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**Topic of the Research: Impact Assessment of New Technology Adoption and suitability  
of market intervention on Agriculture**

### **Findings**

As the second-largest revenue generator in the entire Union Territory, agriculture plays a key role in Jammu and Kashmir's economy. In 2001, apple cultivation covered 90,080 hectares and produced 9,09,583 metric tons. This trend continued until 2010, when it reached 1,41,717 hectares and reached an all-time high of 18,52,412 metric tons. However, after 2010, there was a disparity in production, with 2014's production recorded at 11,70,306 metric tons. Pear cultivation covered 9,674 hectares in 2001 and 35,808 metric tons in 2014. Apricot production increased from 4,099 hectares in 2001 to 11,800 hectares in 2023. Plum cultivation covered 2,858 hectares in 2001 and 4,679 hectares in 2014, reaching 17,710 metric tons in 2023. Walnut cultivation was 61,782 hectares in 2001 and 86,380 hectares in 2023, with the highest production of 3,03,811 metric tons. Almond cultivation was 17,247 hectares in 2001 but decreased to 5,432 hectares in 2023. Overall, apple, pear, plum, walnut, and almonds have shown a varied trend in production and productivity because of weather vagaries ranging from hailstorm and cold weather during spring and early snow in autumn season.

Farmer rates need characteristics and technology characteristics as strong determinants to improve efficiency at the field, and they believe that new technologies can help them gain useful information about high density plantation, which will improve their decision-making. Furthermore, farmers' perception about the performance of need and technology characteristics of new technology plays a crucial role in improving the perceived need technology characteristics. The perceived need technology characteristics in turn positively affect perceived benefits associated with new technology adoption.

Social influence along with Perceived Risk did not have a substantial impact on new technology adoption as farmers need government influence to eliminate financial and technical risk through subsidies. Trust emerged as a major catalyst in influencing farmers' intentions toward adopting new technology.

Facilitating conditions have a significant impact on farmers' continued usage of new technology. Government subsidy was found to be an important determinant of farmers' new technology adoption, as the adoption of new agriculture technologies comes with various subsidy schemes ranging from ten percent to hundred percent.

Gender moderates the relationship between Social Influence, Trust, Perceived Benefits, Perceived Cost, and Govt Subsidy toward behavioural intentions of farmers, while gender does not moderate the relationship between Perceived Risk and Behavioural Intention. Age moderated the relationship between social influence and behavioural intention. Education moderated the relationship between perceived benefits (PB) and behavioural intention further income moderated the relationship between government subsidy (GSUB) and behavioural intention.

The role of government intervention in horticulture sector of Jammu and Kashmir is multifaceted and crucial for the development and sustainability of the agriculture. Market intervention scheme via NAFED has not yielded desired results.