

Original Research Article

Knowledge Of The Farmers Towards Recommended Jute Production Practices In Burdwan District Of West Bengal, India

Abstract:

The study has been done in Burdwan district of West Bengal. The study has been conducted to measure the extent of Adoption Behaviour of farmers towards improved Jute Production Practices in Burdwan District of West Bengal. Based on the highest number of jute growers in the villages, a total of 120 respondents were purposely chosen from seven villages within the Kalna 1 and Kalna 2 block. The data has been collected through pre tested schedule and has been analyzed with proper statistical tools and techniques. According to the research, the majority of respondents (45.00%) were in the middle age range. According to all of the study's independent variables, the majority of respondents 72.50 percent had a medium degree of knowledge about the production technology for the jute crop. These respondents were followed by 18.33 and 9.17 percent of respondents with low and high levels of knowledge, respectively. Age, educational qualification, annual income, extension contact, mass media exposure, scientific orientation, risk orientation, were positively and significantly and however the variables types of family, occupation and land holding were non-significantly correlated and the variable house type was positively and significantly correlated with the knowledge with level of knowledge of farmers toward improved jute production practices.

Keywords: Knowledge, Jute Production Techniques, mass media exposure, risk orientation,

Introduction

“Jute (*Corchorus olitorius* and *Corchorus capsularies*) is regarded as the India’s golden fiber and is predominantly grown by the farmers of Eastern India especially in West Bengal, Odisha, Bihar, Assam and Uttar Pradesh in about 0.8 mha area. West Bengal is the major jute growing state sharing about three- fourth of the country’s production” (Roy, 2017). “The importance of the jute sector to the India economy, in particular, cannot be overstated; it is a major cash crop for over three million small farm households. Also, it’s the largest industry, producing about one-third of manufacturing output, and is the largest agricultural export commodity in India. The livelihood of about 40 million people is dependent on jute - related activities” (Roy, 2017).

“It is one of the few crops which can be grown in the monsoon season and can be rotated with rice to restore the soil fertility and structure. The leaves of jute plants enrich the fertility of the soil for sustained agriculture and have good nutrition value as vegetables. Jute fibre is 100 percent bio-degradable and recyclable and thus environmentally friendly” (Moazzem, 2010).

The fiber is extracted from the two species namely as *Corchorus olitorius L* (Tossa Jute) and *Corchorus capsularis L* (White Jute). Till early seventies, white jute varieties occupied more than 80% of the jute growing areas sowing time mainly from mid-march to mid-april. Development of pre-mature flowering resistant jute variety named “JRO 878”, “JRO 7835” and “JRO 524” in 1967, 1971 and 1977, respectively, enable the tossa jute to be sown early and to be fitted before kharif season in the rice based cropping sequence of eastern India. As a result 80% of the jute area comes under tossa jute owing to its higher fibre yield.

“Jute requires a warm and humid climate and can be grown with a temperature range of 24°C and 37°C and a relative humidity of 57% to 97%. Jute crop thrives well with alternate rains and sunshine. The amount of rainfall and its distribution effects the growth and ultimately the yield of the fiber. In the ideal situation 150 mm of pre monsoon rainfall before 30-40 days of dry period and 1200-1500 mm of precipitation over 75-80 days is considered to be the ideal growth for the growth of the jute crop. Jute grows well in the alluvial soils having high slit content as well as in other types of soil also. In India it is mainly grown in red and lateritic, calcareous soil. Acidic to neutral soil is suitable for jute cultivation” [Mahapatra et al.2012].

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Research Methodology

Descriptive research design was used for the study as it describes the characters that are being studied. The present study has been conducted in Burdwan district of West Bengal. Out of 23 blocks in Burdwan district, Kalna 1 and Kalna 2 block has been chosen purposively based on the maximum number of Jute growers among the all blocks of the district. From selected block, seven villages were selected randomly and from there a total number of 120 respondents were selected through proportionate sampling method who were growing maximum quantity of Jute.

Objectives of the Study:

- 1- To assess the socio-economic profile of the respondents.
- 2- To determine the extent of knowledge of the recommended jute production practices by the respondents.

