The role of Agriculture in rural development in Murshidabad district in West Bengal.

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Abstract: Agriculture in rural areas serves not only as a source of livelihood but also as an important economic activity that supports livelihoods and entrepreneurship. The main objective of this research paper is to present innovative approaches to agriculture and development in rural areas, thereby advancing rural prosperity and development. This paper presents an entrepreneurial proposal to appropriately utilize local resources to achieve prosperity and social well-being. This paper examines the critical issues of agriculture and development in rural areas and highlights the possibilities of rural development from an innovative perspective. It describes in depth how innovation, technology, community collaboration and government policies can be used for agricultural and rural development, facilitating social and economic improvement in rural areas. Through the study of this research paper, we can learn how innovation can be encouraged for agriculture and development in rural areas, which can provide direction for prosperity by using local resources effectively. Agriculture is the cultivation of certain plants and climatic conditions, nature of topography .The process of producing fodder, food, fiber and many other desired products by rearing domestic animals controlled by the socio-economic needs of the area. Agricultural patterns are perhaps the clearest indicators for the management of the natural environment and changes in the cultural environment. The present paper is a case study on post-independence Murshidabad district, West Bengal, India and an attempt to analyze the physical structure

Keywords: Agriculture, rural development, topography, socio-economic, drainage, soil type, GDP.

INTRODUCTION

Agriculture and rural development are important elements in the direction of prosperity and social welfare. In rural areas, agriculture serves not only as a source of food security but also as a major economic activity, sustaining the livelihood of millions of people. The contribution of agriculture to the development of rural areas is very important for achieving social and economic prosperity. In this paper, we will delve deeper into the important aspects of agriculture and rural development and analyze their implications, which are important for rural prosperity. We will discuss measures through which agriculture and development in rural areas can be effectively promoted, such as the development of innovative agricultural techniques, technologies and government policies. Through this paper, we seek to highlight the importance of innovative approaches to agriculture and rural development and demonstrate how progress can be made towards prosperity in rural areas. The study presented in this paper helps us understand the challenges ahead. Agriculture and rural development, such as climate change, guidelines for innovation in agriculture and more. We will analyze how updates and improvements can address these challenges in order to achieve progress towards prosperity in rural areas.

Building infrastructure for agriculture and development in rural areas is not only through agriculture but also through cooperation in various fields including social, economic and technological advancement. We will also explore how government schemes and technological advancements can improve rural areas.

Agriculture, as the backbone of the Indian economy, plays the most important role in the socio-economic sphere of the country. Indian agriculture is a diverse and wide-ranging sector involving a large number of actors. This is one of the notable success stories of the post-independence era through association of green revolution technologies. The role of National Agricultural Research System (NARS) was essential in the context of the Green Revolution. Often, the most neglected aspect of agricultural development is the physical setup of any place or region. Agricultural conditions as well as agricultural production depend on good physical conditions, potentially flat

topography, good drainage facilities, fertile soil composition, suitable climatic factors, such as temperature, rainfall, humidity and wind flow. Where physical conditions are good, agricultural development or agricultural production has been good since ancient times. If agricultural production is good, the socio-economic development. Country GDP values, HDI and GDI are red from the Sun. Sakh Samak quality is good, understanding the share of agriculture in GDP of the economy and before and after reforms in Murshidabad district Govt. Better than country GDP value, HDI and GDI value. Happiness index values are good, to understand the trend of share of agriculture in the GDP of the economy and to analyze and present the government expenditure spent by the government before and after reforms in Murshidabad district.

LITERATURE REVIEW

Nandini Francis (2015) How farming can help improve rural India. It says that agriculture is very important for the people living in villages to earn money. It also says that for the development of villages, we need to focus on things like education, starting businesses and building better roads and buildings. The document also talks about how governments, businesses and people need to work together to make villages better.

Gustavo Anriquez, Kostas Stamoulis (2007), Agricultural growth is seen as really important to help reduce poverty and improve rural areas, especially where roads and electricity are available.

Basic facilities are good. In the past, people didn't always think farming was that important, but now they realize that it is important to improve life in poor countries, especially in rural areas. This shift in thinking shows how agriculture is crucial to strengthening the economy, reducing poverty and improving rural areas more holistically.

Bhabesh Gogoi (2019), the farmers have small pieces of land, not enough good roads or other basic things, and sometimes natural disasters happen, the region has a lot of different resources that can be really useful. To make things better, catch states need their own plans that suit their particular circumstances, and farmers need to learn better ways to farm. The paper also states that it is important to find a balance between making money and taking care of the environment and recommends using smart systems and reducing waste. Overall, it gives us a good idea of how agriculture, development and nature care are all connected in this part of India.

Satish S Applaonkar, Sharanagoud S Viradar (2015) Research shows how scaffolding of farmers who start their own businesses (agripreneurs) can help improve agriculture in India. It says that when the economy is not doing well, this type of business becomes more important.

