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Status and scope of organic farming for entrepreneurship development among rural youth of North East India

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Abstract

Organic farming has emerged as a potential avenue for entrepreneurship development and employment generation among the rural youth in North East India. The North Eastern region, comprising of 8 states, is characterized by hilly terrain, heavy rainfall, rich biodiversity, and predominance of indigenous farming practices. Against this backdrop, organic farming aligned with traditional ecological knowledge presents a viable livelihood option. This review article examines the current status, growth trends, opportunities and challenges for organic agriculture in North Eastern states with a focus on entrepreneurship development among rural youth. Relevant literature was reviewed to provide a holistic perspective. The key aspects covered this paper include: (i) status of organic farming in North East India (ii) scope and potential, (iii) role in entrepreneurship development among rural youth, (iv) initiatives by government and other stakeholders (v) challenges and gaps and (vi) recommendations for accelerating growth. The review indicates that organic agriculture has strong roots in the traditional farming systems of the region. The sector has registered remarkable growth in recent years, aided by conducive agro climatic conditions, favourable policies and rising market demand. However, substantial potential remains untapped. Concerted efforts by government agencies and other stakeholders are needed to promote organic entrepreneurship among rural youth through proper training, financial support, market linkages and an enabling environment. Organic farming can provide sustainable livelihood options for rural communities and position North East as a hub of organic produce.

Keywords: Organic farming, entrepreneurship, rural youth, North East India

Introduction

The North Eastern region of India is characterized by immense natural and cultural diversity which comprises of 8 states namely Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura. About 70% of the population resides in rural areas^[1], where agriculture and allied activities constitute the primary occupation^[2]. However, issues like small land holdings, limited off-farm employment opportunities, and lack of social security nets render rural livelihoods highly vulnerable^[3]. In recent years, organic farming has emerged as a potential avenue for sustainable livelihood promotion and employment generation in the region^[4, 5]. In North East India, Organic agricultural practices align closely with the traditional ecological knowledge of indigenous communities, which is achieved by Wisdom^[6-8]. The sector has witnessed steady growth buoyed by rising consumer demand for organic produce^[9, 10]. Organic farming presents a viable entrepreneurship opportunity for rural youth in North Eastern states. Against this backdrop, this review article examines the status, scope, initiatives, challenges and future prospects of organic agriculture with a focus on fostering entrepreneurship and livelihood creation among youth in the rural areas of North East India.

Methodology

The review involved systematic search and analysis of relevant literature to develop a holistic understanding of the subject. The key aspects covered pertain to: (i) current status of organic farming in North East India highlighting area, production and growth trends (ii) scope and potential for organic agriculture in the region (iii) role of organic farming in entrepreneurship development among rural youth (iv) initiatives by government agencies and other stakeholders (v) challenges and gaps in the sector (vi) recommendations and strategies for promoting organic entrepreneurship among rural youth.

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Literature published in scholarly journals, reports of government agencies and international organizations, policy documents, and news articles were referred to gather pertinent information. The geographic focus was on the 8 North Eastern states *viz.* Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura.

Status of organic agriculture in North East India

North East India has a long tradition of organic farming with rainfed agriculture without using any chemical inputs in their crop field. The impact of green revolution of India is escaped this region as a result less use of chemical fertilizers and pesticides, lack of use of modern machinery is seen in this region. Although in the plains area of North East India, the use of chemical fertilizers and pesticides is little high, it is very less in the Hilly part of the region. The Hilly region of North East India rooted in the practice of jhum or shifting cultivation, which relies on biomass recycling and natural soil nutrient replenishment ^[11]. Indigenous tribes prefers to do their cultivation traditionally follows organic methods and avoid chemical inputs ^[12, 13]. In recent decades, modern forms of organic agriculture have taken root buoyed by rising consumer demand and enabling policies. Sikkim adopted a statewide approach to become India's first 100% organic state in 2016 ^[14]. As of 2019-20, the total area under organic certification in North East India was 3.56 lakh hectares - the fourth highest among all regions in the country ^[15]. Meghalaya leads in terms of share of certified organic area to total cultivable area (6.43%) followed by Sikkim (6.31%), Nagaland (3.11%), Mizoram (2.32%), Manipur (1.53%), Arunachal Pradesh (1.48%), Tripura (0.07%) and Assam (0.06%) ^[16]. The major organic crops grown are ginger, turmeric, black rice, exotic vegetables, pineapple, passion fruits, tree nuts, medicinal plants, spices, etc. allied with apiary and livestock rearing ^[17]. In terms of production, the region accounts for a significant share of India's organic ginger (65%), turmeric (55%), black rice (15%), pineapple (8%) and king chilli (6%) output ^[18]. The total value of organic produce from the region is estimated at ₹1000 crores, as per 2019 figures ^[19].

