International Journal of Humanities & Social Science Studies (IJHSSS)
A Peer-Reviewed Bi-monthly Bi-lingual Research Journal
ISSN: 2349-6959 (Online), ISSN: 2349-6711 (Print)
Impact Factor: 6.8
Volume-XII, Special Issue, April 2026, Page No. 244-248
Published by Scholar Publications, Sribhumi, Assam, India, 788711
Website: http://www.ijhsss.com
DOI: 10.29032/ijhsss.vol.12.issue.specialW.287

The Bitter Harvest: Socio-Economic Distress and Livelihood Challenges of Small-Scale Potato Growers in Hooghly District

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Received: 03.04.2026; Accepted: 09.04.2026; Available online: 10.04.2026

Abstract

The Agrarian Economy of West Bengal Has Been Affected Significantly Due to Introduction of Potato Farming. The Farmers of Hooghly District Have Switched Over to Potato Cultivation from Jute and Paddy in The Early Eighties as It Provided Quick Returns and Low Water and Time and Field Requirement. But Over the Years, However, Due to Increase in Cost of Production, Fluctuating Market Price, Inadequate Marketing Facilities and Unequal Market Mechanisms, The Net Return Has Significantly Decreased. This Article Is an Attempt to Explore the Socio-Economic Distress and Livelihood Challenges Faced by The Small-Scale Potato Growers in Hooghly District. Based On a Field Survey Of 200 Sample Households Drawn From 44 Villages, The Paper Analyses the Land Ownership Pattern, Income from Potato Cultivation, Adoption of Modern Farming Practices, Cost of Cultivation, Problems in Marketing and Marketing Support Services. The Paper Reveals That 70.5 Per Cent Farmers Are Cultivating Potato on A Land Area of Up To 2 Bighas And 85.5 Per Cent of Farmers Are Earning Less Than Rs. 60, 000 Per Annum from Potato Farming. Cost Of Cultivation of Potatoes Has Gone Up Significantly Due to High Cost Incurred on Seed, Fertiliser, Pesticide, Labour, Irrigation and Storage, While Majority of The Market Margin Is Appropriated by Middlemen. Insufficient Institutional Credit, Crop Insurance and Lack of Equitable Storage Facilities Add to Farmer Vulnerability. Although Potato Plays a Vital Role in Food Security and Livelihood of Rural Population, It Has Become a Source of Livelihood Uncertainty for Farmers. The Paper Advocates for Development of Cooperative Marketing, Better Credit and Storage Facilities, Crop Insurance, Value Addition and Government Intervention to Control Market Price to Provide Better Livelihood Security to Farmers.

Keywords: Agrarian Economy, Potato Cultivation, Food Security and Livelihood

Introduction:

Agriculture is the backbone of Indian economy and cash crops play a vital role for the sustenance of rural population. potato (solanum tuberosum) is the world's fourth largest food crop after wheat, rice and maize and is an extensively grown crop in India. West Bengal is one of the largest potato producing states in India. in hooghly district, suitable agro ecological condition, high market demand, short crop duration and relatively low water requirement has attracted the farmers to cultivate potatoes on a large scale. during the early eighties, potato replaced the paddy and jute and emerged as one of the most important cash crops for the district. by the early 1980s, many farmers shifted from paddy and jute to potato. the crop emerged as a major source of rural income. potato has become an integral

component of the agricultural economy of the district. but with this expansion, new problems have emerged. potato is a high external input dependent crop. it requires purchased seed, fertiliser, pesticide, irrigation, storage and transportation. price fluctuation, occasional glut in production, weak bargaining power and absolute dependence on middlemen, traders and cold storages owners, in the absence of any minimum support price, crop insurance facility and proper demand and supply management mechanism are some of the emerging issues. small and marginal farmers, who constitute the major proportion of total potato farmers, bear most of the brunt of losses. many of these farmers grow potatoes not out of choice, but out of compulsion, as they have no alternative. this paper, based on the Ph.D. research work of the author, aims to investigate these livelihood challenges and to contextualize the results in a broader framework of agrarian distress, market inequity and sustainability.

