

Marketing of managa bamboo (*Dendrocalamus stocksii*) in Sindhudurg district of Maharashtra

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Received: 14.03.2021/Accepted: 07.04.2021

ABSTRACT

The present investigations were undertaken to understand the present system of marketing of managa bamboo (*Dendrocalamus stocksii*) in Sindhudurg district of Maharashtra state. Data were collected from 130 farmers and 20 market intermediaries by administering questionnaire in the year 2015-16. The results indicated that on an average per farm production of managa bamboo was 1,336.86 out of which 83.90 per cent was marketable surplus and remaining 16.10 per cent was retained by farmers for domestic use. Four channels were observed in marketing viz producer - Contractor - Retailer - Consumer (channel-I), Producer - Village trader - Retailer - Consumer (channel-II), Producer - Commission Agent/Wholesaler - Retailer - Consumer (channel-III) and Producer - processor - Retailer - Consumer (channel-IV). Majority of growers used channel-I (59) whereas maximum quantity was passed through channel-II (30.96%) for marketing purpose. Highest marketing cost was observed in channel-I (Rs 32,912.00) and lowest in channel-IV (Rs 10,543.00). The producer's share in consumer's price was found more in channel-IV (63.76%) and less in Channel-III (52.90%). The marketing efficiency was reported much higher in channel-IV (25.78) while lowest in channel-II (3.47).

Keywords: Marketing cost; managa bamboo; marketing channel; share; marketing efficiency

INTRODUCTION

Bamboo is an important plant species from the grass family Gramineae. India has rich diversity in bamboo (Viswanath et al 2012) distributed in government as well as in private land of country. There are about 75 genera and 1,250 species of bamboo worldwide (Soderstrom and Ellis 1987) with 136 species under 23 genera growing over 11.36 million hectares in India (Bhatt et al 2003).

Bamboo has been used for various applications from a food source to the building material therefore it is also called as bio-steel, green gold and poor man's timber. *Dendrocalamus stocksii* is popularly known by names managa, mes, chiwari munro or konda bamboo in different localities. It is a strong, solid and thornless bamboo, naturally found in entire western

Ghats where it is cultivated in homestead and in farm and community land as a live fence and/or block plantation (Rane 2015). The total demand of various bamboo consuming sectors in India is estimated at 26.9 million tonnes with estimated supply of only 13.47 million tonnes ie only half of the total demand (Salam 2013).

Marketing plays a key role in postharvest operation of managa bamboo. The existing bamboo trade is characterized by high transportation, grading and packing cost, malpractices by way of multiplicity of market charges, unauthorized deduction, lack of storage facilities etc. The objectionable feature of this system is the existence of long chain middlemen which reduces the share of managa bamboo grower in the price paid by the consumer. The producers are scattered over the wider areas. There is a lack of

collective organization among the producers while bamboo merchants, commission agents and retailers are well organized.

The success of marketing improvement programme can be enhanced to great extent by a careful analysis of the market margin, price spread, marketing channels and cost. The importance of successful marketing is satisfied both by ultimate consumer and producer. Keeping in view the above aspects the present study was undertaken to workout marketing cost, marketing margin and price spread in different channels of managa bamboo marketing.

METHODOLOGY

For the present study the information was collected from the managa bamboo growers, contractors, processors, primary traders and bamboo merchants from Sindhudurg district of Maharashtra state and commission agents/wholesalers and retailers from Mumbai market of Maharashtra state. For selection of growers three stage sampling method was followed with Tehsil as a primary unit, village as a secondary unit and managa bamboo growers as an ultimate unit. Mumbai is one of the important market places for managa bamboo therefore Mumbai market was selected purposively to find out supply chain.

