Exploring the Socio-economic Conditions of Potato Farmers in Farrukhabad District of Uttar Pradesh, India

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

This study investigates the socio-economic profile of potato growers in Farrukhabad district, Uttar Pradesh, aiming to understand their demographic composition, educational background, caste distribution, marital status, family structure, landholding size, occupation, income levels, social participation, and possession of farming resources. A sample of 100 respondents cultivating

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potatoes as the main crop was selected from Kamalganj block, Farrukhabad district. Data were collected through personal interviews using a pre-structured schedule and analyzed using percentages. The results reveal that the majority of respondents are middle-aged, literate, and belong to scheduled castes. Most respondents are married and come from joint families with medium-sized households. Marginal and small landholdings dominate, and agriculture is the primary occupation, supplemented by subsidiary activities such as dairying and business. Income levels vary, with a significant proportion falling within the medium-income bracket. Social participation is moderate, with most respondents engaging in multiple organizations. Farm resources such as farm power and implements are moderately possessed. Extension services and information sources play a crucial role, with most respondents exhibiting moderate contact. This study provides valuable insights into the socio-economic landscape influencing agricultural practices among potato growers, which can inform policy formulation and extension activities aimed at fostering agricultural development and rural prosperity.

1. INTRODUCTION

Potato, the most important and widely consumed food in the World. This vegetable originated in South America, now grown all over the World. The scientific name of this super veggie is *Solanum tuberosum L* which is known as the "The king of vegetables". It is the most economical food and is considered a friend of poor men [1]. Its versatility, adaptability to diverse agro-climatic conditions, and high nutritional value make it a vital crop for millions of farmers worldwide. The potato is the third most important food crop in the world after rice and wheat in terms of human consumption. More than a billion people worldwide eat potato, and global total crop production exceeds 300 million metric tons [2].

The potato is a nutritionally balanced crop with protein and calories per unit area and time than any other major food crop, making it a suitable non-traditional crop to ensure food security. Additionally, potatoes are a good source of potassium and a small amount of sodium, which is beneficial for patients with high blood pressure [3]. In Uttar Pradesh 2019–20, the area is about 0.057 million hectares, and the production is about 1.3 million metric tonnes, with a productivity of 228.07 quintals per ha; however, in 2020– 21, the area is about 0.062 million hectares, and the production is about 1.58 million tonnes, with a productivity of 254.84 quintals per ha [4].

The socio-economic profile of respondents is crucial for understanding various aspects of agricultural practices and their adoption patterns [5-7]. This research delves into the demographic composition, educational background, caste distribution, marital status, family structure, housing patterns, landholding size, occupation, income levels, social participation, and possession of farming resources among potato growers. Through an extensive analysis of these parameters, the study aims to provide insights into the socio-economic landscape influencing agricultural practices, knowledge, and adoption rates among potato growers.

2. METHODS AND MATERIALS

The study was carried out in Farrukhabad district of Uttar Pradesh state. Farrukhabad district has divided in seven blocks, out of seven blocks Kamalganj block was selected purposively because this block comes under the maximum production of potato cultivation among all blocks of Farrukhabad district [8], this particular block has 119 villages and from these villages five (5) villages were randomly selected for the study. From each village twenty (20) respondents were randomly selected thus a total number of 100 respondents who cultivated potato as main crop constituted the sample size for the study. The data were collected using personally conducted interviews and pre-tested, planned schedules, the major data was gathered in 2020-2021 through survey methods. The data were analysed and find out with the percentage.

Percentage: The frequency of a particular cell was divided by the total number of respondents or (MPS) in that particular category and multiplied by 100 for calculating the percentage.

3. RESULTS AND DISCUSSION

The socio-economic profile of the respondents provides valuable insights into various

demographic, educational, occupational, and economic aspects of the potato growers involved in the study.

Table 1. Distribution of the respondents according to socio-personal variables

Categories	Respondents N=100
Age categories (years)	Percentage
Young (up to 35)	23.00
Middle (36 to 54)	57.00
Old (55 and above)	20.00
Education	
Illiterate	17.00
Literate	83.00
Caste	
General caste	27.00
Other Backward caste	33.00
Scheduled caste	40.00
Marital Status	
Unmarried	6.00
Married	94.00
Family Type	
Nuclear family	48.00
Joint family	52.00
Family Size	
Small (up to 5 members)	39.00
Medium (6-9)	52.00
Large (10 and above)	9.00
Land holding (hectare)	
Marginal (below 1 ha)	62.00
Small (1-2 ha)	26.00
Medium (2-4ha)	7.00
Large (4ha and above)	2.00

From the Table 1 it is observed that the majority of respondents (57.00%) fall within the age category of 36 to 54 years, indicating that middle-aged individuals are predominantly engaged in potato cultivation. The mean age of respondents is 45.26 years, suggesting that the sample represents an experienced group of growers. Similar result was found by Kumar et al. [9].