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Results and Discussion

Table 1. Socio-economic profile of the respondents

| SI. No | Independent variables | Category | Frequency | Percentage |
|--------|-----------------------|-----------------------------|-----------|------------|
| 1. | Age | Young (Below 35 years) | 45 | 37.50 |
| | | Middle(36-55 years) | 54 | 45.00 |
| | | Old (above 55 years) | 21 | 17.50 |
| 2. | Education | Illiterate | 40 | 33.33 |
| | | Primary School | 30 | 25.00 |
| | | High School | 27 | 22.50 |
| | | Intermediate | 12 | 10.00 |
| | | Graduate & above | 11 | 9.17 |
| 3 | Occupation | Only Agriculture | 79 | 65.83 |
| | | Agriculture & Business | 35 | 29.17 |
| | | Agriculture & Service | 06 | 5.00 |
| 4 | Types of Family | Nuclear | 86 | 71.67 |
| | | Joint | 34 | 28.33 |
| 5 | Types of house | Hut (Kuchha) | 18 | 15.00 |
| | | Semi-cemented | 53 | 44.17 |
| | | Cemented | 49 | 40.83 |
| 6 | Land holding | Marginal (<1 ha.) | 70 | 58.33 |
| | | Small (1.0 ha - 2.0 ha) | 38 | 31.67 |
| | | Medium(2.0 ha - 4.0 ha) | 12 | 10.00 |
| 7 | Annual income | Low (Upto 40000/-) | 43 | 35.83 |
| | | Medium (40000/- to 80000/-) | 47 | 39.17 |
| | | High (Above 80000/-) | 30 | 25.00 |
| 8 | Extension contacts | Low | 27 | 22.50 |
| | | Medium | 68 | 56.67 |
| | | High | 25 | 20.83 |

| | | | | |
|----|------------------------|------------------|----|-------|
| 9 | Scientific orientation | Low (8 – 11) | 53 | 44.17 |
| | | Medium(12 – 14) | 63 | 52.50 |
| | | High(15 – 17) | 4 | 3.33 |
| 10 | Mass Media Exposure | Low (16 – 20) | 52 | 43.33 |
| | | Medium (21 – 24) | 57 | 47.50 |
| | | High (25 - 28) | 11 | 9.17 |
| 11 | Economic motivation | Low (10 – 12) | 28 | 23.33 |
| | | Medium (13 – 14) | 71 | 59.17 |
| | | High (15 – 16) | 21 | 17.50 |
| 12 | Risk Orientation | Low (6-9) | 27 | 22.50 |
| | | Medium (10 – 12) | 50 | 41.67 |
| | | High (13 – 15) | 43 | 35.83 |

From the table 1, it shows that 45.00 per cent of the respondents belong to the middle age group. It is clearly visible that 33.33 per cent of the respondents are illiterate. It can be significantly seen that majority of the respondents i.e. 65.83 per cent are having only agriculture only as their occupation. It is obtained from the table that 44.17 per cent of the respondents live in Semi-cemented houses. In terms of land holding 58.33 per cent of the respondent has marginal i.e. <1 ha. land and 39.17 per cent of the respondents has medium level of annual income (i.e 40000/- to 80000/-). It is also evident that 56.67 per cent of the respondents had medium level of extension contact. It is clearly visible in table that 52.50 per cent of the respondents have medium level of scientific orientation and 47.50 per cent of the respondents have medium level of mass media exposure. It is depicted that 59.17 percent of the respondent showed medium level of economic motivation and 41.67 per cent of the respondents showed medium level of risk orientation. Similar finding was also reported by **Kumari and Laxmikant (2016)**.

