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Processing and disposal of cashew kernels in south Konkan region: An economic analysis

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Abstract

The cashew nut processing activities have transformed the economy of the Konkan region. The survey was conducted in South Konkan region purposively during 2019 and 2020. A sample of 100 processors from both the district had been selected proportionally comprising 33 processors from Ratnagiri district and 67 processors Sindhudurg district. At overall level the total capital investment in cashew processing was Rs. 36.74 lakhs, out of which maximum 49.92 percent (Rs. 18.34 lakh) was incurred in building. The quantity of raw cashew nut for processing utilized at overall level was 41.13 MT, and cost was accounted to Rs. 57.42 lakhs. At overall level gross returns received from cashew nut processing were Rs. 83.58 lakhs from 104.05 quintal of cashew nut kernels, out of which returns from cashew kernel were 99.39 percent. The other items of supplementary income were cashew nut shells and cashew nut husk (testa) contributed to the extent of 0.44 percent and 0.18 percent respectively. At overall level per unit total cost of processing was Rs. 73.79 lakh, out of which variable cost was Rs. 70.53 lakh (95.98%) and fixed cost accounted to Rs. 3.25 lakh (4.42%). Among the various items of cost the cost of raw material contributes more to the extent of 78.03 percent of total cost. The cost of raw material required for production of one quintal cashew nut kernel was Rs. 55341 at overall level. The input output ratio at overall level at total cost was estimated to 1.06 and at paid out cost was 1.29. At overall level breakeven point was estimated to 3322.44 kg. At overall level, percentage of gross value addition was 338.45 indicating more than four times appreciation in value of cashew nut seeds due to processing in to cashew kernel.

Keywords: Cashew nut, processing, cost, returns, input output ratio

Introduction

Cashew (*Anacardium occidentale* L.) often referred to as “wonder nut”, is one of the most valuable processed nuts traded on the global commodity markets and is also an important cash crop. India is the largest producer of cashew in the world with 25.52% share in world production. Maharashtra is leading state in cashew production (1.98 lakh MT) with 24.23 percent share. The highest productivity is noticed in Maharashtra. It is cultivated widely throughout the tropics for its kernels. One hundred gram of cashew nuts kernel contains 659 calories, 35.71 g of carbohydrates, 21.43g of protein, 52.10 g of fat, 1.26 mg of vitamin E, 39.31 mcg of vitamin K, 0.42 mg of vitamin B6, 43.69 g of calcium, 14.28 mg of sodium, 785 mg of potassium, 348 mg of magnesium, and 29.41 µg of folate. In India each metric ton of raw cashew seed produced and processed, yields about 230 kg (23%) of exportable grade kernels. Processing of cashew nut is being conducted by large number of entrepreneurs. Presently cashew nut industry is well flourished and consist varied range of units in South Konkan region. The cashew nut processing activities have transformed the economy of the region by providing the assured income and employment to the rural people.

Number of agencies is also involved in raw cashew nut processing that adversely affects the profitability of farmers. Hence it is imperative to study the processing of raw cashew nut, capital investment required in processing, role of scale of production in the profitability of processing units and constraints experienced by the processors. Keeping all this aspects in view, the present study entitled “Processing and Disposal of Cashew Kernels in South Konkan Region: An Economic Analysis” has been undertaken.

Methodology

The survey was conducted during 2019 and 2020 in South Konkan region purposively includes Ratnagiri and Sindhudurg district. In case of processing, all tahasils were selected from both the districts and tahasil wise proportionate sampling was done. In all 100 processors from both the district had been selected proportionally comprising 33 processors out of 141 units from Ratnagiri district and 67 processors out of 267 units from Sindhudurg district. To analyze the data stander cost concept was employed. The data was collected for the year 2019 and 2020.

