

How Madurai Malli (Jasmine) Spreads Its Fragrance— A Value Chain Analysis

S.Selvanayaki¹, P. Radha², P.Hemalatha³ and M.Tilak⁴

¹Associate Professor (ARM), ²Assistant Professor (BIC), ³Associate Professor (Horti)

⁴Associate Professor (Agrl. Microbiology), Forest College and Research Institute,
Mettupalayam, Tamil Nadu

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Introduction

Horticulture sector is one of the major drivers of growth in Indian Agriculture. The total production of horticulture was around 334.60 million tonnes (MT) in 2020-21. While that of food grains produced during the year was 310.74 million tonnes (MT). The domestic demand of horticultural products is also increasing in the country (Sivaramane, et al. 2009) and export potential for horticulture products including flowers is also showing an increasing trend. (APEDA, 2014). Floriculture, a vital sub-sector of horticulture, has good potential for providing enhanced returns to farmers and employment opportunities especially to small and marginal farmers and female labour (Kaviarasan et al., 2015). Floriculture in India is estimated to cover an area of 2.55 lakh ha with a production of 17, 54, 000 MT of loose flowers (NHB, 2015). Jasmine is one of the most important commercial traditional flower crops of South India. Tamil Nadu ranks first among the flower producing states of India. It occupies 25 percent of the country's flower production. Cut flowers are cultivated in Hosur, Nilgiris, Kodaikanal (both upper and lower palani hills) and Shevroyan hills of Yercaud. In Tamil Nadu, loose flowers are produced in an area of about 32,400 hectares with the production of 3,13,535 MT (jasmine, chrysanthemum, marigold, rose, crossandra and nerium) and cut flowers are produced in an area of 700 ha with a production of 12,900 MT of cut stems per annum. In this jasmine, covers an area of 15,584 ha with a production of 1,42,397 tonnes and contributes to a major share of the floriculture trade (NHB Report). In Tamil Nadu, Madurai district has high jasmine production and the area and production of jasmine in Madurai district was 1735 ha and 16077 tonnes respectively.

The major jasmine producing districts of Tamil Nadu are Madurai, Erode, Coimbatore, Dindigul, Salem, Tirunelveli, Virudhunagar and Trichy of which Madurai and

Erode are very predominant. Madurai Malli also takes the pride of being the first flower in Tamil Nadu for being granted with Geographical Indications (GI) Mark during 2013. GI tag has helped the farmers to prevent adulteration when exported. From the growers, jasmine takes different channels to reach the consumers. Besides ornamental purposes, it is also used for production of scented perfumes. Perfume industries make the best deal when there is a fall in the price of the flowers. Apart from the demand in local market it is also exported to other countries like London, France, Malaysia, and Dubai where they are air -lifted by a special packing of Styrofoam and gel ice mats, specially made thermacol boxes to retain freshness during the transport.

Flowers reach Dubai and Singapore markets within 24 hours after harvesting, while it takes around 36 – 48 hours to reach New York market. High levels of post harvest losses (35 to 40%) have been reported during transit. Since jasmine flowers are very delicate, they show signs of wilting with an abrupt loss of fragrance within 24 -36 hours after harvesting. Considering the importance of jasmine flower in Tamil Nadu, the study was undertaken to analyze the value chain of jasmine in the study area.

Roles of Actors in Jasmine value chain

Input suppliers

Farmers were purchasing the jasmine cuttings from Thangachimadam of Ramanathapuram district. Single Mogra, Double Mogra, Iruvatchi, Ramanathapuram local and Arka Aradhana etc. are presently used for cultivation. Other inputs for cultivation like fertilizers and pesticides are purchased from agricultural input retailers and agricultural departments in Madurai.

Producers

Well drained loamy or red loamy fertile soil was preferred for cultivation of jasmine. Semi hard wood cuttings (15 - 20 cm long) were used for planting. Irrigation was given immediately after planting followed by weekly irrigation depending upon weather conditions. and other cultural practices like weeding and pruning were done at the cost of Rs. 8000 and Rs.2000 per acre respectively. The bushes are pruned to 50 cm height from the ground level during last week of November. The flowers were harvested between 5 AM and 8 AM with help of 160 labours on average for an acre of jasmine per year. Flowering commences in



March - April. Fully developed unopened flower buds were picked in the morning hours. For concrete extraction, fully opened flowers are harvested.

Commission agent

Jasmine growers were dispatching their flowers through van or bus by stitching the address slip of commission agents on packing. Commission agents collect this and sell them on auction basis like open auction of bulk sale of produce and at times on arbitrary basis like an arbiter would facilitate the movement of produce from commission agent to the retailers or local traders or to the shop-keepers or to street vendors. Particularly, at the time of excessive supply, the commission agents take up the activities of grading, sorting, packing and send it to Mumbai, Palghat and Bangalore. Later a copy of the bill will be sent to the farmers and they enjoy a credit period of 10 – 15 days and the amount will be settled within the credit period. The commission agents deduct 11 per cent as commission after selling the jasmine flowers and only remaining amount was credited to the farmers.

