Study on production and marketing of incense sticks in Konkan region of Maharashtra

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ABSTRACT

Agarbatti (incense stick) is the fragrance ambassador of India and has been a staple across various cultures for thousands of years. The present study was conducted in six districts of the Konkan region of Maharashtra state to investigate the production and marketing pattern of incense sticks. Results of the study revealed that over 50 per cent of the respondents applied fragrance to raw Agarbatti. The average production cost per kg of Agarbatti in the Konkan region was found to be Rs 140.28, with an average daily production of 66.12 kg and average selling price of Rs 290.28. The survey revealed that 40.32 per cent of respondents sold Agarbatti to wholesalers, 38.71 per cent to retailers and 20.97 per cent directly to the consumers. There were three marketing channels viz producer to wholesaler to retailer to consumer, producer to retailer to consumer and producer to consumer. Respondents preferred channel I for selling Agarbatti, while Channel III was found to be more effective due to the 100 per cent gross market margin earned by producers. It was observed that the bamboo incense stick-making business provided a source of income to rural people and contributed to India's economic growth.

Keywords: Agarbatti; incense sticks; production; marketing; channels

INTRODUCTION

India and other parts of southern Asia were known to use incense as early as 3300 BC for worship and prayer (https://www.mojavemoon.net/blog/history-of-incense). The burning of incense sticks is a common practice around the world either as a part of their custom, for fragrance or as insect repellent (Yadav et al 2020a) and is known as the fragrance ambassador of India (Jenner et al 2021). In India, it is called Agarbatti (Sinha and Deb 2016). Incense is available in various forms including sticks, joss sticks, cones, coils, powders, rope, rocks/charcoal and smudge bundles (Jetter et al 2002).

Millions of tonnes of bamboo are used in many cottage industries, including the Agarbatti industry (Borah et al 2008) and it is an essential raw material for the production of Agarbatti (Dutta 2006). Four species of bamboo viz Barak (*Bambusa balcooa*), Bari (*B vulgaris*), Mirtinga (*B tulda*) and Muli (*Melocanna baccifera*) are used in bamboo-based incense sticks (Jenner and Selvan 2020). Indian incense stick's size generally varies from 8 to 12 cm in length (See et al 2007) and thickness varies from 1.5 to 2.7 mm (Banik 2010).

The Indian incense sticks market is dominated by south India especially, Tamil Nadu and Karnataka having the popular Mysore scents and some other world renowned brands (Yadav et al 2020b). Agarbatti sticks, made using bamboo poles, are a significant source of income for rural Indians (Reza 2021, Yadav et al 2020b) with major suppliers in Andhra Pradesh, Karnataka, Tripura, Assam, Orissa and Arunachal Pradesh (Hazarika et al 2018).

India has a leadership status in incense sticks production, fulfilling a substantial proportion of world's necessities. The growth of incense sticks manufacturing and trade in India plays a substantial role in attracting domestic and foreign markets. The interest for incense

sticks is increasing in local as well as international markets which is mainly due to the continuous improvement in quality and increase in product types (Yadav et al 2020b).

Agarbatti contributes more than 60 per cent of the import and export value of total bamboo-based products in India (Upadhyay et al 2023). The Indian state of Maharashtra is currently a hub for incense stick industries (Hazarika et al 2018). The current consumption of Agarbatti in the country is approximately 1,490 MT per day. However, per day production of Agarbatti in India is just 760 MT (Anon 2020). Due to this, there has been a significant increase in the import of raw Agarbatti over the past decade. Although, this industry has received much attention as it contributes towards the country's economy and employment, it has many constraints for the traders/ manufacturers and also limitations to Agarbatti rollers such as deficient of raw material, technology, policy and lack of support industries for perfume and packaging, labour, low wage to the rollers and lack of exposure to market etc (Hazarika et al 2018).

Production and marketing of Agarbatti vary from industry to industry and region to region. Agarbatti producing units located in bamboo growing areas have a great potential for bamboo utilization and reducing the cost of production and also increasing the economy of the local community.