OBJECTIVES OF THE STUDY

This paper serves as a means of in-depth study in the field of agriculture and rural development, with the primary objective of providing helpful knowledge in the following key arcs.

1.To Studying the systems of achieving prosperity through agriculture and villages development and their presentation.

2. To explore the potential of economic development in rural areas through agriculture and rural development.

3. To ensure sustainable development in rural areas by incorporating innovative approaches in agriculture and development.

METHODOLOGY

Data on rural population, percentage of rural population, persons engaged in agriculture and agricultural land statistics were collected from Agriculture Department website and Economic Survey.

Challenges in Agricultural and Rural Development:

This paper is based on secondary data obtained from the Census of India. Brock is taken as a unit of study. For analysis and mapping purposes. Thus data is collected, interpreted and presented cartographically using the choropleth map technique. Here, present the choropleth map of the study area block wise to analyze the nature of topography and spatial pattern of soil types of Murshidabad district. The main data sources for this survey are Annual Work Plan, District Annual Work Plan, Chief Agricultural Office, Murshidabad and Director's Office. Bureau of Applied Economics and Statistics, Government of West Bengal, various books, articles etc. Block-wise

ratio of area under different soil types taken from census and cartographic representation.

Study area:

Located on the left bank of river Ganga and extending from 24°50′20″N to 23° 43 '30"N and 88°46'E to 87°49′ 17″E covering an area of about 5342 sq km. (District Census Handbook, 2011) The district consists of 26 blocks or tehsils in the north, Sahibganj district of Jharkhand in the north-west and Pakur district,Birbhum on the west.

DISCUSSION

The agriculture sector in west Bengal is expected to contribute 19.41% to the state's GDP in 2023-24. The holding capacity is high and the soil has good drainage capacity.
a) River Ganga land (Grassland).) Submerged Parva-Gangetic pasture land: This region is found on the banks of Ganga-Padma River and Jalangi River. ii) High land level Ganga ridge; These areas occur next to floodplains, at relatively high geo-resources.

b) Gangetic plains. This land lies between the river Ganga and the Ganges lowlands. Nitrogen content is moderate and buffering capacity is very high. Water permeability and water holding capacity are high more The percentage of sand decreases and the percentage of clay increases with soil depth.

c) Gangetic Lowlands: This region is associated with heavy clay horizons with a substratum of sandy material, coarse sand and some concretions. During monsoons the soil is sticky and in winter the soil dries out and cracks. The percentage of sediment, moisture, carbon and nitrogen decreases with soil depth.

d) Gangetic Upland: This region has relatively high ground. Due to the stable and firm nature of this soil, the Bhagirathi rarely sways to the right and erodes the land. The soil profile is clayey in nature. The sesquioxide present is immobilized. The accumulation of lime in the third and fourth layers is observed due to the release of calcium carbonate from the surface layer. Phosphate and nitrogen content is low and potash content is average. In the northern part of Murshidabad district (blocks like Farakka, Suti-1, Suti-2 and Shamsherganj) intercalated carbonaceous Consists of basaltic lava flows with shale and clay. Soil fertility is very low in this part of the district. The combination of mountains, forest and water presents a perfect picturesque. During the monsoons the area forms a vast lake and the villages are seen as an island. Bolshoi River and others in the West Rajmahal Hills. In Murshidabad Gazetteer 2003, the soil of the district is broadly divided into two categories:

a) Alluvium of Sub-Vindhya classification and

b) Alluvial flood plain of Ganga.

a) Floodplains immediately adjacent to the Ganga-Padma-Bhagirathi River: This area is found in various police station, likely Beldanga, Bhagawangola, Lalgola, Suti, Farakka, northern part of Raninagar, eastern part Raghunathgani, middle part of Berhampore.

b) Gangetic plains: This soil zone is found in different areas viz. Eastern part of Domkal, Jalangi, Murshidabad and southern part of Berhampur, Raninagar, northern part of Bhagbangola and Hariharpara.

c) Gangetic Upland: This soil zone is found in various thanas, probably the western part of Raghunathganj. Beldanga, Berhampur and Murshidabad, western and southern parts of Suti near Pagla river. Western part of Samserganj, Farakka.

5) Gangetic Lowland: This soil zone is found in different Thanas, Le Noda, Southern region.

Hariharpara, eastern part of Beldanga.

