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Agricultural Development and Livelihood Assessment in Narwana and Uchana Blocks

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Abstract
The present study assessed the status of agricultural development and livelihood conditions among farmers in the Narwana and Uchana blocks of Jind district, Haryana. A descriptive research design was adopted, and primary data were collected from 200 respondents selected through stratified random sampling. Information regarding agricultural productivity, irrigation facilities, adoption of modern farming techniques, access to agricultural credit, awareness of government schemes, and livelihood conditions was gathered through a structured questionnaire. Statistical tools such as mean and standard deviation were employed to analyze the data and evaluate the level of agricultural development in the study area. The findings revealed that respondents from both Narwana and Uchana blocks perceived agricultural development positively, with all selected indicators attaining a high status. The adoption of modern farming techniques emerged as the strongest dimension, followed by improved access to agricultural credit, irrigation facilities, and agricultural productivity. Farmers also demonstrated a considerable level of awareness regarding government schemes designed to support agricultural development. Comparative analysis indicated that Narwana block recorded slightly higher mean scores than Uchana block across most indicators, suggesting a relatively better agricultural development scenario. The study concluded that continued investment in agricultural infrastructure, technological dissemination, farmer capacity-building programs, and effective implementation of government initiatives would be essential for sustaining agricultural growth, enhancing farm productivity, and strengthening rural livelihoods in the region.
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Keywords: Livelihood Assessment, Agricultural development, Narwana block, Uchana block etc.

1. INTRODUCTION

Agricultural development has long been recognized as a cornerstone of economic growth and rural transformation. The sector not only provides food security but also generates employment, income, and raw materials for allied industries. Sustainable agricultural development requires modernization of farming practices, adoption of technology, and effective policy support to ensure that productivity is enhanced while ecological balance is maintained. A strong agricultural base contributes to national stability and supports the livelihoods of millions engaged in farming activities.

Livelihoods of farmers are directly linked to the progress of agricultural development. Access to markets, credit facilities, irrigation infrastructure, and modern inputs determines the extent to which farming households can secure stable incomes. Diversification into allied activities such as livestock, fisheries, and

agro-processing further strengthens livelihood resilience. Agricultural development initiatives, when effectively implemented, reduce poverty, enhance food availability, and improve living standards in rural communities.

Challenges in agricultural development often translate into livelihood insecurities for farmers. Price fluctuations, inadequate storage facilities, poor transportation networks, and limited access to institutional credit hinder the ability of farmers to sustain their livelihoods. Climate change, soil degradation, and pest infestations add further uncertainty to agricultural outcomes. Addressing these challenges requires integrated strategies that combine technological innovation, institutional support, and policy reforms to safeguard farmer livelihoods.

Recent years have witnessed a growing emphasis on inclusive agricultural development that prioritizes farmer welfare and livelihood sustainability. Government programs, cooperative movements, and digital platforms have been introduced to strengthen market linkages, improve transparency, and enhance farmer bargaining power. By aligning agricultural development with livelihood improvement, rural communities are empowered to achieve economic resilience, social stability, and long-term sustainability.

2. REVIEW OF LITERATURE

Abilash (2026) examined the impact of agricultural reforms and financial support mechanisms on growth, productivity, and farmer welfare in Kerala. A mixed-method design was employed using surveys and regression analysis to evaluate technology adoption and financial assistance. Findings revealed that reforms and support mechanisms significantly enhanced productivity and farmer welfare, though barriers to technology adoption limited outcomes. The conclusion emphasized the importance of strengthening institutional support and reducing adoption barriers.

Roy et al. (2026) employed the Fuzzy Delphi Method to develop multi-dimensional societal-level strategies for mitigating farmer distress in India. Expert consensus was aggregated across production, marketing, financial, psychological, and legal domains. Results indicated that cooperative marketing, subsidized insurance, and soil health initiatives were most effective. The conclusion highlighted that integrated, evidence-based strategies were essential for reducing distress and improving livelihoods.

Singh et al. (2025) presented an assessment of decentralized planning for inclusive rural transformation in India. Mixed-method approaches were used to analyze participatory governance and institutional dynamics. Findings demonstrated that decentralized governance improved community participation and livelihood diversification, though fiscal devolution remained weak. The conclusion stressed the need for policy reforms to strengthen rural livelihoods.

