

## An Empirical Study on Structure and Performance of Cattle Markets in Eastern Dry Zone of Karnataka

Mahesh Savanur, K. Satyanarayan, V. Jagadeeswary and J. Shilpa Shree \*

Dept. of Veterinary and Animal Husbandry Extension, Veterinary College, Bangalore

\*Corresponding Author E-mail: [shilpashreej23@gmail.com](mailto:shilpashreej23@gmail.com)

Received: 28.02.2019 | Revised: 30.03.2019 | Accepted: 9.04.2019

### ABSTRACT

Cattle markets play an important role in connecting sellers and buyers and an efficient market is essential to promote the growth. An ex-post facto research design was adopted to study the structure and performance of cattle markets in eastern dry zone of Karnataka. The study sample comprised of six cattle markets and two annual cattle fairs. Ten sellers, buyers and five brokers from each market and cattle fair were selected randomly. The study revealed that majority of cattle prices were determined by negotiations between seller and buyer with or without involving brokers, rather than undercover method. Majority of cattle were transacted through channel 2 (57.76%), where broker negotiated the sale of cattle between seller and buyer. Marketing cost for bullock sale was highest (₹ 3,784.29) in channel 4, where animal brought by traders were sold to buyers with the help of brokers. Expense on transportation was the major component of total marketing cost in all marketing channels. Brokerage accounted for 5.52 per cent of total marketing cost. Least expensive (Rs.841.00) channel for marketing of cow was found to be channel 1, where direct negotiation between seller and buyer reduced the expenses. Marketing cost was maximum (Rs.1480.41) when marketed through traders and brokers (Channel 4). Transportation (Rs.46.44) and own expenditures (Rs.23.01) were major components of the total marketing cost. Most efficient channel for marketing of bullock found to be channel 1, which had least difference between price received by the seller and effective price paid by the buyer. Marketing cost was highest in channel 4 and only 88.71 per cent of buyers' rupee was received by the seller. Similar to bullocks, most efficient channel for cow marketing was channel 1. In this channel seller received 93.61 per cent of buyers' rupee.

**Keywords:** Cattle, Market, Performance, Structure.

### INTRODUCTION

Agriculture and animal husbandry are major sources of livelihood to majority of rural households. Today, India holds the first place in the world in milk production. Milk

production increased from 80.5 million tons in 2000-01 to 143.8 million tons in 2015-16. Per capita availability increased to 337 grams per day from 214 grams per day.

**Cite this article:** Savanur, M., Satyanarayan, K., Jagadeeswary, V., & Shilpa Shree, J. (2019). An Empirical Study on Structure and Performance of Cattle Markets in Eastern Dry Zone of Karnataka, *Ind. J. Pure App. Biosci.* 7(6), 160-170. doi: <http://dx.doi.org/10.18782/2320-7051.7323>

This increase is owing to increase in bovine population and increase in crossbred animal population. Buffaloes contribute about 55 per cent of the milk production. Milk production is mostly from large number of small scale producers. Dairying assures continuous and regular income to large number of farmers. Marketing in livestock sector plays an important role connecting producers and consumers. Presence of regulated market for trade in animals helps smooth and efficient transactions. The regulated markets are considered to be responsible institutions in discharging all the functions connected with the sale of outputs, keeping in view the overall interest of the farming community and also the ultimate consumers. These institutions are meant to regulate unethical trading practices followed in the marketing of livestock. This would help in protecting the interest of both the sellers and buyers and thus it contributes towards the growth of orderly marketing and price stability through effective competition. Efficient functioning of a market is an essential pre-requisite of a sound cattle marketing system to provide remunerable prices to the seller and buyer.

India has enormous cattle wealth but due to lack of regulated and efficient markets production potential is hindered<sup>2</sup>. In the recent years, the economy was liberalized and allowed private sector to participate in the trade of livestock. Keeping all these in view the present study was undertaken to analyze structure and performance of cattle markets in eastern dry zone of Karnataka.

