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Constraints Faced by the Farmers while Adoption of Risk Mitigation Measures in Nendran Banana

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Abstract: Nendran is a commercial plantain variety in the southern states of Kerala, Tamil Nadu and Karnataka which occupies 50 per cent of total area under plantain in India. Its production in Kerala is highly dependent on nature. Even though banana is a remunerative crop, there are various kinds of risks that are encountered in its production and marketing. Farmers cultivating this crop suffered huge losses due to natural disasters, pest and disease outbreaks and fluctuation in prices. This study focuses the major constraints faced by farmers in the adoption of different risk mitigating measures during the production and marketing of banana. The major constraints faced by the banana growers were low price due to glut of output in market, complicated procedure for availing crop insurance and payment of rent in advance for leased in land.

Keywords: Banana production, Constraints, Risk mitigation.

I. INTRODUCTION

Banana (*Musa paradisiaca*) is commonly known as “Apple of paradise” or “Fruit of the wise men”. India is the largest producer of bananas (26.04 per cent) with an annual production of 30 million tons in an area of 0.8 million hectares. In Kerala almost 40 to 50 per cent of cultivated banana is of Nendran variety. Banana is one of the highly remunerative crops in Kerala. But a large number of farmers have failed to attain profitability because of the risks in production and marketing. Farmers try to reduce the risk in the production by adoption of risk mitigation measures. From the point of production to selling, farmers were facing various kind of risks such as production risk, financial risk/ credit risk and marketing risk. Therefore, farmers adopt separate risk mitigating strategies to overcome different risks. Farmers face different constraints while the adoption of various mitigation strategies.

According to Mathiyalagan (2012), problems during production was the major constraint faced by the banana farmers in Kanyakumari district of Tamil Nadu, followed by high interest on loans and repayment, irrigation problem and transportation problem. He computed the point score for each constraint and it was found to be 4.38 for production, 4.13 for interest on loan, 4.05 for irrigation and 3.91 for transportation. Kamal *et al.*, (2014) reported a number of problems faced by banana growers in his study on socio-economic status and problems of banana growers in Bangladesh. Among them, problems of credit, non-availability or insufficiency of credit, high interest rate and loan transaction cost, low prices of output, high prices of inputs, non availability of suckers of banana, high prices of fertilizer and insecticides, lack of storage facilities were the major problems faced by the farmers in the study area. According Naveen (2013), markets were far away from villages which was the major constraint in the production of banana with highest mean score of 72.33 followed by fluctuation in the market price with score of 72.30. In the case of production, inadequate facilities for irrigation was found to be the major constraint in banana cultivation with highest Garret score 76.73. Mahalakshmi *et al.*, (2016), found that natural factors affecting banana crop production included water storage, soil fertility, insects, weeds and crop variety. Among economic factors, 88 per cent of the loss was due to price fluctuations.

II. MATERIALS AND METHODS

The study was conducted in Neyyattinkara taluk of Thiruvananthapuram district based on primary data. Data were collected from 80 respondents from four village panchayats in the taluk.

To identify the major constraints faced by the farmers in the adoption of risk mitigation measures, respondents were asked to rank the constraints related to production risk, price risk and credit risk. These ranks were converted into percentage position by the following formula Per cent position = $100 \times (R_{ij} - 0.5) / N_j$

R_{ij} = Rank given for i^{th} factor by j^{th} farmer.

N_j = Number of factors ranked by the j^{th} farmer (Garret, 1969)

Garret's table was used to convert the estimated percentage position to Garret score. Thus for each constraint identified, the scores of various respondents were added and the mean value was calculated. Mean score for each of the constraints were arranged in descending order and the major constraint would be the one with highest mean value.

III. RESULTS AND DISCUSSION

There were various constraints faced by the banana farmers while adopting different risk mitigation measures. For each risk mitigation measure, constraints in adoption were different and each category of constraints was separately taken for ranking using the Garret’s ranking technique.

The constraints faced by farmers while adopting production risk management were given in the Table 1. Complicated procedure for availing crop insurance was ranked the highest with Garret’s score of 59. The main problem cited by the farmers was that the Kerala State Crop Insurance is available to farmers through Krishi Bhavans but the premium payment was through the banking institutions, and also the procedure was complicated because of rules and regulations. This constraint was followed by high cost of measures such as propping and irrigation (55.1), weather uncertainties (52.2) and incidence of pests and diseases (51.7).

Table 1. Constraints faced by farmers while adopting measures to mitigate production risk

Sl.No	Constraint	Garret score	Rank
1	Unavailability of suitable insurance scheme	38.6	7
2	Lack of proper knowledge about insurance	46.5	5
3	High incidence of pests and diseases	51.7	4
4	Unavailability of inputs and planting materials	44.0	6
5	High cost of measures such as propping and irrigation	55.1	2
6	Complicated procedure for availing crop insurance	59.0	1
7	Weather uncertainties	52.2	3

Price variation of banana is a serious risk faced by the farmers. Farmers resort to different marketing channels for reducing the price risk and to obtain maximum profit from the produce. Farmers face different problems while adopting price risk mitigation measures. The major constraints were found to be low price due to glut of output in the market (Garret score 59), dumping from the neighbouring state of Tamil Nadu during the festival seasons followed by high price of inputs (56.43)

Table 2. Constraints faced by the farmers while mitigating price risk

Sl No	Constraint	Garret’s score	Rank
1	Lack of proper rules and regulations in the market	34.38	6
2	High cost for marketing and transportation	47.79	5
3	High price of inputs	56.43	2
4	Low price fixed in contract farming	48.41	4
5	Low price due to glut of output in market	59.00	1
6	Multiplicity of intermediaries	54.00	3

Majority (more than 70 per cent) of the farmers were practising leased land farming. High rental value of leased in land was found out to be the major constraint in credit risk. Bidding system was there, which makes farmers to compete for more fertile land. Farmers should pay the full amount before signing the lease contract (59.41) which was also a burden for the farmer. Complicated procedure for approval of bank loan is considered as the second highest constraint (57.48). Most of the farmers sought help from banking institutions and private money lenders for investment (Table 3).

Table 3. Constraints faced by the farmers while mitigating credit risk

Sl. No	Constraint	Garret's score	Rank
1	High interest rate	36.13	5
2	Complicated procedure for sanctioning loan	57.48	2
3	Payment of rent in advance for leased in land	59.41	1
4	Unavailability of credit in time	52.92	3
5	Difficulty in repayment due to crop loss	43.03	4



IV. CONCLUSIONS

There are various constraints faced by the banana growers while adopting different risk mitigation measures. Complicated procedure of crop insurance was the major constraint for mitigation of production risk. For mitigating price risk, glut of product in the market scored the highest and payment of rent in advance for leased in land scored the highest in the case of constraints for mitigation of credit risk.

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