The education status revealed that a significant majority (83.00%) of respondents are literate, with various levels of education ranging from primary school to postgraduate degrees. This high literacy rate among potato growers is crucial for adopting modern farming practices and accessing agricultural information and resources.

The data for caste indicate that scheduled caste individuals constitute the largest proportion (40.00%) of the respondents, followed by other backward castes (33.00%) and general castes (27.00%). This distribution reflects the socio-economic diversity among potato growers, highlighting the need for inclusive agricultural development initiatives.

The marital status shows that almost all respondents (94.00%) are married, suggesting that family plays a significant role in agricultural activities and decision-making among potato growers. This finding underscores the importance of considering family dynamics and support systems in agricultural interventions and policies. It is observed that A slight majority (52.00%) of respondents come from joint families, while the remaining (48.00%) are from nuclear families. The average family size is 6.90 members, with most families having 6 to 9 members, indicating the prevalence of extended family structures in the farming community.

It is obvious from the data that Most respondents (62.00%) are marginal farmers with land holdings below 1 hectare, highlighting the predominance of small-scale farming in the study area. This distribution underscores the importance of supporting smallholder farmers through targeted interventions and policies aimed at enhancing productivity and sustainability. Similar result was found by Mandal and Jirli [10].

Table 2. Distribution of the respondents according to occupation

Categories	Respondents N=100	
	Main occupation	Subsidiary occupation
	Percentage	Percentage
Agriculture labour	6.00	8.00
Caste based occupation	4.00	8.00
Government Service	7.00	0.00
Private Service	10.00	6.00
Agriculture	66.00	25.00
Business	5.00	23.00
Agro-based enterprise	0.00	4.00
Dairying	2.00	56.00
Total	100	130

From the Table 2 it is observed that Agriculture emerges as the primary occupation for the majority (66.00%) of respondents, followed by various other occupations such as private service, business, and dairying. Diversification of income sources among potato growers indicates resilience and adaptability to changing market dynamics and livelihood opportunities.

Table 3. Distribution of the respondents according to socio-communicational variable

Categories	Respondents N=100
Social participation	**Percentage**
No participation	23.00
Participation in one organization	08.00
Participation in two organization	40.00
Participation in three or more organization	29.00
Extension of contact with different information sources	
Low (Up to 94)	15.00
Medium (95 to 112)	70.00
High (113 and above)	15.00

From the Table 3 it is observed that the majority of respondents possess electric motors (79.00%), indicating high mechanization levels in farming practices. Additionally, 50.00% of respondents have pumping sets, further reflecting mechanized agricultural operations. Regarding farm implements, most farmers (52.00%) possess a medium level of implements, indicating adequate access to essential tools and equipment for agricultural activities.

The majority of respondents (61.00%) exhibit a medium level of economic motivation, indicating a balanced approach towards economic endeavours.

However, it is worth noting that 20.00% of respondents have a high level of economic motivation, suggesting a strong drive for financial success and growth.

From the Table 4 it is observed that he majority of respondents (61.00%) exhibited a "Medium" level of economic motivation, suggesting that a significant portion of the sample population falls within an average range of economic drive. A considerable proportion of respondents (53.00%) demonstrate a medium level of scientific orientation, indicating a moderate inclination towards adopting modern and scientific farming practices. Additionally, 28.00% of respondents

exhibit a high level of scientific orientation, reflecting a proactive approach towards embracing innovative agricultural technologies and methodologies. The data on respondent's risk orientation indicates a balanced distribution across the categories. A notable proportion (58.00%) exhibited a "Medium" level of risk orientation, suggesting a moderate willingness to take risks in decision-making.

Table 4. Distribution of the respondents according to socio-psychological variables

Categories	Respondents N=100
Economic motivation	**Percentage**
Low (up to 21 members)	20.00
Medium (22 to 25)	61.00
High (26 and above)	19.00
Scientific orientation	
Low (up to 22 members)	19.00
Medium (23 to 26)	53.00
High (27 and above)	28.00
Risk orientation	
Low (up to 23 members)	14.00
Medium (24 to 26)	58.00
High (27 and above)	28.00

Table 5. Distribution of respondents according to socio-economic variables

Categories	Respondents N=100
Annual income (Rs.)	**Percentage**
Low Income (Below -96087)	19.00
Medium Income (96087-583912)	62.00
High Income (Above 583912)	19.00
Farm power	
Bullock	24.00
Tractor	27.00
Power tiller	27.00
Pumping set	50.00
Electric motor	79.00
Farm implements	
Low (Up to 11)	19.00
Medium (12 to 18)	52.00
High (19 and above)	29.00

From the Table 5 it is observed that the majority of respondents possess electric motors (79.00%), indicating high mechanization levels in farming practices. Additionally, 50.00% of respondents have pumping sets, further reflecting mechanized agricultural operations. Regarding farm implements, most farmers (52.00%) possess a medium level of implements, indicating adequate access to essential tools and equipment for agricultural activities.