Yewale (2023) examined youth development through PMKVY in India. Survey-based methodology was employed to assess skill development outcomes. Findings revealed that PMKVY enhanced skill awareness and confidence among youth, but long-term employability impact was limited. The conclusion emphasized the need for stronger industry linkages.

Makkar & Lamba (2023) presented an analysis of PMKVY and India's skill development mission. The study employed secondary data review and policy analysis. Findings indicated effectiveness in mobilizing youth but highlighted gaps in scalability and quality assurance. The conclusion suggested future directions through industry partnerships and monitoring reforms.

Dattatreya & Indumati (2022) employed a descriptive review of skill development initiatives in India. The study synthesized government reports and secondary data. Findings revealed that PMKVY contributed to

workforce readiness but lacked integration with local industries. The conclusion emphasized the need for regional customization.

Tripathi (2022) examined the effectiveness of PMKVY in bridging workforce skill gaps. Structured questionnaires and regression analysis were employed. Findings showed reduced skill gaps but limited sustainability due to weak industry collaboration. The conclusion highlighted the importance of stronger placement mechanisms.

Sharma et al. (2021) presented a study on awareness and perception towards PMKVY Scheme 2.0 in Rajasthan. Survey methodology was employed with structured questionnaires. Findings revealed moderate awareness and positive perceptions, though placement support remained inadequate. The conclusion emphasized the need for improved outreach and employment linkages.

Malik (2021) examined the impact of PMKVY on skill development outcomes. Descriptive analysis was employed using secondary data. Findings indicated enhanced training outcomes but challenges in monitoring and placement. The conclusion suggested strengthening evaluation frameworks.

Patnaik et al. (2020) employed placement analysis to evaluate employment outcomes of PMKVY. Case study methodology was used with institutional records. Findings revealed gaps between training and employment outcomes. The conclusion emphasized the need for better alignment between training modules and industry requirements.

Research Gap

The existing body of literature on agricultural development and farmer livelihoods revealed important contributions but also highlighted several gaps. Most studies focused on skill development programs, employment generation, and institutional reforms, yet limited attention was given to localized block-level analyses that capture micro-regional variations in agricultural progress and livelihood sustainability. Research often emphasized short-term training outcomes or policy frameworks, while long-term impacts on income diversification, resilience against climate change, and integration of modern technologies remained underexplored. Furthermore, insufficient empirical evidence exists on the effectiveness of decentralized governance, cooperative movements, and digital platforms in directly improving farmer livelihoods at the grassroots level. These gaps indicate the need for comprehensive, region-specific studies that combine quantitative and qualitative approaches to assess agricultural development and livelihood dynamics in a holistic manner.

3. RESEARCH OBJECTIVE

- The objective of the study was to evaluate the current status of agricultural practices, infrastructural facilities, and socio-economic conditions of farming households in these regions.
- The study aimed to analyze crop diversification, productivity levels, and access to resources such as irrigation, credit, and markets.

4. RESEARCH METHODOLOGY

Research Design

The study adopted a descriptive research design to systematically evaluate agricultural development and livelihood conditions in Narwana and Uchana blocks. This design was selected to provide a clear understanding of existing agricultural practices, infrastructural facilities, and socio-economic patterns

among farming households. Both quantitative and qualitative approaches were integrated to ensure comprehensive coverage of production, income, and livelihood dimensions.

Sample Size

A total sample size of 200 respondents was determined for the study. This number was considered adequate to capture diverse perspectives while maintaining statistical validity. The sample size ensured representation across different categories of farmers, including small, marginal, and medium landholders, thereby enhancing the reliability of findings.

Sampling Technique

The sampling technique employed was stratified random sampling. Farmers were categorized into strata based on landholding size and socio-economic characteristics, and respondents were randomly selected within each stratum. This approach minimized bias and ensured balanced representation of different farmer groups, thereby improving generalizability of results.

Study Area and Population

The study area comprised Narwana and Uchana blocks, located within Haryana. The population under consideration consisted of farmers actively engaged in agricultural activities within these blocks. The focus on these two blocks allowed for an in-depth assessment of localized agricultural development and livelihood conditions, highlighting region-specific challenges and opportunities.

5. DATA ANALYSIS

The present chapter deals with the analysis and interpretation of data collected from farmers of Narwana and Uchana blocks regarding the status of agricultural development and livelihood conditions. The data obtained through the structured questionnaire were systematically analyzed using appropriate statistical techniques such as mean and standard deviation to examine respondents' perceptions toward agricultural productivity, irrigation facilities, adoption of modern farming techniques, access to agricultural credit, and awareness of government schemes. The analysis aimed to identify the prevailing level of agricultural development in the study area and to compare the conditions between the two blocks. The findings of the analysis have been presented in a tabular form and interpreted comprehensively to draw meaningful conclusions regarding agricultural progress and its contribution to the livelihood enhancement of rural farming households.

