

**AGRICULTURAL SKILL DEVELOPMENT AMONG YOUTH:
A PROSPECT FOR SUSTAINABLE GROWTH****Dr. Netramani Pradhan¹**DOI: <https://doi.org/10.5281/zenodo.20496276>**Review: 01/05/2026****Acceptance: 04/05/2026****Publication: 01/06/2026****Abstract:**

Agricultural skill development among youth is increasingly recognized as a critical factor in ensuring sustainable growth in the agricultural sector. With an aging farming population and the urgent need for modernization, empowering young people with the necessary skills is essential for the future of agriculture. Agriculture in India plays an important role in the national as well as global economy, by providing food and employment opportunity to millions of people. It provides raw materials to different sectors. The need for skilled youth in the agricultural sector becomes immensely important. There is a greater need to empower the youth by making them aware of the right skills appropriate to them for sustainable growth of agriculture. Skills development in the agriculture sector among rural youth for its sustainable growth is indeed the need of the hour. The objective of the study is (i) to analyze the skills development in agriculture in rural areas, (ii) to find out the factors lacking in agricultural skills development in rural areas, and (iii) to suggest suitable strategies and prospects for agricultural skills development. A case study was conducted on young dynamic farmers of Bargarh district, Western Odisha. This paper reveals the problems and prospects for skills development among rural youth.

Key Word: Skill Development, Agriculture, Rural Youth, Sustainable growth, Youth Empowerment.

Introduction

Agriculture has always been the backbone of many economies, particularly in developing countries. However, the sector faces numerous challenges, such as aging farmers, lack of modernization, and the pressing need for sustainable practices. In this context, agricultural skill development among youth emerges as a crucial strategy for ensuring sustainable growth. Agriculture as the traditional occupation of India is the backbone of its economy. In the ever-evolving background of agriculture in India, skill development among rural youth stands as a beacon of growth. Indian farmers generally remain poor due to an inadequate understanding of sustainable farming for their productivity and quality of life enhancement (**Kumar, P. et.al. 2020**).

Agriculture plays an important role in the national as well as global economy, by providing food and employment opportunity to millions of people. It provides raw materials to different sectors. The need of skilled youth in the agricultural sector becomes immensely important. As the population is increasing, there is a greater need to increase productivity to fulfill the requirements of the vast population. Since our ancient era, it has been seen that Indians are ever talented, dedicated, and honest in their respective work field. Presently, highly skilled and talented people in different fields are moving to other countries. Their skills are being used for the economic development of foreign countries. Thus, it can never be assumed that India has non-skilled people. There is a greater need to empower the youth by making them aware of the right skills appropriate to them. The vision of

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making Viksit Bharat by 2047 will be successful, when its youth, especially from rural area will be more skilled and empowered. Agricultural skill development among rural youth is indeed, the need of the hour.

Objectives of the Study

1. To analyze the skills development in agriculture in rural areas,
2. To find out the factors lacking in agricultural skills development in rural areas,
3. To suggest suitable strategies and prospects for agricultural skills development.

Case Study Method

The case study approach includes explanatory, exploratory, and descriptive methods. This study is done through the descriptive method as the purpose is to document the present practices of skill development in sustainable farming growth.

Why Skill Development in Agriculture?

India lives in her villages. The people are mostly dependent on agriculture. It is supposed that India is losing 2000 farmers every day since 1999 (**Sainath, 2013**). Agriculture is dependent on water. The crops like wheat and rice need huge amounts of water. This has become a challenge for farmers in some areas of Odisha to produce rice during the Rabi crop. Excluding the Canal areas, the people mostly depend on ground water. Gradually the level of groundwater is decreasing and during the Rabi crop people are facing problems due to shortage of water, as they are mostly doing rice farming in both Kharif and Rabi crops. This situation has become a threat to the future of the nation.

