

International Journal of Agriculture Extension and Social Development

Volume 7; Issue 12; December 2024; Page No. 316-318

Received: 13-09-2024
Accepted: 22-10-2024

Indexed Journal
Peer Reviewed Journal

Production and marketing constraints faced by soybean farmers in Gujarat

¹Janaki Patel and ²YA Lad

¹ Ph.D. Scholar, International Agribusiness Management Institute, Anand Agricultural University, Anand, Gujarat, India

²Associate Professor and Head, Department of Human Resource Development and Personnel Development, International Agribusiness Management, Anand Agricultural University, Anand, Gujarat, India

DOI: <https://doi.org/10.33545/26180723.2024.v7.i12e.1420>

Corresponding Author: Janaki Patel

Abstract

The study examines the challenges faced by soybean farmers in Gujarat. A multistage sampling technique were applied for selection of the farmers from Gujarat. The sample size was 200 farmers. The data was collected using semi structured schedule with interview method. To rank the constraints Garret ranking technique was applied on data. The major production constraints were non availability of labour at needed time, impact of weather, higher cost of agro - chemical, and Inadequate loan supply by the financial institutions. Marketing constraints included lack of storage facilities, price fluctuations, malpractices in weighing, distant markets, delayed payments, and high transportation costs. To address these constraints, the study recommends strategies such as mechanization, climate-resilient agriculture, integrated pest management, improved credit access, capacity building, infrastructure development, market linkages, and policy support. By implementing these measures, soybean growers can enhance their livelihoods and contribute to the sustainable development of the agricultural sector in Gujarat.

Keywords: Soybean farming, production constraints, marketing constraints, Gujarat agriculture

Introduction

Soybean (*Glycine max*), which is known as 'Golden Bean', is an important legume crop of tropical, subtropical, and temperate climates and is the world's largest cultivated oilseed. It is the world's foremost provider of protein having a significant amount of essential amino acids and oil, as well as a staple for human consumption and cattle feed. (Hartman *et al.*, 2011) ^[4]. In global oilseed scenario, soybean play significant role because of its high productivity, profitability and important role in maintaining soil fertility. The crop also has a prominent place as the world's most important seed legume (The Soybean Processors Association of India). Worldwide, about 76 per cent of soybean production is used as low-cost, quality protein for animal feed for meat and dairy production, 20 per cent is consumed as edible oils and human food products (i.e., tofu, soy milk, and tempeh), and 4 per cent is used for industrial purposes, in the form of biodiesel or in soap making (Ritchie, 2021) ^[10]. The major soybean producing countries are Brazil, the United States, Argentina, and China which produce 156.00, 116.38, 25.00, and 20.28 million metric tonnes, respectively in year 2022-23. India ranks in world soybean production is fifth (USDA Database, 2023) ^[11]. For the year 2021-2022, the area under soybean cultivation was 12.27 million hectares, production was 12.99 million tonnes, and yield was 1059 kg/ha. Maharashtra, Madhya Pradesh, Rajasthan, Karnataka, and Gujarat are major cultivator of soybean in India. (Agricultural Statistics at a Glance 2022, 2023) ^[1]. Gujarat ranked fifth in total production in India. The total area under

soybean cultivation was 224122 ha in Gujarat 2021-22. The production was 94029, 53563, 41549, 26396, and 26129 MT for Junagadh, Aravalli, Gir Somnath, Sabarkantha and Dahod, respectively. The yield of soybean was recorded 1630.69 kg/ha for year 2021-22 (Directorate of Agriculture, 2023) ^[2].