MATERIAL and METHODS

For the present study, the information was collected from the Agarbatti producers and middlemen from all six districts of the Konkan region of Maharashtra viz Sindhudurg, Ratnagiri, Raigad, Thane, Mumbai and Palghar (Fig 1). For the selection of Agarbatti units, a comprehensive list of registered Agarbatti-producing units located in the Konkan region was obtained from the office of District Industrial Centre (DIC), Maharashtra. The data were gathered using a questionnaire by organising personal interviews of 35 randomly selected Agarbatti producers and 10 middlemen in the year 2022-23.

Information on personal details, production and marketing (marketing costs and market margins) was collected from the respondents. The data were arranged in suitable tables and cross tables and simple statistical tools were used for the analysis. Based on the selling pattern of Agarbatti, producers were classified into three categories viz Channel I, Channel II and Channel III. The total marketing cost for intermediaries was calculated based on average price paid, the average gross price received and the gross margin.

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:

$$MMi = SPi - (PPi + MCi)$$

where MMi = Marketing margin of the i^{th} middleman, SPi = Selling price of the i^{th} middleman, PPi = Purchasing price of the i^{th} middleman, MCi= 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 per cent of the price paid by the consumer. Marketing efficiency is the ratio of market output to marketing input.

RESULTS and DISCUSSION

Out of the total producers, more than 50 per cent of the respondents applied fragrance to raw Agarbatti. About 37.14 per cent of the respondents were doing business with Agarbatti by applying Masala and fragrance and a minimum (8.57%) of respondents followed the Agarbatti production process with Masala and fragrance (Fig 2).

The bamboo sticks were not being produced in Thane, Mumbai, Palghar, Sindhudurg and Raigad districts and production was reported in Ratnagiri district only. Availability of skilled workers and easy availability of bamboo at a reasonable rate favoured the production of sticks in this area. Commonly used bamboo species were found Tulda (*Bamboosa tulda*) and Manga (*Dendrocalamus stocksii*). Varuvel (2022) reported that *B tulda* was the mostly preferred species for Agarbatti making. The length of bamboo sticks varied from 8 to 12 inches and diameter of the sticks was reported 1.3 mm. Varuvel et al (2022) reported that the most preferred Agarbatti sticks were 8 inches long having thickness of 1.3 mm.

The monthly average consumption of Masala in the study area was reported to be 2,136.25 kg.

