


**Research Article**

# Organic Farming and Rural Development in Dakshin Dinajpur, West Bengal

**Dr. Dipankar Mondal**

State Aided College Teacher, Department of Geography, Balurghat Mahila Mahavidyalaya  
University of Gour Banga, West Bengal, India

**Corresponding Author:** \* Dr. Dipankar Mondal

**DOI:** <https://doi.org/10.5281/zenodo.20665033>

**Abstract**

Dakshin Dinajpur is one of the important districts of West Bengal and is mainly an agriculture-based district. About 80% of the people in this district depend on agriculture for their livelihood. At present, the excessive use of chemical fertilizers and pesticides in agriculture has reduced soil quality and fertility. Along with this, environmental pollution has also increased significantly. In this situation, farmers and the government have taken initiatives to introduce organic farming.

Organic farming is an environmentally friendly agricultural system and an important part of sustainable agriculture. It not only protects the environment from pollution but also improves the quality of human life and strengthens the rural economy. Moreover, it is helping in the economic development of Dakshin Dinajpur district.

This organic farming system has improved the standard of living of farmers in the district. It has increased rural employment opportunities, raised farmers' income, and played an important role in environmental conservation. Organic farming also helps maintain soil fertility, reduces water pollution, and supports biodiversity.

At present, interest in organic farming is increasing in different parts of the district. Government and non-government organizations are trying to encourage and support farmers in adopting sustainable agricultural practices. As a result, a major transformation is being observed in the agricultural sector, and a sustainable farming system is gradually being established in Dakshin Dinajpur.

**Manuscript Information**

- **ISSN No:** 2583-7397
- **Received:** 06-05-2026
- **Accepted:** 08-06-2026
- **Published:** 12-06-2026
- **IJCRM:** 5(3); 2026: 772-778
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- **Plagiarism Checked:** Yes
- **Peer Review Process:** Yes

**How to Cite this Article**

Mondal D. Organic farming and rural development in Dakshin Dinajpur, West Bengal. West Bengal. Int J Contemp Res Multidiscip. 2026;5(3):772-778.

**Access this Article Online**


[www.multiarticlesjournal.com](http://www.multiarticlesjournal.com)

**KEYWORDS:** Organic Agriculture, Rural Development, Environmental Issue, Sustainable Agriculture

## 1. INTRODUCTION

Agriculture has been the backbone of India's rural economy for centuries, sustaining millions of households and shaping the cultural and social fabric of rural communities. In the state of West Bengal, the district of Dakshin Dinajpur stands as a quintessential example of an agrarian economy, where approximately 80% of the population depends on farming for their livelihood. While agriculture has long been the primary means of sustenance in the district, the increasing reliance on chemical fertilizers, synthetic pesticides, and intensive cultivation techniques over recent decades has raised serious concerns about long-term soil health, environmental sustainability, and the well-being of farming communities.

Against this backdrop, organic farming has emerged as a promising alternative that offers a path toward sustainable and environmentally responsible agriculture. Organic farming, as a system, eschews the use of synthetic chemicals in favor of natural inputs such as compost, vermicompost, green manure, and bio-pesticides. This approach not only restores and maintains soil fertility but also reduces pollution, conserves biodiversity, and produces healthier food for consumers. Globally, and increasingly within India, organic farming is being recognized as an important pillar of sustainable agricultural development.

In Dakshin Dinajpur, the transition toward organic farming is gaining momentum, driven by a combination of government initiatives, the efforts of Krishi Vigyan Kendras (KVKs), growing market demand for chemical-free produce, and an increasing awareness among farmers of the long-term benefits of natural farming. The district's fertile alluvial soil, abundant river systems, and favorable monsoon climate create conditions that are highly conducive to organic cultivation of paddy, vegetables, fruits, and other crops.

The intersection of organic farming and rural development presents a compelling area of inquiry. Organic agriculture has the potential not only to rehabilitate degraded soils and protect the natural environment but also to generate rural employment, increase farmers' incomes, empower women, and foster the growth of agro-based small industries. However, challenges such as limited farmer awareness, inadequate market infrastructure, lack of technical training, and financial constraints continue to hinder the widespread adoption of organic practices in the district.

This study seeks to examine the current state of organic farming in Dakshin Dinajpur district, explore its multifaceted role in rural development, and identify both the opportunities and obstacles that define its trajectory. By drawing on primary field data and secondary sources, the study aims to provide a comprehensive understanding of how organic farming can serve as a transformative force for rural communities in the district,

and to offer actionable recommendations for its further promotion and expansion.