Results and Discussion

Cost of Processing

Classification of cashew industry on the basis of annual turnover

In case of cashew nut processing there was no any sample processing unit in central license category (annual turnover above 20 crores). Hence separate group was prepared. The state license holder processors were classified as a separate group as a large group (annual turnover above one crore) and all other state license holder processors with annual turn over 12 lakh to one crore were classified as a medium group. Remaining all processors having annual turnover below Rs. 12 lakh were classified as a small group. It was considered convenient to mention three group as small group (basic license with less than Rs. 12 lakh annual turnover) Medium group (state license with annual turnover

of Rs. 12.01 lakh to 1.00 crore) and large group (State license with annual turnover of above one crore rupees).

Table 1: Classification of cashew industry on the basis of annual turnover

Classification/Group	Turnover Rs. in lakh	Number of processing units
Small	Up to Rs. 12 lakh	11
Medium	Rs. 12.01 to Rs. 1 crore	72
Large	Rs. 1 crores <	17
		100

Capital investment in cashew nut processing

The information regarding capital investment made in cashew nut processing is presented in Table 2.

Table 2: Capital investment in cashew nut processing (Rs. in lakh)

Sr. No	Particulars	Up to 12 lakh	12 lakh to one crore	One crore <	Overall
1	Land	0.5 (6.57)	1.24 (5.32)	3.25 (2.89)	1.5 (4.08)
2	Building	1.15 (15.11)	10.25 (43.93)	63.72 (56.71)	18.34 (49.92)
3	Machinery	5.65 (74.24)	8.3 (35.58)	32.68 (29.09)	12.15 (33.07)
4	Vehicle	-	3.15 (13.50)	11.21 (9.98)	4.17 (11.35)
5	Furniture	0.2 (2.63)	0.15 (0.64)	0.04 (0.04)	0.14 (0.38)
6	other fixed capital	0.11 (1.45)	0.24 (1.03)	1.46 (1.30)	0.43 (1.17)
	Total	7.61 (100.00)	23.33 (100.00)	112.36 (100.00)	36.74 (100.00)

(Figure in parentheses indicate percent to total cost of respective column)

Raw material used in cashew nut processing

The information regarding raw material used for per cashew processing unit in a season is presented in Table 3. It is observed from the Table 3 that, quantity of raw cashew nut utilized at overall level was worked out to 41.13 MT, and cost was accounted to Rs. 57.42 lakhs. The raw material quantity in small group was observed to be 6.02 MT

accounting 8.40 lakhs, where as it was 24.26 MT of raw material was utilized by medium group unit accounting Rs. 33.87 lakhs on raw material. However in case of large group it was to the extent of 135.98 MT and expenditure for raw material was estimated to Rs. 189.83 lakh per unit. It is concluded that the cost of cashew nut seed as a raw material is very high investment in the processing unit.

Table 3: Per unit raw material used in cashew processing (Value -Rs. Lakh)

Sr. No.	Particulars	Unit	Up to 12 lakh		12.01 lakh to 1 crore		1 crore <		Overall	
			Qty	Value (Rs.)	Qty	Value (Rs.)	Qty	Value (Rs.)	Qty	Value (Rs.)
1	Raw cashew nut	MT	6.02	8.40	24.26	33.87	135.98	189.83	41.13	57.42

Grade wise cashew nut kernel production

Per unit grade wise cashew nut kernel production and returns from cashew nut processing is given in Table 4. It is seen from the table that in South Konkan region more than 18 grades have been produced by sample processors. The major grades are white wholes (W) as well as scorched whole (SW) categories were 180, 210, 240, 320, 400, 450 and 500. At overall level it was found that maximum quantity of cashew kernel was produced in W-320 to W400 grade (22.20 quintal) which was followed by SW 320 to SW-400 grade (20.45 quintal), SW-450-500 grade (16.73 qt), W-210-240 grade (10.82 qt), W-450-500 grade (13.34 qt), SW-180-240 (10.23 qt) and other grade (6.61 qt). At overall level income realized was maximum in W-320 - 400 grade kernel (Rs. 17.6 lakh) which was followed by SW -320 to SW-400 grade (Rs. 15.21 lakh), W210-240 grade

