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An economic analysis of disposal pattern of soybean crop in Bastar plateau of Chhattisgarh

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Abstract

An attempt has been made in this study to examine the economic analysis of disposal pattern of soybean in Bastar Plateau of Chhattisgarh state. The study was conducted in Tokapal and Lohandiguda blocks in Bastar district of Chhattisgarh state. Twenty three soybean farmers were selected randomly from ten villages from these blocks to collect the required information on the disposal pattern, post harvest losses and other aspects for the present study. The primary data was collected from the soybean producers through personal interview method with the help of well prepared schedule and questionnaire for the production and post harvest year for kharif. The objectives were achieved using average and percentages analyses. The average marketable surplus of soybean is found to be 4.86 quintal constituting 90.81 per cent to the total quantity produced. Three types of market intermediaries are prevailing in the study area. Most of the soybean growers sold their about 32.22 per cent, 48.04 per cent, 49.70 per cent and 43.59 per cent produce through village traders at small, medium, large and average farms respectively. The average price received from wholesalers was observed as Rs. 3600.00 per quintal at small, Rs. 3605.00 per quintal at medium and Rs. 3620.00 per quintal at large farm respectively. It may be mentioned, though, the quantity of soybean sold per farm was very less which was mainly due to very low productivity. Therefore, urgent attention must be paid toward enhancing the productivity of soybean by improved and high yielding varieties, technology, irrigation, marketing, FPO (Farmer Product Organization building policy for marketing) and price support and effective extension.

Keywords: Soybean, cost and returns, post harvest losses

Introduction

The protein content in soybean (*Glycine max* (L.) Merrill) seed is approximately 40 per cent and the oil content is approximately 20 per cent. This crop has the highest protein content and the highest gross output of vegetable oil among the cultivation crops in the world. Soybean is grown in various sequential and inter / mixed cropping system. The soybean is a crop of global importance and is one of the most frequently cultivated crops worldwide. It is rich in oil and protein and is used for both human and animal consumption as well as for industrial purposes, such as biofuels. Soybean crops also play an important role in crop diversification and benefit other crops due to its addition of nitrogen to the soil during crop rotation.

India accounts for about 14.46 per cent of world's oilseeds area and 6.97 per cent of world's oilseeds output (FAO Year Book, 2013) [2]. India has second and third rank in the world in the production of groundnut (8.2%) and rapeseed-mustard (13.7%). The vegetable oil consumption India is continuously rising and has sharply increased in the couple of years touching around 13.8 kg/head/year. States ranking of oilseeds in 2012-2013 are Madhya Pradesh (29.93%), Rajasthan (19.99%), and Maharashtra (16.19%) (Source: Pocket Book on Agricultural Statistics, 2013) [3]. Total area under soybean cultivation is 107772 ha. while production is 111862 metric tonnes in Chhattisgarh. The area under soybean in Bastar plateau is 8 ha. and production is 11 metric tonnes. (Source: Commissioner of Land Revenue, 2014).

Hardly any studies have been conducted in the past to examine the disposal pattern of soybean crop in Chhattisgarh, more so in Bastar district and so looking to above facts, a study is essential to undertake through which a detailed insight can be obtained to analyse the economic analysis of disposal pattern and identify the major constraint of marketing in soybean crop in Bastar plateau of Chhattisgarh state with the following specific objectives:

- To examine the disposal pattern of soybean crop in the study area.
- To identify the major constraints in marketing of soybean crop and suggest suitable measures to overcome them.

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Methodology

Disposal pattern

To examine the marketing pattern of sesamum crop at different categories of farms, simple analysis was done. To estimate the marketable surplus of produce, total quantity used for different purposes is deducted from total production of crop.

$$MS = P - (C + W + C_f)$$

Where,

MS - Marketable Surplus

P - Total Production

C - Family Consumption

W - Quantity use for Wage

C_f - Quantity used for cattle feed.