## 2. OBJECTIVES OF THE STUDY

1. The main objectives of this study are:
2. To analyse the present condition of organic farming in Dakshin Dinajpur district.
3. To examine the role of organic farming in the development of rural areas.
4. To discuss the problems and prospects of organic farming.
5. To provide necessary suggestions for the development of organic farming.

### Study Area

Dakshin Dinajpur district, located in the northern part of West Bengal, is also highly influenced by its river system. After the partition of India in 1947, the Dinajpur district was divided. One part went to East Pakistan (present-day Bangladesh), while the western part remained in West Bengal, India. At that time, this western part became known as "West Dinajpur." For administrative convenience, West Dinajpur district was later divided. On 1st April 1992, the district was split into two separate districts — Dakshin Dinajpur (South Dinajpur) and Uttar Dinajpur (North Dinajpur). The headquarters of Dakshin Dinajpur district was established at Balurghat. Today, it is

recognized as an independent cultural and administrative region. The major rivers flowing through this district are Atrayee, Punarbhaba, Tangan, Brahmani, and Ichhamati. These rivers contribute significantly to agriculture, fisheries, transportation, and socio-cultural development. Most of the people in Dakshin Dinajpur are dependent on agriculture, and rivers provide essential irrigation water for cultivation. Rivers also influence the environmental and economic conditions of the district.

The geography of Dakshin Dinajpur is mainly characterized by flat plains, rivers and streams, fertile soil, and a monsoon climate. These geographical features have a deep influence on agriculture, human settlement, and the lifestyle of the people. Dakshin Dinajpur district is located in the northern part of the Indian state of West Bengal. It is bordered by Bangladesh to the east, Malda District to the west and south, and Uttar Dinajpur District to the north. The total area of Dakshin Dinajpur district is about 2,219 square kilometers. The latitude and longitude of the district are: Latitude: 25°10'55" N to 26°35'15" N. Longitude: 87°48'37" E to 89°00'30" E. The average elevation of the district is approximately 25–26 meters above sea level. Due to its border location, the district plays an important role in trade and cultural exchange between neighboring regions and countries.



### 3. METHODOLOGY

This study is mainly based on both primary and secondary data sources. Primary data were collected through field surveys conducted in different blocks of Dakshin Dinajpur district. Information was also gathered through direct interviews with farmers and persons engaged in agricultural activities. Secondary data were collected from books, research articles, government reports, information from Krishi Vigyan Kendras (KVKs), and online sources.

#### Concept of Organic Farming

Organic farming is an agricultural system where natural inputs are used instead of chemical fertilizers and pesticides for improving agricultural production. The natural materials used in organic farming include cow dung manure, compost manure, vermicompost, green manure, and organic pesticides. The use of these natural inputs helps in promoting sustainable agricultural development.

#### Characteristics of Organic Farming

##### Environment-friendly Agricultural System

Organic farming is an environment-friendly agricultural method because it uses natural inputs such as compost, vermicompost, and organic pesticides instead of chemical fertilizers. These natural materials help maintain soil fertility, reduce water and air pollution, and preserve ecological balance.

##### Maintenance of Soil Organic Matter

Organic farming helps maintain soil organic matter by increasing the amount of humus in the soil. It improves soil fertility, enhances the water-holding capacity of the soil, and preserves soil nutrients.

#### Conservation of Biodiversity

Organic farming plays an important role in conserving biodiversity. Excessive use of chemical fertilizers and pesticides destroys many soil microorganisms, whereas the use of natural inputs in organic farming helps maintain ecological stability and plant diversity.

#### Production of Nutritious Food

The crops and food products produced through organic farming are highly nutritious. These foods are safe and healthy for human consumption. Organic vegetables, fruits, and grains contribute to better nutrition and improved health.

#### Reduction of Pollution

Since the use of chemical substances is minimized in organic farming, water, air, and soil pollution are comparatively reduced. Chemical fertilizers can mix with rivers, ponds, and groundwater through rainwater runoff and create pollution, but organic farming reduces such risks significantly. Therefore, organic farming can help reduce environmental pollution to some extent.

#### Sustainable Production System

Organic farming is an important means of sustainable agricultural production. It ensures proper utilization of natural resources and helps conserve soil fertility and the environment for future generations.