Medat *et al.* (2016) ^[8] studied problems in soybean production and marketing faced by farmers in south Gujarat with sample size of 144 farmers. Major constraints related to production were non-availability of seed material on time, the non-availability of labour on time, the difficulty in getting bullocks & implements on the hired basis for operation, difficulties in pest and disease control, and non-availability of fertilizer on time. Fluctuations in market prices, high commission charges, delayed payment, and high cost of transportation were major marketing constraints. Jamanal and Sasaqath (2017) ^[5] studied the constraints faced by soybean grower in Dharwad district of Karnataka. High cost of inputs (70 per cent), the erratic behavior of rainfall (65.33 per cent), high incidence of pests and disease (53.33 per cent), and shortage of labour (47.33 per cent) were major constraints of production in soybean. Major marketing constraints were fluctuations in prices (88.66 per cent), mal practices in weighing (77.33 per cent), non-availability of timely marketing information (63.33 per cent), non-availability of grading facility (52.00 per cent), higher commission charges (47.33 per cent), and high cost of transportation (41.33 per cent). Joshi (2022) ^[6] studied the constraints faced by soybean farmers in north Gujarat. The garret ranking technique was used to identify the major

problems of the farmers. The study revealed that high wage of labour was a major constraint (Garret score 68.29), followed by non-availability of labour at the needed time, lack of credit, higher cost of pesticide and insecticide, and lack of technical knowledge about soybean cultivation with a Garret score of 57.33, 51.29, 41.04 and 32.04, respectively. In marketing constraints, the major constraints were fluctuation in market price, high cost of transportation, higher margin of middlemen and malpractices in weight. Hence, in this context the present study was undertaken to study the production and marketing constraints faced by soybean growers. The objective of the study was to identify major constraints of soybean farmers in Gujarat

Materials and Methods

The study was carried out in Gujarat state. Multistage sampling has been adopted as an appropriate sampling procedure for the study. In the first stage, the top 5 districts of soybean production have been selected purposively. In the second stage, 2 talukas from each selected district have been chosen purposively. In the third stage, 2 villages from each selected taluka have been selected purposively. In the fourth stage, 10 respondents were selected randomly from each selected village. A total of 200 farmers have been selected for the study. The data was collected using semi structured schedule.

To find out the most a significant problem, Garrett's ranking technique was used. As per this method, respondents were asked to assign the rank for all problems and the outcomes of such ranking was converted into a score value with the

help of the following formula:

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

Where,

R_{ij} = Rank is given for the i^{th} variable by j^{th} respondents

N_j = Number of variables ranked by j^{th} respondents

With the help of Garrett's Table, the percent position estimated was converted into scores. Then for each factor, the scores of each individual were added and then the total value of scores and mean values of the score was calculated. The factors having the highest mean value was considered to be the most important factor. (Garrett and Woodworth, 1969) [3]

Results and Discussion

Constraints faced by farmers in Soybean cultivation

Table 1 shows the constraints faced by farmers in cultivation of soybean. The major problems faced by the farmers was non availability of labour at needed time followed by impact of weather, higher cost of agro chemical, and difficulties in getting credit. In soybean cultivation the timing of different inter cultural operation plays important role in overall crop productivity. Timely harvesting is necessary for soybean. Delayed harvesting can impact the yield potential. If the harvesting is delayed than the grain will come out of the pod and it fall down on soil, this can reduce overall production. In study area there were no scarcity of quality input so the it ranked at 8 in problems.

Table 1: Constraints faced by farmers in production of soybean

Particular	Garrett Score	Rank
Non-availability of labour at needed time	85.50	1
Impact of weather	77.25	2
Higher cost of agro - chemical	62.25	3
Inadequate loan supply by the financial institutions	55.50	4
Difficulties in pest and disease control	46.75	5
Lack of technical knowledge about soybean cultivation	43.25	6
Non-availability of input on time	33.25	7
Poor quality of input	28.25	8

Mbanya (2011) [7] reported major constrains in soybean production were pest and disease, lack of credit, difficulty to cultivate, low yield, and land shortage. Joshi (2022) [6] concluded high wage of labour was a major production constraint, followed by non-availability of labour at the needed time, lack of credit, higher cost of pesticide and insecticide.