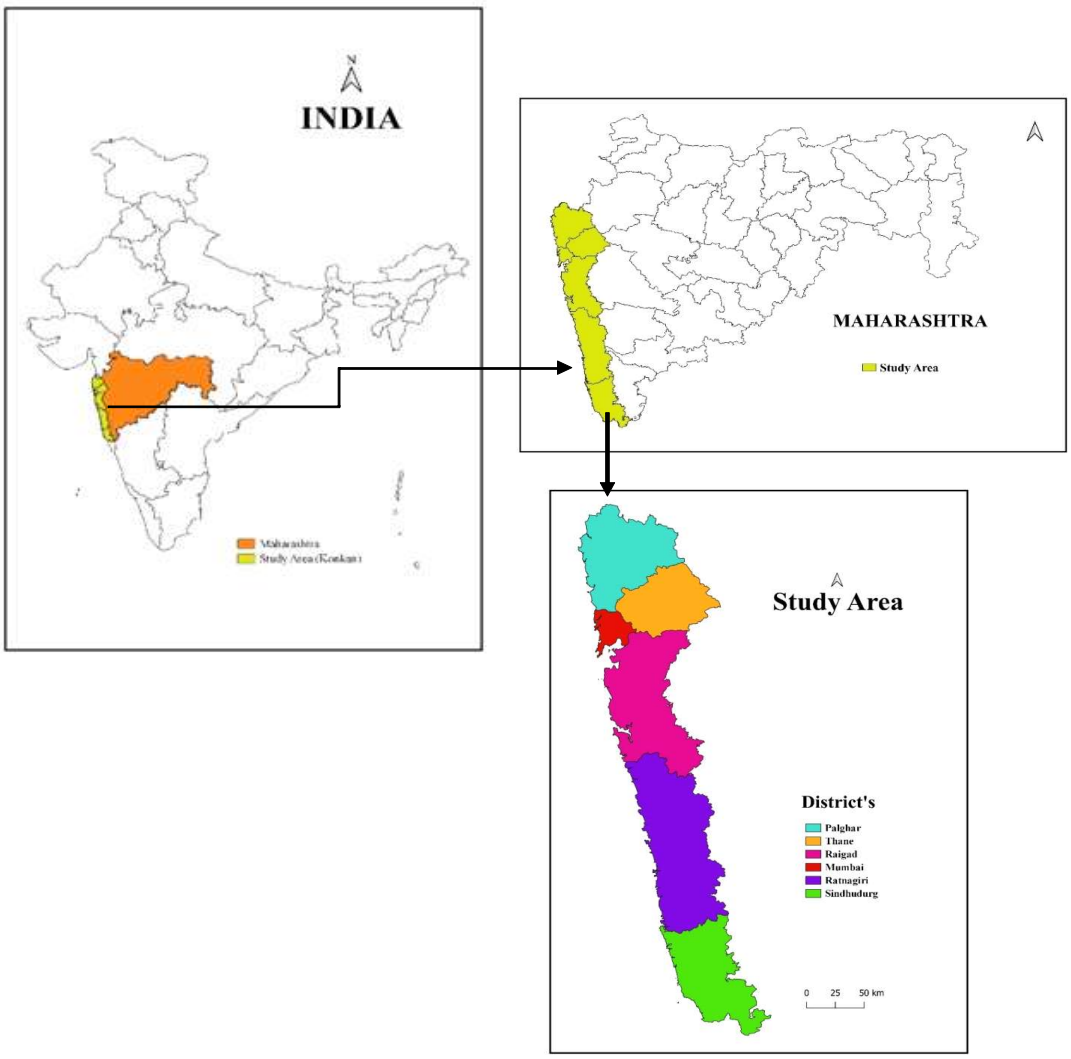

Fig 1. Map showing the study area in Konkan region of Maharashtra

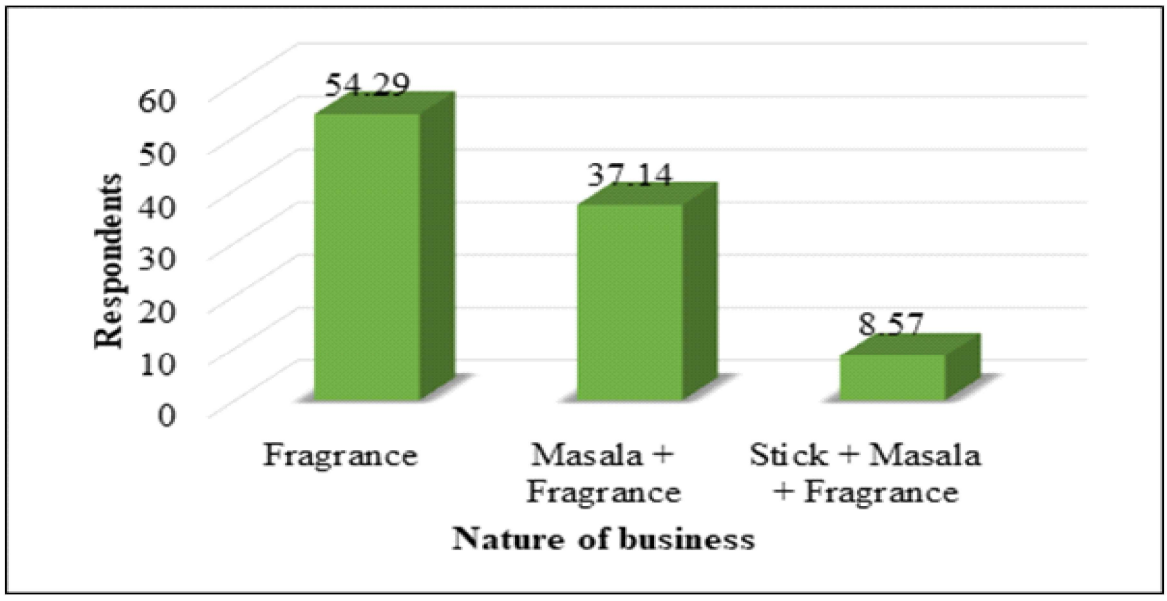

Fig 2. Nature of Agarbatti business

Lowest monthly consumption of Masala (475.00 kg) was reported in Mumbai while highest in Palghar (15,000.00 kg). Nearly half of the respondents used black and white colour premix Masala. The overall average price of Masala was calculated as Rs 55.62. The utilisation of fragrance stood at an average of 262.42 kg per month with price of Rs 2,445.71 per kg. The average production cost of Agarbatti was Rs 140.28 per kg with production capacity 66.12 kg per day. The average selling price per kg of Agarbatti at the producer level was Rs 290.28. Out of the total producers surveyed, 40.32 per cent of the respondents sold Agarbatti to the wholesalers, 38.71 per cent to the retailers and remaining 20.97 per cent directly to the consumers (Table 1).

Producers, wholesalers, retailers and consumers were involved in marketing of Agarbatti. There were three marketing channels as given below:

Channel I: Producer → Wholesaler → Retailer → Consumer
Channel II: Producer → Retailer → Consumer
Channel III: Producer → Consumer

Maximum Agarbatti producers used channel I (71.11%) followed by channel II (20.00%) and channel III (8.89%) for marketing of Agarbatti (Fig 3).

Different channels affected the prices and margins of various agencies in the sale of an Agarbatti product. Channel I charged consumers Rs 338.75 per kg, out of which the producer received Rs 281.60 per kg, with gross market margin of Rs 15.06 (4.44%) and 42.75 (12.61%) per kg for the wholesaler and retailer respectively. Channel II charged consumers Rs 316.66 per kg and the producer received Rs 300.16 per kg with a gross market margin of Rs 16.05 (5.06%) per kg for the retailer. Channel III charged consumers Rs 330.75 per kg and the producer received the same amount with a gross market margin of 100.00 per cent (Table 2).