#### Present Condition of Organic Farming in Dakshin Dinajpur

Dakshin Dinajpur is primarily an agricultural district. Extensive farming activities are carried out in the blocks of Gangarampur, Balurghat, Tapan, and Kumarganj. At present, farmers in these blocks are increasingly using organic fertilizers in their farming systems. Vermicompost production, organic paddy cultivation, organic vegetable farming, and the use of organic manure in

fruit and flower cultivation are becoming more common in the district. As a result, crop production has increased, nutritious food production has improved, soil productivity has enhanced, and measures for soil conservation have been strengthened. Currently, there are two Krishi Vigyan Kendras (KVKs) in Dakshin Dinajpur district. One is located at Majhian (Patiram) and the other at Mahinagar (Balurghat). These centers provide training to farmers, create awareness about natural farming, and encourage the adoption of organic farming practices.

### **Organic Farming and Rural Development Employment Generation**

Organic farming requires a large amount of labor. Workers are needed for preparing organic manure, controlling weeds, and collecting natural materials. As a result, organic farming creates more employment opportunities in rural areas.

### **Increase in Farmers' Income**

At present, the demand for organic products is increasing rapidly in the market. Since organic products are sold at higher prices than conventional products, farmers can earn greater profits. Therefore, organic farming creates the possibility of increasing farmers' income.

### **Environmental Conservation**

In organic farming, chemical fertilizers and pesticides are used less. As a result, soil fertility is maintained, and the movement of water and air within the soil remains balanced. Reduced use of chemicals also helps in maintaining ecological balance and conserving the environment.

### **Improvement in Health**

Crops produced through organic farming contain fewer harmful chemicals, which helps protect human health and reduces the risk of diseases.

### **Participation of Women**

Women's participation in organic farming is increasing significantly. Rural women play an important role in preparing organic manure, preserving seeds, and cultivating vegetables. Organic farming also contributes to the economic empowerment of women.

### **Development of Self-Reliant Villages**

Organic farming strengthens local communities and gradually helps villages become self-reliant. Rural people prepare organic fertilizers locally and use them in agriculture, reducing dependence on external chemical inputs.

### **Problems of Organic Farming**

#### **Lack of Awareness**

Farmers in the rural areas of different blocks of Dakshin Dinajpur district are still not fully aware of the benefits of organic farming. As a result, organic farming has not been widely adopted in the district.

#### **Low Production**

In the initial stage, organic farming may produce comparatively lower yields. Therefore, many farmers in the district are afraid to adopt this farming method.

#### **Limited Market Facilities**

There is no well-developed separate market system for organic products in the district. As a result, farmers often do not receive fair prices for their produce.

#### **Lack of Training**

Many farmers do not receive adequate technical support and training for increasing agricultural production. Consequently, several problems and shortcomings in organic farming practices can be observed in a large part of the district.

#### **Financial Problems**

During the initial stage of conversion to organic farming, farmers may need to bear additional expenses. This creates difficulties, especially for small and marginal farmers.

#### **Potential of Organic Farming in Dakshin Dinajpur**

Dakshin Dinajpur is an agriculture-based district, and therefore it has great potential for the development of organic farming. The district's fertile alluvial soil, adequate rainfall, agriculture-dependent population, and favorable environment for cultivating different crops support the growth of organic farming. At present, due to increasing environmental pollution and growing health awareness, the demand for organic food is rising rapidly. As a result, organic farming in Dakshin Dinajpur can become an important means of rural economic development in the future.

#### **Fertile Soil and Favorable Climate**

The soil of Dakshin Dinajpur is mainly fertile alluvial soil, which is suitable for the cultivation of paddy, wheat, vegetables, jute, mustard, and fruits. The district also receives adequate annual rainfall, which is favorable for agriculture. This natural environment is highly supportive of organic farming.

#### **Agriculture-Based Economy**

Most people in the district depend on agriculture for their livelihood. Therefore, the expansion of organic farming can create new employment opportunities and increase farmers' income. Small and marginal farmers, in particular, can benefit by practicing organic farming at a lower cost.

#### **Increasing Demand for Organic Food**

Nowadays, people are becoming more conscious about healthy food habits. The demand for chemical-free vegetables, fruits, and rice is increasing rapidly in urban areas. Therefore, farmers of Dakshin Dinajpur can gain better market opportunities and higher profits through the production of organic products.

#### **Government Initiatives and Training**

The Agriculture Department and Krishi Vigyan Kendra (KVK) are providing training to farmers on modern and natural farming methods. Initiatives have also been taken to introduce

natural and traditional farming practices at the block level. These efforts will play an important role in the future expansion of organic farming.