Constraints faced by farmers in marketing of soybean

Constraints faced by farmers in marketing of soybean is presented in table 2. Farmers have lack of storage so they have to sell the produce immediately after harvesting. The other constraints faced by farmers were fluctuation in market price, malpractices in weight, Distant market, delayed in getting payment and higher cost of transportation. Majority of farmers were getting the market information so the garret score was lower for that.

Table 2: Constraints faced by farmers in marketing of soybean

Particulars	Garrett Score	Rank
Lack of storage facility	87.25	1
Fluctuation in market price	73.50	2
Malpractices in weight	57.50	3
Distant Market	56.25	4
Delayed in getting payment	50.25	5
Higher cost of transportation	45.00	6
Absence of a regulated market	38.25	7
Lack of transportation facility	36.50	8
Lack of market information	19.00	9

Source: Field survey

Joshi (2022) [6] concluded that fluctuation in market price and high cost of transportation were major constrains of soybean for marketing.

Conclusion and Recommendation

Soybean farmers in Gujarat face a range of challenges. The major problems faced by farmers for production were, timely availability of labour, impact of weather, and higher cost of agrochemical in study area. Lack of storage facility, fluctuation in market price, malpractices in weight were major problems of marketing in soybean. To address these constraints, strategies such as mechanization, climate-resilient agriculture, integrated pest management, improved access to credit, capacity building, infrastructure development, market linkages, and policy support are crucial. By implementing these measures, soybean growers can enhance their livelihoods and contribute to the sustainable development of the agricultural sector.

References

1. Ministry of Agriculture and Farmers Welfare, Government of India. Agricultural statistics at a glance 2022. 2023. Available from: [Agricultural-Statistics-at-a-Glance-2022.pdf](#)
2. Directorate of Agriculture. District-wise area, production and yield of important food & non-food crops in Gujarat state. Gandhinagar: Gujarat; 2023. Available from: <https://dag.gujarat.gov.in>
3. Garrett HE, Woodworth RS. Statistics in psychology and education. Bombay, India: Vakils, Feffer and Simons Pvt. Ltd.; 1969.
4. Hartman GL, West ED, Herman TK. Crops that feed the world 2. Soybean - worldwide production, use, and constraints caused by pathogens and pests. Food Sec. 2011;3(1):5-17. Available from: <https://link.springer.com/article/10.1007/s12571-010-0108-x>
5. Jamanal SK, Sasaqath S. Constraints faced by the soybean growers. J Pharm Phytochem. 2017;6(6):31-32.
6. Joshi JJ. Economic analysis of production and marketing of soybean in north Gujarat. M.Sc. (Agri) Thesis. Sardarkrushinagar Dantiwada Agricultural University, Dantiwada, India; 2022. Available from: <https://krishikosh.egranth.ac.in/assets/pdfjs/web/viewer.html?file=https%3A%2F%2Fkrishikosh.egranth.ac.in%2Fserver%2Fapi%2Fcore%2Fbitstreams%2Fbb371647-69a4-401e-841b-6bafa5bad483%2Fcontent>
7. Mbanya W. Assessment of the constraints in soybean production: a case of northern region, Ghana. J Develop Sustain Agric. 2011;6(2):199-214.
8. Medat NR, Singh N, Kuthe S, Gohil J. Constraints in soybean production and marketing faced by the farmers in south Gujarat. Adv Life Sci. 2016;5(18):7381-7383.
9. Rajasthan Agricultural Competitiveness Project. Value chain analysis-soybean. New Delhi, India: Grant Thornton India LLP; 2016.
10. Ritchie H. Is our appetite for soy driving deforestation in the Amazon? Our World in Data. 2021. Available from: <https://ourworldindata.org/soy>
11. United States Department of Agriculture Database. World production of soybean. 2023. Available from: <https://www.usda.gov/>
12. The Soybean Processors Association of India (SOPA). General information of soybean. Available from: <https://www.sopa.org/statistics/>