

# Cost of Buffalo Milk Production in Different Seasons in Kathmandu, Nepal

J. Jha, D. K. Singh & R. P. Singh\*

## 1. INTRODUCTION

The study was undertaken in Jhaukel Village Panchayat in district Bhaktapur of Kathmandu valley, Nepal. Total 40 producers were selected from three size groups of buffaloes stall for investigation. Average per day per milch buffalo net maintenance cost varied from Rs. 8.03 to 10.12 on different stalls and in different seasons. The feed cost alone contributed 53 to 74 per cent of the total cost. The average per litre cost of production of milk according to the size of stalls in all the three different seasons was worked out Rs. 2.16 to Rs. 2.69. The per litre cost of production of milk was highly related with total yield in different seasons.

Among ruminants, buffaloes and cows are major source of milk production in Nepal. According to F. A. O. report the contribution of milk production of buffaloes and cows were 67.80. percent and 31.20 per cent<sup>1</sup> respectively. The average daily milk yield of per buffalo and cow in milk was observed to be 3.67 and 1.40 litres<sup>2</sup> respectively. In rural areas cows are mostly kept as producer of bullock for draft purposes while the buffalo is the dairy animal choice for milk. The buffalo milk being rich in fat is liked more by the consumers and it fetches higher price than cow milk. Buffalo is also considered a more efficient converter of

---

\* The authors are associated with Division of Economics, Ranchi Agricultural University, India

1. Department of food and Agricultural Marketing Services, Agricultural Statistics Division, Agril. Statistics of Nepal 19 7, P 91.
2. Livestock Development Division, Kathmandu, A technical report on milk production performance of cow and buffalo, 1970, unpublished.

crude roughages into milk and meat than the cow and is well adopted to the harsh agro-climatic conditions of Nepal and can sustain themselves under relatively adverse husbandry condition. Thus, the increased production of milk in order to provide animal protein in the diet is better, possible through the maintenance of milch buffalo. Moreover cattle and buffalo rearing being a labour intensive occupation, offers a very significant employment and income opportunities for small and marginal farmers and agricultural labourers, which will reduce the enormous magnitude of rural unemployment. The present study is an attempt to work out the economics of buffalo milk production on different herd size and season wise in Kathmandu valley, Nepal.

## 2 METHODOLOGY :

Keeping in view of above objective one village panchayat in district Bhaktapur of Kathmandu valley namely Jhaukhel was selected purposively. A complete list of buffalo milk producers in the village panchayat was drawn with the help of the Pradhan Panch and Junior Technical Assistant (Livestock). All the producers were then grouped into three different size groups depending upon the numbers of milch buffaloes kept for milk production. The three size groups of buffalo stall classified were as under:

1. 1 milch buffalo
2. 2 to 3 milch buffaloes
3. 4 and above

In the village panchayat a total 64 producers in 1 milch buffalo stall, 53 producers in 2 to 3 milch buffaloes stall and 17 producers in 4 and above milch buffaloes stall were recorded. From each group, 30 per cent producers were randomly selected that is, in one milch buffalo stall 19 producers, in 2 to 3 milch buffaloes stall 16 producers and in 4 and above milch buffaloes stall 5 producers making a total of 40 producers were selected for investigation.

The producers were personally interviewed and the data was collected with the help of prepared schedule. Data was collected for the year 1976-77.

## 3. FINDING AND DISCUSSION

### Maintenance cost per day.

Average per day maintenance cost of a milch buffalo according to the size of the stall in different seasons have been presented in Table-1.

It shows from the table-1 that on an average per day per milch buffalo net maintenance cost varied from Rs. 8.03 to Rs. 10.12 of different stalls and in different seasons. Higher net maintenance cost per day per milch buffalo in all the seasons was observed on 4 and above size group of stall the figures being Rs. 9.00 to Rs. 10.12 followed by 2-3 size group stall (Rs. 8.55 to Rs. 9.27). The least per day net maintenance cost was observed on single buffalo stall (Rs. 8.03 to 8.38). In between different seasons in all the size groups net maintenance cost was observed to be higher in winter season (Rs. 8.58 to Rs. 10.12) and the least being on summer season (Rs. 8.03 to Rs. 9.04).