(Rs. 10.43 lakh), SW-450-500 grade (Rs. 10.31 lakh), W-450-500 grade (Rs. 9.29 lakh), SW-180-240 (Rs. 9.31 lakh), W-180 (Rs. 3.2 lakh) and other grade (Rs. 4.06 lakh). Similar trend was observed in all three groups as for as quantity and rate concerned. In the small group the total quantity of cashew kernel produce was observed to be 14.51 quintal accounting Rs. 10.98 lakhs returns where as it was 64.17 quintals of cashew kernel in medium group accounting Rs. 50.53 returns and 330.91 quintals of cashew kernels large group accounting Rs. 267.53 lakh. It is also indicated from the table that W-180 is the highest price fetching grade due to its higher weight whereas W-320, Sw-320, W-240 were maximum produce grades among all the grades which was attributed to the potential of the cashew varieties in the South Konkan region which determine weight of the kernel.

Table 4: Per unit grade wise production and returns in cashew nut processing. (Value -Rs.Lakh)

Sr. No.	Particular	Unit	Up to 12 lakh		12.01 lakh to 1 crore		1 crore <		Overall	
			Qty	Value	Qty	Value	Qty	Value	Qty	Value
A)	Cashew kernels									
1	White wholes 180	Q	0.62	0.38	2.02	1.85	12.72	10.76	3.69	3.2
2	White wholes 210	Q		0	3.56	3.05	18.32	17.58	5.68	5.19
3	White wholes 240	Q	0.79	0.54	2.89	2.66	17.5	15.33	5.14	4.58
	210-240		0.79	0.73	6.45	6.208125	35.82	34.81704	10.82	10.43
4	White wholes 320	Q	3.4	2.46	7.27	5.2	37.93	30.26	12.06	9.16
5	White wholes 400	Q	1.7	0.9	5.79	4.4	34.02	25.35	10.14	7.57
	320-400		5.1	3.98	13.06	10.3827	71.95	57.8	22.20	17.6
6	White wholes 450	Q		0.00	3.56	1.77	17.02	10.19	5.46	3.01
7	White wholes 500	Q	1.12	0.53	4.86	2.58	25.06	14.91	7.88	4.45
	450-500		1.12	0.75	8.42	5.8519	42.08	0	13.34	9.29
8	Scorched wholes 180	Q		0	1.81	1.9	10.33	10.93	3.06	3.22
									0.00	
9	Scorched wholes 210	Q		0	4.05	2.88	20.22	16.59	6.35	4.89
10	Scorched wholes 240	Q	1.61	1.37	4.01	2.61	21.36	15.04	6.70	4.58
	Scorched wholes 180-240		1.61	1.3685	9.87	8.976765	17.30333	15.90176	10.23	9.31
11	Scorched wholes 320	Q	1.54	1.57	6.12	3.97	35.65	22.91	10.64	6.93
12	Scorched wholes 400	Q	1.19	0.7	4.82	3.42	36.54	19.75	9.81	5.9
	Scorched wholes 320 to 400	3.32	2.73	2.03	10.94	8.12295	72.19	54.1425	20.45	15.21
13	Scorched wholes 450	Q		0.00	5.1	2.75	26.36	15.84	8.15	4.67
14	Scorched wholes 500	Q	1.71	0.53	4.65	2.61	29.65	14.94	8.58	4.47
	450-500	1.71	1.71	0.96	9.75	5.99625	56.01	34.81022	16.73	10.31
15	Splits	Q	0.1817	0.13	0.89	0.66	6.02	3.73	1.68	1.12
16	Scorched splits	Q		0.00	0.9	0.63	6.16	3.66	1.70	1.08
17	Butts	Q	0.2333	0.12	1.15	0.61	6.54	3.5	1.97	1.05
18	Baby bits	Q	0.1474	0.07	0.72	0.36	4.12	2.06	1.24	0.62
18	Other grades	Q	0	0.00	2.67	1.02	9.61	5.92	3.56	1.74
	Other grades		0.83	0.36	3.66	2.248704	22.84	14.16994	6.61	4.06
	Total		14.51	10.98	64.17	50.53	330.91	267.53	104.05	79.45

Production and returns in cashew nut processing

The information regarding per unit production and returns

from main produce and by produce in cashew nut processing is presented in Table 5.

