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Study on marketing and constraints of *Aloe vera* in Jhunjhunu District of Rajasthan

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Abstract

The purpose of study was to identify the marketing channels, price spread, marketing margins, producer's share in consumer's rupee and marketing efficiency of *Aloe vera* in Jhunjhunu district of Rajasthan. A total of 80 *Aloe vera* cultivators were selected for the study. The primary data was collected using the survey method. The study was conducted in Chirawa block of Jhunjhunu during the year 2022-23 as based on the fact that a large area is covered under the cultivation of *Aloe vera* in Rajasthan. There were mainly two channels were identified in the *Aloe vera* cultivation and they were Channel I: Producer → Processing and Manufacturing Units, Channel II: Producer → Commission agent → Processing and Manufacturing Units. The channel I had the higher marketing efficiency 2.43 as compared to channel II but still *Aloe vera* cultivators preferred the channel I for the disposal of their produce which shows the dominance of the commission agents present in the market. This paper provides the valuable information about the marketing of *Aloe vera* and all the intermediaries present. The major constraints in *Aloe vera* cultivation were Lack of irrigation, dominance of commission agents, electricity supply and lack of Labour.

Keywords: marketing channels, marketing efficiency, marketing margin, price spread, constraints

Introduction

Aloe vera is a warm tropical crop which can be grown successfully in low rainfall region and dry areas with warm humid conditions. *Aloe vera* is known by several names like Ghrit Kumari, Gwarpatha and Indian Aloe. *Aloe vera* is a succulent plant species that belongs to the genus Aloe. It is widely cultivated for its medicinal, cosmetic, and ornamental purposes. Internationally, *Aloe vera* is grown largely in South Texas of USA, Mexico, India, Central America, Australia and Africa. Region- wise, Thailand is the biggest producer of *Aloe vera* gel accounting for around a third of the total global production. Other leading producers in the North and South American region include Mexico, Dominican Republic, United States and Costa Rica. The global *Aloe vera* market reached the value of 5881.640 crores in 2021. The global *Aloe vera* market is expected to grow at a CAGR of 7.8% from 2021 to 2028. In India, this crop is cultivated in Rajasthan, Haryana, Gujarat, Tamil Nadu, Andhra Pradesh and Maharashtra. In Rajasthan, *Aloe vera* is grown in Ajmer, Bikaner, Barmer, Jodhpur, shekhawati region (Jhunjhunu, Sikar, Churu) and Nagaur districts. The total area under *Aloe vera* cultivation in Rajasthan is 1446 hectares with production of 4081 MT and yield 2706 kg per hectare. Indian *Aloe vera* market stood at 1965.48 crores in 2017 and is projected to grow at a CAGR of over 10.02% in value terms during 2019-2024, to reach 3209 crores by 2024.

Research methodology

Selection of District: The study was conducted in Jhunjhunu District of the Rajasthan State. Jhunjhunu District is one of the district of Shekhawati region in the cultivation of *Aloe vera* on commercial scale and it is a major *Aloe vera* growing district. Thus Jhunjhunu district was selected purposively for the study.

Selection of blocks: Jhunjhunu district comprises of 11 blocks, viz. Jhunjhunu, Alsisar, Buhana, Chirawa, Khetri, Mandawa, Nawalgarh, Pilani, Singhana, Surajgarh, Udaipurwati. Among these blocks Chirawa was selected purposely for the thesis on area under *Aloe vera* cultivation.

Selection of Village: A complete list of all villages was obtained from related Gram Panchayat office therefore, villages were arranged in ascending order on the basis of area under *Aloe vera* cultivation, and then 5% villages were selected randomly.

Selection of respondents/farmers

A complete list of all *Aloe vera* farmers was obtained from the gram pradhan/head. These farmers were arranged in ascending order on the basis of their land holding, there after

these farmers were categorized in four size farm group. Out of that 10% respondents were selected randomly on the basis of *Aloe vera* cultivation for the study.

