



Role of Youth Entrepreneurship in Transforming Agriculture and Rural Economy

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INTRODUCTION

Rural youth have a vital role in transforming agriculture into an energetic, lucrative, and technologically driven enterprise. Agriculture, as practiced today, faces increasing challenges like climate variability, low soil fertility, high costs of inputs, and unpredictable markets that demand innovative and sustainable ways of doing business. Agripreneurship or entrepreneurship in agriculture opens up new avenues for improving livelihoods, adding value, and developing enterprises among rural youth.

At the same time, rapid developments in agricultural technologies like drones, IoT-based sensors, mobile advisory platforms, precision farming practices, and improved farm machinery are restructuring modern agriculture. These innovations further enable productivity, resource efficiency, and smart decision-making. Involvement of rural youth in these emerging domains will definitely facilitate rural development, generate more employment, enhance farm profitability, and ensure sustainable agricultural growth.

2. The Importance of Rural Youth in Agripreneurship

Rural youth are creative, adaptable, and have the potential to be leaders; they are open to trying out new ideas, hence being ideal for agripreneurial ventures. Their active participation contributes to agricultural transformation in a number of ways:

- ✓ Diversification into such farm enterprises as horticulture, livestock production, aquaculture, mushroom farming, beekeeping, and agro-processing.
- ✓ Introduction of innovative business models like agritourism, hydroponics, vertical farming, organic agriculture, and protected cultivation with greenhouses and shade houses.
- ✓ Strengthening of rural economies, as youth-led enterprises create local employment, improve value chains, and strengthen market linkages.
- ✓ Reduced rural–urban migration, as agripreneurship creates viable income generation opportunities within rural settings.

A combination of entrepreneurial spirit among the youth and modern agricultural technologies lays the foundation for a strong, competitive, and future-oriented agribusiness sector. Their involvement is critical in improving productivity, enhancing supply chain efficiency, and promoting sustainable rural livelihoods.

3. Drivers of Technology Adoption Among Rural Youth

3.1 Access to Digital Tools

The increased use of smartphones and internet services has substantively widened the circle of digital literacy among rural youth. They can, through different mobile applications, have easy access to weather forecasts, advisories on crop selection, and market prices, which facilitate informed decisions at their level. Digital learning platforms, YouTube channels, and agricultural portals further firm up the technical know-how. In this way, rural youth experience a rise in confidence and motivation for technology-driven farming practices.

3.2 Government Programs and Start-up Support

Subsequent government schemes, like ACABC, PM-FME, RKVY-RAFTAAR, and Startup India, have activated solid support systems for youth-led agribusiness ventures. These programs provide skill training, incubation support, credit linkages, and financial incentives that reduce the risks associated with starting a new enterprise. The availability of subsidies for machinery, processing units, and digital tools encourages investment in modern agriculture by youth. Therefore, with innovative ideas and long-term sustainability goals, more young people are coming into agripreneurship.

3.3 Availability of User-Friendly Farm Technologies

Modern farm technologies have become simpler, more affordable, and easier to operate, thus attracting a larger number of young farmers. Drones, micro-irrigation systems, mobile advisory apps, and solar pumps do not require much technical expertise from users, hence can be adopted by the youth. Such technologies reduce labor, increase accuracy, and raise overall productivity. Hence, rural youth prefer such technologies as they make farming more efficient and profitable.

3.4 Exposure through KVKs, SAUs and NGOs

Krishi Vigyan Kendras, State Agricultural Universities, and non-governmental

organizations are playing a vital role in the dissemination of technological awareness among rural youths. They have a series of field demonstrations, training programs, exposure visits, and skill development workshops, which familiarize youngsters with modern practices. The goal here is to show the young farmers the practical benefits of new technologies through such interactive learning platforms. The exposure instills in them the motivation to adopt innovations and pursue entrepreneurial opportunities in agriculture.

4. Key Areas of Agripreneurship for Rural Youth

4.1 Agri-Input Supply and Advisory Services

Rural youth are increasingly establishing enterprises for providing essential agricultural inputs like quality seeds, fertilizers, pesticides, and organic bio-inputs. These enterprises ensure timely availability of inputs to farmers for improved crop productivity and reduced dependency on middlemen. Several young entrepreneurs also offer advisory services with the help of digital tools coupled with scientific knowledge. This enhances the decision-making ability of the local farmers and promotes modern agricultural practices in rural areas.

4.2 Farm Mechanization and Custom Hiring Services

Custom hiring centres run by rural youth provide tractors, tillers, harvesters, and drones on rent. These services make accessible different types of expensive equipment to small farmers at reasonable prices and lower their cost of production. By providing machinery support during crucial times like sowing and harvesting, youth-led CHCs improve timeliness in farms, enhancing the efficiency level. This model assures a continuous income for rural youth besides encouraging mechanization in the farm sector.

4.3 Value Addition and Agro-Processing

Small-scale processing units set up by rural youth help them convert raw agricultural produce into items with high value addition, such as pickles, dried vegetables, jam, dairy products, and millet-based foods. Value addition enhances the shelf life of the produce and reduces post-harvest losses, thus giving higher returns. In addition, these enterprises provide a source of employment to local communities and enhance the economic activities in rural areas. Increasing consumer demand for packaged and processed foods is making agro-processing an attractive avenue for youth agripreneurship.