Results and Discussion

1. Marketable surplus of soybean at sample households

The total quantity produced, quantity used at home and for seed purpose is shown in Table 1. and Figure 1. The total quantity produced of soybean is estimated as 5.26 quintal, 5.35 quintal, 5.40 quintal and 5.33 per farm at small, medium large and average farms respectively which shows that the total quantity produced at these farms is increasing as the size of holding increased. Out of this quantity, almost all farmers across the categories are retaining about 9.19 per cent quantity for the purpose of seed for next year. Remaining 90.81 per cent per farm quantity of soybean is ready with them to dispose off to fulfill their other domestic needs. Table clearly reveals that the marketable surplus of soybean is observed as 4.78 quintal, 4.85 quintal and 4.95 quintal per farm which is 90.87 per cent, 90.65 per cent and 91.67 per cent to their total production at small, medium and large farms respectively. The average marketable surplus of soybean is found to be 4.86 quintal constituting 90.81 per cent to the total quantity produced.

Table 1: Marketable surplus of soybean of sampled households (In quintal per farm)

| S. No. | Particulars | Farm Size | | | | |
|--------|----------------------------|-----------|------------------|------------------|------------------|------------------|
| | | Marginal | Small | Medium | Large | Average |
| 1. | Sample farm | - | 07 | 13 | 03 | |
| 2. | Total quantity produced | - | 5.26 (100.00) | 5.35 (100.00) | 5.40 (100.00) | 5.33 (100.00) |
| 3. | Quantity retained for seed | - | 0.48 (9.12) | 0.50 (9.34) | 0.45 (8.33) | 0.49 (9.19) |
| 4. | Quantity used for home | - | 0.00 (0.00) | 0.00 (0.00) | 0.00 (0.00) | 0.00 (0.00) |
| 5. | Total quantity utilized | - | 0.48 (9.12) | 0.50 (9.34) | 0.45 (8.33) | 0.49 (9.19) |
| 6. | Marketable surplus | - | 4.78 (90.87) | 4.85 (90.65) | 4.95 (91.67) | 4.84 (90.81) |

Note: Figures in parenthesis indicate percentage to total quantity produced per farm.

2. Quantity sold

The quantity sold by the producers is given in Table 2. and Figure 2. It is clear that three types of market intermediaries are prevailing in the study area. Most of the soybean growers sold their about 32.22 per cent, 48.04 per cent, 49.70 per cent and 43.59 per cent produce through village traders at small, medium, large and average farms respectively. During the course of study, it was told by the growers that due to lack of demand from the consumers directly, most of the quantity is

disposed-off by them through village traders. On an average about 46.49 per cent quantity is disposed-off through wholesalers traders respectively which shows that village traders are much popular among the soybean producers across the categories. It may be mentioned, though, the quantity of soybean sold per farm was very less which was mainly due to very low productivity. Therefore, urgent attention must be paid toward enhancing the productivity of soybean by improved and high yielding varieties, technology, irrigation, marketing, policy and price support and effective extension.

Table 2: Quantity sold of soybean through different intermediaries (In quintal per farm)

| S. No. | Particulars | Farm Size | | | |
|--------|--------------------------|------------------|------------------|------------------|------------------|
| | | Small | Medium | Large | Average |
| 1. | Village traders | 1.54 (32.22) | 2.33 (48.04) | 2.46 (49.70) | 2.11 (43.59) |
| 2. | Retailers | 1.58 (33.05) | 0.00 (0.00) | 0.00 (0.00) | 0.48 (9.92) |
| 3. | Wholesalers | 1.66 (34.73) | 2.52 (51.96) | 2.49 (50.30) | 2.25 (46.49) |
| | Total marketable surplus | 4.78 (100.00) | 4.85 (100.00) | 4.95 (100.00) | 4.84 (100.00) |

Note: Figures in parenthesis indicate percentage to total marketable surplus per farm.

