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Economic Analysis of Marketing of Honey in Assam

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Abstract

The findings of the study revealed that the overall marketed surplus of honey was about 97.63 per cent and the primary marketing practices followed before the produce reaches the end consumer were packaging and labeling. Packaging of honey in glass bottles with an uncoated paper label were the most prevailing practices followed in the study area. Out of the four marketing channels identified in the study areas,Channel IV (Producer- Processing unit- Retailer- Consumer) had the highest price spread of Rs 128.73/kg as compared to Channel I (Producer- Consumer) with price spread of Rs 32.90/kg. The producers share in consumer rupee was maximum in Channel I (Producer- Consumer) and minimum in Channel IV (Producer- Processing unit- Retailer- Consumer) with a share of 92.71 per cent and 75.05 per cent respectively. Furthermore, marketing margin of retailers was high as compared to other intermediaries. The marketing efficiency of Channel I (Producer- Consumer) was found to be the most efficient channel with a score of 12.72. The study recommends strengthening of the apiculture sector in the area by integrating the beekeepers and forming a network for marketing and distribution of honey to improve the beekeeper's profit.

Keywords: Honey marketing, marketed surplus, marketing practices, marketing channels, price spread, producer's share, marketing margin

Introduction

Apiculture or beekeeping is the science which deals with the management and breeding of honey bees round the year for the production of various bee products like honey, bee wax, royal jelly, bee venom and bee propels. Besides, the production of valuable products, honey bees acts as a significant pollinating agent in cross pollination and preserves biodiversity. Honey is a high valued natural sweet substance and the primary product of apiculture made by the honeybees from the floral nectar (Midhun *et al*., 2022) [7]. Beekeeping is an eco-friendly way to generate income which doesn't compete for scarce land resources and provides employment opportunity to a number of individuals (Workneh, 2011) [12]. It is an essential agro-based additional activity that provides major income to the people in the rural as well as urban areas (Langthasa and Singh, 2023) [6]. Despite the advantages, beekeeping can be a complex and challenging practice that requires thorough understanding and knowledge of bee behaviour and biology. However, with proper knowledge and scientific training, beekeeping can be a rewarding and sustainable activity that offers beneficial effects to the environment and the mankind. The genus of Apis contains ten species (Arias and Sheppard, 2005) [2], of which two species- *Apis mellifera* and *Apis cerena* are extensively domesticated (Gupta *et al*., 2014) [4]. *Apis mellifera* has an average yield upto 40 kg/hive in contrast to *Apis cerena* which yields just upto 10 kg/hive (Langthasa and Singh, 2023) [6]. The apiculture sector has been gradually increasing due to persistent efforts and initiatives taken by the government of India like the sweet revolution which was launched in the year 2016 to advance scientific beekeeping throughout the nation and emphasis the increase in production of honey which can be a major contributor in doubling farmer's income by 2024. To boost the sweet revolution government of India launched National Beekeeping and Honey Mission in 2020 (National Bee Board). India ranked as the sixth-largest exporter of natural honey. The export of honey increased by 109.80 per cent from 28,378.42 MTs in 2013–14 to 59536.74 MTs in 2019–20 (National Bee Board). Assam ranks 18th in honey production in India and among the north eastern states Assam is the largest producer of honey with a production of 1400 metric tonnes in the year 2021-22 (Ministry of Agriculture and Farmers Welfare, Govt. of India.). The beekeepers in the state practice both modern and traditional beekeeping. Assam is endowed with highly diversified bee flora and favourable ecological condition which provides considerable potential for beekeeping

activities. The demand for organic honey and its products have been increasing day by day in the world as well as domestic market because of its nutritional and therapeutic properties. Marketing plays an important role in disposal of produce and getting remunerative price by the producer. An effective marketing structure is of utmost important for stimulating the production and consumption process which as a result accelerate the economic development of the country (Mohapatra and Ramadas, 2023) [8]. Assam being one of the major states of honey production, it is important to analyse the marketing scenarios of honey in the state. However, no study was conducted in Assam to examine the prevailing marketing practices and marketing efficiency of different channels of honey marketing. Thus, the present study was undertaken to analyse the marketing practices and marketing efficiency of honey in Assam.

Methodology

Study area and sampling

The present study was conducted in the state of Assam, India. Both Golaghat and Jorhat districts were purposively selected as they were endowed with highly diversified bee flora and highest beekeeper's density. A sample of 70 beneficiary beekeepers were selected randomly from the list of beekeepers provided by Khadi and Village Industries Commission (KVIC) and All India Coordinated Research Project (AICRP) on Honey Bee, Assam Agricultural University. Primary data were collected from the beekeepers and the marketing intermediaries through personal interview using a well structured schedule.

