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Production and marketing constraints of vegetables

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Abstract

The present study was carried out in Siddipet district of Telangana state to identify the major constraints associated with the production and marketing of vegetables which hinder the profitability of growers. The primary data was collected from the major stakeholders (150 vegetable growers, 7 wholesalers, 7 commission agents, 3 processors, 6 organised retailers and 7 unorganised retailers) involved in the production and marketing practices in the district. The constraints were identified individually at each of these stakeholders's level and it was found that price fluctuations and postharvest losses were the major constraints faced by majority of the stakeholders. Development of efficient strategies for improving the production and marketing practices like strengthening of cold chain infrastructure is suggested to overcome the constraints and thus enhance the profitability of vegetables cultivation.

Keywords: production, marketing constraints, vegetables

1. Introduction

Horticulture sector encompasses a wide range of crops like fruits, vegetables, flowers, spices, plantation crops like coconut and beverages like tea, coffee and some medicinal and aromatic plants. Among these, vegetables occupy a lion's share of 59-61 per cent in horticulture crops production over the past few years in the country (Source: Horticulture statistics at a glance, 2018).

India is the second largest producer of vegetables in the world (after China) and is estimated to produce 193.61 million tonnes of vegetables (2.49% increase over previous year) from 10.71million hectares of land during the year 2020-21 (First advance estimates, Ministry of agriculture and farmers welfare). Such a vast production base of India offers the country with tremendous opportunities for export. According to the Agricultural and Processed Food Products Export Development Authority (APEDA), India exported vegetables worth Rs.4350.13 crores during the year 2019-20. Despite having such an extensive cultivation of vegetables, India is often faced with quite a few challenges in the vegetable sector. According to a report of the Committee for Doubling farmer's income, projected demand of vegetables in India by 2050 is 342 million tonnes. It means that there is a need for about 76 percent increase in the production of vegetables. However, considering the limited arable land, fresh water, depleting energy sources, and climate change issues, this huge increase in vegetable production is not easily achievable. A promising alternative could be the development of efficient strategies to overcome the various production and marketing constraints that hinder the profitability of vegetables.

2. Materials and Methods

The present study was carried out in Siddipet district of Telangana state. 2 villages were selected purposively from each of the 3 selected mandals and from each village 25 farmers were randomly chosen, thus making a total of 150 farmers. In addition to these, the major middlemen involved in the marketing of vegetables viz. 7 wholesalers, 7 commission agents, 3 processors, 6 organised retailers and 7 unorganised retailers were also chosen randomly for obtaining the primary data required for carrying out the present study.

2.1 Garrett's ranking technique

Garrett's ranking technique was employed to find out the major constraints faced by the sample respondents. They are allowed to rank the various constraints which were previously framed based on the preliminary study and available literature. These constraints were prioritized as follows:

Percent position = $100 (R_{ij} - 0.5) / N_j$

Where,

R_{ij} = Rank given for the i th item by the j th respondent

N_j = Number of items ranked by the j th respondent

The percent position of each rank was then converted into scores by using Garrett table. The constraints are thus ranked based on the mean score of respective constraint.

In the present study, the various constraints were identified at each of the major stakeholder's level individually and presented below.

3. Results and Discussion

3.1 Constraints faced by farmers

The various constraints identified at the farmer's level are presented in the Table 1. It can be observed from the table that price fluctuation was the major problem faced by highest number of sample farmers with a mean score of 75.65. Few vegetable growers also complained that the price during some times of harvest was not only less but also was not remunerative to cover the labour charges incurred for the harvest. The next important problem faced by the farmers was weather fluctuations which majorly affect the quality of vegetables. Several studies have reported the negative impacts of temperature and other climatic changes on yield and quality of vegetables. The other important constraints faced were postharvest losses, high labour costs / labour shortage and lack of adequate storage facilities. Vegetables are highly perishable and vulnerable in nature when compared to the other agronomic crops which increase the postharvest losses considerably. Moreover, the untimely harvest of vegetables due to the shortage of labour and improper storage facilities contributes greatly to the increase in postharvest losses.

Siddipet district being the second largest contributor of vegetable production in the state has barely a few number of small scale processing units which is the major concern of many farmers. In addition to these, the other important constraints reported by them were high costs of fertilizers and pesticides which need to be considered to improve the returns earned by the farmer.