3. Price received of soybean by producers from different intermediaries

The price received by producers from different intermediaries is given in Table 3. It is clear that three different market intermediaries were giving different price to the soybean producers. The village trader has a small shop at village. Farmers who have less quantity of soybean sold their produce to the village traders at the rate of Rs. 3350.00 to 3570.00 per quintal just after harvesting the crop as they find it convenient in comparison to wholesalers. Farmers with large quantity of soybean sold their produce to the wholesalers who come from nearby market. The average price received from wholesalers was observed as Rs. 3600.00 per quintal at small, Rs. 3605.00 per quintal at medium and Rs. 3620.00 per quintal at large farm respectively.

Table 3: Price received of soybean by producers from different intermediaries (In Rupees/quintal)

| S. No. | Particulars | Farm Size | | | |
|--------|----------------|-----------|---------|---------|---------|
| | | Marginal | Small | Medium | Large |
| 1. | Village trader | - | 3350.00 | 3320.00 | 3570.00 |
| 2. | Retailers | - | 3420.00 | 0.00 | 0.00 |
| 3. | Wholesalers | - | 3600.00 | 3605.00 | 3620.00 |
| 4. | Average | - | 3456.67 | 3462.50 | 3595.00 |

4. Marketing cost

Marketing cost of soybean in different channels is presented in a Table 4. The marketing charges paid by the producer, village traders, retailer and wholesalers in three of the channels are described in the subsection. In channel- I, the marketing charges paid the producer to village traders Rs.6.00, channel- II, the marketing charges paid by the producer to retailer Rs. 8.89 and channel- III, the marketing charges paid by the producer to wholesaler Rs. 64.35. Most of the producers sell their produce in the village itself in the hand of village trader and therefore they incurred very less cost in channel- I as compared to cost incurred in channel-III.

Table 4: Marketing cost of soybean through different intermediaries (In Rupees per quintal)

| S. No. | Particular | Farm Size | | | |
|--------|----------------|-----------|-------|--------|-------|
| | | Marginal | Small | Medium | Large |
| 1. | Village trader | | 6.00 | 6.00 | 6.00 |
| 2. | Retailers | | 8.89 | 0.00 | 0.00 |
| 3. | Wholesalers | | 51.11 | 66.91 | 84.14 |
| 4. | Total | | 66.00 | 72.91 | 90.14 |

5. Constraints in marketing of soybean

Marketing constraints are presented in Table 5. Lack of implementation of support price in the villages is the major problem faced by sesamum producers. Almost all farmers told that no intermediary was prepared to give the support price if

produce was sold by farmers in the villages. More than 81.00 per cent oilseed producers perceived that transportation of small quantity of produce was not an economical option if they sold their small produce in the market. About 93 per cent farmers felt that lack of awareness about the market information was also a problem. It may be suggested that the news about the prices and other aspects of sesamum in the daily newspaper, television and radio should be disseminated in the study area. Most of the sesamum growers were of the opinion that the crop of oilseeds is less profitable due to these marketing problems as compared to maize and paddy production in the same type of land situation, in the study area.

Table 5: Constraints in marketing of sesamum at sample households

| S. No. | Constraints | Number of Respondents in percentages | |
|--------|--|--------------------------------------|--------|
| | | Yes | No |
| 1. | Are you satisfied with the price received | 0.00 | 100.00 |
| 2. | Low demand of final product | 68.00 | 32.00 |
| 3. | Low price paid to farmer's due to high marketing margin | 100.00 | 0.00 |
| 4. | Lack of transportation facilities and road from village to market | 82.00 | 18.00 |
| 5. | Problem of small quantity | 81.00 | 19.00 |
| 6. | Weather you visit regulated market regularly | 9.00 | 91.00 |
| 7. | Lack of sufficient number of processing unit | 96.00 | 4.00 |
| 8. | Lack of storage facilities in growing area | 69.00 | 31.00 |
| 9. | Will the support price affect the production of crop | 68.00 | 32.00 |
| 10. | Weather the market news was some special important in major oilseed crops production and marketing | 88.00 | 12.00 |

Conclusion

It may be mentioned, though, the quantity of soybean crop sold per farm was very less which was mainly due to very low productivity. Therefore, urgent attention must be paid toward enhancing the productivity of soybean crop by improved and high yielding varieties, technology, irrigation, marketing, policy and price support and effective extension

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