These findings are well supported by that of Shinde *et al.* (2011)<sup>[26]</sup>, Tak *et al.* (2011)<sup>[28]</sup> and Pata Bharat A (2018)<sup>[17]</sup>.

**Table 9:** Distribution of the buffalo owners according to breeds of buffalo (n=90)

Sl. No	Category	Afzalpur	Aland	Overall
1	Murrah	15.55 (7)	6.66 (3)	10.00 (9)
2	Non descript	68.88 (31)	82.22 (37)	75.55 (68)
3	ND+Murrah	15.55 (7)	11.11(5)	14.44 (13)
Total		100 (45)	100 (45)	100 (90)

Percentages are mentioned without bracket (Frequencies are mentioned in bracket).

Table 9 revealed that, majority of the respondents in Afzalpur (68.88%) had non-descript buffaloes, followed by Murrah (17.77%), and (17.77%) per cent of farmers had both non descript and Murrah breeds of buffalo, no one had other breeds. In Aland taluqa, the majority of respondents (82.22%) kept non-descript buffaloes, while (6.66%) kept Murrah and 11.11 per cent kept both Murrah and Non-descript breeds of buffaloes. Overall majority of the respondents (75.55%) kept nondescript buffaloes, followed by 10.00 per cent who kept Murrah buffaloes, and 14.44 per cent who kept both buffaloes. It indicates the predominance of non descript buffaloes in rural areas and that non-descript buffaloes adaptability to this climate and scope for upgrading with high productive germplasm of Pure Murrah breed or others as accepted by the farmers through effective implementation of artificial insemination.

### Acknowledgement

Researchers are indebted to the Government of Karnataka and Karnataka Veterinary, Animal and Fisheries Sciences University, Bidar, India staff and farmers of Kalburgi for enabling the researcher to take up the experiment and for the financial assistance rendered.

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