Thus, there is a greater need to orient the farmers and make them skilled in doing the right kind of farming which will not hamper the environment also. In the Kharif crop, there is the availability of rainwater which is most suitable to rice farming. Despite depending on groundwater for rice production, the farmers need to be skilled in doing other types of crops like pulses, oilseeds, seasonal vegetables, and fruits (Zaid crops) which will have more financial benefits to the farmers rather than rice. The small farmers are not getting much benefit from rice production. In the changing scenario, they are facing lot of financial challenges due to their unskilled performance on agriculture.

Thus, skill development in different fields of agriculture is the need of the hour. This will provide them a support for more production and financial assistance to meet the current challenges. Also, skill development in agriculture will help them in entrepreneurship in their field. Agricultural skill development is vital for the progress and sustainability of the agriculture industry. By equipping the agricultural workers and farmers with requisite skills, increased productivity, sustainable farming practices, and resilience to face challenges like climate change can be promoted. Investing and empowering in skills development is not merely beneficial to the farmers, but also for the overall development of the India's agriculture sector.

The Importance of Engaging Youth in Agriculture

Demographic Dividend: Many countries, especially in Africa and Asia, have large youth populations. Engaging this demographic in agriculture can address labor shortages and bring fresh perspectives to the sector.

Innovation and Modernization: Young people are more likely to embrace new technologies, practices, and innovations. By equipping them with the necessary skills, they can lead the modernization of agriculture, making it more efficient and sustainable.

Sustainable Practices: Educating youth on sustainable agricultural practices can help mitigate the environmental impact of farming. They can be trained in areas such as organic farming, water conservation, and the use of renewable energy in agriculture.

Challenges in Agricultural Skill Development

India is facing a lot of challenges in skills development among youth in the 21st century also.

- **Lack of Awareness:** Many people, especially in rural areas, have a lack of awareness regarding skill development programs in agriculture and their benefits. Even, they are unable to not know about the existing opportunities and how to access those for their livelihood.
- **Perception Issues:** Agriculture is often perceived as an unattractive career option. Changing this perception through awareness campaigns and showcasing successful young farmers can be vital.
- **Disinterest on Agriculture:** Due to low profits in agriculture especially in rice and wheat, and high profits in other sectors, people are showing disinterest in agriculture.
- **Insufficient Skilled Trainer:** For providing skills training to rural youth, a huge number of highly skilled trainers are needed. As India lives in her villages, the people of villages need to be more skilled in agriculture. But there are insufficient skilled trainers in the agriculture sector.
- **Caste-specific:** Traditionally, some skills in India have been continuing as caste-specific like Safai karmachari or scavenger. They are not coming forward to access advanced skills in other sectors, especially in agriculture.
- **Unequal Access and Opportunity:** Inadequate access to skills development programs, mainly in marginalized areas, and rural areas, makes worse economic disparities. Lack of training facilities, cultural norms and language barriers can hinder accessing opportunities for these communities. Further, the small participation of women in skills development programs in agriculture restricts the economic potential of India and reinforces gender inequality.
- **Mobility and Accessibility:** It has become a challenge for people who live in disadvantaged areas to access skill development programs in agriculture.
- **Funding and Sustainability:** Agricultural skill development programs need important funding for training, infrastructure, and other resources. Young people often face difficulties in accessing the capital needed to start agricultural ventures. Providing financial support, such as grants, loans and subsidies, can

encourage youth participation. Ensuring sustainable financial support is necessary for the continuity as well as success of these initiatives.

Strategies for Skill Development

The objective of skill development is meant for sustainable growth in rural areas, from each Panchayat unit. Transforming India can be possible through an approach by considering the challenges faced in the agricultural sector like global warming, the need for organized agricultural sectors, introduction of modern technology, making agricultural profit to attract youth to agriculture sectors, etc.