Table 2. Knowledge of Farmers towards Improved Jute Production Technology

| S.No. | Statements | Evaluation | | |
|-------|---|-----------------------|---------------------------|---------------------|
| | | Fully Correct F(%) | Partially Correct F(%) | Not Correct F(%) |
| 01 | Alluvial/loamy drained soil is suitable for the jute crop | 58 (48.33%) | 55 (45.83%) | 7 (5.84%) |
| 02 | Field with a fine tilth for jute crop is suitable | 74 (61.67%) | 37 (30.83%) | 9 (7.50%) |
| 03 | Knowledge about the correct time for harvesting | 105 (87.50%) | 15 (12.50%) | 0 (0%) |
| 04 | Knowledge about the Varieties of jute in your fields | 0 (100%) | 47 (39.17%) | 73 (60.83%) |
| 05 | Seed treatment is necessary in jute seed | 36 (30.00%) | 63 (52.50%) | 21 (17.50%) |
| 06 | Knowledge about appropriate sowing time in zaid season for the jute crop in March | 114 (95.00%) | 5 (4.16%) | 1 (0.83%) |
| 07 | Knowledge about the various spacing distance for different sowing techniques | 2 (1.67%) | 50 (41.66%) | 68 (56.67%) |
| 08 | Bringing the seeds from KVK or Other research station. | 1 (0.83%) | 3 (2.50%) | 116 (96.67%) |
| 09 | Using 5-7 kg/ha. Seed for olitorius variety Using 7-10 kg/ha seed for capsularis variety | 16 (13.33%) | 95 (79.17%) | 9 (7.50%) |
| 10 | Maintaining a spacing distance of 25*5 cm for olitorius variety Maintaining a spacing distance of 30*5 cm for capsularis variety | 9 (7.50%) | 66 (55.00%) | 45 (37.50%) |

| | | | | |
|----|---|-----------------|----------------|----------------|
| 11 | Application of 20:20:20kg N: P: K/ha. Application of 5 tonnes of FYM during last ploughing | 33 (27.50) | 39 (32.50%) | 48 (40.00%) |
| 12 | Hand weeding after 20-25 and 35-40 days of sowing Application of fluchloralin @ 1.5 Kg/ha after 3 days of sowing | 23 (19.17%) | 52 (43.33%) | 45 (37.50%) |
| 13 | Irrigation done once in 15 days or regularly | 9 (7.50%) | 30 (25.00%) | 81 (67.50%) |
| 14 | Controlling of the pest done through spraying of Phoslane 0.07% or Endosulfan 0.07% or Cypermethrin 0.05% | 55 (45.83%) | 56 (46.67%) | 9 (7.50%) |
| 15 | Harvesting of the crop done after 100 to 110 days after sowing | 114 (95.00%) | 6 (5.00%) | 0 (0%) |
| 16 | Getting a plant yield of 45-50t/ha. and 2-2.5 t/ha of fibre yield | 36 (30.00%) | 75 (62.50%) | 9 (7.50%) |
| 17 | Drying it naturally after harvesting | 114 (95.00%) | 6 (5.00%) | 0 (0%) |

The above table .2 proves that a majority among the respondents 72.50 per cent belongs Medium level of knowledge towards improved Jute production technology. 48.33 per cent of the respondents fully agreed that the alluvial/loamy drained soil is suitable for jute crop. 61.67 per cent of the respondents, agrees that soil with fine tilth is suitable for jute production. Among 120 respondents 87.50 per cent of them know the correct time of harvesting. 60.83 per cent of the respondents don't know about the high yielding varieties. 52.50 per cent of the respondents partially agreed that seed treatment is necessary in jute seeds. 95.00 per cent of the respondents agreed on knowing the right time of seed sowing in March. 56.67 per cent of the respondents were disagreed about different sowing techniques. 96.67 per cent of the respondents disagreed about collecting the jute seed from KVKs or any other research station and 79.17 per cent of the respondents partially agreed about appropriate seed rate for both olitorius and capsularis varieties. 55.00 per cent of the respondents were partially agreed about appropriate seed spacing distance for both olitorius and capsularis varieties. 40.00 per cent of the

respondents were disagreed on applying the appropriate doses of fertilizer in optimum amount. 43.33 per cent of the respondents were partially agreed about weeding and interculturing. 67.50 per cent of the respondents disagreed about the irrigation timing for the crops. 46.67 per cent of the respondents partially agree on using chemicals such as phoslane, endosulfan and cypermethrin as pesticides. 95.00 per cent respondents fully agreed on having the knowledge of appropriate harvesting time. 62.50 per cent respondents partially agree on achieving the crop yield up to 45-50 t/ha and the fibre yield up to 2-2.5 t/ha. 95.00 per cent respondent fully agreed on the drying the crop naturally under the sun.

Table 3. Distribution of Respondents According to their Overall Knowledge Level

| S. No. | Category | Number | Percentage |
|--------|----------------------------------|--------|------------|
| 1. | Low level knowledge (29 – 34) | 22 | 18.33 |
| 2. | Medium level knowledge (35 – 39) | 87 | 72.50 |
| 3. | High level knowledge (40 – 44) | 11 | 9.17 |
| | Total | 120 | 100.00 |

Table 3, reveals that 72.50 per cent of the respondents had medium level of knowledge towards improved Jute production technology. Considerable percentage of respondents were found having low level 18.33 per cent and high level 9.17 per cent of knowledge respectively.