The data were gathered by means of questionnaire by organising personal interview of 130 randomly selected managa bamboo growers and 20 middlemen in the year 2015-16. Based on area (ha) under managa bamboo cultivation growers were classified into three categories as group I (<0.5), group II (0.6-1.1) and group III (>1.2). Information on personal details, landholding, marketing costs and market margins was collected from respondents. Statistical tools such as arithmetic means, averages, percentages and ratios were used for analysis of collected data. Total marketing cost for intermediaries was calculated based on one truck/tempo load that contained approximately 2,000 number of bamboo.

Marketing cost was calculated by estimating the cost incurred in the process of marketing of managa bamboo. It included transportation cost, handling cost, storage cost, market fees, weighing charges and labour charges for packing, loading and unloading. The marketing cost at various stages of marketing was

calculated and finally the total marketing cost was computed (Choudhary et al 2017).

Marketing margin at any stage of marketing was calculated as follows:

$$MM_i = SP_i - (PP_i + MC_i)$$

where MM_i = Marketing margin of the i^{th} middleman, SP_i = Selling price of the i^{th} middleman, PP_i = Purchasing price of the i^{th} middleman, MC_i = Marketing cost incurred by the i^{th} middleman

The price spread is the difference between the price paid by the consumer and the price received by the producer and was expressed as a percentage of the price paid by the consumer. Marketing efficiency is the ratio of market output to the marketing input.

RESULTS and DISCUSSION

Marketed and marketable surplus

At overall level per farm total production of managa bamboo was 1,363.46 out of which 12.67 per cent was retained for total domestic requirement; out of this 4.10 per cent was kept for household use, 8.57 per cent for new plantation and remaining 87.33 per cent of bamboo was sold to the traders or contractors or agents. Fig 1 reveals that marketed surplus was equal to the marketable surplus which may be due the direct purchase by the middlemen from farmer's field adding assured market and better price for managa bamboo. Deficiencies and difficulties of transportation, communication and other defective marketing conditions adversely affected the size of marketable surplus (Sakhrie and Sharma 2017).

Agency-wise sale

The contractors and village traders were the important agencies to whom the maximum number of growers marketed their major quantity and minimum quantity of managa bamboo was sold to commission agents (Fig 2). Farmers sold their bamboo directly to contractors and village traders without any marketing cost. Hence farmers received better price for their produce as compared to those who sold the produce to commission agents. Similar findings were also reported by Sharma and Singh (2001) and Sakhrie and Sharma (2017).

Marketing channels

Following four prominent marketing channels were operating in the study area.