Table 1: Selection of Respondents

SI. No.	Particulars	Land holding (in ha.)	No. of farmers	Percentage
1	Marginal	Less than 1	25	31.25
2	Small	1-2	23	28.75
3	Semi Medium	2-4	18	22.50
4	Medium	4-10	14	17.50
5	Total		80	100

Selection of Market

Market for *Aloe vera* is between farmers/middleman and processing units. As the *Aloe vera* is perishable commodity it was processed within two days. 95% of *Aloe vera* is sold to processing units whereas 5% *Aloe vera* is sold in supermarkets and local markets.

storage, interest on capital, overheads and establishment expenditure.

Marketing Efficiency

Marketing efficiency was calculated by the Shepherd’s formula:

$$ME = \frac{P_{mi} = PR_i - (PP_i + C_{mi})}{PR_i}$$

Selection of market functionaries

A sample of 10% of all the market functionaries and processing units involved in the marketing process was randomly selected for the present study. All the marketing channels, which were prevalent for the selected crop, were followed to evaluate the price spread and producer’s share in consumer’s rupee in different marketing channels.

Where,

ME = Marketing efficiency

MM = Marketing margin

MC = Marketing cost

Table 2: Selection of Market functionaries

SI. No.	Market Functionaries	Total available	Selected
1	Processing units	20	2
2	Commission agent	20	2
3	Total	40	4

Analytical Tools

Marketing Cost: The total cost incurred on marketing by various intermediaries involved in the sale and purchase of the commodity till it reaches the ultimate consumer was computed as follow:

Price Spread

Price spread= Total Marketing Cost+ Total Marketing Margin

Producer’s share in consumer’s rupee

$$P_s = (PF / PR) \times 100$$

Where,

Ps= Producer’s share in consumer’s rupee.

PF= Price received by farmer per unit.

PR= Retail price per unit/ Consumer’s purchase price.

$$C = C_f + C_{m1} + C_{m2} + C_{m3} + \dots + C_{mn}$$

Where,

C = Total cost of marketing

Cf = Cost borne by the producer farmer from the produce leaves the farm till the sale of the produce

Cmn= Cost incurred by the ith middlemen in the process of buying and Selling

Garrett’s Ranking Technique

$$\text{Percent position} = \frac{100 (R_{ij} - 0.5)}{N_j}$$

Where,

Rij = Rank given for the ith variable by jth respondents

Nj =No. of variable ranked by jth respondent

Marketing Margin

(a) Absolute margin (Ami)

$$A_{mi} = PR_i - (P_{pi} + C_{mi})$$

(b) Percentage margin of ith middlemen (Pmi)

$$\frac{P_{mi} = PR_i - (PP_i + C_{mi})}{PR_i} \times 100$$

Where,

PRi= Total value of receipt per unit (sale price)

Ppi= Purchase value of goods per unit

Cmi= Cost incurred on marketing per unit

The margin includes profit to the middlemen and returns to

Results and Discussion

Marketing of *Aloe vera*

For a complete analysis of the production and marketing of *Aloe vera* one needs to understand different channels involved in marketing and problems related to it. Based on the data given by *Aloe vera* growers the following two channels have been noticed as follows.

- Channel I:** Producer → Processing and Manufacturing Units
- Channel II:** Producer → Commission agent → Processing and Manufacturing Units

The Final consumer in the study area is the processing and manufacturing units

Table 3: Disposal pattern

Sl. No.	Particulars	Marginal	Small	Semi medium	Medium	Overall
1	Channel I	5 (20)	8 (34.78)	8 (44.44)	7 (50)	28 (35)
2	Channel II	20 (80)	15 (65.21)	10 (55.55)	7 (50)	52 (65)
	Total	25 (100)	23 (100)	18 (100)	14 (100)	80 (100)

(Figures in the parentheses indicate percentage to total)

Disposal was shown in the Table 3 from the table, it was seen that 35 percent *Aloe vera* was sold through channel I at overall level. While as 65 percent *Aloe vera* was sold through

channel II. Thus, from the table it is seen that most of the producers preferred to sell the *Aloe vera* through channel II.