The North East Organic Products Development Agency (NEOPDA) reports that the certified organic area in the region has expanded at a Compound Annual Growth Rate (CAGR) of 22% between 2013-14 to 2019-20 ^[20]. Increasing integration with high-value markets and commodity value chains have aided growth. For instance, Sikkim organic produce is marketed through retail chains like Reliance Fresh and Spencer's along with e-commerce platforms such as Amazon, BigBasket and Flipkart, generating huge revenue ^[21]. To summarise, organic agriculture has strong roots in traditional farming practices of indigenous communities in North East. Adoption of organic methods has expanded considerably in recent years driven by conducive policies, rising exports and high-value domestic market integration. However, the sector occupies a small share of the region's cultivable area indicating significant untapped potential.

Scope and Potential

North East India offers unique competitive advantages for organic production based on inherent strengths. The region has over 250 ethnic communities with rich indigenous farming knowledge and bio-cultural diversity ^[22]. The agro-climatic conditions, characterized by high rainfall, gentle slopes, and light soils with high organic content, are

conducive for organic cultivation ^[23]. The cropping patterns, low use of chemical inputs traditionally is also favourable as transition periods for certification are less compared to intensive chemical-based farms ^[24]. There exists high demand for organic spices, fruits, vegetables, medicinal plants and nutrients rich specialized grains in niche export and domestic markets. Further, organic animal husbandry for products like milk, meat and honey has huge potential. Agro- and community-based tourism can be integrated with organic farms providing experiential and recreational opportunities to urban tourists. There is growing interest in natural health products, food items with geographical indications, ethnic cuisines and organic produce among health-conscious urban consumers, especially in metro cities. The geographical proximity and connectivity of the region to major urban markets like Delhi, Kolkata, Mumbai and Bengaluru also augurs well for promoting specialized organic products ^[25]. According to estimates, less than 2% of the region's cultivable area is under organic certification indicating vast potential for expansion ^[26]. Concerted efforts to transition more area under organic methods can help in doubling farmer's income, ensuring food and environmental security. For instance, a study of Apatani plateau of Arunachal Pradesh reveals converting 50% area under organic can potentially increase net income by 60% and generate additional employment of over 1 million man-days due to higher labour usage in organic ^[27]. However, realizing this potential requires focused interventions by stakeholders in domains of training, credit access, value addition, market integration and infrastructure development. Sustainable harvesting of minor forest products also offers large scope for local enterprise development. To conclude, North Eastern states possess inherent strengths which can be strategically leveraged to position the region as a hub of organic produce in the country.

Organic farming and rural entrepreneurship development

Organic agriculture offers a promising pathway for entrepreneurship development and employment generation among rural youth in North Eastern region. Field surveys reveal youth have a positive perception regarding viability and profitability of organic farming. Mitigating risks by combining with allied activities like horticulture, livestock rearing and agroforestry-based models can enhance returns ^[28]. Group approaches like farmer producer companies and cooperatives provide avenues for aggregation, value addition and market linkages. For instance, some Organic Producer Company Ltd. in Meghalaya enables small and marginal farmers to access high-value markets profitably ^[29]. Studies indicate income growth, asset creation and savings are higher among organic farmers compared to conventional counterparts ^[30]. Organic farming offers multiple enterprise opportunities in the entire value chain spanning input production, aggregation, processing, packaging, branding and distribution. For instance, production and marketing of organic inputs like biopesticides, bio fertilizers and vermicompost offers scope for start-ups.

Several government schemes like Paramparagat Krishi Vikas Yojana, Mission Organic Value Chain Development provide support for organic entrepreneurship through training, certification and marketing assistance ^[31]. Collaboration with research institutes and NGOs also fosters technical capacities among rural youth to pursue organic enterprises. Rural youth with formal education has displayed higher propensity to adopt organic practices leveraging technological tools for

monitoring and quality control ^[32]. Digital innovations like IT-enabled supply chain management systems, e-commerce and social media offer new possibilities to connect with markets. To conclude, organic agriculture coupled with innovation and institutional support provides youth meaningful self-employment opportunities in rural areas aligning economic incentives with sustainable production.

Initiatives by government and other stakeholders

The growth of organic farming in North East India has been enabled by proactive initiatives of central and state governments. Sikkim's pioneering 100% organic policy has provided a template for other states ^[33]. Meghalaya, Mizoram and Arunachal Pradesh have also declared organic policies outlining their vision, strategies and targets ^[34]. Several central schemes like Paramparagat Krishi Vikas Yojana, Mission Organic Value Chain Development, and National Programme on Organic Production support certification, input production and marketing ^[35]. In the 2021 budget, the Central government announced a special focus on promoting organic farming in North East India ^[36]. The National Institute of Rural Development and Panchayati Raj (NIRDPR) has established a resource centre exclusively for the North East states to provide technical backstopping. At the state level, a number of interventions have been taken up. For instance, the Meghalaya State Organic Mission has set up vermi-compost units, bio-villages and market promotion mechanisms like 'Jaivikkheti' stores. Manipur Organic Mission Agency (MOMA) facilitates farmer producer companies and SHGs engaged in organic activities.