Channel-I: Producer - Contractor - Retailer - Consumer

Channel-II: Producer - Village trader - Retailer - Consumer

Channel-III: Producer - Commission Agent/Wholesaler - Retailer - Consumer

Channel-IV: Producer - Processor - Retailer - Consumer

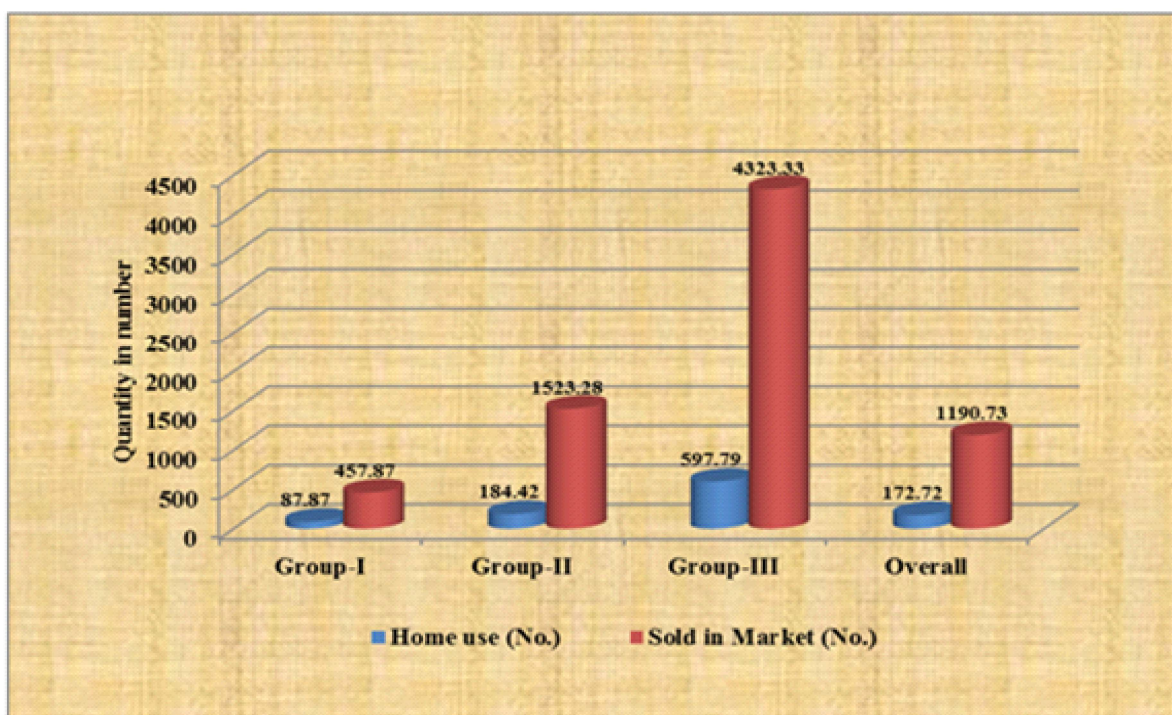


Fig 1. Marketed and marketable surplus of managa bamboo

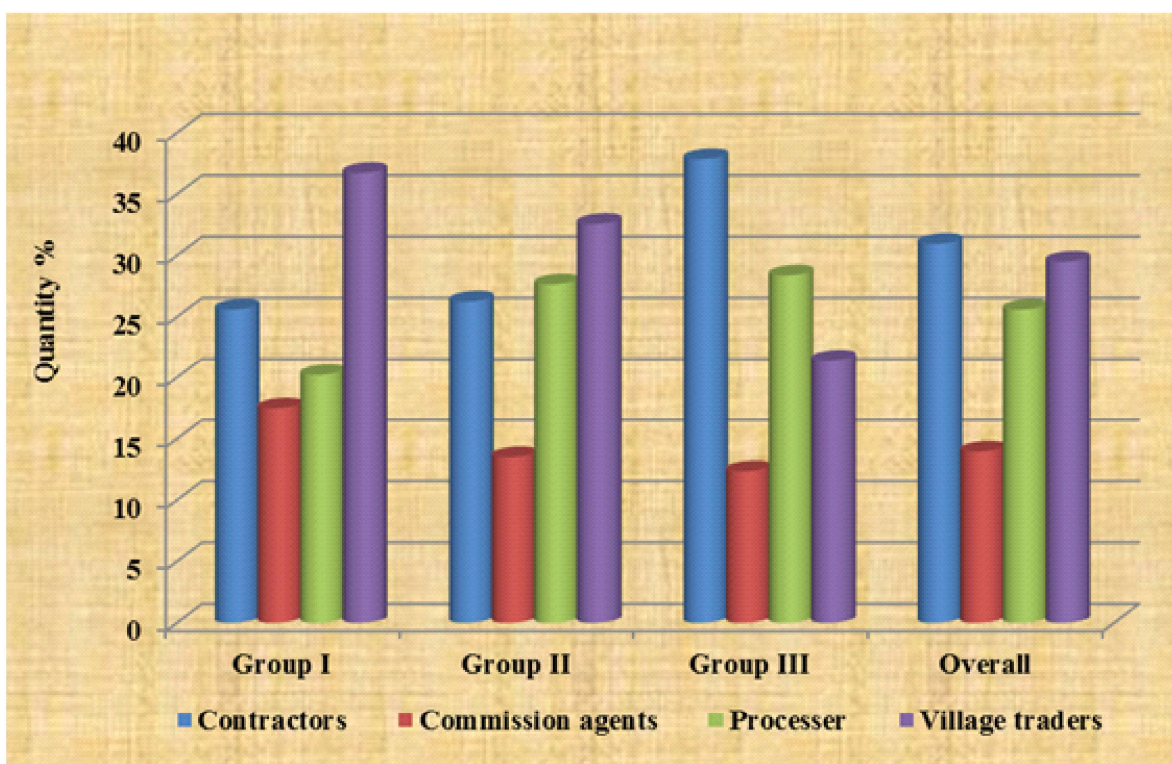


Fig 2. Agency-wise sale of managa bamboo

The marketing system for assembling and distribution of managa bamboo consisted of growers, village merchants, contractors, commission agents, processors and consumers.

Channel-wise sale

Table 1 shows that maximum quantity of managa bamboo was sold through channel-II (30.96%) followed by channel-I (29.50%), channel-IV (25.59%) and channel-III (13.95%). Most of the farmers chose to sell their produce through channel-I which could be due to easy access of contractors in village and their sound business relationship with local farmers.

Marketing cost for farmers

Price for managa bamboo was decided through the mutual discussion/private bargaining between farmers and traders. Whatever costs incurred for marketing were born by the purchaser only and not by the farmers. Return from sale was paid in cash to the farmers immediately after selling but before dispatch of the produce from farmers fields. Average price of bamboo in study area ranged between Rs 30 to 50 depending on the size of bamboo.

Total marketing cost incurred for intermediaries