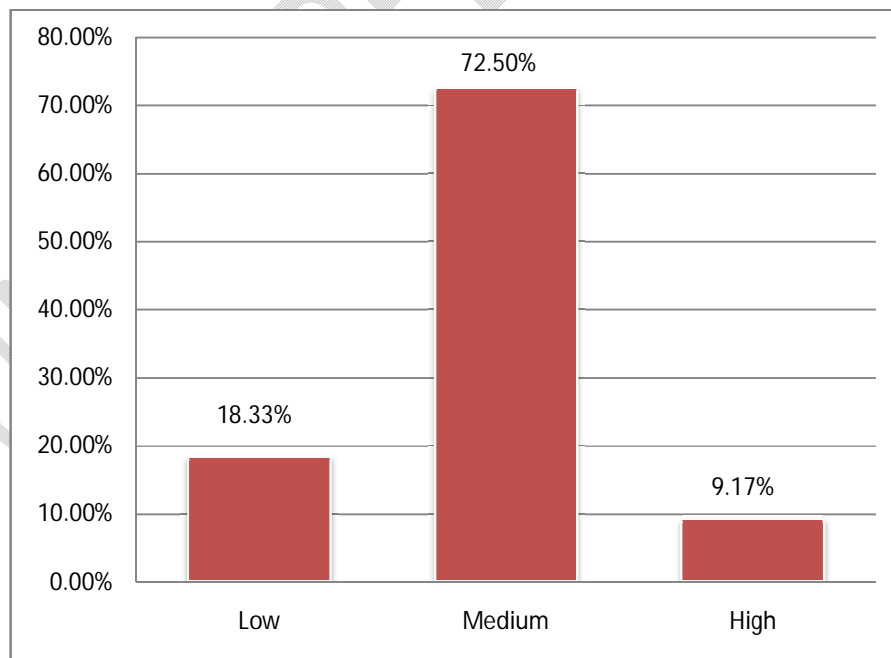


Fig. 1- Distribution of respondents according to their overall knowledge towards improved Jute production technology.

Table 4. Correlation coefficient (r) between different Independent variables and Knowledge about improved jute production practices:

| Sl. No. | Independent Variable | Correlation coefficient |
|---------|---------------------------|-------------------------|
| 1. | Age | 0.798* |
| 2. | Educational Qualification | 0.925* |
| 3. | Types of family | 0.014NS |
| 4. | Types of houses | 0.474** |
| 5. | Annual Income | 0.773* |
| 6. | Occupation | 0.016NS |
| 7. | Land Holding | 0.074NS |
| 8. | Extension Contact | 0.995* |
| 9. | Mass Media Exposure | 0.686* |
| 10. | Scientific Orientation | 0.729* |
| 11. | Risk Orientation | 0.637* |

*= Correlation is significant at the 0.01% level of probability.

**= Correlation is significant at the 0.05% level of probability.

From this above Table 4 concluded that the independent variables i.e. Age, educational qualification, annual income, extension contact, mass media exposure, scientific orientation, risk orientation, were positively and significantly correlated with level of knowledge of farmers toward improved jute production practices measures at 0.01 percent of probability, As a result, the null hypothesis was rejected for these variables, however the variables types of family, occupation and land holding were non-significantly correlated with level of knowledge of farmers toward improved jute production practices measures between 0.01 and 0.05 percent of probability and the variable house type was positively and significantly correlated with the knowledge at 0.05% of probability. The finding is supporting the findings of **Singh *et al.* (2014)**.

CONCLUSION

It is concluded that majority of the respondents were engaged in farming, literate having less annual income belongs to nuclear families and having medium level of risk bearing capacity lives in semi cemented houses. The maximum numbers of the respondents have a medium level of knowledge regarding improved jute production practices. The independent variables like Age, educational qualification, types of houses, annual income, extension contact, mass media exposure, scientific orientation, risk orientation have positive and significant effect on the knowledge of respondents. The major constraint faced by the respondents was higher labour charges and non availability of labours in right time and they suggested that the labour charges should be less.

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