- **Hands-on Training and Demonstration:** For developing skills among people in the agricultural sector, hands-on training and demonstrations are needed. Hands-on training related to skills with demonstrations of improved technologies on farming activities, seed bed preparations, planting and transplanting, harvesting, spraying, farm management, farm mechanization, agro-processing, etc. needs to be given top priority for practical knowledge.
- **Workshops and Short-term Courses** on agriculture should be given to the people to make them more oriented for better production as well as for environmental protection.
- **Agricultural Internships and Apprenticeships** should be provided to the interns to make them skilled trainers. These have direct experience in every aspect of farming operation as hands-on training is given for sustainable farming practices.
- **E-learning and Online Platform:** Online courses and webinars allow youth to learn at their own pace and access resources on agriculture from anywhere.

Interactive Content like the use of videos, virtual simulations, and interactive modules to enhance learning management can help in skill development on farming.

- **Community-based Learning group Projects:** By engaging youth in community-based agricultural projects that promote teamwork and practical collectively can also enhance their skills in agriculture.

Farmer Field Schools: Facilitate learning groups where farmers meet regularly to learn and experiment with new practices collectively.

- **Competitions and Challenges:** Competitions need to be organized to encourage the youth to come up with innovative solutions to agricultural problems.

Hackthons: Events where young people can collaboratively work on technology-driven solutions for agriculture.

- **Use of Technology and Modern Tools:** Training should be given on the use of digital tools like mobile apps, software for farm management, and precision agriculture tools. Hands-on training needs to be given on the use of modern equipment like Drones for surveying and sensors for health monitoring.

- **Research and Development Participation:** There is a need to involve the trainer and farmers in a collaborative research project that addresses local agricultural challenges. Further, encouragement is also needed for experimentation with new crops, farming techniques, and technologies under guidance.
- **Extension Services** like field visits by agricultural officers to provide on-site training and support must be provided. There must be a provision of providing access to resources such as seeds, fertilizers, and manuals as part of the training.
- **Simulation and Role-playing:** Farm simulation software need to be practiced to teach farm management and decision-making. There is also a need to simulate real-world challenges for problem-solving and critical thinking for better agriculture practice.
- **Peer-learning and networking:** The formation of study groups for collaborative learning and peer-to-peer knowledge sharing needs to be promoted. There is also a need to organize events where young farmers can meet, exchange ideas, and build professional networks.
- **Follow-Up and Continuous Support:** Regular follow-up should be provided for regular check-ins to assess progress and provide ongoing support. The creation of network program alumni for continued learning and support is also needed.
- **Promoting Agricultural Skill Development through Shared Eco-system:** With a joint venture of agriculture, horticulture, and forest department agricultural skill development can be promoted.

Benefits of Youth Involvement in Agriculture

Economic Growth: Engaging youth in agriculture can boost the economy by increasing agricultural productivity, creating jobs, and stimulating rural development.

Food Security: With more skilled individuals in agriculture, food production can be increased, ensuring food security for growing populations.

Sustainability: Young farmers trained in sustainable practices can lead the way in reducing the environmental footprint of agriculture, ensuring the long-term viability of the sector.

Case Studies

Highlighting examples of successful youth-led agricultural initiatives can inspire others. Case studies from different regions can demonstrate the potential of youth in transforming agriculture.

A case study was conducted on innovative farming in Bargarh District of Odisha. This was conducted on **two** farmers who are presently following innovative practices in agriculture and getting profit from that.

A favorable environment has been created for the young innovative farmers through a shared eco-system. The locally available experts in human resources like engineers, retired teachers, village-level officers have visited from time to time and suggested them for progressive farming.