The per load cost of marketing incurred by contractor was found highest (Rs 18,898) followed by

Table 1. Channel-wise disposal of managa bamboo

Channel	Group-I (n= 80)		Group-II (n= 35)		Group-III (n= 15)		Overall (n= 130)	
	Number of growers	Quantity (number)	Number of growers	Quantity (number)	Number of growers	Quantity (number)	Number of growers	Quantity (number)
I	38	168.18 (36.73)	15	496.14 (32.58)	4	926.66 (21.43)	59	351.31 (29.50)
II	19	117.18 (25.60)	6	400.01 (26.26)	6	1636.67 (37.85)	31	368.65 (30.96)
III	15	80.01 (17.47)	7	205.71 (13.50)	2	533.34 (12.34)	24	166.15 (13.95)
IV	8	92.51 (20.20)	7	421.42 (27.66)	3	1226.66 (28.38)	16	304.62 (25.59)
Total	-	457.88 (100.00)	-	1523.28 (100.00)	-	4323.33 (100.00)	-	1190.73 (100.00)

Figures in the parentheses indicate per cent values to the total

Table 2. Marketing cost incurred by different market intermediaries (Rs/load)

Component	Contractor	Commission agent	Village trader	Processor	Retailer
Cost incurred on					
Labour cost for harvesting, assembling, loading, unloading	1,500	1,200	1,358	2,100	720
Transportation	15,230	10,785	12,785	2,580	7,652
Marketing charges					
Hamali	512	-	492	618	2150
Rent of building/stall	-	-	-	-	4,285
License fees	150	120	120	-	-
Interest in capital work	931	771	802	155	1402
Others	575	317	871	240	275
Total cost of marketing	18,898	13,193	16,428	5,693	16,484

One load= 2,000 bamboos

retailer (Rs 16,484), village trader (Rs 16,428) and commission agent (Rs 13,193) and minimum by processor (Rs 5,693) (Table 2).