Table 1: Constraints faced by farmers

S. No.	Constraint	Garrett score	Rank
1	Price fluctuations	75.65	1
2	Weather fluctuations	71.43	2
3	Post harvest losses	62.83	3
4	High labour costs / labour shortage	60.56	4
5	Lack of adequate storage facilities	57.32	5
6	High pesticide costs	52.53	6
7	Lack of adequate processing units	51.95	7
8	High fertilizer costs	40.96	8
9	High marketing costs	40.73	9
10	Lack of transportation	34.52	10
11	Defective / faulty weighing machines	22.77	11
12	Untimely payment / Non payment	22.33	12
13	Lack of high yielding varieties	21.43	13

3.2 Constraints faced by organised retailer

They are the agents of supermarket who directly purchase from the farmers. The major constraint faced by them was heavy price fluctuations followed by postharvest losses and lack of transportation. Though the organised retailers attract a large number of farmers, they still would not be able to earn the expected profits due to high price fluctuations.

Table 2: Constraints faced by organised retailers

S. No.	Constraint	Garrett score	Rank
1	Too much price fluctuations	62.67	1
2	Post harvest losses	56.33	2
3	Lack of transportation	34.17	3

3.3 Constraints faced by commission agent

The major problem encountered by commission agent was lack of adequate processing units followed by high price fluctuations and postharvest losses. Though the commission agents do not attain any postharvest losses directly, but their income is still influenced by the losses incurred to the farmers as they do not gain any commission to the quantity lost at the farmer's level. Commission agents pay to the farmers after deducting their commission charges from the price paid by wholesaler. Thus the untimely payment by wholesaler also provokes a problem for commission agents.

Table 3: Constraints faced by commission agents

S. No.	Constraint	Garrett score	Rank
1	Lack of adequate processing units	70.71	1
2	Too much price fluctuations	64.29	2
3	Post harvest losses	55.00	3
4	Lack of adequate storage facilities	40.57	4
5	Non payment / Untimely payment	33.71	5

3.4 Constraints encountered by wholesalers

Likewise commission agent, wholesalers too encountered the problem of high price fluctuations followed by lack of adequate processing units and postharvest losses.

Table 4: Constraints encountered by wholesalers

S. No.	Constraint	Garrett score	Rank
1	Too much price fluctuations	64.00	1
2	Lack of adequate processing units	56.71	2
3	Post harvest losses	51.57	3
4	Lack of transportation	31.86	4

3.5 Constraints encountered by unorganised retailers

Retailers of small grocery shops and exclusive fruit and vegetable shops were considered as the unorganised retailers. Postharvest losses were found to be the predominant problem encountered by the unorganised retailers. The other constraints encountered were high price fluctuations and lack of transportation facilities.

Table 5: Constraints encountered by unorganised retailers

S. No.	Constraint	Garrett score	Rank
1	Post harvest losses	63.57	1
2	Too much price fluctuations	55.43	2
3	Lack of transportation	31.00	3

3.6 Constraints encountered by processors

The major problem faced by processors was labour shortage. The processors did not maintain permanent labour but hired them whenever necessary and thus their shortage during peak days of processing provoked a major problem. The other important constraints faced by them were lack of timely availability of raw materials, power cuts which interrupted the processing and transportation bottlenecks.

Table 6: Constraints encountered by processors

S. No.	Constraint	Garrett score	Rank
1	Labour problem	70.00	1
2	Lack of timely availability of raw materials	65.00	2
3	Cuts in power supply	50.00	3
4	Transportation bottlenecks	34.00	4
5	Lack of adequate processing facilities	29.00	5

3.7 Suggestions to overcome the identified constraints

1. Fixation of seasonal MSP to vegetable growers which can be decided based on the demand for vegetables during the particular season.
2. Subsidies and other incentives need to be provided for cultivation of vegetables under green houses to protect the crop from adverse weather conditions.
3. Weather based crop insurance need to be strengthened in the case of vegetable growers.
4. Strict measures need to be taken for the implementation of regulated farming in order to grow crops in accordance with the projected demand.
5. More number of mandis need to be accessed with e-NAM portal so that vegetable growers could target the best possible price.
6. Increasing the demand for processed items through policies like reducing the GST on processed food products.
7. Farmers may get into cooperative farming and export their products through unique branding techniques.
8. Advance research like gene mutations to delay fruit ripening need to be enhanced.
9. Subsidies need to be provided for farmers to purchase vehicles required for transporting the produce.
10. Establishment of national board for vegetables to guide the efficient production and marketing practices and to develop high yielding and disease resistant varieties.
11. Vegetables need to be included in governmental schemes like cluster development programmes to promote Indian vegetables and make them globally competitive.

4. Conclusion

The major constraint faced by both the farmers and middlemen was that of price fluctuations and postharvest losses. Strengthening of marketing practices like development of cold chain infrastructure and promoting the establishment of processing units would help to overcome the identified constraints.

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