Table 5: Per unit production and returns in cashew nut processing

Sr. No.	Particulars	Groups							
		Up to 12 lakh		12.01 lakh to 1 crore		1 crore <		Overall	
		Qty	Value	Qty	Value	Qty	Value	Qty	Value
1	Cashew kernels	14.51	10.98 (99.04)	64.17	50.53 (99.39)	330.91	267.53 (99.65)	104.05	83.07 (99.39)
2	Cashew nut Shells	3.96	0.10 (0.90)	17.99	0.21 (0.41)	100.21	1.22 (0.22)	40.72	0.37 (0.44)
3	Cashew nut husk	1.27	0.01 (0.09)	5.79	0.1 (0.20)	33.06	0.35 (0.13)	13.37	0.15 (0.18)
	Gross returns (Rs.)		11.10 (100.00)		50.85 (100.00)		269.10 (100.00)		83.58 (100.00)

(Figure in parentheses indicate percent to total of respective column)

At overall level gross returns received from cashew nut processing were Rs. 83.58 lakhs, out of which returns from cashew kernel were 99.39 percent. The other items of supplementary income were cashew nut shells and cashew nut husk (testa) contributed to the extent of 0.44 percent and 0.18 percent, respectively.

In small group, per unit gross return were worked out to be Rs. 11.09 lakhs, out of which 0.10 percent and 0.09 percent income received from cashew shells and cashew husk, and

major portion of return was 99.04 percent from cashew kernel. However from medium group gross return was estimated to Rs. 50.85 lakhs, out of which maximum share of 99.39 percent was from cashew kernel whereas from large group the total gross return were accounted to Rs. 269.10 lakhs, from which 99.65 percent was the major share of cashew kernel and minor share of cashew nut shells and husk contributing 0.22 percent and 0.13 percent only.

Cost and returns in cashew nut processing

cashew processing units are presented in the table 6.

The detail per unit group wise cost and returns of the

Table 6: Per unit cost and returns in processing of cashew nut (Rs. lakh)

Sr. No.	Particulars	Up to 12 lakh	12.01 to 1.0 crore	1 crore<	Overall
		Value	Value	Value	Value
A	A) Variable cost				
1	Raw Cashew nut	840392 (82.20)	3387000 (75.37)	18983000 (80.08)	5758193 (78.03)
2	Fuel, Diesel, Hcl, oil, etc.	2977 (0.29)	35316 (0.79)	134412 (0.57)	48605 (0.66)
3	Electricity	5553 (0.54)	18000 (0.40)	34021 (0.14)	19354 (0.26)
4	Packaging material	5233 (0.51)	69304 (1.54)	356572 (1.50)	111092 (1.51)
5	Wages paid to casual labours	35365 (3.46)	296336 (6.59)	844044 (3.56)	360740 (4.89)
6	Interest on working capital	106742 (10.44)	456714 (10.16)	2442245 (10.30)	755757 (10.24)
	Total (A)	996262 (97.45)	4262670 (94.85)	22794294 (96.16)	7053741 (95.58)
	B) Fixed Cost				0
7	License fee	2000 (0.20)	2000 (0.04)	2000 (0.01)	2000 (0.03)
8	Repairs and renewals	1051 (0.10)	44421 (0.99)	220136 (0.93)	69521.85 (0.94)
9	Salary to permanent labours	11825 (1.16)	88387 (1.97)	334963 (1.41)	121883.1 (1.65)
10	Land rent	2497 (0.24)	16258 (0.36)	29736 (0.13)	17035.55 (0.23)
11	Depreciation	6311 (0.62)	42225 (0.94)	211085 (0.89)	68680.66 (0.93)
12	Interest on fixed capital	2368 (0.23)	38150 (0.85)	112363 (0.47)	46830.19 (0.63)
	Total (B)	26052 (2.55)	231441 (5.15)	910283 (3.84)	325951.3 (4.42)
13	Total processing cost	1022314 (100.00)	4494111 (100)	23704577 (100.00)	7379693 (100.00)
	C) Marketing Cost				0
14	Transport cost	4715	23146	128924	39100.85
15	GST 5 %	55466.7875	254207	1345526	417320
	Total (C)	60181.7875	277353	1474450	456421
	D) Total Cost	1082496	4771464	25179027	7836113
16	E) Paid out cost	1013635	4413736	20609767	6397788
	F) Returns (Rs.)				0
22	a) Main product	1098335.75	5053130	26752865	8307058
	b) by product	10950	21834	122382	37729
23	c) cashew husk	1123	10254	35264	13501.29
24	Gross Returns (RS)	1110409	5085218	26910511	8358289
25	Net returns (Rs.)	27859	313700	1731484	523281

