

International Journal of Agriculture Extension and Social Development

Volume 7; Issue 11; November 2024; Page No. 366-369

Received: 17-09-2024
Accepted: 21-10-2024

Indexed Journal
Peer Reviewed Journal

Different constraints faced by the potato farmers during the adoption of recommended practices in Cuttack district of Odisha

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DOI: <https://doi.org/10.33545/26180723.2024.v7.i11e.1356>

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Abstract

Potatoes are the most popular vegetable consumed by Indians. Himachal Pradesh, Punjab, Uttar Pradesh, and Madhya Pradesh are the popular potato-growing states in India. However, the production of potatoes is not up to the mark compared to the demand. Due to a lack of proper awareness and recommended adoption practices, potato farmers are not getting the maximum profit in Odisha. Due to this, the major constraints faced by the potato growers were collected through this study. Purposively, the Cuttack district was selected for the study, and random sampling was followed for the selection of the 120 respondents. The respondents noted the absence of Government control over traders and input suppliers, highlighting potential market inefficiencies and vulnerabilities. The majority of the farmers faced problems in getting credit and finance, which ranked highest with a mean score of 1.82, followed by constraints faced in administrative support (mean score = 1.81) and constraints faced in technological support (mean score = 1.77). However, potato cultivation is a good source of income for farmers' socio-economic development. The agriculture and line departments should arrange adequate, timely training and exposure visits for the potato farmers to overcome all the constraints for their improvement.

Keywords: Constraints, potato cultivation practices and adoption

Introduction

Potatoes are the king of vegetables due to their wide use as food in every country. Potatoes are grown in every state of India. Himachal Pradesh, Punjab, Uttar Pradesh, and Madhya Pradesh are the popular potato-growing states in India. However, the production of potatoes is not up to the mark compared to the demand. According to Chowdhury and Chowdhury, 2015 ^[2], the significant problems faced by potato farmers were lower price of potatoes during the harvesting period, price fluctuation, shortage of capital, high charges for cold storage, lack of good quality seed, perishability of potatoes, poor storage facility, the higher price of inputs and lack of marketing facility, etc. As in the case of Odisha, the climate is suitable for cultivation due to a lack of proper awareness and a lack of recommended adoption practices; potato production is decreasing day by day. Due to the inefficient production of potatoes, the farmers are not interested in cultivating potatoes and are replacing potatoes with other crops. As the most popular root crop, potatoes can be popularized in many districts of Odisha by overcoming the constraints faced by the potato farmers.

Materials and Methods

The potato farmers of Odisha faced many biotic and abiotic problems, which affected their economic status and caused

their declining status of living. The study was conducted to identify the problems of the farmers in the Cuttack district of Odisha, as the district is the highest producer of potatoes. Two blocks from the above district and two-gram panchayats from these blocks were selected on the basis of the production of potatoes. The secondary data regarding the list of farmers were collected, and 120 farmers were selected randomly. Collected data was analyzed with the help of the SPSS program, and the mean score and rank were found.

Results and Discussion

Constraints faced in administrative support

Administrative support is required to develop and adopt the new cultivation practices. The problems of the potato farmers were collected through the personal interviews of the farmers, with their opinions categorized as agree, neutral, and disagree, which were scaled as 3, 2, and 1, respectively. The data was analyzed, and the mean values are presented in the tables below.

The data in the table indicated that the majority of farmers had limited efforts towards developing essential infrastructure, ranked one (mean score = 2.52), followed by no control over traders and input suppliers, ranked two (mean score = 2.12), and less credibility of the extension functionaries ranked three (mean score = 2.10).