#### MATERIALS AND METHODS

An ex-post facto research design was adopted to study the structure and performance of cattle markets in eastern dry zone of Karnataka. Five regular cattle market and two annual cattle fairs were selected for the study. One regular cattle market from each district namely, Chandapur, Chikkaballapur, K G Temple, Mulbagal and Sugganahalli from Bangalore Rural, Chikkaballapur, Tumkur, Kolar and Ramanagar districts, respectively, were selected randomly. Among the cattle

fairs, Subramanya cattle fair, Ghati and Siddaganga cattle fair, Tumkur were the larger cattle fairs in the study area, hence they were selected purposively for the study. In each cattle fair ten sellers, ten buyers and five brokers were selected, randomly. From each selected market ten sellers, ten buyers and five brokers were selected randomly. A total of 50 sellers, 50 buyers and 25 brokers from cattle markets and 20 sellers, 20 buyers and 10 brokers from cattle fairs were selected. In total 70 sellers, 70 buyers and 35 brokers constituted as sample for the study. The respondents were personally interviewed using pre-tested interview schedule on structural aspects of cattle market and cattle fair like controlling authority, periodicity and day of market, market infrastructure and other facilities and also on various aspects of performance of markets and cattle fairs like number of sellers, buyers and animals marketed in a day. The collected data was subjected to appropriate statistical analysis.

#### RESULTS AND DISCUSSION

##### General information regarding sellers and buyers:

Perusal of Table 1 revealed that majority of buyers (75.71%), sellers (68.57%) and traders (77.14%) in cattle markets and fairs belonged to younger age group. Since cattle transportation and all activities of marketing require physical stamina, young persons are associated with cattle marketing. Results differ with findings of Rooparani<sup>6</sup>, who reported that middle aged sellers and buyers were more engaged in cattle marketing. Majority of the buyers (72.73%) and sellers (71.43%) had education upto high school. Majority of brokers (82.86%) had studied upto primary school. Reasonable good education level among buyers, sellers and traders would have helped in understanding marketing process and for fair conduct of transactions.

Majority of buyers (84.29%) and sellers (80.00%) indicated agriculture as their main occupation, whereas majority of traders reported animal husbandry as their occupation. This could be due to the fact that more farmers

knew the importance of mixed farming and more number of farmers were directly involved in marketing for buying and selling of their cattle. Of the five regular markets studied two markets, namely Chikkaballapur and Mulbagal were under control of agriculture produce market committee (APMC). Remaining three regular markets namely, Chandapur, K G Temple and Sugganahalli were unregulated markets (Table 2). Ghati cattle fair was organized and regulated by Subramanya Swamy temple authority, similarly cattle fair at Tumkur was organized and regulated by Siddaganga math. Results differ with findings of Sharma and Singh (1998), who reported that cattle markets were organized by local panchayats and cattle fairs were organized by state government in Rajasthan.

All the regular markets were held once in week but day of market varied from one to other (Table 2). This was to avoid overlapping in market days and to facilitates movement of animal from one market to other market if not sold. Similar findings were reported by Rooparani (2007). Cattle fair at Tumkur was held every year for ten day. In Ghati every year cattle fair were held for 14 day. The findings are in agreement with the findings of Sharma and Singh (1998) and Pandit and Dhaka (2004). They reported that cattle fairs were organized for one to three weeks.

#### **Availability of marketing facilities in cattle markets and cattle fairs.**

Mulbagal and Chikkaballapur cattle markets had better infrastructure facilities compared to other regular markets (Table 3). Both Chikkaballapur and Mulbagal had adequate market area (5 and 1.5 acres, respectively), loading and unloading docks, wall fenced market area, tar surfaced internal roads, street lighting facilities, security personnel and nearby banking facilities. From the study it was found that A.P.M.C. regulated cattle markets (Chikkaballapur and Mulbagal) had better infrastructural facilities compared to unregulated markets (Chandapur, K G Temple & Sugganahalli). Rooparani (2007) also reported similar findings that regulated

markets were provided with platforms, watering and feeding facilities and permanent canteen facilities.

#### **Opinion of sellers and buyers on utility of marketing facilities in different cattle markets and cattle fairs.**

In Mulbagal market more number of sellers and buyers (Table 4) were satisfied with facilities provided at market area. Majority of sellers and buyers were satisfied with available market area (90%), unloading dock (70%), internal roads (85%), fencing (60%), animal shed (55%), veterinary facilities (60%) and fodder availability (75%). Due to better facilities at this market more sellers and buyers were satisfied.