Methods of data analysis

Marketed surplus, Marketing cost, Net price received by producer, Price spread, Producer's share in consumer rupee, Marketing margin and Marketing efficiency were estimated by using the following formulae

Marketed surplus

Marketed surplus = Total quantity of honey produce – (Quantity of honey used for family consumption + Quantity of honey loss if any) (Acharya and Agarwal, 2009) [1].

Marketing cost

C = Cf + Cm1 + Cm2 + Cm3 + Cm4 +… + Cmn

Where,
C = C is the total cost of marketing of the commodity,
Cf = cost incurred by the producer from time the produce leaves the farm till it is sold ,
Cm1, Cm2,...., Cmn = Cost incurred by different middleman in the process of buying and selling the product.

Net price received by producers

Net price received by producer= Price received by producer – marketing cost of producer (Chhetri, 2021) [3]

Price spread

Price spread = Pc – PF

(Acharya and Agarwal, 2009) [1]
Where,
Pc = Price paid by consumer
PF =Price received by producer for an equivalent quantity of farm produce

Producer's share in consumer's rupee

The Producer's share in consumer's rupee was estimated by using following formula% (Sirjanaa, 2020) [11]

$$\text{Producer's share} = \frac{P_c}{P} \times 100\%$$

Pc = Price paid by consumer an equivalent quantity of farm produce s
PF = Price received by producer

Marketing margin

Marketing margin of each intermediary in the marketing channel of honey was calculated by using following formulae (Sirjanaa, 2020) [11]
Ami = PR - (PP + Cm) Where,
Ami= Absolute margin of the i^{th} middlemen PR = Sale price of i^{th} middlemen
Cm = Marketing cost per kg incurred by i^{th} middlemen PP = Purchase price of i^{th} middlemen

Marketing Efficiency

According to Acharya Approach (Acharya and Agarwal 2009) [1]

$$\text{Marketing efficiency} = \frac{\text{PF}}{\text{MC} + \text{MM}}$$

Where,
PF = Price received by producer MC= Marketing cost
MM= Marketing margin

Results and discussion

Marketed surplus of honey

It is observed from the table **(Table 1**) that out of the total production of honey 2.37 per cent was kept for home consumption by the beekeepers and the estimated s marketed surplus was found to be 97.63 per cent in the study area. Similar trend was also as reported by Prasad *et.al.*

Table 1: Marketed surplus of honey in sample beekeepers

Particulars	Quantity (in kg)	Percentage Share
Total production	16075.00	100
Total consumption	381.00	2.37
Total marketed surplus	15695.00	97.63

Marketing practices of honey in Assam:

Marketing practices followed by beekeepers in the marketing of honey is presented in Table 2. The study revealed that packaging and labelling were the primary practices involved in the marketing of honey. It is evident

from the table that 55.71 per cent of the bee keepers used glass bottles for packing honey, while only 15.71 per cent beekeepers used plastic bottles for packing honey. Out of the total respondents, 28.57 per cent opted for no packaging. Results also revealed that plastic bottle was least preferred for packaging by the bee keepers in the study area.

Labeling is an integral practice of marketing as it provides all the pertinent information about the product or the seller. Table 2 reveals that 47.14 per cent of the beekeepers used uncoated paper since it was less expensive than the waterproof labels. Of course, 35.71 per cent beekeepers was found selling their produce without any labels.

Table 2: Marketing practices followed by beekeepers in the marketing of honey

Packaging			Labelling		
Plastic bottles	**Glass bottles**	**No packaging**	**Uncoated paper**	**Waterproof label**	**No labels**
11 (15.71)	39 (55.71)	20 (28.57)	33 (47.14)	12 (17.14)	25 (35.71)

Figures in parentheses indicate percentage to the total

Marketing channels of honey

The total marketed surplus of honey was observed to be traded from beekeepers to the end consumer through four marketing channels.

- Channel I – Producer-Consumer
- Channel II- Producer- Retailer-Consumer
- Channel III- Producer- Wholesaler- Consumer
- Channel IV- Producer-Processing Unit-Retailer-Consumer

Figure 1 showed that maximum amount of honey (45.83 per cent) was marketed through Channel I, while 31.05 per cent of the total marketed surplus was sold through Channel II followed by Channel III (12.59 per cent). The less preferred channel was Channel IV which accounted for only 10.53 per cent of the total marketed surplus of honey.