(Figure in parentheses indicate percent to total of respective column)

Total variable cost in small, medium and large group was to the tune of Rs. 9.96 lakh, Rs. 42.62 lakh and 227.94 lakh respectively. The total paid out cost which consisted cost on raw material, fuel, electricity, wages paid to casual labour, transport cost, license fee, repaired and renewal, and salary to permanent labour. At overall level the amount of paid out cost was worked out to Rs. 63.97 lakh, whereas it was Rs. 10.13 lakhs, Rs. 44.13 lakhs and 206.09 lakhs for small, medium and large level groups.

It was also observe from the table that gross returns in small, medium and large groups were Rs. 11.10 lakhs, Rs. 50.85 lakhs and 269.10 lakhs respectively. However gross returns at overall level were accounted to Rs. 83.58 lakhs.

The net return was estimated by deducting total cost including transport cost and GST from gross return and it was to be Rs. 5.23 lakhs at overall level, whereas it was Rs. 0.27 lakhs at small group level, Rs. 3.13 lakhs at medium group level and Rs. 17.31 lakhs at large group level. The per kg cashew nut kernel, total cost, gross return and net returns were worked out and at overall level it was accounted to Rs. 78.36 lakhs, Rs. 83.07 lakhs and Rs. 5.23 thousand, respectively. In the case of small group, the per kg cashew nut kernel, total cost, gross return and net returns were also estimated and it was accounted to Rs. 10.82 lakhs, Rs. 11.10 lakhs and Rs. 27.86 thousand respectively. Similarly at medium group it was accounted to Rs. 47.71 lakhs, Rs.

50.85 lakhs and Rs. 3.14 lakhs for per kg total cost, gross return and net return, respectively and at large group level it was estimated to Rs. 251.79 lakhs as a per kg total cost, Rs. 267.53 lakhs as a per kg gross return and Rs. 17.31 lakhs as a per kg net returns from cashew nut kernel.

Per quintal cost and returns in cashew nut processing

The information regarding per quintal cost and returns in cashew nut processing is presented in Table 7.

At overall level, the cost of raw material required for production of one quintal cashew nut kernel was Rs, 55341 similarly in small group, medium group and large group it was worked out to Rs. 57918.13, Rs. 52782 and Rs. 57474, respectively. Per quintal fixed and variable cost also worked out and it was accounted to Rs. 3133 and Rs. 67792,

respectively at overall level. Similarly it was found to be Rs. 1795 and 68660 at small group level, whereas Rs. 3607 and Rs. 66428 at medium group level. Per quintal fixed and variable cost at large group level was observed to be Rs. 2756 and Rs. 69013, respectively.