Perusal of Table 5 revealed that K G temple market had highest number of sellers (1,200) and buyer (1,000) among all markets. Among cattle fairs, Tumkur had higher number of sellers (12,000) and buyers (10,000). Cattle fairs are annual events, being scheduled in lean period provide best platform for large scale transactions of animals. These finding are similar to finding of Singh et al (2011), who reported that cattle fairs attracted large number of animals compared to markets.

#### **Arrival and disposal of cattle in different markets**

Close inspection of Table 5 revealed that among the regular cattle markets K G Temple attracted higher number of cattle (1500), and Ghati cattle fair attracted more cattle (45500) compared to Tumkur cattle fair (30200). Highest disposal of cattle were noted in Chandapur cattle market (77.78%) and Tumkur cattle fair (66.57%). Observations were similar with finding of Srinivasa et al. (2001) who reported higher disposal percentage in unregulated markets compared to regulated markets.

#### **Price discovery method:**

Examination of Table 6 identified that among the majority of transactions (56.90%), price of cattle was determined by negotiation between sellers and buyers. In remaining 43.10 per cent transactions, undercover mechanism of price determination was found. Since direct negotiation avoids cheating by brokers and

from false information provided by them, this method of price determination was most preferred.

### **Marketing channels operating and volume of transaction through these channels**

Following five marketing channels were identified for cow marketing in the study area.

Channel 1 → Seller - Buyer

Channel 2 → Seller – Broker - Buyer

Channel 3 → Seller – Trader - Buyer

Channel 4 → Seller – Trader – Broker - Buyer

Channel 5 → Seller - Slaughter Stock Dealer (SSD)

In case of marketing of bullocks only first four channels were found operational. None of the bullock was transacted through Channel 3. Perusal of Table 7 revealed that channel 2 was most popular, accounting for majority (57.56%) of transactions. Since brokers engage regularly in marketing of cattle, they possessed adequate marketing information. Sellers and buyers were occasionally engaged in marketing of cattle and lacked adequate market information. Because of this sellers and buyers sought the service of brokers in market. This resulted in more number of transactions to take place through this channel. Least transactions (1.72%) took place through channel 5, where slaughter stock dealers directly negotiated sale of cattle with seller. The results were in contrary with the findings of Pandit<sup>4</sup> who reported that majority of transactions took place through Farmer-trader-farmer channel.

### **Marketing cost across different marketing channels**

In marketing of bullock, highest marketing cost (₹ 3784.29) was incurred when transacted through channel 4, where bullocks brought by trader were sold to buyer through broker (Table 8). Transportation expense was the major cost incurred in marketing of bullock in all available marketing channels in the study area. Buyer shared majority of marketing cost in all marketing channels except channel 5, where slaughter stock dealer incurred the most cost associated with marketing.

Perusal of Table 9 revealed that highest cost in marketing of cow (₹ 1480.41)

was incurred when transacted through trader and broker (channel 4). Least cost (₹ 841) was involved in marketing of cow when seller and buyer directly negotiate sale without involving any intermediaries. On an average most of the marketing cost was incurred on transportation (46.44%). Major cost was incurred by the buyers in channel 1 (54.10%), channel 2 (58.18%) and channel 4 (81.26%). In channel 3 trader incurred majority (60.32%) of marketing cost.

Findings of present study are similar to findings of Biswal and Sanjaykumar (2011) and Vitonde et al. (2004) who reported that as number of market intermediaries increased the marketing cost also increases because of increased margin earned by each person. But, present findings are contrary to the observations of Pandit (2005) finding that farmer sellers and farmer buyers generally did not incur any transportation cost due to visit of markets by walking.

### **Price spread and marketing efficiency across marketing channels**

Perusal of Table 10 revealed that price spread (17.29 per cent of buyer's rupee) was highest in channel 4, where cattle brought by trader were sold with the help of brokers. In contrast price spread (6.24 per cent of buyer's rupee) was found lowest in channel 1, where direct negotiation took place between buyer and seller. Channel 1 was found most efficient (15.02) and channel 4 was discovered to be least efficient (4.17). Higher price realization was possible in channel 1 because of direct negotiation between seller and buyer, which eliminated brokerages and margins earned by the traders. This resulted in channel 1 being most efficient in the study area for marketing of bullocks.