Several NGOs like Clear, MSSRF, NESFAS and Pradan have played an instrumental role in grassroots capacity building and market integration. Collaboration with global certifying agencies like OneCert and Participatory Guarantee System (PGS) has enabled certification of smallholder farms ^[37]. Tata Trusts, NABARD, NERCORMP, IFCI are among the organizations providing low-cost credit for organic entrepreneurs. The private sector has pitched in by procuring, branding and marketing organic produce through specialized retail chains and e-commerce platforms. Academic institutions like IIT Guwahati, North East Institute of Science and Technology (NEIST), ICAR research centres, AAU etc. have contributed through technology development, testing labs and skill training programs. The media has helped raise mass awareness on the benefits of organic products. However, more coordinated efforts are needed to strengthen organic value chains benefiting smallholders.

Challenges and Gaps

Despite the initiatives taken up, the organic sector in North East India faces several limitations and barriers impeding its growth and limiting benefits to rural youth. Firstly, the initial transition period for obtaining organic certification involves lack of productivity and income loss posing risks for smallholders ^[38]. Secondly, high costs of certification and complex procedural requirements act as entry barriers for small farmers ^[39]. Thirdly, lack of institutional credit and crop insurance mechanisms exacerbate the risks involved in conversion to organic ^[40]. Fourthly, absence of organized supply chains affects market integration; farmers rely predominantly on local consumption and direct sales ^[41]. Fifthly, lack of adequate processing infrastructure and technical skills limit avenues for value addition in the region ^[42]. Lastly, lack of quality consciousness and premium pricing

affect competitiveness vis-a-vis products from other regions ^[43]. Hence, there exist multiple challenges in scaling up organic adoption as a sustainable livelihood option for rural youth. Low awareness levels, information asymmetry, limited technical capacities, lack of credit access and markets continue to impede organic entrepreneurship among rural youth. Concerted efforts are needed to address these gaps through appropriate policies and programs by government agencies in partnership with research institutes, NGOs and private players.

Recommendations for growth

Based on the analysis, the following key recommendations emerge for accelerating the growth of organic farming and promoting rural entrepreneurship in North Eastern states:

1. **Streamline certification systems:** Facilitate group and Participatory Guarantee System (PGS) certification to reduce costs for smallholders. State governments can bear costs initially as incentive.
2. **Invest in input infrastructure:** Promote production of organic inputs like biopesticides, vermicompost, biofertilizers through youth-led startups, SHGs and Farmer Producer Organizations.
3. **Focus on value addition:** Provide processing infrastructure support for value-added products to enhance farmer's income. Skill development for organic food processing should be prioritized.
4. **Strengthen market linkages:** Develop efficient organic supply chains connecting producers to markets through aggregation, storage, branding and organized retail.
5. **Enable access to credit:** Design special financial products covering credit guarantee and interest subvention to support organic entrepreneurs.
6. **Build digital infrastructure:** Develop ICT-enabled farmer interface for direct procurement, certification, supply chain management and e-commerce.
7. **Robust certification ecosystem:** Empower more certification agencies authorized to operate in North Eastern states to bring down costs.
8. **Technical capacity development:** Establish dedicated organic farming research institutes and training centers leveraging local farming systems knowledge.
9. **Create cluster-based approach:** Promote localized resource mobilization and knowledge exchange through organic clusters, zones and villages.
10. **Policy incentives:** Formulate supportive policies for R&D, export promotion, quality control and minimum support price for organic produce.

A coordinated push by stakeholders on the above aspects can enable North East India to realize its potential as a hub for organic agriculture enterprises benefitting communities in a sustainable manner.

Conclusion

In conclusion, organic farming holds special relevance for the North Eastern region given its ecological and social context. The sector has witnessed steady growth in recent years aided by conducive policies, market demand and civil society initiatives. However, substantial potential remains untapped for further expansion. Organic agriculture provides sustainable livelihood options for rural youth through local enterprise development across the value chain. Realizing this

potential requires concerted efforts by government agencies in partnership with research institutes, private sector and communities. Priority must be accorded to capacity development of rural youth, access to finance, integrating with markets, value addition and quality control. With appropriate incentives and an enabling environment, organic farming can usher in rural entrepreneurship and sustainable prosperity in North Eastern states.

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