8. Evaluation of Post-Harvest Losses in Tomatoes in Selected Areas of Karnataka

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Objectives of the Study

This study aims to examine post-harvest losses in tomatoes in selected areas in Karnataka. The objectives of the study, as per the terms of references specified by the Ministry of Agriculture, Government of India, are to

1. study the existing production and marketing systems of tomatoes in the selected areas;
2. analyse the varieties amenable to processing and net contribution of varieties to wastage;

3. determine the extent of post-harvest losses in tomatoes at the farm level, and at the traders' level in the marketing channel;
4. assess the percentage of marketable surplus of tomatoes and also that available for processing.
5. suggest methods by which wastage can be reduced and suggest policies for the sustainability of horticulture crops like tomato.

Methodology

Both secondary and primary data have been used to analyse the post-harvest losses in tomatoes in Karnataka. The performance in terms of physical and financial achievements to targets of the tomato crop and marketing aspects helps us to understand the macro-picture over the years in the State.

Primary data were collected from the selected farmers who grow tomato in the selected village/s. Kolar district, which has a substantial area under tomato crop was selected in the State. In the district, two taluks, viz., Chintamani (Progressive) and Mulbagal (Backward) were selected from the point of view of marketing infrastructure. From each taluk, three villages were selected. From each selected village a probability proportion sample of 20 farm households, representing different categories of size of holdings, was selected for a detailed household survey on tomato production, marketing practices and losses incurred by farmers at the farm level and during transportation to market/s.

Different marketing channels of the tomato crop would be examined to assess the product loss at each function performed by the intermediaries involved in the marketing till the produce reaches the consumers. The entire population of wholesalers (46) and retailers (41) were covered in the study area. Structured questionnaires pertaining to three levels, viz., 1) farmers level 2) wholesalers and 3) retailers were canvassed in the study area. The reference year for the study was the agricultural year 2000.

Major Findings

- *Farmers*: Seasonwise area under tomato to the total cultivated area is seen to be marginal during kharif, moderate during rabi, and significant during summer in the study area. Between taluks, the area allocated for tomatoes does not vary much. The cultural practices for tomato crop vary more between the roadhead villages than far-off villages. The cost of cultivation (per acre) of tomato is higher, i.e., Rs30,000, in Chintamani taluk (developed from the point of view of market infrastructure) as compared with Mulbagal taluk (underdeveloped market infrastructure point of view) at around Rs15,000. Staking and thread account for about 40 per cent of the total cost of cultivation. Fertilisers, human labour, farmyard manure, pesticides and seeds (HYVs only) account for the rest. These trends are similar between the taluks and in the selected villages. Yield per acre varies from 7 tonnes to 28 tonnes in the study area. Out of 120 sample households, only 18 per cent of the households packed tomatoes before sending them to the market. Tomato growers belong to the above village, viz., Melthayalur, wholesalers from Kolkata, Nasik, Hyderabad, Delhi, etc., regularly visit the village during the annual harvest and undertake the packing. Marketable surplus of tomatoes is considerably higher in the case of the infrastructurally (from the point of view of market) developed taluk Chintamani, as compared with Mulbagal taluk. Since tomato growers opt for HYVs, the yield per acre is considerably higher than the local variety. The distance of the village has no bearing on marketable surplus.
- *Wholesalers*: 75 per cent of the tomato wholesalers started their establishments more than five years ago and the rest of them within the last five years. Almost all the establishments were started in the APMC yard in Chinthamani taluk and four establishments only in Mulbagal APMC yard. The rest are located 8 km away from Mulbagal town (on NH4). Wholesalers in Chintamani taluk trade all vegetables, whereas only tomato trade was undertaken in Mulbagal taluk. The majority of the wholesalers are tomato growers-cum-mandi merchants in Mulbagal taluk. Only five wholesalers are among the large-scale traders of tomato. Mulbagal wholesalers advance loans to the tomato growers but no such facility was available in the other taluk.

- *Retailers*: 98 per cent of the tomato retail dealers established more than five years in the study area. In Chintamani taluk, 56 per cent and 44 per cent of the retailers hire bullock carts and autorickshaws respectively to transport tomatoes from the APMC yard to the retail outlet. In Mulbagal taluk, almost all the retailers hire autos to transport tomatoes. Transport cost of tomatoes per wooden/bamboo box was Rs3 by bullock cart and Rs4 by autorickshaw. None of the retail outlets sells tomatoes alone. Rather they trade all the vegetables in the study area. All of them purchase tomatoes from APMC yard only. Consumers' preference was for the local variety of tomato. The magnitude of transactions ranges between 5–10 kgs and 40–50 kgs per day. The ending quantity is less than 5 kgs of tomatoes. The condition of the above quantity is normally good. The percentage of damaged (partial or full) tomatoes was higher (12 per cent) in the case of the local variety and marginal (2 per cent) in the case of HYVs. The loss per wooden box (carry 16–18 kgs capacity) is 1–1.50 kgs during

transportation.

CSIR, ICAR and agricultural universities need to concentrate on various aspects of post-harvest technology such as packing, transportation, storage, sorting, etc. ABARD, APEDA, NCDC, and NHB should advance credit facilities for the creation of post-harvest infrastructure (PHI), construction of cold storages, infrastructure facilities and soft loan schemes (SLS) to reduce post-harvest losses in tomatoes, not only in the State but also in the country.