Close examination of Table 11 discloses that most efficient (14.65) channel for marketing of cow in the study area was Channel 1 where seller and buyer directly negotiated sale without any intermediary. Seller's share ultimate buyer rupee (6.21%) was highest in this channel. Least efficient channel for cow marketing was channel 5 where cows meant for slaughter were sold to

slaughter stock dealer. Due to lower average price per cow (₹4110.0) this channel was found least efficient. Patil et al. (1997) reported lower (67.52%) share of owner of cow in ultimate buyers' rupee, which is in contrast to the findings of present study.

The findings of the present study are in agreement with the findings of Pandit<sup>4</sup> who

reported that as number of intermediaries increased, the price spread increased and efficiency of channels decreased. Accordingly most efficient channel was where only seller and buyer were involved and least efficient channel was which involved large number of intermediaries.

**Table 1: General characteristics of sellers, buyers and brokers**

Age	Buyer	Seller	Trader
Young Age	53 (75.71)	48 (68.57)	27 (77.14)
Middle Age	15 (21.43)	12 (17.14)	6 (17.14)
Old Age	2 (2.86)	10 (14.29)	2 (5.72)
<b>Education</b>			
Illiterate	10 (14.29)	15 (21.43)	2 (5.72)
Primary School	17 (24.29)	16 (22.86)	13 (37.14)
Middle School	15 (21.3)	9 (12.86)	8 (22.86)
High School	19 (27.14)	25 (35.71)	8 (22.86)
P.U.C	9 (12.86)	5 (7.14)	4 (11.42)
<b>Occupation</b>			
Agriculture	59 (84.29)	56 (80.00)	12 (34.28)
Animal Husbandry	6 (8.57)	9 (12.86)	15 (42.86)
Others	5 (7.14)	5 (7.14)	8 (22.86)

**Note:** Figures in parentheses indicate percentage.

**Table 2: Regulatory authority, periodicity and day of market of cattle markets and fairs**

Sl. No.	Cattle Market	Regulatory Authority	Periodicity	Day of market
1	Chandapur	Unregulated	Once in a week	Saturday
2	Chikkaballapur	APMC	Once in a week	Saturday
3	K G Temple	Unregulated	Once in a week	Monday
4	Mulbagal	APMC	Once in a week	Tuesday
5	Sugganahalli	Unregulated	Once in a week	Thursday
6	Tumkur	Siddaganga Math	Once in a year	10 days
7	Ghati	Subramanya Temple	Once in a year	14 days

**Table 3: Marketing facilities availability in different cattle market and cattle fairs**

Sl. No	Market Facilities	Chandapur	Chikkaballapur	K G Temple	Mulbagal	Sugganahalli	Tumkur	Ghati
1	Market area (acres)	0.5	5	7	1.5	2	15	25
2	Unloading Dock	Absent	1	Absent	2	Absent	Absent	Absent
3	Animal Sheds (no.)	Absent	Absent	Absent	2	Absent	Absent	Absent
4	Internal Roads	Kaccha	Tar	Kaccha	Tar	Kaccha	Tar	Kaccha
5	Fencing	Wall	Wall	Wired	Wall	Absent	Wall	Absent
6	Water Facilities	Absent	Absent	Pond	Tankers	Absent	Tanks	Tankers
7	Fodder	Present	Present	Present	Present	Present	Present	Present
8	Banks	Present	Present	Absent	Present	Absent	Absent	Absent
9	Street Lighting	Present	Present	Absent	Present	Absent	Present	Absent
10	Security	Absent	Present	Absent	Present	Absent	Absent	Absent
11	Shop / Canteen	Absent	Temporary Stall	Temporary Stall	Temporary Stall	Temporary Stall	Temporary Stall	Temporary Stall
12	Veterinary Facility	Present	Absent	Present	Present	Absent	Present	Present
13	Transportation Facilities	Present	Present	Present	Present	Present	Present	Present