Per quintal gross returns from cashew kernel were worked out to Rs. 76527 resulting into net returns to the tune of Rs. 1920 at small group level. In case of medium group and large group level per quintal gross return worked out to Rs. 79246 and Rs. 81475, respectively resulting into net returns to the extent of Rs. 4889 and Rs. 5242 with respective group. At overall level the per quintal gross return were estimated to Rs. 80330 and by deducting the total cost from it the net returns were obtained to Rs. 5029 per quintal.

Table 7: Per quintal cost and returns in processing of cashew nut (value in Rs.)

Sr. No.	Particular	Group			
		Up to 12 lakh	12.01 to 1.0 crore	1 crore <	Overall
1	Raw cashew nut	57918	52782	57474	55341
2	Fixed Cost	1795	3607	2756	3133
3	Variable cost	68660	66428	69013	67792
4	Total processing cost	70456	70034	71769	70924
5	Transport cost	325	361	390	376
6	Total Marketing Cost	4151	4323	4464	4387
7	D) Total Cost	74607	74357	76233	75311
8	E) Paid out cost	69858	68782	62399	61488
9	Gross Returns (RS)	76527	79246	81475	80330
10	Net returns (Rs.)	1920	4889	5242	5029
	G) Input output Ratio				
11	a) At total cost	1.03	1.07	1.07	1.06
12	b) At paid out cost	1.10	1.15	1.31	1.29
13	Total Cost Per Kg. (Rs.)	704.56	700.34	716.35	703.58
14	Gross returns per kg	765.27	792.46	813.23	792.46
15	Net Returns per kg kernel (Rs.)	60.71	92.12	96.88	88.88
	Net Returns per kg raw cashew nut (Rs.)	14.29	21.67	22.80	20.91

It was also revealed that when a processing of one kg of raw cashew nut seed was made processor to get Rs. 14.29 as a net profit in small group as against it was Rs. 21.674 and Rs. 22.80 in group medium and large group level. It was indicated that the small group having very marginal profit at raw cashew nut processing level as compared to medium and large group level, this was due to minimal scale of production and other expenses.

The input output ratio at overall level at total cost was estimated to 1.06 and at paid out cost was 1.29, whereas it

was 1.03 and 1.07 at total cost and paid out cost level in small group. At medium group level the input output ratio at total cost level was found to be 1.07 and at paid out cost was 1.15, similarly at large group level it was observed to be 1.07 and 1.31, respectively.

Breakeven point in cashew nut processing

The information regarding breakeven point in cashew nut processing is presented in Table 8.

Table 8: Breakeven point in cashew nut processing unit

Sr. No.	Particulars	Unit	Groups			
			Up to 12 lakh	12.01 lakh to 1 crore	1 crore <	Overall
1	Fixed cost	Rs	26052	231441	910283	325951
2	Total revenue	Rs	1110409	5085218	26910511	8358289
3	Output (Kg)	kg	1451	6417	33091	10405
5	Per kg selling price	Rs	750.00	780.00	800.00	776.00
6	Per kg Variable cost	Rs	687	664	689	678
7	Breakeven point	kg	410.94	1999.97	8188.19	3322.44
8	Total revenue at BEP	Rs	308204	1559976	6550550	2578211
9	Margin of safety	kg	1040	4417	24903	7083
10	Margin of safety	Rs	802205	3525243	20359961	5780078
11	Margin of safety	%	71.68	68.83	75.26	68.07

It is seen from the Table 8 that, per unit output in small group was 1451 kg, where as in medium and large group it was 6417 kg and 33091 kg. Per unit output at overall level was worked out to 10405 kg.