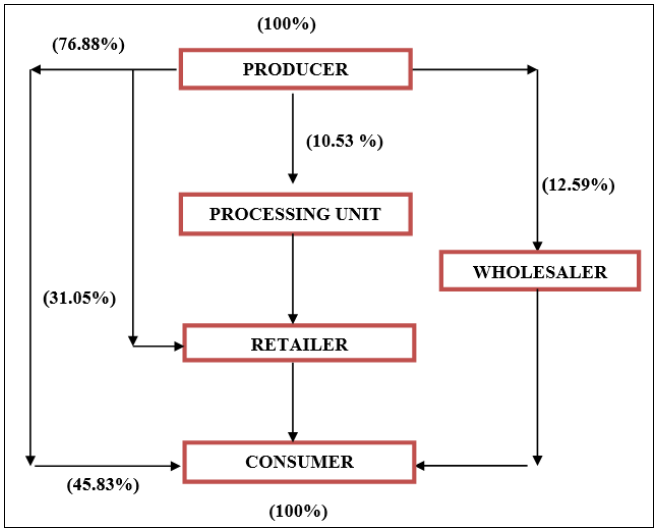

Fig 1: Marketing channels and disposal pattern of honey in the Net price, price spread and producer's share in consumer rupee

Table 3 that the average net price received for per kg of honey by the beekeepers was Rs 401.49. The highest net price was recived by the bee keepers when the quantity was sold directly to the consumer (Rs 418.44 per kg) and the least when it was sold through Channel IV (Rs 387.14 per kg).

Price spread and producer's share price in consumer's rupee is presented in Table 4. The price spread was highest in Channel IV and lowest in Channel I that accounted for Rs 128.73/kg and Rs 32.90/kg respectively. Thus, it signifies that price spread increases with increase in length of the marketing channel and vice versa. Table 4 reveals that the producer share was highest in Channel I which accounted for 92.71 per cent and lowest in Channel IV at 75.05 per cent which implies producer share decreases with increase in number of intermediaries and is inversely related with consumer purchase price. Similar findings were reported by (Kalidas *et al.*, 2021) [5].

Table 3: Net price received by beekeepers (Rs/kg)

Variable	Quantity (kg)	Producer's sale price (Rs/kg)	Marketing cost (Rs/kg)	Net price received by beekeepers (Rs/kg)
Producer to Consumer	7193.02 (45.83)	451.34	32.90	418.44
Producer to Retailer	4873.30 (31.05)	431.63	25.29	406.34
Producer to Wholesaler	1976.00 (12.59)	421.31	27.27	394.04
Producer to Processor	1652.68 (10.53)	400.00	12.86	387.14
Overall	15695 (100)	426.07	24.58	401.49

Table 4: Price spread and producer's share price in consumer rupee in marketing of honey

Marketing Channel	Consumers Purchase price (Rs/kg)	Net price received by beekeepers (Rs/kg)	Price spread (Rs/kg)	Producer's share in consumer's rupee (%)
Channel I	451.34	418.44	32.90	92.71
Channel II	501.83	406.34	95.49	80.97
Channel III	480.14	394.04	86.10	82.07
Channel IV	515.87	387.14	128.73	75.05

Marketing cost, marketing margin and efficiency of honey marketing

It is evident from Table 5 that the total marketing cost incurred by producer, wholesalers, processing unit and retailers were estimated to be Rs 32.90, Rs 22.13, Rs 48.80 and Rs 47.65. Due to absence of intermediaries Channel I had no marketing margin. The total marketing margin of wholesalers, processing unit and retailers were estimated at Rs 36.70, Rs 31.20 and Rs 58.42respectively. Marketing efficiency is directly related to the length of the value chain which entails that if the number of intermediaries increases then the marketing cost in respective channel increases simultaneously making the marking channel less efficient. Table 5 reveals that Channel I, which had no intermediaries was found to be the most efficient channel,while the Channel IV which had highest number of intermediaries was observed to be the less efficient channel.

Table 5: Marketing cost, marketing margin and efficiency of honey marketing

Marketing Channel	Intermediaries	Purchase price (Rs/kg)	Marketing cost (Rs/kg)	Sale price (Rs/kg)	Market margin of intermediaries (Rs/kg)	Marketing Efficiency
Channel I	-	-	32.90	451.34	-	12.72
Channel II	Retailer	431.63	35.14	501.83	35.06	4.26
Channel III	Wholesaler	421.31	22.13	480.14	36.70	4.58
Channel IV	Processing unit	400	48.80	480	31.20	3.01
	Retailer	480	12.51	515.87	23.36	

Conclusion

It can be concluded from the study that 97.63 per cent of the marketed surplus was sold through four different marketing channels, and packaging and labelling were the basic marketing practices prevalent in the study. Majority of the beekeepers packed the honey in glass bottles (55.71 per cent) with a label of uncoated paper (47.14 per cent) and sold it to the end consumers. The Channel I(producer to consumer) was the most efficient marketing channel of honey where the beekeepers received the highest net price (418.44 Rs /kg) , and price spread was the least (Rs 32.90 /kg).

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