**Table 4: Opinion of sellers and buyers on utility of marketing facilities in different cattle market and cattle fairs**

Sl. No	Market Facilities	Chandapur	Chikkaballapur	K G Temple	Mulbagal	Sugganahalli	Tumkur	Ghati
1	S Market area	4 (20)	12 (60)	13 (65)	18 (90)	4 (20)	20 (100)	20 (100)
	NS	16 (80)	8 (40)	7 (35)	2 (10)	16 (80)	-	-
2	S Unloading Dock	-	1 (5)	-	14 (70)	-	2 (10)	4 (20)
	NS	20 (100)	19 (95)	20 (100)	6 (30)	20 (100)	18 (90)	16 (80)
3	S Animal Sheds	2 (10)	-	-	11 (55)	-	2 (10)	4 (20)
	NS	18 (90)	20 (100)	20 (100)	9 (45)	20 (100)	18 (90)	16 (80)
4	S Internal Roads	4 (20)	14 (70)	6 (30)	17 (85)	-	18 (90)	18 (90)
	NS	16 (80)	6 (30)	14 (70)	3 (15)	20 (100)	2 (10)	2 (10)
5	S Fencing	6 (30)	19 (95)	14 (70)	12 (60)	-	16 (80)	6 (30)
	NS	14 (70)	1 (5)	6 (30)	8 (40)	20 (100)	4 (20)	14 (70)
6	S Water Facilities	2 (10)	8 (40)	8 (40)	5 (25)	2 (10)	8 (40)	2 (10)
	NS	18 (90)	12 (60)	12 (60)	15 (75)	18 (90)	12 (60)	18 (90)
7	S Fodder	17 (85)	12 (60)	12 (60)	17 (85)	10 (50)	18 (90)	9 (45)
	NS	3 (15)	8 (40)	8 (40)	3 (15)	10 (50)	2 (10)	11 (55)
8	S Banks	-	-	-	10 (50)	-	-	-
	NS	20 (100)	20 (100)	20 (100)	10 (50)	20 (100)	20 (100)	20 (100)
9	S Street Lighting	8 (40)	11 (55)	12 (60)	10 (50)	1 (5)	16 (80)	16 (80)
	NS	12 (60)	9 (45)	8 (40)	10 (50)	19 (95)	4 (20)	4 (20)
10	S Security	7 (35)	8 (40)	2 (10)	12 (60)	8 (40)	8 (40)	7 (35)
	NS	13 (65)	12 (60)	18 (90)	8 (40)	12 (60)	12 (60)	13 (65)
11	S Shop / Canteen	6 (30)	9 (45)	3 (15)	-	4 (20)	1 (5)	8 (40)
	NS	14 (70)	11 (55)	17 (85)	20 (100)	16 (80)	19 (95)	12 (60)
12	S Veterinary Facility	6 (30)	6 (30)	18 (90)	14 (70)	-	18 (90)	16 (80)
	NS	14 (70)	14 (70)	2 (10)	6 (30)	20 (100)	2 (10)	4 (20)
13	S Transportation Facilities	2 (10)	-	2 (10)	7 (35)	2 (10)	9 (45)	2 (10)
	NS	18 (90)	20 (100)	18 (90)	13 (65)	18 (90)	11 (55)	18 (90)

Note: S – denotes Satisfactory, NS – denotes Non-satisfactory and Figures in parentheses indicate percentage

**Table 5: Number of sellers, buyers, cattle arrivals and disposals**

Cattle Market/fair	No. of Sellers	No. of Buyers	Cattle Arrivals	Cattle Disposals	Disposal Percentage
Chandapur	120	100	180	140	77.78
Chikkaballapur	1000	750	1200	800	66.66
K G Temple	1200	1000	1500	825	55.00
Mulbagal	550	600	600	250	41.67
Sugganahalli	120	80	135	95	70.37
Tumkur	12000	10000	30200	20100	66.57
Ghati	10000	7500	45500	25150	55.28