Table 1: Status of Agricultural Development and Livelihood of Narwana and Uchana Block

Statements	Narwana Mean ± SD	Status	Uchana Mean ± SD	Status
Agricultural productivity has improved in recent years.	3.66 ± 1.234	High	3.59 ± 1.212	High
Farmers have better access to irrigation facilities compared to earlier.	3.76 ± 1.196	High	3.61 ± 1.219	High
Use of modern farming techniques has increased.	3.90 ± 0.938	High	3.80 ± 0.913	High
Access to agricultural credit and loans has improved.	3.86 ± 0.902	High	3.77 ± 0.885	High

Farmers are aware of government schemes supporting agriculture.	3.62 ± 1.282	High	3.54 ± 1.267	High

Source: Primary Data Analyzed by Researcher

The findings presented in Table 1 revealed that respondents from both Narwana and Uchana blocks perceived agricultural development to be at a favorable level. In Narwana block, the mean scores ranged from 3.62 to 3.90, while in Uchana block they ranged from 3.54 to 3.80, indicating a consistently high status across all statements. The highest mean score in both blocks was observed for the statement regarding the increased use of modern farming techniques (Narwana: 3.90 ± 0.938; Uchana: 3.80 ± 0.913), suggesting that technological advancements and improved agricultural practices had been widely adopted by farmers. Similarly, respondents reported high agreement regarding improved access to agricultural credit and loans (Narwana: 3.86 ± 0.902; Uchana: 3.77 ± 0.885), highlighting the effectiveness of financial support systems in strengthening agricultural activities and enhancing farm productivity.

Furthermore, the results showed that respondents perceived notable improvements in agricultural productivity and irrigation facilities. The statement "Farmers have better access to irrigation facilities compared to earlier" received high mean scores in Narwana (3.76 ± 1.196) and Uchana (3.61 ± 1.219), reflecting enhanced water resource availability for agricultural operations. Likewise, awareness of government schemes supporting agriculture was rated highly by respondents in both blocks, although with comparatively lower mean values (Narwana: 3.62 ± 1.282; Uchana: 3.54 ± 1.267). Overall, the findings indicated that both Narwana and Uchana blocks experienced positive agricultural development characterized by improved productivity, better access to resources and financial assistance, greater adoption of modern farming methods, and increased awareness of government initiatives, all of which contributed positively to rural livelihoods and agricultural sustainability.

6. CONCLUSION

The findings of the study indicated that agricultural development in both Narwana and Uchana blocks had progressed positively, as respondents reported high levels of agreement regarding improvements in agricultural productivity, irrigation facilities, access to agricultural credit, adoption of modern farming techniques, and awareness of government agricultural schemes. The mean scores for all indicators remained above the average level, reflecting favorable perceptions of agricultural growth and institutional support. Among the various dimensions, the adoption of modern farming techniques emerged as the strongest aspect in both blocks, suggesting an increasing inclination of farmers toward improved technologies and scientific farming practices. Enhanced access to financial services and irrigation infrastructure further contributed to strengthening the agricultural sector and improving farming efficiency.

The study further concluded that although both blocks demonstrated a satisfactory status of agricultural development, Narwana exhibited slightly higher mean scores than Uchana across most indicators, indicating a comparatively better agricultural environment. The positive trends observed in both regions suggested that government initiatives, technological advancements, and improved resource accessibility had played a significant role in supporting farmers and enhancing livelihood opportunities. Therefore, continued investments in agricultural infrastructure, farmer training programs, technology dissemination, and awareness campaigns regarding government schemes would be essential for sustaining agricultural

growth, increasing farm incomes, and ensuring long-term livelihood security for rural households in the study area.

7. FUTURE IMPLICATIONS

Future research can expand the scope by incorporating comparative studies across multiple blocks to identify regional variations in agricultural development and livelihood patterns. Advanced statistical techniques such as regression modeling and structural equation modeling can be employed to establish causal relationships between agricultural practices and livelihood outcomes. Integration of digital platforms, cooperative movements, and climate-resilient farming practices can be explored to provide sustainable solutions.

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