Table 4: Marketing cost and margin of different market functionaries in the channel I of *Aloe vera*

Sl. No.	Particulars	Price
	Net Price Received by producer(rupee/tonnes)	2950
1	Marketing cost incurred by producer	
A	Labour cost (1 rupee/kg)	1000
B	Loading/unloading	100
C	Transportation	700
D	Weighing	100
E	Miscellaneous	150
	Total marketing cost	2050
	Producer selling price (rupee/tonnes)	5000
2	Processing unit purchase price (rupee/tonnes)	5000

Channel I: Producer → Processing and Manufacturing Units Rs/ton

In channel I Producer sold their *Aloe vera* directly to the processing units. The total marketing cost incurred by producer was found to be rupee 2050 per ton. In channel II

producers sold their *Aloe vera* through the commission agent and there was no marketing cost was incurred by the producers.

Table 5: Marketing cost and margin of different market functionaries in the channel II of *Aloe vera*

Sl. No.	Particulars	Price
	Net Price Received by producer(rupee/tonnes)	2200
1.	Marketing cost incurred by producer	0
	Producer selling price	2200
2.	Marketing cost incurred by commission agent	
A	Gross price paid by commission agent	2200
B	Cost components of commission agent	
I	Labour charges (0.70 rupee/kg)	700
II	Loading/unloading	200
III	Transportation	500
IV	Weighing	100
V	Miscellaneous	200
	Total marketing cost	1700
VI	Commission	1600
VII	Commission agent selling price	5500
3.	Processing unit purchase price (rupee/tonnes)	5500

Channel II: Producer → Commission agent → Processing and Manufacturing Units Rs/ton

The commission was present in only channel II. The total marketing cost incurred by the commission agent was found to be 1700 rs/ton and marketing margin for the commission

agent was 1600rs/ton Price spread and marketing efficiency of *Aloe vera* among different marketing channels

Table 6: Price spread and marketing efficiency Rs/ton

Particulars	Channel I	Channel II
Producer's price (rupee)	2950	2200
Consumer's price (rupee)	5000	5500
Price spread (rupee)	2050	3300
Producer's share in consumer's rupee (%)	59	40
Total marketing cost	2050	1700
Total marketing margin	-	1600
Marketing efficiency	2.43	1.66

Table 6 shows that price spread at various levels where maximum price spread at channel II i.e. 3300 rs/ton. Whereas marketing efficiency is higher in channel I i.e. 2.43 followed

by 1.66 in channel II. However most of producers sell their *Aloe vera* from channel II due the dominance of commission agents and lack of *Aloe vera* cultivation labours.

Constraints

Table 7: Marketing Problems Faced by *Aloe vera* Grower

Sl. No.	List of Problems	Garret score (%)	Rank
1	Lack of labour for <i>Aloe vera</i> cultivation	56.62	IV
2	Lack of Irrigation	80.53	I
3	Dominance of agents	68.18	II
4	Non availability of regulated market	19.93	IX
5	Electricity Supply	61.95	III
6	Low Prices of Produce	49.37	V
7	Reptiles Problem	31.87	VIII
8	No direction from administration	37.83	VII
9	Protection Problems	43.67	VI

Table 7 shows that problems faced by the *Aloe vera* farmers in marketing of *Aloe vera* most of the respondents expressed that the major problems in marketing of *Aloe vera* was identified as Lack of irrigation and ranked it (1st) followed by dominance of agents (2nd) rank, electricity supply (3rd) rank, lack of labour for *Aloe vera* cultivation (4th), Low prices of produce (5th), Protection of crop (6th), no direction from administration (7th), Reptiles problem (8th) and non-availability of regulated market as 9th.

Conclusion

A wide gap was noticed in the marketing efficiency in the channel I 2.43 and channel II 1.66 but still farmers sell their produce through the channel II this shows the dominance of commission agents in the *Aloe vera* cultivation. The most important problems reported by the farmers were lack of irrigation regarding *Aloe vera* cultivation, scarcity of labour, lack of processing unit, dominance of agents and low prices of *Aloe vera*. As far as market is concerned there is huge demand of *Aloe vera* among processing units but the lack of knowledge about the location of these units makes *Aloe vera* growers hesitate to grow *Aloe vera* as their main crop.

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