**Table 6: Price discovery method**

Cattle Market	Open			
	Auction	Closed Auction	Negotiation	Undercover
Chandapur	0	0	9	5
Chikkaballapur	0	0	10	8
K G Temple	0	0	9	7
Mulbagal	0	0	7	7
Sugganahalli	0	0	8	7
Tumkur	0	0	15	6
Ghati	0	0	8	10
Total	0	0	66	50

**Table 7: Volume of sale of cattle through different marketing channels (In numbers)**

Market	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Total
Sugganahalli	3	9	0	1	1	14
Mulbagal	3	10	4	1	0	18
Chikkaballapur	4	8	2	2	0	16
Chandapur	6	6	1	0	1	14
K G Temple	4	11	0	0	0	15
Ghati	7	13	0	1	0	21
Tumkur	5	10	2	1	0	18
<b>Total</b>	<b>32</b>	<b>67</b>	<b>9</b>	<b>6</b>	<b>2</b>	<b>116</b>
	(27.59)	(57.76)	(7.76)	(5.17)	(1.72)	(100)

Note: Figures in parentheses indicate percentage

**Table 8: Average cost incurred in marketing of bullock and share of different marketing functionaries (In Rs. Per bullock)**

<b>Particulars</b>	<b>Channel 1</b>	<b>Channel 2</b>	<b>Channel 4</b>	<b>Channel 5</b>	<b>Overall</b>
Extra Feed	100.00 (5.55)	216.67 (10.65)	190.48 (5.03)	100.00 (6.85)	151.79 (6.69)
Grooming and washing charge	89.65 (4.97)	20.00 (0.98)	14.29 (0.38)	0.00 (0.00)	30.99 (1.36)
Transportation	1400.00 (77.66)	1206.67 (59.33)	2395.24 (63.29)	1200.00 (82.19)	1550.48 (68.30)
Feed at market	0.00 (0.00)	137.33 (6.75)	107.14 (2.83)	0.00 (0.00)	61.12 (2.69)
Market Fee	10.00 (0.55)	3.20 (0.16)	8.10 (0.21)	10.00 (0.68)	7.83 (0.34)
Own Expenditure	150.00 (8.32)	198.33 (9.75)	604.76 (15.98)	150.00 (10.27)	275.77 (12.15)
Labour	53.00 (2.94)	60.00 (2.95)	83.33 (2.20)	0.00 (0.00)	49.08 (2.16)
Brokerage	0.00 (0.00)	125.00 (6.15)	376.19 (9.94)	0.00 (0.00)	125.30 (5.52)
Miscellaneous	0.00 (0.00)	66.67 (3.28)	4.76 (0.13)	0.00 (0.00)	17.86 (0.79)
<b>Total</b>	<b>1802.65</b> <b>(100.00)</b>	<b>2033.87</b> <b>(100.00)</b>	<b>3784.29</b> <b>(100.00)</b>	<b>1460.00</b> <b>(100.00)</b>	<b>2270.20</b> <b>(100.00)</b>
Seller's Share	643.91 (35.72)	570.91 (28.07)	188.46 (4.98)	355.07 (24.32)	439.59 (19.36)
Buyer's Share	1158.74 (64.28)	1462.96 (71.93)	2645.22 (69.90)	0.00 (0.00)	1316.73 (58.00)
Trader's Share	0.00 (0.00)	0.00 (0.00)	950.61 (25.12)	0.00 (0.00)	237.65 (10.47)
Slaughter Stock Dealer' Share	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	1104.93 (75.68)	276.23 (12.17)

