



Youth Participation in Indian Agriculture: Challenges, Opportunities, and Future Prospects

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Abstract

Agriculture has long been central to India's economy, supporting food security and rural livelihoods. However, declining youth participation and an ageing farming population pose serious challenges to the sector's future. This examines the challenges, opportunities, and future prospects of youth engagement in Indian agriculture using national reports, field-based case studies, and global experiences. Key constraints include unstable incomes, physical drudgery, limited access to land and credit, low social recognition, and outdated education and extension systems. Despite these challenges, evidence shows that agriculture can be a viable livelihood for youth when supported by technology, diversification, and entrepreneurial approaches. Successful examples from India and abroad highlight the role of skills, mentorship, and market access in reshaping youth perceptions. The article emphasises the need for systemic reforms to make agriculture youth-friendly, resilient, and economically sustainable.

Keywords: Agripreneurship, Agricultural extension, Technology-enabled farming, Rural livelihoods, Food security

Introduction

For generations, agriculture has sustained India, economically, socially, and culturally. From feeding a population of over 1.4 billion to supporting rural livelihoods, farming has long been the country's lifeline. Yet beneath this achievement lies a growing concern: India's farmers are ageing, while its youth are stepping away from the fields.

Recent national reports reveal a worrying trend, more than two-thirds of rural youth involved in agriculture want to leave the sector, driven by unstable incomes, physical hardship, and limited growth opportunities. With the average Indian farmer now over 50 years old, the future of farming raises an urgent question: Can agriculture still offer a meaningful and viable career for India's young generation?

As young people migrate to cities seeking better jobs, recognition, and lifestyles, agriculture faces a generational crossroads. If this disengagement continues, it could threaten not only rural livelihoods but also long-term food security. However, the real issue may not

be farming itself but how farming is practiced, supported, and perceived.

Why Youth Matter More Than Ever in Agriculture

India stands at a demographic advantage, with nearly 600 million people below the age of 25. This youthful population has the potential to redefine agriculture if given the right opportunities.

Young people bring with them:

- Technological adaptability, especially in digital and data-driven systems
- Environmental consciousness, essential for climate-resilient farming
- Entrepreneurial thinking, vital for agribusiness, processing, and marketing

In an era marked by climate stress, rising food demand, and shrinking natural resources, youth participation in agriculture is no longer optional, it is critical.

Why Are Young Indians Moving Away from Farming?

The declining interest in agriculture among youth is not due to disinterest or lack of commitment. Instead, it reflects deep-rooted structural challenges.

Uncertain and Low Incomes: Farm earnings remain unpredictable due to volatile markets, rising input costs, and frequent climate shocks. Compared to salaried employment or small businesses, farming often appears financially risky to educated youth.

Labour-Intensive Nature of Farming: Traditional farming continues to rely heavily on manual labour. Long working hours under harsh weather conditions, coupled with limited mechanization for small farmers, make agriculture physically demanding and unattractive.

Barriers to Land and Credit: Most young aspirants do not own land and depend on small, fragmented family holdings. Without secure land access or affordable credit, investing in farming becomes a major challenge.

Low Social Status: Despite its importance, farming is often viewed as a fallback option. Urban jobs are associated with stability and prestige, while agriculture is socially undervalued.

Outdated Education and Weak Support Systems: Agricultural education and extension services frequently lag behind modern realities. Youth-oriented training, mentorship, and innovation support remain insufficient.

When Technology Meets Aspiration: Stories from the Field

A Small Farm, A Big Turnaround

Mohan Jamsing Valvi, a young tribal farmer from Maharashtra's Nandurbar district, struggled with water scarcity and low returns from his half-acre land. With support for drip irrigation and scientific crop planning, he began cultivating vegetables during the dry season, a period when many farmers leave land unused. From just 0.5 acre, Mohan earned nearly

₹46,000, transforming not only his income but also his confidence. His success encouraged neighbouring farmers and showed that even small farms can be profitable with the right approach.