Ajit Biswal is a young dynamic farmer of Jamkhar of Bargarh district who is cultivating multiple farming like guava (Japanese Red Diamond, Taiwan Pink, and Thai-7) on a 2-acre farm started in 2017, Mango on a 12-acre ancestral farm, and strawberry (Kamroja- American breed) on 20 dismals in the winter season and started in 2020. He has also developed a government-registered nursery and selling that nationwide. He is a graduate of Arts with B.P.Ed. degree. He is following a drip irrigation system for the cultivation of all these farming. He is managing the farm with his father and brother, and also using 4 permanent laborers and 15 women workers as per the requirements of the work of farming. He has not received any kind of training provided by the Government, but he was inspired by his father and one engineer, a progressive successful farmer, who is cultivating guava in Bhawani Patna. From one exposure visit to horticulture Jalgaon, Maharashtra, he observed strawberry farming and he tried to cultivate it as an innovative practice. Initially, strawberry farming was not successful, due to weather, but his curiosity to learn to make it fruitful made him successful in this farming. He is not using any kind of pesticides, only following organic farming. It was found, his father planted mango trees 20 years earlier in 12 acres which is now giving a profit of 10 lakhs per year. He had invested 2 lakhs in guava farming, and now getting 6 lakhs profit per year, and by investing 30000 getting a profit of 1 lakh in strawberry. Moreover, he is also getting profit from the nursery by selling plants. He has opened his YouTube channel as Biswal Farming and provides all information from the plantation to its success, also which is being monetized. He got the marketing idea from a successful farmer in Nayagarh. He revealed the success of marketing as to produce good quality products as well as more quantity. Now he has become a successful entrepreneur in rural India.

Jatadhari Padhan, a progressive farmer of Barangpali of Bargarh District, cultivates Dragon fruit, Apple, Jack Fruit, Custard Apple, and Guava. Earlier he was producing rice in more quantity, but it needed more laborers, money, and pesticides. Thus, he had planned for innovative productive and profitable farming. He has learned this modern farming from YouTube and developed it by himself without depending on outside laborers. He is also following organic farming. He had invested 1 lakh for developing this farming and making suitable for the land by increasing the height of the land. Now he is cultivating rice on 2 acres only. He has not yet received any training in this field. People from many areas are coming to observe his successful farm. For marketing, he updates photos of dragon fruit production in Facebook which is sold immediately. Besides this, he developed a nursery of all these plants and was successful in selling them.

Prospects of Agricultural Skill Development

Gandhiji had the vision of self-sustainable village economic units which have great relevance in the present day. India's vast human resources have always rural links in some ways. There exists a great demand for a skilled workforce, especially in the globalization context, when the economy of India is growing at an unprecedented rate (Reddy, P.D 2022). The village should be an economic unit for the greater development of the nation. For developing skills among rural youth, the dynamic approach needs to be evolved. Such micro-level progress on agriculture needs to be prioritized. Farmers need to have appropriate skills to reduce wastage or deterioration of the quality of the produce (Dubey, 2016). There is a greater need to minimize the use of groundwater in agriculture for better for environmental protection. Skills should be given for water management and drip irrigation. Present youth should be skilled in cultivating varieties of crops, rather not overly depending on paddy only. For better economic development in rural areas, initiatives should be taken to provide training to the youth of rural areas. Women as a great part of the economic development of society should also be involved in skill development programs. Emphasis should be given in innovative farming as per the demand of society and

the marketing skills of the farmers. If farmers will get the idea of marketing without the involvement of middlemen, then they will get maximum benefits. Along with skills development, the Government should provide financial assistance to the farmers. An awareness campaign should be made available in rural India to create interest in agriculture. The New Education Policy- 2020 emphasizes strengthening vocational education (agricultural education in the Indian context) by developing professionals who can understand and use traditional as well as local knowledge and emerging technologies. To meet future challenges, skills in organic farming need to be promoted.

Conclusion

This paper has some practical implications. Innovative farming can also be done by small farmers. The only important thing is most people do not have the idea and skills in innovative farming. Hence, they should be skilled. The vision of making Skill India can be successful, if the people of rural India will develop the right knowledge on progressive farming, along with their skill development. The development of agricultural skills among youth is not just a necessity for the present but an investment in the future. By empowering young people with the right skills, we can ensure that agriculture continues to thrive, contributing to economic growth, food security, and environmental sustainability. This will pave the way for a more sustainable and prosperous future for all. As India will continue to lead in production in agriculture, it should also lead in the enhancement of skilled youth that can harness the potential of tradition and innovation. By developing skills among rural youth, the livelihood of millions can be secured and propel the agriculture field toward a sustainable future.

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