**Note:** Figures in parentheses indicate percentage



**Table 9: Average cost incurred in marketing of cow and share of different marketing functionaries  
(In Rs. Per cow)**

Particulars	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Overall
Extra Feed	150.00 (17.84)	107.89 (8.75)	50.00 (4.13)	0.00 (0.00)	45.00 (3.80)	70.58 (5.93)
Grooming and washing charge	0.00 (0.00)	34.21 (2.77)	39.81 (3.28)	0.00 (0.00)	0.00 (0.00)	14.80 (1.24)
Transportation	300.00 (35.67)	648.50 (52.58)	778.41 (64.22)	751.67 (50.77)	285.00 (24.07)	552.72 (46.44)
Feed at market	0.00 (0.00)	43.82 (3.55)	43.89 (3.62)	133.33 (9.01)	50.00 (4.22)	54.21 (4.55)
Market Fee	0.00 (0.00)	4.21 (0.34)	3.15 (0.26)	10.00 (0.68)	5.00 (0.42)	4.47 (0.38)
Own Expenditure	53.00 (6.30)	191.84 (15.55)	266.67 (22.00)	398.00 (26.88)	460.00 (38.85)	273.90 (23.01)
Labour	291.00 (34.60)	48.68 (3.95)	29.63 (2.44)	0.00 (0.00)	134.00 (11.32)	100.66 (8.46)
Brokerage	0.00 (0.00)	154.23 (12.50)	0.00 (0.00)	187.41 (12.66)	0.00 (0.00)	109.33 (9.19)
Miscellaneous	47.00 (5.59)	0.00 (0.00)	0.56 (0.05)	0.00 (0.00)	0.00 (0.00)	9.51 (0.80)
<b>Total</b>	<b>841.00</b> <b>(100.00)</b>	<b>1233.38</b> <b>(100.00)</b>	<b>1212.12</b> <b>(100.00)</b>	<b>1480.41</b> <b>(100.00)</b>	<b>979.00</b> <b>(100.00)</b>	<b>1190.18</b> <b>(100.00)</b>
Seller's Share	386.03 (45.90)	540.47 (43.82)	0.00 (0.00)	0.00 (0.00)	387.00 (39.53)	397.47 (33.12)
Buyer's Share	454.97 (54.10)	692.91 (56.18)	468.85 (38.68)	1202.98 (81.26)	0.00 (0.00)	470.17 (39.18)
Trader's Share	0.00 (0.00)	0.00 (0.00)	743.27 (61.32)	277.43 (18.74)	0.00 (0.00)	65.48 (5.46)
Slaughter Stock Dealer's share	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	592.00 (60.47)	267.05 (22.25)

**Note:** Figures in parentheses indicate percentage

**Table 10: Price spread and marketing efficiency in marketing of bullock** (In Rs. per bullock)

Sl. No.	Particulars	Channel 1	Channel 2	Channel 4	Channel 5	Overall
1	Net price received by seller	27066.93 (93.76)	16234.18 (88.87)	18100.00 (82.71)	11853.00 (89.03)	18313.53 (88.97)
2	Cost incurred by seller	643.91 (2.23)	570.91 (3.13)	88.46 (0.40)	355.07 (2.67)	414.59 (2.01)
3	Brokerage	0.00 (0.00)	125.00 (0.68)	376.19 (1.72)	0.00 (0.00)	125.30 (0.61)
4	Cost incurred by buyer	1158.74 (4.01)	1337.96 (7.32)	2345.12 (10.72)	0.00 (0.00)	1210.46 (5.88)
5	Cost incurred by trader	0.00 (0.00)	0.00 (0.00)	974.52 (4.45)	0.00 (0.00)	243.63 (1.18)
6	Cost incurred by SSD	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	1104.93 (8.30)	276.23 (1.34)
7	Effective price paid by buyer	28869.58 (100.00)	18268.05 (100.00)	21884.29 (100.00)	13313.00 (100.00)	20583.73 (100.00)
8	Price spread (7-1)	1802.65 (6.24)	2033.87 (11.13)	3784.29 (17.29)	1460.00 (10.97)	2270.20 (11.03)
9	<b>Market efficiency (ratio-1/8)</b>	<b>15.02</b>	<b>7.98</b>	<b>4.78</b>	<b>8.12</b>	<b>8.07</b>

**Note:** Figures in parentheses indicate percentage of the ultimate buyer's rupee

**Table 11: Price spread and marketing efficiency in marketing of cow**

(In Rs. per cow)