The data on price spread analysis in various marketing channels show that different intermediaries took different market margins. The highest was 17.05 per cent in Channel I followed by 5.06 per cent in Channel II and nil in Channel III (Table 3).

Channel II had significantly higher marketing efficiency (18.72) than Channel I (4.85), while Channel III was found to be more effective than Channels I and II. The inefficient marketing of Agarbatti in the study area could be due to the high market margins and marketing costs charged by the intermediaries in Channel II (Table 4). The present results on the marketing of Agarbatti are in accordance with the findings of Hanumappa (1996).

CONCLUSION

It was found that most of the producers were engaged in applying fragrance to raw Agarbatti, while only a few followed the entire production process. The majority used their own money to establish their businesses and sticks were produced in the Ratnagiri

Table 1. Production and marketing of Agarbatti in Konkan region of Maharashtra (n = 35)

Component	District						Total
	Sindhudurg	Ratnagiri	Raigad	Thane	Mumbai	Palghar	
Consumption of Masala (kg/month)	1,121.66	1,880.00	–	1,050.00	475.00	15,000.00	2,136.25
Average buying price of Masala (Rs/kg)	28.33	48.88	–	37.50	37.50	45.00	55.62
Average buying quantity of fragrance (kg/month)	221.11	287.22	130.00	90.00	44.37	763.00	262.42
Average price of fragrance (Rs/kg)	2,600.00	2,333.33	2,100.00	2,250.00	2,625.00	2,300.00	2,445.71
Average production cost (Rs/kg)	140.00	136.66	145.00	150.00	131.25	156.00	140.28
Average selling price at producer level (Rs/kg)	253.33	292.22	285.00	305.00	291.25	348.00	290.28
Average selling quantity/month (kg)	1,301.11	1,902.22	1,037.50	1,575.00	319.37	6,564.00	1,983.71
Selling pattern of Agarbatti at the producer level (%)							
Wholesaler	42.85	40.00	50.00	66.67	27.27	40.00	40.32
Retailer	38.10	30.00	50.00	33.33	54.55	40.00	38.71
Consumer	19.05	30.00	–	–	18.18	20.00	20.97