A close scrutinizing of table-1 reveals that in all the three herd size groups feed constituted the most important items of cost accounting for about 53 to 74 percent of the total cost. Average share of feed to total cost in all the three seasons was observed to be maximum in 4 and above buffaloes stall (70.89 to 73.97 percent) and the least proportionate on one buffalo stall (53.41 to 57.19 percent). Labour accounted for nearly 10 to 25 percent of the total cost in the different seasons and different size groups. This expenditure on labour showed decreasing trend with the size of herd increase the figures being (9.80 to 12.42 percent) on 4 and above size group stall and highest on one buffalo stall (20.25 to 20.29).

#### **Sizewise and seasonwise per day average milk.**

#### **Yield of a milch buffalo-**

Per day average milk yield of a milch buffalo according to the size of the stalls in different seasons have been presented in the table-2. Table-2 shows that per day average milk yield of a milch buffalo in all the three different seasons was observed to be highest on 4 and above size group stall (3.51 litres and 4.84 litres) followed by 2-3 buffalo size group stall (3.77 litres to 4.28 litres) and the least being on one buffalo group stall (2.98 litres to 3.87 litres). This trend was because of the fact that larger size group farmers comparatively maintained superior breeds of buffaloes which were better converter of feeds and consequently gave more milk as compared to smaller size groups.

Table 2 also indicates that per day average milk yield of a milch buffalo was observed to be highest in the rainy season (3.87 litres to 4.84 litres) followed by the season (3.60 litres to 4.41 litres) and summer season (2.98 litres to 3.51 litres) respectively. This seasonal trend of per day average milk yield of milch buffalo was observed to be more or less directly correlated with the availability of greens during seasons.

## Per litre cost of production of buffalo milk

The average per litre cost of production of buffalo milk according to the size of stalls in all the three different seasons have been presented in Table-3.

Table-3 shows that the average per litres cost of production of buffalo milk was observed to be lowest on 4 and above size group stall (Rs. 2.04 and to Rs. 2.57) and the highest on one buffalo group stall (Rs. 2.16 and Rs.2.69) in all the three different seasons. Thus comparatively larger size stalls recorded lower per litre cost of production, though per day net maintenance cost of a milch buffalo was observed to be higher on comparatively larger size group stalls (Table-1). In between different seasons per litre cost of production of milk in all the three different size group stalls was lowest in the rainy season (Rs. 2.57 to Rs. 2.69).

Highest cost in summer season could be attributed to the lowest milk yields obtained in summer because buffaloes were in the late stage of their lactation during May. Reason for the lowest cost of milk production in rainy season could be due to higher milk yields obtained in the month of August rainy season when most of buffaloes are generally in the peak of their lactation.

## 4. CONCLUSIONS

It is clear from the foregoing discussion that nearly two third of the cost of production of milk is accounted for by feed only and hence if the profit margin to the producers has to be increased, it is essential that the cost on the vital input for milk production is sufficiently reduced to the minimum level.

It shows from the table-1 that on an average per day per milch buffalo net maintenance cost varied from Rs. 8.03 to Rs. 10.12 of different stalls and in different seasons. Higher net maintenance cost per day per milch buffalo in all the seasons was observed on 4 and above size group of stall the figures being Rs. 9.00 to Rs. 10.12 followed by 2-3 size group stall (Rs. 8.55 to Rs. 9.27). The least per day net maintenance cost was observed on single buffalo stall (Rs. 8.03 to 8.38). In between different seasons in all the size groups net maintenance cost was observed to be higher in winter season (Rs. 8.58 to Rs. 10.12) and the least being on summer season (Rs. 8.03 to Rs. 9.04).