Sl. No.	Particulars	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Overall
1	Net price received by seller	12685.00 (93.61)	11644.85 (90.54)	8597.00 (87.64)	13645.00 (89.11)	4110.00 (75.72)	10136.37 (89.41)
2	Cost incurred by seller	405.22 (2.99)	440.47 (3.42)	0.00 (0.00)	0.00 (0.00)	487.00 (8.97)	347.47 (3.07)
3	Brokerage	0.00 (0.00)	154.27 (1.20)	0.00 (0.00)	200.41 (1.31)	0.00 (0.00)	109.33 (0.96)
4	Cost incurred by buyer	435.78 (3.22)	638.64 (4.97)	743.27 (7.58)	1002.98 (6.55)	0.00 (0.00)	411.17 (3.63)
5	Cost incurred by trader	0.00 (0.00)	0.00 (0.00)	468.85 (4.78)	277.02 (1.81)	0.00 (0.00)	65.16 (0.57)
6	Cost incurred by SSD	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	492.00 (9.06)	267.05 (2.36)
7	Effective price paid by buyer	13550.68 (100.00)	12860.85 (100.00)	9809.12 (100.00)	15312.82 (100.00)	5428.00 (100.00)	11336.55 (100.00)
8	Price spread (7-1)	841.00 (6.21)	1233.38 (9.59)	1212.12 (12.36)	1480.41 (9.67)	979.00 (21.81)	1200.18 (10.59)
9	<b>Market efficiency (ratio-1/8)</b>	<b>14.65</b>	<b>9.44</b>	<b>7.09</b>	<b>9.22</b>	<b>4.20</b>	<b>8.45</b>

**Note:** Figures in parentheses indicate percentage of the ultimate buyer's rupee

### CONCLUSION

The study concluded that cattle sales were more in channel 2, where broker was involved because they lack adequate market information and knowledge. Concerned marketing

authorities need to strengthen market information services to meet this information gap. Television, radio, farmer help line and websites could be used as tools for knowledge and information dissemination. Major expense

in marketing was incurred on transportation. Creating community transport service for animal or subsidising transport cost would reduce marketing cost. In the study area, it was observed that the length of market channel has resulted in increased price spread and decreased marketing efficiency. Measures to decrease the number of intermediaries involved in marketing need to be undertaken. Promoting e cooperative in marketing of cattle can achieve this objective effectively. Scientific price fixation of cattle should be encouraged. Educating farmers about the economically important traits to be considered in pricing of cow and bullocks and efforts to change farmers' belief in fortune associated marks on the body of animal were needed.

#### REFERENCES

1. Biswal, A., & Kumar, S. (2011). Economics of livestock marketing in Orissa. *Ind. J. Agril. Mktg.*, 25(1), 54-64.
2. Directorate of Marketing and Inspection (2005). Working of livestock exchange markets in Rajasthan. Electronic citation downloaded from <http://agmarknet.nic.in/liveraj.pdf> on 24-03-2013.
3. Pandit, A., & Dhaka, J. P. (2004). A study on structure of livestock markets in the Central Alluvial Plains of West Bengal. *Ind. J. Agril. Mktg.*, 18(2), 87-97.
4. Pandit, A. (2005). Efficiency of dairy cattle markets in Central Alluvial Plains of West Bengal. *Agril. Mktg.*, 5(1), 44-50.
5. Patil, S. J., Patil, M. S., & Hinge, B. J. (1979). Price spread in marketing of livestock animals in Dhulemarket of Maharashtra state. *Ind. J. Agril Econ.*, 34(4), 185-190.
6. Rooparani, (2007). Structure and performance of livestock markets in South Karnataka. M.Sc. Thesis, University of Agricultural Sciences, Bangalore.
7. Sharma, A. K., & Singh, R. (1998). Marketing of livestock in regulated markets in Rajasthan. *Ind. J. Agril. Mktg.*, 12(3), 141-146.
8. Singh, A. K., Shukla, A. N., & Husain, N. (2011). Marketing of animals and small ruminants in Western Uttar Pradesh. *Ind. J. Agril. Mktg.*, 25(1), 144-152.
9. Srinivasa, R., Ranganathan, P. M., & Raghavendra, R. B. V. (2001). A profile of dairy animal markets in six districts of Andhra Pradesh. *Ind. J. Agril. Mktg.*, 15(1), 3-41.
10. Vitonde, A. K., Taide, B. B., Sonune, S. R., & Gadge, H. (2004). A study of dudha cattle market in Buldhana district, Maharashtra. *Ind. J. Agril. Mktg.*, 18(3), 164