Price paid, cost incurred, gross margin and net margin

The data given in Table 3 show that in channel-I producer's price paid by the consumer was Rs 1,58,062.02 per load (2,000 bamboos) of which net price realized by producer was Rs 90,000 per load. In channel-II price paid by consumer was Rs 1,58,062.02

per load of which net price realized by producer was Rs 86,923.08 per load. Cost incurred by contractor and retailer was Rs 18,898.00 and Rs 16,484.00 per load respectively. In channels I, II, III and IV growers did not pay any marketing cost because of involvement of intermediaries who directly bought bamboo from growers' plantation sites or fields accomplishing all tasks with direct payment to grower. The gross market margin of contractor and retailer in Channel-II was Rs 26,177.70 (16.56%) and Rs 44,961.24 (28.45%) per load respectively and net market margin of

Table 3. Price paid, cost incurred, gross margin and net margin of various agencies in different channels (Rs/load)

Component	Channel -I	Channel -II	Channel -III	Channel- IV
Producer				
Net price received by grower	90,000.00 (56.94)	86,923.08 (54.99)	83,611.11 (52.90)	1,80,000.00 (63.76)
Cost incurred by grower	-	-	-	-
Gross price received by grower	90,000.00 (56.94)	86,923.08 (54.99)	83,611.11 (52.90)	1,80,000.00 (63.76)
Contractor				
Price paid	-	86,923.08 (54.99)	-	-
Cost incurred	-	18,898.00 (11.96)	-	-
Price received	-	1,13,100.78 (71.55)	-	-
Gross margin	-	26,177.70 (16.56)	-	-
Net margin	-	7,279.70 (4.61)	-	-
Wholesaler/commission agent				
Price paid	-	-	83,611.11 (52.90)	-
Cost incurred	-	-	13,193.00 (8.35)	-
Price received	-	-	1,13,100.78 (71.55)	-
Gross margin	-	-	29,489.66 (18.66)	-
Net margin	-	-	16,296.66 (10.31)	-
Village trader				
Price paid	90,000.00 (56.94)	-	-	-
Cost incurred	16,428.00 (10.39)	-	-	-
Price received	1,13,100.78 (71.55)	-	-	-
Gross margin	23,100.78 (14.62)	-	-	-
Net margin	6,672.78 (4.22)	-	-	-
Processor				
Price paid	-	-	-	1,80,000.00 (63.76)
Cost incurred	-	-	-	5,693.00 (2.02)
Price received	-	-	-	2,51,259.00 (89.00)
Gross margin	-	-	-	71,259.00 (25.24)
Net margin	-	-	-	65,566.00 (23.22)
Retailer				
Price paid	1,13,100.78 (71.55)	1,13,100.78 (71.55)	1,13,100.78 (71.55)	2,51,259.00 (89.00)
Cost incurred	16,484.00 (10.43)	16,484.00 (10.43)	16,484.00 (10.43)	4,850.00 (1.72)
Price received	1,58,062.02 (100.00)	1,58,062.02 (100.00)	1,58,062.02 (100.00)	2,82,325.00 (100.00)
Gross margin	44,961.24 (28.45)	44,961.24 (28.45)	44,961.24 (28.45)	31,066.00 (11.00)
Net margin	28,477.24 (18.02)	28,477.24 (18.02)	28,477.24 (18.02)	26,216.00 (9.29)
Price paid by consumer	1,58,062.02 (100.00)	1,58,062.02 (100.00)	1,58,062.02 (100.00)	2,82,325.00 (100.00)

Figures in the parentheses indicate per cent values to the total; One load= 2000 bamboos

contractor and retailer was Rs 7,279.70 (4.61%) and Rs 28,477.24 (18.02%) per load respectively. This shows that share of retailer in consumer's rupee was quite high. Whereas producer received 54.99 per cent and contractor 71.55 per cent share and marketing cost was around 22 per cent.

Per load (2,000 bamboos) price paid by commission agent and retailer in channel-III was Rs 83,611.11 and Rs 1,13,100.78 respectively. Price received by the commission agent and retailer was Rs 1,13,100.78 and 1,58,062.02 respectively in channel-III. Per load cost incurred by commission agent and retailer was Rs 13,193.00 (8.35%) and Rs 16,484.00 (10.43%) respectively. Per load gross margin of commission agent and retailer was Rs 29,489.66 (18.66%) and 44,961.24 (28.45%) in channel-III and net market margin of commission agent and retailer was Rs 16,296.66 (10.31%) and 28,477.24 (18.02%) per load respectively.