Literature Review:

Many studies have already been carried out in India regarding production constraints and agro-ecological zonation of potato. Chowdhury has written about district-level area and production changes; Srivastava about the importance of potato in India, and marketing system; bansil about general problems such as irrigation, fertiliser, and insurance; pandit about imperfect marketing system, including marketing costs, storage facilities, middlemen, and fluctuating price; Melvyn about the worldwide and socio-economic importance of potato; and Kumar et al. about seed replacement and technological adoption. very recently, a study has been conducted on planning for cold storage using gas. however, there is hardly any research that has tried to focus on the livelihood crisis of small and marginal farmers growing potatoes in West Bengal comprehensively. various studies have not considered the land fragmentation, cost escalation, intermediaries, institutional weakness and environmental crisis collectively. this paper has tried to fill this knowledge gap with empirical evidences from Hooghly district.

Study Area and Methodology

Hooghly district is located in the eastern part of the rarh plain and is bounded by the Bhagirathi Hooghly in the east. the district has fertile alluvial soil, congenial winter season and plenty of rivers and canals that facilitate the cultivation of potatoes. despite the operation barga in 1970s and 1980s, the land is highly fragmented. as per the agricultural census 2010–11, 86 percent of the operational holdings in the district are marginal. the small and marginal holdings together constitute 97.85 percent of the total number of holdings and 89.5 percent of the total area operated.

Primary data have been collected during 2021–2022 from 200 households selected by stratified random sampling method in 44 villages of eleven blocks, namely, Pandua, Balagarh, Dhaniakhali, Singur, Haripal, Tarakeswar, Jangipara, Chanditala, Pursurah, Khanakul and Goghat Ii. the sample households consist of marginal, small, semi-medium, medium and large farmers, bargadars, sharecroppers and contract farmers. information has been collected through structured questionnaires and personal interviews of the farmers, traders, middlemen and storage owners. secondary data have been collected from various government reports, agricultural census, district gazetteers and research articles. descriptive statistics, percentage and qualitative analysis have been used for analysis of the data.

Results And Analysis

Potato cultivation is mainly confined to the small and marginal farmers of the Hooghly district. out of the total 200 sample households, 70.5 percent are marginal farmers having land up to 2 bighas, 17 percent are small having 2–5 bighas of land, 11 percent are medium farmers having 5–15 bighas of land and only 1.5 percent are large farmers having more than 15 bighas of land. added to this is the household pressure as 58 percent of the farmers belong to the families having more than five members. despite having other sources of livelihood, potato farming is the principal source of income for the majority of the farmers of the study area. however, annual income earned from the potato cultivation is very low. out of the total 200 sample households, 171 farmers (85.5 percent) earn annual income below ₹60,000, 26 farmers (13 percent) earn income between ₹60,000 and ₹2,00,000 and only three large farmers (1.5 percent) earn more than ₹2,00,000 from potato cultivation. the better-off farmers having cold storages are in a position to store potatoes for a few months and sell when they get better prices. however, the majority of the small farmers are bound to dispose of their produce immediately after harvesting to pay their debts.

The crop intensity and the yield of potato are moderate for most of the farmers. nearly 63 percent of the farmers belong to the medium category of crop intensity, followed by 23 percent of high-intensity farmers and only 14 percent of farmers belong to the low-intensity group. the distribution of the respondents as per the yield level was: 63 per cent medium yield, 23 per cent high yield and 14 per cent low yield. the level of scientific orientation was moderate. about 61 per cent of the farmers had a moderate level of scientific orientation, 20 per cent high and 19 per cent low. based on the adoption quotient, 72 per cent farmers fell in the medium category, 20.5 per cent in the high and 7.5 per cent in the low. these levels of adoption of improved practices are low because of poor extension services, lack of training and high initial investment.

Irrigation is a must for potato cultivation. about 83 per cent of the farmers used shallow tube well for irrigation, followed by 17 per cent canal water and none of the farmers was using only rain water. in some blocks like Goghat where the ground water level is 140-200 feet deep, the cost of irrigation is high which increases the cost of production and also poses the problem of ground water mining. the variety of seed used also influences the profitability. more than half of the farmers (54.5 per cent) were using seed from their previous harvest, followed by 41.5 per cent from other states like Himachal Pradesh and Punjab and only 4 per cent were using local seed. the cost of imported seed has increased because of transportation cost and intermediaries' control over seed. the small farmers cannot afford high yielding varieties and even if they are using, it requires more doses of fertiliser and water. the cost of fertiliser and pesticide has almost doubled in the last five years (2014). the cost of labour has also increased because of the proximity of urban and industrial areas providing alternative employment opportunities. during sowing and harvesting, farmers have to pay more wage rate or depend on family labour mostly women and children.