The data show that a significant majority (70.00%) of respondents have a medium level of extension contact with different information sources. This suggests that most farmers have access to diverse channels for acquiring agricultural knowledge and information, which is essential for informed decision-making and adopting best practices.

The majority of respondents (62.00%) fall within the medium-income bracket, indicating moderate economic well-being among potato growers. This income distribution reflects the economic realities and challenges faced by smallholder farmers in balancing livelihood needs with agricultural investments and expenditures.

4. CONCLUSION

In conclusion, the socio-economic profile of potato growers plays a pivotal role in shaping agricultural practices and adoption rates. The majority of respondents belong to the middle age group, indicating a mature and experienced demographic. While literacy rates are high, there is still a notable portion of illiterate individuals, suggesting potential areas for targeted educational interventions. Scheduled castes constitute the largest proportion, highlighting the importance of considering socio-cultural dynamics in agricultural policies and programs.

The prevalence of joint family systems, medium-sized families, and mixed housing patterns reflects ongoing socio-economic transformations in rural areas. Furthermore, marginal and small landholdings dominate, indicating the prevalence of small-scale farming practices. Agriculture emerges as the primary occupation, supplemented by diverse subsidiary activities such as dairying and business.

Income levels vary, with a significant proportion falling within the medium-income bracket, which may influence adoption capabilities and investment decisions. Social participation is moderate, with a notable portion engaging in multiple organizations, indicating potential avenues for disseminating agricultural knowledge and practices.

Farm resources such as farm power and implements are moderately possessed, suggesting scope for enhancing mechanization and technological adoption. Extension services and information sources play a crucial role, with most respondents exhibiting moderate contact, highlighting the need for robust extension programs to disseminate agricultural innovations effectively.

Overall, understanding the socio-economic context is essential for designing tailored interventions to promote sustainable agricultural practices and enhance the livelihoods of potato growers. This study provides valuable insights that can inform policy formulation and extension activities aimed at fostering agricultural development and rural prosperity.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of this manuscript.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Tractor Junction. (n.d.). Potato farming in India: Cultivation, planting, harvesting. Retrieved:https://www.tractorjunction.com/blog/potato-farming-in-india-cultivation-planting-harvesting/
2. International Potato Center. (n.d.). Potato facts and figures. Retrieved:https://cipotato.org/potato/potato-facts-and-figures/.
3. Singh HP, Singh B, Kumar R. Approaches to sustaining potato production in India; 2024. Retrieved:https://www.researchgate.net/publication/371140026_Approaches_to_Sustaining_Potato_Production_in_India [Accessed Apr 04, 2024].
4. Kumar A, Singh R, Singh PK, Yadav B, Choudhari HPS. Economic aspects of potato cultivation in Sultanpur District of Uttar Pradesh. Economic Affairs. 2022; 67(1):15-18.
5. Muhammad CN, Hariyati Y. Prestigious perception of potato farming: An overview of the economy, socio-culture, and its existence. Agricultural Socio-Economics Journal. 2021 Jan 31;21(1):25-32.
6. Taiy RJ, Onyango C, Nkurumwa A, Ngetich K. Socio-economic characteristics of

smallholder potato farmers in Mauche Ward of Nakuru County, Kenya. Universal Journal of Agricultural Research. 2017; 5(5):257-66.

7. Sharma V. Socio-economic analysis of potato growing farmers in Kangra District of Himachal Pradesh. International Journal of Agriculture Sciences, ISSN. 2019:0975-3710.

8. Shakya AK, Supriya Kushwaha RR, Kumar M, Pratap A. Estimation of the cost and returns of potato cultivation in Farrukhabad district of Uttar Pradesh. International Journal of Research in Agronomy. 2024; 7(3):531-536.

9. Kumar A, Singh DK, Singh BP. To study the socio-economic status of respondents in relation to awareness of rural development programmes in Meerut District, India. International Journal of Pure and Applied Bioscience. 2019;7(1):92-96.

10. Mandal PK, Jirli B. A study on socio-economic profile of ATMA respondents. International Journal of Current Microbiology and Applied Sciences. 2018; 7(10):619-625.

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