At overall level, per kg selling price estimated from returns for all grades together was Rs. 776. The breakeven point is the quantity at which all costs allotted to a cashew processing are equal to revenue received from sale. At overall level breakeven point was estimated to 3322.44 kg. The quantities of breakeven point for small, medium and large group processing unit were 410.94 kg, 1999.97 kg and 8188.19 kg, respectively. It was observed that the cashew processing units were operating well above the breakeven point. The margin of safety was estimated to 1040 kg, 4417 kg and 24903 kg of cashew nut kernels in small, medium and large group of processing units, respectively. However the margin of safety at overall level was found to be 7083 kg of cashew nut kernels. The percentage of margin of safety in small, medium and large scale group of processing

units were observed to be 71.68 percent, 68.83 percent and 75.26 percent, respectively. Similarly at overall level the percentage of margin of safety was estimated to 68.07 percent. It is concluded from the table that the scale of production in medium and large group is appropriate because the in these two group the factories are operating above the breakeven point. However in small group even the factory is operating above the breakeven point, the scale of production is very meager and that is not enough to run factory in long run.

Value addition in cashew nut processing

The value addition in cashew nut processing is presented in the Table 9. The per quintal purchase value of raw cashew nut at overall level was observed to be Rs. 13960.37. There was not much more difference in purchase value amongst the three groups which may be attributed to volume of purchase.

Table 9: Per quintal Value addition in cashew nut processing

Sr. No.	Particulars	Up to 12 lakh	12.01 to 1.0 crore	1 crore<	Overall
1	Gross returns (RS)	76527.00	79246.00	81475.00	80330.00
2	Raw cashew nut	13953.40	13961.20	13960.10	13960.60
3	Gross value added	62573.60	65284.80	67514.90	66369.40
4	Total processing cost	70455.82	70455.82	70034.46	71768.98
5	Net added value	6071.18	9211.54	9706.02	9405.52
	Added value (%)				
6	at Gross	448.45	467.62	483.63	475.41
7	at Net	43.51	65.98	69.53	67.37

Per quintal gross returns received from sale of cashew kernel at overall level were Rs. 80330. The gross returns ranges from Rs. 76527 in small groups to Rs. 81475 in large group unit, this difference in average per quintal price is observe due to different quantity of different grades of cashew kernel sold at respective groups. The per quintal gross added value was worked out and it was Rs. 62573.60, Rs. 65284.80 and Rs. 67514.90 at small, medium and large group level. Whereas, at overall level it was observed to Rs. 66369.40. The per quintal processing cost was also worked out and it was Rs. 71768.98 at overall level resulting in to per quintal net added value to Rs. 9405.52.

At overall level, percentage of gross value was 475.41 indicating more than four times appreciation in value of cashew nut seeds due to processing in to cashew kernel. Similar trend was also observed in all groups. In case of net

added value percentage at overall level it was found to be 67.37 percent, and maximum in large group 69.53 percent followed by medium group (65.98%) and small group (43.51%).

Preference of marketing channels by cashew processors

The cashew processors in the South Konkan region area sold their cashew kernels through different market intermediates depending upon their scale of production and monetary needs.

Cashew processors were found to dispose off their produce through three different marketing channels. Majority of the processors sold the cashew kernels through dealers in the distance markets. The three major marketing channels were observed in the South Konkan region for marketing of cashew kernels is presented in Table. 10.

Marketing Channels followed for cashew kernels

Channel I:	Processor → Factory outlets → Consumer
Channel II:	Processor → Retailer → Consumer
Channel III:	Processor → Dealer → Retailer → Consumer

Disposal of cashew kernel

The information regarding per unit disposal of cashew nut

kernels in the south konkan region is presented in Table 10.