Easy credit is still a far cry. though banks are providing agricultural credit at 6 per cent rate of interest, cumbersome procedures and procedural delay discourage small farmers to approach the banks. consequently, most of them depend on money lenders (10-12 per cent per month) or availing credit in advance from middlemen on the condition that they would sell their produce to them only. this reduces their bargaining power and binds them in

unequal exchange. storage and marketing are the most important sources of misery. potato being a perishable commodity, cold storage is a necessity. about 93.5 per cent farmers were using cold storage facility and the remaining 6.5 per cent were using traditional storage. the storage rent has almost doubled in the last 14 years (2003-04). small farmers face difficulties in storing their produce as the facility owners prefer big farmers and traders. the marketing channel mostly dominated by the Foria, Aratdar, wholesalers and retailers. price determination power almost rests with none of the farmers. during the field survey, it was found that potato was selling at ₹18 per kg at rural market, while it was selling at ₹30 per kg in the urban market within a distance of 20 km. support from the government is almost absent. there is no effective minimum support price and procurement mechanism for potato. though sometimes the government imposes ban on export, but the domestic market mostly remains unregulated. benefit of crop insurance schemes like PMFBY and Bangla Fasal Bima Yojana has still not reached to these farmers. the functioning of the cooperative marketing societies is also very weak or absent in the district. the potato production system is also influenced by the local politics. the traders, middlemen, and syndicates get political back up and hence the regulatory mechanisms are ineffective. moreover, women farmers and the farmers from the SC, ST and OBC categories face problem in accessing credit, storage facilities, and market information. even after incurring the repeated losses many farmers have continued to grow potato as they do not have any alternative source of livelihood.

Discussion:

The study exposes a clear poverty trap. low land size, low income, high family dependency ratio, increasing costs and usurious credit regime keep the farmers in a vicious circle of debt. in the years of surplus production, prices crash; in the years of low production, price soars but small farmers do not reap the benefits. this situation of boom and gloom creates a high degree of uncertainty and this discourages long-term investments. the issue here is not only low productivity, but also the unequal market power. middlemen, traders, commission agents, and the storage owners control the seed supply, credit supply, storage facilities, and market access. the farmers remain as price taker. further, intensive cultivation of potato has serious environmental implications. monocropping of potato year after year, high use of chemical inputs, and extraction of ground water aggravate the soil degradation and undermines the long-term sustainability. the climate change further adds to this uncertainty and in the absence of any insurance coverage for potato, it becomes a high-risk proposition. however, there are also silver linings. the farmers continue to grow potato as it is a short duration crop, has a strong demand, and it is a central item in the local food system. some of the farmers have started adopting the drip irrigation, improved varieties, and better crop management practice. a few of them have started doing some small-scale processing such as chips and papad. these are clear indications that with proper institutional backing, the potato economy can be made more inclusive and sustainable.

Recommendations And Conclusion:

Based on the above discussion, the study proposes a few policy interventions for the development of the small farmers engaged in potato production. farmer's cooperatives and producer companies should be promoted and strengthened to reduce the dependency on middlemen and to ensure better access to inputs, storage facilities, and market. a state level msp for potato and a state level procurement system would prevent the distress sale. the procedures of credit supply should be simplified and the potato growers should be included

in the insurance coverage. public investments in cold storages, rural roads, and transparent booking system would crowd in the private sector investment and it will benefit the small and marginal farmers. real time market information, demand and supply planning, and promoting value addition will reduce the income volatility. promoting crop rotation, integrated nutrient management, and water saving irrigation practices through the extension services will ensure the long-term sustainability. there is also a need for effective regulatory mechanism to prevent cartelisation in the storage and marketing system. lastly, alternate livelihood opportunities, social protection measures such as MGNREGA, and imparting various skills will help in reducing the dependency on a single risky crop.

To conclude, the potato production system in Hooghly district represents both the opportunity and the risk of growing a cash crop. potato production as a cash crop once brought in prosperity, but for most of the small and marginal farmers, at present it represents uncertainty, debt, and declining profitability. most of them grow on tiny plots of land, earn an annual income of less than ₹60,000 and are still vulnerable to the vagaries of rising costs, fluctuating price, and inequitable marketing system. however, the resilience and adaptation capacity of the farmers also show rays of hope. an inclusive and equitable potato production system, a fair marketing system, and a sustainable production system with supportive policies can ensure that instead of bringing in a bitter harvest, potato production can contribute toward a more secure rural economy.

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