#### **Opportunities for Diversified Crop Production**

Besides paddy cultivation, Dakshin Dinajpur also has strong potential for vegetable farming, mustard cultivation, betel leaf farming, fruit cultivation, and honey production. Innovative farming methods, such as honey cultivation along with mustard farming on the same land, can provide additional income opportunities for farmers.

#### **Vermicompost and Organic Fertilizer Production**

In rural areas, cattle and agricultural waste are easily available, creating great opportunities for the production of vermicompost and organic fertilizers. Local production of organic manure can reduce agricultural costs significantly.

#### **Environmental Protection and Sustainable Development**

Organic farming helps maintain soil fertility and reduces water and air pollution. In the long run, it will help maintain ecological balance and promote sustainable rural development.

#### **Development of Agro-Based Small Industries**

Organic farming can encourage the growth of small-scale industries related to food processing, organic fertilizer production, seed preservation, and agricultural product marketing. As a result, the rural economy will become stronger and more sustainable. The future of organic farming in Dakshin Dinajpur is highly promising. The district's natural environment, farmers' experience, government initiatives, and the increasing demand for organic food are strengthening its potential. With proper training, improved market facilities, and government support, Dakshin Dinajpur can emerge as an important organic farming region in West Bengal in the future.

#### **Recommendations for the Development of Organic Farming Training Programs**

Proper knowledge about organic farming methods is very important for farmers. Therefore, regular training programs should be organized by government agricultural departments, agricultural universities, and non-government organizations. Through these programs, farmers can learn about compost preparation, natural pest control, soil conservation, and modern organic farming techniques. As a result, farmers will be able to practice organic farming in a scientific and efficient way.

#### **Separate Marketing System**

A separate market system for organic products is necessary. When organic products are sold together with conventional products, farmers often do not receive fair prices. Therefore, special organic markets, organic fairs, and online marketing facilities should be developed. This will help farmers get proper value for their products and allow consumers to access healthy and chemical-free food easily.

#### **Government Subsidies**

Government financial support and subsidies are essential to encourage organic farming. Farmers should receive assistance for compost production, organic inputs, seed collection, and irrigation development. Financial aid and low-interest agricultural loans can motivate more farmers to adopt organic farming practices.

#### **Formation of Rural Cooperatives**

The formation of rural cooperatives among organic farmers can help improve agricultural development. Through cooperatives, farmers can jointly produce organic manure, store products, and market them effectively. This will reduce production costs and increase farmers' income. It will also strengthen cooperation and awareness among farmers.

#### **Awareness Development**

Many farmers and consumers are still not fully aware of the importance and benefits of organic farming. Therefore, awareness campaigns should be conducted through mass media, schools, agricultural fairs, and extension programs. Highlighting the health benefits of organic food and its role in environmental protection can increase public demand for organic products.

#### **Modern Storage Facilities**

Organic agricultural products are often highly perishable. Therefore, modern storage facilities and cold storage systems should be established. These facilities will help farmers preserve their products for a longer period and sell them at the proper time. As a result, post-harvest losses will decrease and farmers' profits will increase.

#### **Improvement of Transport and Communication**

In many rural areas, poor roads and transport systems create difficulties in marketing agricultural products. Therefore, better roads, transportation facilities, and communication networks are necessary. Improved transport and communication systems will help farmers connect with markets more easily and ensure quick distribution of organic products.

### **4. CONCLUSION**

Organic farming in Dakshin Dinajpur can emerge as an important means of rural development. It plays a significant role in environmental protection, production of healthy food, increasing farmers' income, and creating employment opportunities. Although there are still problems such as lack of awareness, market-related issues, and limited training facilities, organic farming can be expanded further through proper planning and government support. In the future, Dakshin Dinajpur has the potential to develop into an important organic farming region.



**Krishi Vigyan Kendra, Majhiyan, D/Dinajpur**



**Organic Farming (Cabbage Cultivation)**



**Papaya Plantation**



**Ber Cultivation**



**Litchi Cultivation**



**Lemon Plantation**

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**About the Corresponding Author**

**Dr. Dipankar Mondal** is a State Aided College Teacher in the Department of Geography at Balurghat Mahila Mahavidyalaya, affiliated with the University of Gour Banga, West Bengal, India. His academic interests include agricultural geography, soil resources, rural livelihoods, environmental studies, and regional development, with a focus on sustainable resource management.