Local Traders

Local traders were getting flowers from commission agents in Madurai and Mattuthavani markets by auction or arbitrary basis. Local traders were involved in value addition activities like packing, grading and selling to retailers, exporter or processors.

Retailers

Retailers were getting jasmine flowers from the commission agents or from local traders by auction or negotiation basis. Value addition activities taken up by the retailers included string and garland making and bouquet arrangements.

Processors

Processors purchase the flowers either from commission agents or from local traders and they do value addition activities like Grading, Sorting, processing, extraction of jasmine Concrete and they finally sell it to exporters. Most of the processors made contract with the farmers for procurement of jasmine on daily price basis and the payments were done on end of the week. Usually the contracts were made for 1 – 2 years.

Exporters

Exporters usually received the produce from commission agents. They do grading, sorting, pack the treated jasmine flowers (floral preservatives) in ventilated corrugated fiber board (CFB) boxes with butter paper lining and the ventilation is made by making holes in

corrugated fiber boxes and exported to international market like USA and Dubai. In some cases, exporters also purchase the produce from local traders as bulk for export. Initially produce were sent even to domestic markets located in Bangalore and Mumbai.

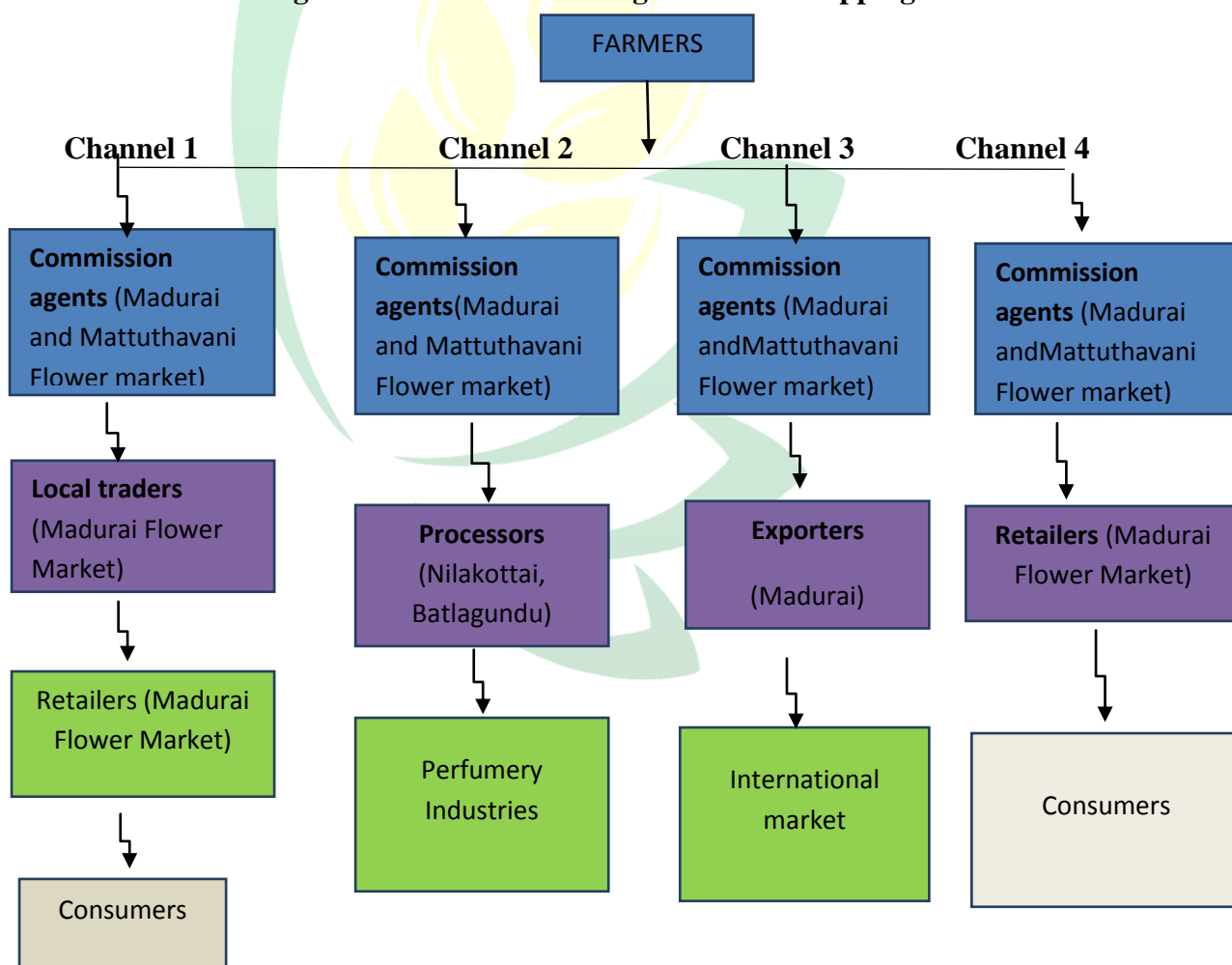
Value chain analysis

The qualitative value chain analysis includes mapping of governance, mapping of linkages, relationship and trust, and analyzing options for demand driven upgrading. These factors were discussed below.

Packaging specification for export market

The Value adding units were located in Madurai and Mettupalayam and they act as a service provider. These service providers were involved in extraction of concrete by value addition to the produce. Value added products were marketed as raw material for manufacturing of perfumes to other countries like Dubai and USA.

Figure 1: Jasmine marketing – Channel mapping





For Dubai, jasmine flowers are collected from the auction centers and then loose flowers are made into strings in different shapes and sizes based on the requirement of the buyer and these jasmine strings are treated with floral preservatives (Boric acid @ 4%) to preserve the freshness of the flower and improve the shelf life of jasmine strings. The treated jasmine strings are packed in ventilated Corrugated Fibre Board (CFB) boxes with butter paper lining and the ventilation is made by making holes in the corrugated fiber boxes. After proper packaging the boxes are airlifted to respective destination.

For USA, Jasmine flowers are collected from auction centers and loose flowers are made into strings and other related products. These products are treated with 4% boric acid and packed in aluminum foil lined light weight cardboard boxes. These boxes are then packaged in large thermocole boxes with intermittent ice gel packs to maintain the temperature and humidity inside the box. These boxes are then transported through refrigerated vans to airport and then it is dispatched to the respective destinations.