Per load price paid by processor and retailer was Rs 1,80,000.00 and 2,51,259.00 respectively in channel-IV and price received by processor and retailer was Rs 2,51,259.00 and 2,82,325.00 respectively. Cost incurred by processor and retailer was Rs 5,693.00 (2.02%) and 4,850.00 (1.72%) respectively. Gross margin of processor and retailer was Rs 71,259.00 (25.24%) and 31,066.00 (11.00%) respectively. Thus net margin of processor and retailer was Rs 65,566.00 (23.22%) and 26,216.00 (9.29%) respectively. The producer's share in consumer's rupee declined from 63.76 per cent in channel-IV to 52.90 per cent in channel-III. This could be due to appearance of processor whose gross margin was Rs 71,259.00 (25.24%).

The per load price received by the grower was found highest in channel-IV (Rs 1,80,000.00) followed by channel-I (Rs 90,000), channel-II (Rs 86,923.08) and channel-III (Rs 83,611.11). Processor in channel-IV paid more money to grower demanding only selective and quality bamboo material and therefore it ranked first in price received. But very low price was received by the growers through channel-I to channel-III because there were some limitations for sale in these channels. The price paid by consumer was reported highest in channel-IV (Rs 2,82,325.00) followed by channels I, II and III having same price paid by consumer ie Rs 1,58,062.02.

Producer's share in consumer's rupee

The producer's share in consumer's rupee was

the highest (63.76%) in channel-IV followed by channel-I (56.94%) and channel-II (54.99%) and it was lowest (52.90) in channel-III. The lowest share in channel-III could be because of the reason that the cultivators marketed their produce through commission agents/wholesalers who took maximum share (10.31%) from the consumer's price (Table 4, Fig 3). The producer's share in consumer's rupee was the highest (63.76%) in channel-IV in which cultivators sold their produce directly to processors. As the processors demanded only selective and quality bamboo material and due to elimination of middlemen intervening between the producers and consumers in channel-IV, the producer's share was maximum as well as price received by growers was also more. However less number of producers sold their produce through channel-II and channel-III.

Price spread

Data in Table 4 reveal that maximum share of consumer's price was grasped by different intermediaries as a market margin. This proportion ranged in between 22.24 (channel-I) to 32.51 (channel-IV) per cent. The share of marketing cost in each marketing channel was found minimum 3.73 per cent (Channel-IV) and maximum 22.38 per cent (Channel-III). The producer's share was reported more in channel-IV (63.76%) followed by channel-I (56.94%), channel-II (54.99%) and channel-III (52.90%).

Marketing efficiency

It can be observed from Table 5 that the marketing efficiency was found much higher in channel-IV (25.78) as compared to channel-I (4.80), channel-III (4.33) and channel-II (3.47). The processed bamboo sold by the processor in channel-IV helped all stakeholders to receive maximum gain and reduced the cost of marketing. Similarly channels I, II and III showed poor marketing efficiency due to more marketing cost incurred to market intermediaries.

CONCLUSION

In marketing of managa bamboo, channel-IV (Producer - Processer - Retailer - Consumer) was profitable because marketing efficiency, producer's share in consumer's rupee and net price received by producer was reported higher and this channel also incurred less marketing cost. Similarly highest marketing cost was reported in channel-I; less producer's share in consumer's price was found in Channel-III and also less marketing efficiency was