Table 1: Constraints faced in administrative support

Sl. No.	Statements	Mean	Rank
1	Limited government support for potato cultivation	1.37	VI
2	Weak coordination with traders and input suppliers	2.02	IV
3	Inadequate single-window service system.	1.98	V
4	Lack of cooperation from government officials	1.01	VIII
5	Less credibility of the extension functionaries	2.10	III
6	No control over traders and input suppliers	2.12	II
7	Lack of initiatives for a cluster-based approach	1.33	VII
8	Limited efforts toward developing essential infrastructure	2.52	I

(Maximum obtainable score = 3)

It can be concluded that the primary issue identified is the limited efforts toward developing essential infrastructure, which suggests that foundational systems needed for effective operations are lacking. This gap can hinder growth and operational efficiency in various cultural practices. The respondents noted the absence of Government control over traders and input suppliers, highlighting potential market inefficiencies and vulnerabilities. The perceived lack of credibility among extension functionaries indicates a trust deficit, suggesting that stakeholders may not rely on these individuals for guidance and support in their practices. A similar study was conducted by Uddin *et al.* (2010) ^[7] and Arneja *et al.* (2013) ^[1].

Constraints faced in technological support

Technological Support refers to using various technologies to facilitate real-time or asynchronous work interactions among individuals, either in the exact location or remotely, by enabling conversations or sharing objects like documents or code.

Table 2: Constraints faced in technological support

Sl. No.	Statements	Mean	Rank
1	Insufficient training to enhance knowledge and skills	2.13	III
2	Limited number of demonstrations	2.03	IV
3	Lack of facilities for soil testing	1.02	VIII
4	Not organizing field days and field trips	1.74	V
5	No exposure visits to build confidence	1.47	VI
6	Lack of reference materials or literature	2.33	II
7	Field issues are not addressed promptly	1.07	VII
8	Inadequate supervision and monitoring	2.39	I

(Maximum obtainable score = 3)

The data in the table revealed that Inadequate supervision and monitoring was ranked one (mean score = 2.39) by the respondents, followed by lack of reference materials or literature ranked two (2.33), and insufficient training to enhance knowledge and skills ranked three (mean score = 2.13).

It can be concluded that the most significant issue identified is inadequate supervision and monitoring, suggesting that there is insufficient oversight in the implementation and use of technology, which may limit its effectiveness. Following this, respondents pointed out a lack of reference materials or literature, indicating that access to essential information for technology use is inadequate, thereby hindering informed

decision-making. Additionally, insufficient training to enhance knowledge and skills reflects a gap in educational opportunities. This suggested that stakeholders may not be fully equipped to leverage technological advancements to improve their practices' outcomes.

Constraints faced in input availability

Input availability refers to the accessibility and reliability of raw materials, components, and other necessary resources required for production processes in a supply chain. It is an essential factor affecting supply chain operations' efficiency and effectiveness.

Table 3: Constraints faced in input availability

Sl. No.	Statements	Mean	Rank
1	Inputs not timely available	1.02	VII
2	Lack of authenticity regarding input quality	1.03	VI
3	Poor transparency in cost of the inputs	1.13	V
4	Limited accessibility of inputs	1.33	IV
5	Insufficient efforts to popularize agricultural implements	2.22	II
6	Inadequate focus on distributing mini-kits	1.94	III
7	No provision of subsidy	2.78	I

(Maximum obtainable score = 3)

The data in the table presented that the majority of respondents who had not received any provision of subsidy were ranked one (mean score = 2.78), followed by insufficient efforts to popularize agricultural implements ranked two (mean score = 2.22), and inadequate focus on distributing mini-kits ranked three (mean score = 1.94).

It can be concluded that the foremost concern is the lack of subsidies, which creates financial barriers for farmers to access necessary inputs. There are insufficient efforts to popularize agricultural implements, suggesting that many farmers may not be aware of or equipped with modern tools that could enhance their farming practices. The inadequate focus on distributing mini-kits indicates small-scale farmers are not getting essential resources, which could significantly improve crop yields and farming efficiency. Similar findings were given by Kumar *et al.* (2013) ^[5], Subedi (2019) ^[6], and Gujar (2017) ^[4].

Constraints faced in getting credit and finance

Credit is a more flexible form of finance that allows you to access the amount of money loaned according to your needs at any time.