Flow of jasmine flower through four different channels namely channel 1, channel 2, channel 3 and channel 4 with various intermediaries involved in moving of jasmine flowers to different market levels are presented in Figure 1. In the channel 1, the jasmine flowers were procured by commission agent from the farmers and the commission agent at Madurai and Mattuthavani flower markets sell it to local traders and the local traders in turn handover the jasmine flowers to retailers to reach the customers in Madurai flower market. Whereas in channel II, the jasmine flowers marketing starts from farmers to commission agents and then to processors in Nilakottai and Batlagundu sell the value added product of jasmine namely the concrete to the perfumery industries. In the channel 3 the commission agents after procurement of the jasmine flowers from the farmers they sold it to exporters and the exporters in turn after value addition sell the jasmine in international markets. The channel 4 comprises of farmers, commission agent, retailers and consumers in which the retailers sale jasmine to the consumers in Madurai flower market.

Marketing efficiency of different channels in the value chain

Marketing efficiency of different channels in the jasmine value chain is estimated using Shepherd method and Acharya's approach. More than one method was used to check the accuracy of efficiency. Kanimozhi (2013) in her study on value chain analysis used a similar approach. The results of marketing efficiency are presented in Table 1.

Table 1 Marketing efficiency of value chain by different methods

S. No	Particulars (in Rs)	Value chain 1	Value chain 2	Value chain 3	Value chain 4
i.	Value of goods sold	205.00	220.00	540.00	195.00
ii.	Total marketing cost	45.00	60.00	170.00	38.00
A	Shepherd's Marketing Efficiency [(i/ii)-1]	3.6	2.7	2.2	4.1
iii.	Total marketing cost	45.00	60.00	170.00	38.00
iv.	Net marketing margin	35.00	30.00	350.00	25.00
v.	Net Price received by the farmers	170	170	170	170
B	Acharya's marketing Efficiency [v/ (iii+iv)]	2.1	1.8	0.3	2.8

It could be inferred that the value chain 4 namely Farmers- commission agents- retailers- consumers was the efficient value chain as it had highest marketing efficiency because they had less number of intermediaries and the farmers share on consumer's price was high than the other channels.

Majority of the farmers were not aware of exporting and processing activities and this was the reason for reduction in farmers share in the channel 2 and 3. It could be concluded that as the number of middle men increased the price spread also increases because the marketing cost at each level of intermediaries also increased.

References

- Kaviarasan, K., Singh, D.R., Anil Kumar and Prawin Arya (2015) An Economic Analysis of Jasmine Cultivation in Tamil Nadu. Indian Journal of Economics and Development
- Sivaramane, N., Dharam Raj Singh, Prawin Arya (2009). An econometric analysis of household demand for major vegetables in India. Indian Journal of Agricultural Marketing pp:67-76