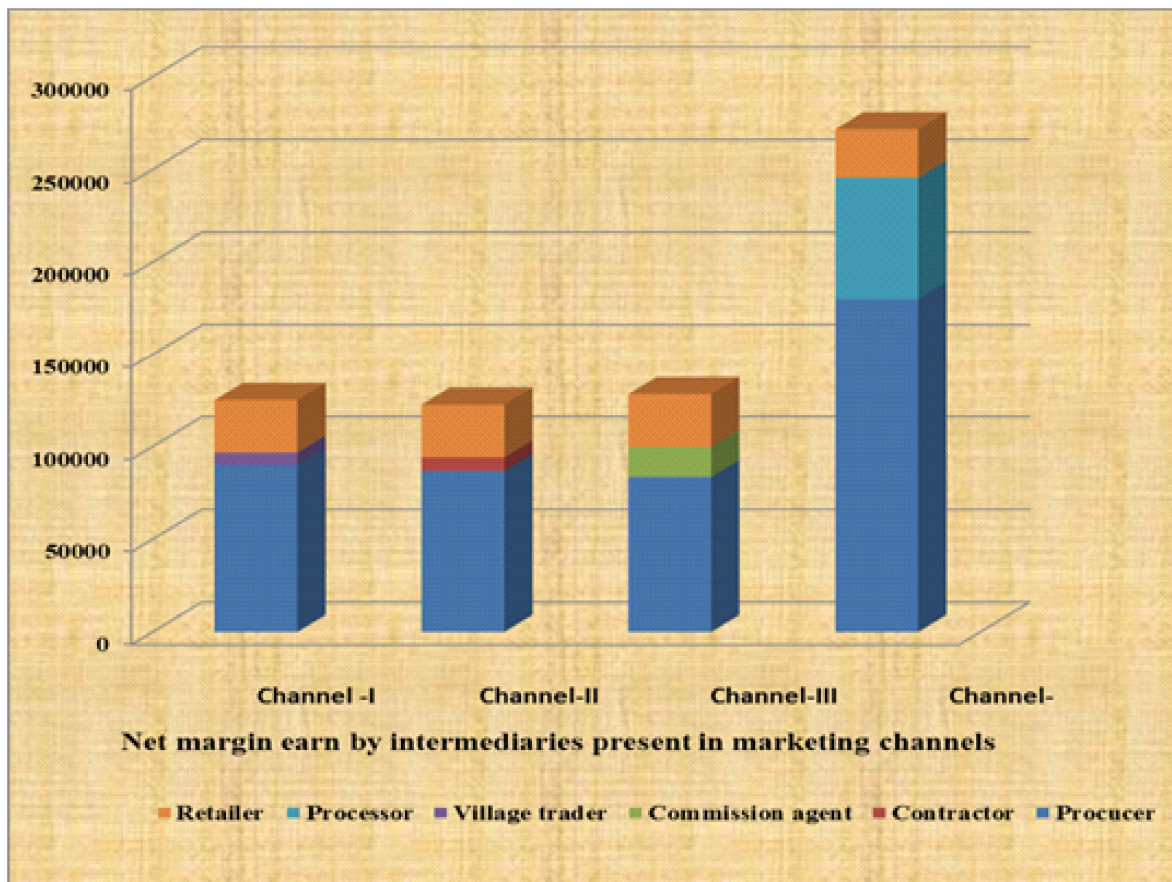


Fig 3. Producer's share in consumer's rupee

Table 4. Spread of consumer's price in per cent

Component	Channel			
	I	II	III	IV
Producer's share	56.94	54.99	52.90	63.76
Marketing cost	20.82	22.38	18.78	3.73
Marketing margin	22.24	22.63	28.33	32.51
Consumer's price	100.00	100.00	100.00	100.00

Table 5. Marketing efficiency in different marketing channels

Component	Marketing channel			
	I	II	III	IV
Value of the producer sold {consumer's price/load (v)}	1,58,062.02	1,58,062.02	1,58,062.02	2,82,325.00
Market cost (I) (Rs/load)	32,912.00	35,382.00	29,677.00	10,543.00
Marketing efficiency	4.80	3.47	4.33	25.78

seen in channel-II. It may be concluded from the present study that marketing channel-IV was more effective than channels I, II and III and therefore channel-IV is recommended to follow for marketing of managa bamboo in Konkan region of Maharashtra.

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