Table 4: Constraints faced in getting credit and Finance

Sl. No.	Constraints	Mean	Rank
1	Credit facilities are not easily accessible	2.03	II
2	Delays in document processing	2.07	I
3	Lack of flexibility in mortgage considerations	1.99	III
4	Untimely release of credit	1.88	V
5	Harassment during document processing	1.07	VII
6	Insufficient sanctioning of the required amount	1.92	IV
7	Lack of structured installments according to repayment capacity	1.76	VI

(Maximum obtainable score = 3)

The above table revealed that the majority of potato farmers who had encountered delays in document processing were

ranked one (mean score = 2.07), followed by credit facilities are not easily accessible ranked two (mean score = 2.03) and lack of flexibility in mortgage considerations ranked three (mean score = 1.99).

It can be concluded the primary issue is delays in document processing, indicating inefficiencies in the financial system that hinder timely access to necessary funds. Such delays can adversely affect agricultural operations, limiting farmers' ability to invest in essential inputs. The respondents noted that credit facilities are inaccessible, suggesting barriers restricting farmers from obtaining financial support. The lack of flexibility in mortgage considerations highlighted a rigid financial framework.

Constraints faced in marketing

Marketing is a process that involves identifying, creating, and meeting demand for goods and services. It's a way to develop commercial relationships and retain customers. Marketing is a form of communication between a business and its customers, and it involves creating demand for products and fulfilling customer needs.

Table 5: Constraints faced in marketing

Sl. No.	Statements	Mean	Rank
1	Marketing information is not readily accessible	1.05	VII
2	Inconsistent flow of market information	1.08	VI
3	Insufficient minimum support price	1.1	V
4	Exploitation by traders and businessmen	1.91	IV
5	Low selling prices due to claims of market oversupply by businessmen	1.98	III
6	Inadequate financial support during adverse situations	2.64	I
7	Lack of government-regulated market	2.23	II

(Maximum obtainable score = 3)

The data in the above table revealed that among the market constraints, inadequate financial support during adverse situations was ranked one (mean score = 2.64) by the respondents, followed by lack of government-regulated market ranked two (mean score = 2.23) and low selling prices due to claims of market oversupply by businessmen ranked three (mean score = 1.98).

It can be concluded that the foremost concern is inadequate financial support during adverse situations, suggesting that farmers face significant vulnerabilities during crises, such as natural disasters or market fluctuations. This lack of support can hinder their ability to sustain operations. Farmers indicate a lack of government-regulated markets, reflecting concerns about market regulation and potential exploitation. Additionally, low selling prices attributed to businessmen's claim of market oversupply point to challenges in achieving fair compensation for potatoes, adversely affecting farmers' income and sustainability.

Further study was conducted among all the constraints which constraint affect most of the potato farmers. Total mean score of all the constraints was calculated and categorized.

From the above table, it can be found that the majority of the farmers faced problems in getting credit and finance, which ranked highest with a mean score of 1.82, followed by constraints faced in administrative support (mean score =

1.81) and constraints faced in technological support (mean score = 1.77).

Table 6: Prioritization of Constraints faced by Respondents:

Sl. No.	Constraints	Mean	Rank
1	Constraints faced in administrative support	1.81	2
2	Constraints faced in technological support	1.77	3
3	Constraints faced in input availability	1.64	5
4	Constraints faced in getting credit and Finance	1.82	1
5	Constraints faced in marketing	1.71	4

Potato farmers are not getting timely credit from different agencies, affecting their adoption of new technology and inability to develop entrepreneurial activities. The Government agency also does not provide adequate development for the further development of potato farmers. Due to a lack of finance and Government support, the farmers are not able to improve their cultivation practices, ultimately causing lower yields.

Conclusion

Potato farmers face a lot of problems while cultivating. Among them, a significant problem is the availability of credit and finance. The government should provide subsidies for potato farmers. To overcome the constraints related to technical and administrative support, the agriculture and line departments should arrange adequate, timely training and exposure visits for the potato farmers. This gives farmers more knowledge about local, national, and international market facilities and helps them create new and popular value-added potato products to fetch great market prices. Due to a lack of cold storage facilities, the farmers cannot store the produce, and after a few months, the potato is wasted. However, potato cultivation is a good source of income for farmers' socio-economic development. If proper measures are taken by the Government, then potato cultivation will indeed become a profitable business for all the potato farmers.

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