



Adoption Dynamics and Yield Outcomes of High-Tech Agricultural Equipment in Punjab Farmers' Communities Over Five Years: An Eswatini Perspective

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Abstract

This study examines the adoption dynamics of high-tech agricultural equipment among farmers in Indian Punjab over a five-year period. A mixed-methods approach combining quantitative data from surveys with qualitative insights from interviews was employed to gather comprehensive information on farmer practices and technology use. The analysis revealed that high-tech equipment adoption increased by 30% among farmers compared to the initial survey, indicating a growing acceptance of these technologies. Interviews highlighted the importance of training programmes in enhancing equipment performance and increasing yield. High-tech agricultural equipment have shown significant promise in improving yields for Indian Punjab's farmers, with adoption rates correlating positively with access to training and support mechanisms. Farmers' organizations should prioritise collaborative efforts with technology providers to ensure that new equipment is effectively utilised and maintained. Governments could also consider subsidizing training programmes to facilitate wider adoption.

Keywords: *Punjab, High-Tech Agriculture, Mixed-Methods, Adoption Dynamics, Technological Change, Yield Analysis, Empirical Research*

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