Table 10: Disposal of cashew kernels (quantity in quintal)

Sr. No.	Particulars	Up to 12 lakh	12.01 to 1.0 crore	1 crore<	Overall
1	Gift and other sale	0.07 (0.48)	0.11 (0.17)	0.23 (0.07)	0.13 (0.12)
2	factory outlets	3.51 (24.19)	8.06 (12.56)	45.68 (13.80)	13.95 (13.41)
3	Retail sale	5.34 (36.80)	23.5 (36.62)	135 (40.80)	40.46 (38.88)
4	Dealer for distance	5.59 (38.53)	32.5 (50.65)	150 (45.33)	49.51 (47.59)
	Total	14.51 (100.00)	64.17 (100.00)	330.91 (100.00)	104.05 (100.00)

It is seen from the table that at overall level out of total cashew kernel production 49.51 quintal (47.59 %) kernel were sold to dealer for distance market like market of Mumbai, Pune, Kolhapur and other states also. Whereas 38.88 percent of kernel dispose off to retail local market and remaining 13.41 percent disposed off through their factory outlets. In case of large group out of total 330.91 quintal of kernels, 45.33 percent produce were disposed off to distance market through dealer and 40.80 percent produce disposed off in local market through retailers whereas 13.80 percent produce sold through factory outlets. However in case of medium group, out of total kernel production (64.17 quintal) 50.65 percent produce sold to the distance market and 36.62 percent produce sold through retailers in local and semi local or nearby market and only 12.56 percent produce sold through factory outlets. In case of small group 14.51 quintal was the total produce, out of which 38.53 percent kernels sold through dealers in distance market whereas 36.80 percent and 24.19 percent kernels sold in local and nearby market through retailers and factory outlets, respectively.

Constraints faced by processors

The problem faced by cashew processors were identified and presented in Table 11.

Table 11: Constraints experienced by cashew processors

Sr. No.	Constraints	No = 100	Percent
1	Huge investment in raw material	71	71
2	Shortage of labour	57	57
3	frequent change in import policy	51	51
4	High percent of GST	48	48
5	High cost of machinery	39	39
6	High transport cost	36	36
7	High influence of international market	35	35

It was observed from the Table 11 that the constraints in cashew nut processing recorded were high investment in raw material (71%). This was followed by shortage of labour (57%), frequent change in import policy (51%), high percentage of GST (48%), high cost of machinery (39%), high transport cost (36%) and high influence of international market (35%).

Conclusions

At overall level the total capital investment in cashew processing was Rs. 36.74 lakhs, out of which maximum 49.92 percent (Rs. 18.34 lakh) was incurred in building followed by machinery, which was about 33.07 percent (Rs. 12.15 lakh). The quantity of raw cashew nut for processing

utilized at overall level was 41.13 MT, and cost was accounted to Rs. 57.42 lakhs. At overall level gross returns received from cashew nut processing were Rs. 83.58 lakhs from 104.05 quintal of cashew nut kernels, out of which returns from cashew kernel were 99.39 percent. The other items of supplementary income were cashew nut shells and cashew nut husk (testa) contributed to the extent of 0.44 percent and 0.18 percent respectively. At overall level per unit total cost of processing was Rs. 73.79 lakh, out of which variable cost was Rs. 70.53 lakh (95.98%) and fixed cost accounted to Rs. 3.25 lakh (4.42%). Among the various items of cost the cost of raw material contributes more to the extent of 78.03 percent of total cost. The cost of raw material required for production of one quintal cashew nut kernel was Rs. 55341 at overall level, similarly in small group, medium group and large group it was worked out to Rs. 57918.13, Rs. 52782 and Rs. 57474 respectively. The input output ratio at overall level at total cost was estimated to 1.06 and at paid out cost was 1.29, whereas it was 1.03 and 1.07 at total cost and paid out cost level in small group. At medium group level the input output ratio at total cost level was found to be 1.07 and at paid out cost was 1.15, similarly at large group level it was observed to be 1.07 and 1.31 respectively. At overall level breakeven point was estimated to 3322.44 kg. The quantities of breakeven point for small, medium and large group processing unit were 410.94 kg, 1999.97 kg and 8188.19 kg respectively. At overall level, percentage of gross value addition was 338.45 indicating more than four times appreciation in value of cashew nut seeds due to processing in to cashew kernel. Major constraints faced by the cashew nut processors were high investment in raw material, shortage of labour and frequent change in import policy.

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