4.4 Protected and Precision Farming

Advanced farming systems include hydroponics, vertical farming, and protected cultivation under polyhouses and shade nets that the young farmers are adopting increasingly. It provides continuous production, quality improvement, and rational use of water and nutrients in crops. IoT-based sensors and precision irrigation systems enable accurate, real-time monitoring of soil moisture, temperature, and crop health. The scientific and high-tech nature of these systems appeals to educated youth who look for modern career opportunities in agriculture.

4.5 Agri-Marketing and Digital Platforms

Digital marketing solution services provided by the rural youth help to connect the farmers directly with consumers through online platforms. They undertake e-commerce operations, farm-to-fork delivery models, and logistic networks to ensure fair pricing and timely delivery of fresh produce. These innovations reduce the involvement of intermediaries, enhancing farmers and entrepreneurs' profitability. The digital marketing ventures ensure that youth establish sustainable agribusiness models with wider market reach for the produced commodities.

5. Challenges in Engaging Rural Youth

Some of the key factors contributing to this include that youngest people have no access to formal credit, collateral, and financial support, which severely limits their potential investment in agricultural technologies or start-up agribusinesses. A general lack of structured mentorship and business incubation services in rural areas limits their exposure to modern business practices and entrepreneurial skills. Youth view the start-up of agribusinesses as a high-risk venture due to the uncertainties brought about by fluctuating markets, climatic changes, and unstable income patterns. Many young farmers have limited awareness about new technologies, digital tools, and existing government schemes and thus do not explore innovative opportunities in farming. Traditional mindsets, especially those held by family and society at large, are in many cases pressurizing young people not to consider agriculture as a full-time career. Meeting these challenges is critical to build a supportive environment that fosters youth-led agripreneurship and long-term engagement in agriculture.

6. Strategies to Enhance Youth Participation

6.1 Strengthening Skill Development Programs

Skill development programs need to cover practical trainings in agribusiness management, digital agriculture, and modern production technologies. Hands-on exposure through field demonstrations, internships, and incubation of start-ups can go a long way in significantly enhancing the competencies of youth. Such training enhances confidence and prepares young individuals to manage agricultural enterprises successfully.

6.2 Improving Access to Finance

Improved access to finance can be enhanced by subsidized loans, seed funding, venture capital, and credit guarantee schemes, thus allowing young agri-entrepreneurs to either establish or expand their ventures. Removing bureaucratic bottlenecks and simplifying the loan procedure will encourage youth participation. Financial literacy programs will help them to better understand investment planning, risk management, and business sustainability.

6.3 Promotion of Farmer Producer Organisations (FPOs)

Youth-led FPOs are important agents of collective marketing, bulk input procurement, and enterprise development. They will provide the necessary avenue for youths to gain bargaining power, decrease costs, and have access to wider markets. Encouraging youth to take up leadership roles in FPOs will strengthen community-based agribusiness models and enhance rural entrepreneurship.

6.4 Technological Demonstrations and Innovation Hubs

Setting up Rural Technology Parks and Agri-Innovation Centres facilitates exposure for young farmers to learn by doing and experimenting. Youth develop an understanding of the benefits accruing from better technologies through live demonstrations, exposure visits, and access to improved equipment. Such hubs inculcate an innovation culture and inspire technology-driven farming.

6.5 Encouraging Public-Private Partnerships (PPPs)

Public-private partnerships can enhance the pace of technology dissemination and agripreneurship development in rural areas. A collaboration between government agencies, private companies, and research institutions will ensure better training, improved infrastructure, and

stronger market linkages. Such partnerships help bridge the gap between scientific innovations and on-ground implementation.

7. Impact of Technology Adoption by Rural Youth

Increasing modern technology adoption among rural youth is bringing about immense positive changes in the sector. Precision farming, mechanization, and better resource management ensure a high level of productivity with increased profitability. With real-time data, decision-making is both quick and more informed, thereby reducing risks while improving crop performance. Technology also reduces post-harvest losses by enabling better storage, processing, and value addition activities. Better supply chains and market integration go a long way in giving the farmers better price realization with reduced dependence on intermediaries. In a nutshell, technology adoption improves farmers' resilience to climate variability, ensures sustainable farming, and

contributes to long-term agricultural development.

8. CONCLUSION

Rural youth engagement in agripreneurship and the adoption of technology are highly crucial for the transformation of agriculture into a vibrant, competitive, and future-ready sector. The next phase of agricultural modernization could hence be driven by young farmers with the help of enabling policies, focused training programs, financial incentives, and enhanced digital infrastructure. It not only enhances agricultural productivity but also contributes to rural development, employment generation, and national food security by empowering rural youth. Their innovative ideas, blended with modern technology, can create sustainable and profitable agribusiness models. Encouraging active participation among the youth will usher in a resilient and technology-driven agricultural future that will bring benefits to farmers and society at large.