Table 2. Price spread, marketing cost and return obtained through different channels

Component	Channel		
	I	II	III
Producer			
Average gross price received by the producer (Rs/kg)	281.60 (83.12)	300.16 (94.78)	330.75 (100.00)
Wholesaler			
Average price paid (Rs/kg)	281.60 (83.12)	–	–
Average gross price received by wholesaler (Rs/kg)	296.66 (87.57)	–	–
Gross margin including marketing cost (Rs/kg)	15.06 (4.44)	–	–
Retailer			
Average price paid (Rs/kg)	296.66 (87.57)	300.16 (94.78)	–
Average gross price received by the retailer (Rs/kg)	338.75 (100.00)	316.66 (100.00)	–
Gross margin including marketing cost (Rs/kg)	42.75 (12.61)	16.05 (5.06)	–
Consumer			
Price paid by the consumer (Rs/kg)	338.75 (100.00)	316.66 (100.00)	330.75 (100.00)

Figures in the parentheses indicate the percentages to the total

Table 3. Price paid by the consumers

Component	Channel		
	I	II	III
Producer's share (%)	83.12	94.78	100.00
Marketing margin and marketing cost (%)	17.05	5.06	–
Consumer's price (%)	100.00	100.00	100.00

Table 4. Marketing efficiency in different channels of marketing

Component	Channel		
	I	II	III
Value of produce sold (Rs/kg)	281.60	300.16	330.75
Market cost and market margin (Rs/kg)	57.81	16.05	-
Marketing efficiency	4.85	18.72	10.00

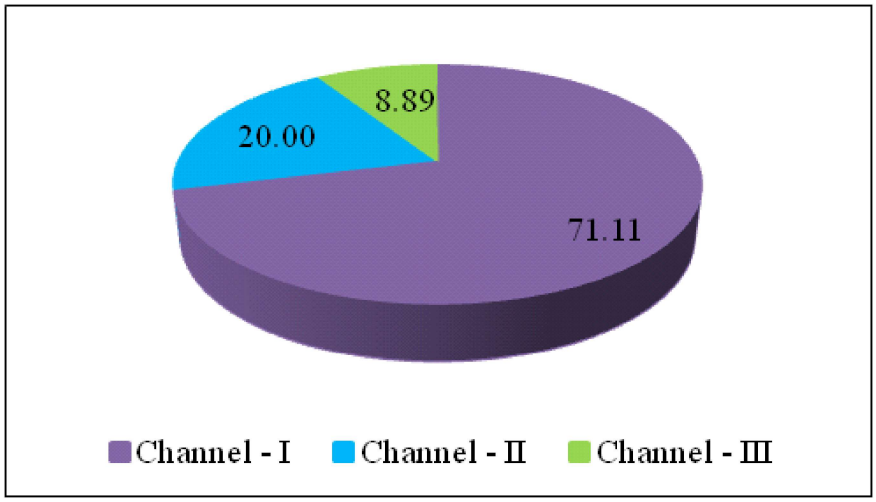

Fig 3. Channel-wise disposal of Agarbatti

district using Tulda and Manga bamboo. Nearly half of the respondents used black and the remaining half used white colour premix Masala. The marketing system followed three prominent channels, with Channel III being the most effective. Study suggested the growing local bamboo species in the study area to increase the production of sticks and decrease the cost of production.

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