A close scrutinizing of table-1 reveals that in all the three herd size groups feed constituted the most important items of cost accounting for about 53 to 74 percent of the total cost. Average share of feed to total cost in all the three seasons was observed to be maximum in 4 and above buffaloes stall (70.89 to 73.97 percent) and the least proportionate on one buffalo stall (53.41 to 57.19 percent). Labour accounted for nearly 10 to 25 percent of the total cost in the different seasons and different size groups. This expenditure on labour showed decreasing trend with the size of herd increase the figures being (9.80 to 12.42 percent) on 4 and above size group stall and highest on one buffalo stall (20.25 to 20.29).

#### **Sizewise and seasonwise per day average milk.**

#### **Yield of a milch buffalo-**

Per day average milk yield of a milch buffalo according to the size of the stalls in different seasons have been presented in the table-2. Table-2 shows that per day average milk yield of a milch buffalo in all the three different seasons was observed to be highest on 4 and above size group stall (3.51 litres and 4.84 litres) followed by 2-3 buffalo size group stall (3.77 litres to 4.28 litres) and the least being on one buffalo group stall (2.98 litres to 3.87 litres). This trend was because of the fact that larger size group farmers comparatively maintained superior breeds of buffaloes which were better converter of feeds and consequently gave more milk as compared to smaller size groups.

Table 2 also indicates that per day average milk yield of a milch buffalo was observed to be highest in the rainy season (3.87 litres to 4.84 litres) followed by the season (3.60 litres to 4.41 litres) and summer season (2.98 litres to 3.51 litres) respectively. This seasonal trend of per day average milk yield of milch buffalo was observed to be more or less directly correlated with the availability of greens during seasons.

Table 1

Average per day maintenance cost of a milch buffalo according to the size of the stalls in different seasons (Rs.)

Size of the stalls & seasons	Feed	Labour	Miscell. expenditure	Interest	Depreciation on assets of animal	Total cost	Income from dung	Net cost
<b>1 Buffalo</b>								
Rainy	4.53 (53.41)	2.23 (26.29)	0.15 (1.78)	0.75 (8.85)	0.82 (9.67)	8.48	0.10	8.38
Winter	5.20 (59.91)	1.76 (20.25)	0.15 (1.72)	0.75 (8.66)	0.82 (9.46)	8.68	0.10	8.58
Summer	4.65 (57.19)	1.76 (21.65)	0.15 (1.85)	0.75 (9.22)	0.82 (10.08)	8.13	0.10	8.03
<b>2-3 Buffaloes</b>								
Rainy	5.98 (64.79)	1.56 (16.89)	0.10 (1.09)	0.87 (9.42)	0.72 (7.81)	9.23	0.10	9.13
Winter	6.40 (68.30)	1.28 (13.60)	0.10 (1.06)	0.87 (9.29)	0.72 (7.79)	9.37	0.10	9.27
Summer	5.68 (65.67)	1.28 (14.79)	0.10 (1.15)	0.87 (10.00)	0.72 (8.33)	8.65	0.10	8.55
<b>4 and above</b>								
Rainy	7.08 (70.94)	1.24 (12.42)	0.08 (0.80)	0.89 (8.92)	0.69 (6.92)	9.98	0.10	9.88
Winter	7.56 (73.97)	1.00 (9.80)	0.08 (0.77)	0.89 (8.73)	0.69 (6.73)	10.22	0.10	10.22
Summer	6.48 (70.89)	1.00 (10.91)	0.08 (0.89)	0.89 (9.74)	0.69 (7.57)	9.14	0.10	9.04

**Table 2**

Per day average milk yield of a milch buffalo according to the size of the stalls in different seasons (Litre / day).

Size of the stalls	Seasons		
	Rainy	Winter	Summer
1. Buffalo	3.87	3.60	2.98
2-3 buffalo	4.28	4.00	3.27
4 and above	4.84	4.41	3.51

**Table 3**

Average per liter cost of production of buffalo milk according to the size of the stalls in different seasons (Rs. / Litre)

Size of the stalls	Seasons		
	Rainy	Winter	Summer
1 buffalo	2.16	2.38	2.69
2-3 buffalo	2.13	2.32	2.61
4 and above	2.04	2.29	2.57