From IT Aspirations to Smart Farming: Telangana

In parts of **Telangana**, educated rural youth are returning to agriculture armed with precision irrigation, soil testing, and mobile-based advisory tools. By shifting from water-intensive crops to vegetables and high-value horticulture, they are improving efficiency and profits.

One young farmer growing chilli and tomato on less than two acres reports higher net returns than traditional paddy cultivation proving that farming can be a calculated business choice rather than a gamble.

Dairy as a Stable Enterprise: Gujarat

In **Gujarat**, youth are transforming dairy farming into a modern enterprise. By adopting scientific feeding, improved breeding, and digital milk collection, and integrating dairy with fodder cultivation and biogas units, they have created stable, year-round incomes. This experience highlights that farming viability is not limited to crops alone, it thrives through diversification and integration.

Natural Farming and Youth Leadership: Andhra Pradesh

Young farmers in **Andhra Pradesh** are embracing natural and climate-resilient farming practices, reducing chemical inputs while maintaining yields. Many youths led group now sell chemical-free produce directly to consumers, gaining better prices and trust. Here, youth see themselves not just as farmers, but as environmental custodians and agri-entrepreneurs, showing that sustainability and profitability can coexist.

Lessons from Global Youth Engagement Models

Around the world, targeted initiatives have successfully drawn youth into agriculture:

- **Nigeria's Young Agripreneurs Program** trains youth in agribusiness, value addition, and enterprise development, supporting them with mentorship and startup funding.
- **4-H Clubs in the United States** engage youth through hands-on agricultural projects and leadership training, proving the power of early exposure.
- **Green Innovation Centres in Africa** combine training, technology access, and entrepreneurship support to empower young agripreneurs.

These examples demonstrate that skills, mentorship, and market access can transform youth attitudes toward farming.

What These Stories Clearly Show

- Young people are not rejecting agriculture, they are rejecting low-return, high-risk systems
- Technology, skills, and market linkages make farming viable
- Small landholdings are not the problem, Inefficiency is.
- Modern agriculture relies as much on knowledge and innovation as on land

Emerging Opportunities for Youth in Agriculture

Today's agriculture extends far beyond crop cultivation:

- **Agri-tech:** Drones, AI advisory, precision farming
- **Agripreneurship:** Food processing, organic products, input startups
- **Agri-tourism:** Farm stays and experiential learning
- **Market integration:** E-commerce, cold chains, direct sales
- **Climate-smart farming:** Water efficiency and sustainable practices

As digital natives, young people are uniquely positioned to lead this transformation.

What Must Change to Bring Youth Back

Making agriculture attractive to youth requires systemic change:

- **Rebrand farming** as a science-driven, entrepreneurial, climate-smart profession
- **Modernize education** to include digital tools, business skills, and innovation
- **Improve access to land and finance** through youth-friendly policies
- **Leverage technology** to reduce risk and drudgery
- **Strengthen institutional support** with mentorship and startup ecosystems

Is Farming Still Viable? Yes, But Not in Its Traditional Form

The future of youth in agriculture does not lie in subsistence farming. Instead, it lies in modern, technology-driven, and business-oriented agriculture. Across India, young farmers are proving that when supported with the right tools and knowledge, farming can be profitable and fulfilling.

Conclusion

The Road Ahead: Purpose, Profit, and Possibility

India's youth are not turning away from farming; they are turning away from unviable farming systems. When agriculture becomes modern, profitable, and respected, young people respond with creativity and commitment. Re-engaging youth in agriculture requires systemic interventions, including modernization of agricultural education, improved access to resources, promotion of digital and climate-smart technologies, and positive rebranding of farming. Strengthening youth-friendly agricultural ecosystems is crucial for ensuring the long-term sustainability of Indian agriculture, rural development, and national food security.

The real question is no longer whether farming can work for India's youth but whether India is ready to make farming work for them.

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