4) Rajmahal flood plain area: This soil area is found in different thanas, probably Burdwan, north-west part of Bharatpur, south part of Navagram, Khargram.

f) Rajmahal Plains: This soil region is found in various thanas viz. Kandi, Bharatpur, Navagram, Khargram.

g) Rajmahal Upper Plains: This soil zone is found in various thanas, probably Sagardighi.Navagram.
From the various geological, geological and soil classifications it is clear that a sharp contrast can be observed in the physical features between the 'Rah' and "Bagri" regions of the district. The soil characteristics of the 'Bagri' region make the underlying blocks more fertile. than the "rarh" block

Topography of the study area at the base bench mark value. Here the benchmark value of the study area is given based on internet data, this value shows that the average height above sea level of Murshidabad district is 17 sitar to 54 meters. The highest value found in the Barowan block, which is located in the Ruhr region but the lowest B.M. Mann is found in Bagri region. Here provide a Murshidabad map based on block wise benchmark quality.In 2022-23 major winter crop Aman paddy from 35.781 ha in Sagardighi CD block was 118,356 tonnes, Boro paddy from 10,278 ha was 36,483 tonnes, 23.79 tonnes from 23.717 ha. In 2022-23 Bharatpur ICD block from 30,229 ha to 96,620 tonnes of Aman paddy, main winter crop from 6,249 ha to 23,571 tonnes Boro paddy (spring crop), 966 tonnes to 6,34 tonnes, 34,34 tonnes. In 2022-23,Lalgola CD block produced 7,057 tonnes of Aman paddy, the main winter crop from 2.594 hectares, 2,630 tonnes of Boro paddy from 751 hectares, 1,216 tonnes of Aush paddy, 7.5 tonnes of Aush paddy. 9,870 tonnes of loess from 3,751 hectares, 227 tonnes of maize from 44 fields,134,085 tonnes of jute from 9,881 hectares and 4,176 tonnes of potatoes from 145 hectares.In 2022-23 Jalangi CD block produced 11.750 tonnes of aman paddy, the main winter crop from 3,954 hectares, 14,219 tonnes of boro paddy (spring crop) from 3,569 hectares, 1,935 tonnes (acid) from 35 hectares. 23,144 tonnes of wheat from 7,834 chentars, 535 tonnes of maize from 207 mentors, 180,928 tonnes of jute from 12,308 hectares, 28,758 tonnes of potatoes from 1,246 hectares and 1,246 tonnes from 419 tons of sugar. hector. In 2022-23 Berhampur CD block produced 34,732 tonnes of aman paddy from 11.654 hectares, the main winter crop from 11.293 hectares to 43,306 tonnes of boro paddy 3.161 tonnes (spring crop). In 2022-23, Murshidabad-Jiaganj CD block produced 671 tonnes of aman paddy, the main winter crop, from 307 hectares, 5,431 tonnes of boro paddy from 1,691 hectares. Aush paddy from 75 ha to 141 tons, wheat from 3,985 ha to 8,930 tons, maize from 12 ha to 31 tons, maize from 7,991 ha to 91.177 to 49 tons. hector. In 2022-23, Berhampur CD block produced 34,732 tonnes of aman paddy from 11,654 hectares, the main annual crop from 11.293 ha to 43.3Produced of wheat from 4,478 ha, 227,638 tonnes of jute from 13,631 ha, 4,405 tonnes of potato from 154 ha and 79 tonnes of sugarcane from 1 ha.In 2022-23, Murshida winter crop, 1.141 tonnes from 75 ha.

- Problems for agriculture in Murshidabad :

Uncertainty of Rainfall: The uncertainty of rainfall is a significant factor contributing to the backwardness of agriculture, which is the foundation of rural development. The lack of capital and the unpredictability of rainfall are the primary reasons for the lag in rain-fed agriculture in India. While rainfall is the main source of irrigation in India, its uncertainty directly affects agricultural production.

Efficient Marketing System: An efficient marketing system is key to rural development. It involvesall activities from agricultural production to reaching the final consumers. The management services in agricultural distribution systems are often considered inefficient. Additionally, the lack of financial facilities, estimation of losses, and inadequate market information are major factors.

Traditional Agricultural Practices: Traditional agricultural methods are a significant cause of low agricultural productivity. Many areas still practice agriculture traditionally, resulting in lower productivity.

Credit Crisis in Agriculture: Credit crisis is a significant issue in agriculture because the lack of credit facilities hinders farmers from investing in farming-related activities, directly impacting agricultural output. Lengthy procedures for obtaining loans at high interest rates make it difficult for farmers to access credit facilities for agricultural work.

Lack of Diversification: The lack of diversification in agriculture is also a major cause of agricultural problems. Due to traditional farming practices, attention is not given to diversification.

SUGGESTIONS

Improvement in Agricultural Credit Facilities: Improving agricultural credit facilities can provide a new direction to agriculture and rural development. Resolving this issue can be achieved by providing farmers with affordable credit facilities.

Market Access for Agricultural Products: Access to markets for agricultural products can solve many problems. Agricultural marketing is a major source of income, and apart from food supply, farmers need access to markets for the sale of surplus produce to earn profits.

Adequate Irrigation Facilities: Talking about the 1950s, irrigation was limited to wells. Pump sets or

tube wells were the only means, and they were also government-controlled. Currently, irrigation facilities such as canals, tube wells, etc., are being developed around fields, providing assistance to farmers.

Fair Pricing for Crops: If fair prices are not obtained, it directly affects the farmers' economic condition. Therefore, concepts like minimum support price have been introduced to ensure that farmers receive a minimum standardized price for their produce and do not incur losses.

Utilization of Modern Farm Machinery: Even today, agriculture is practiced using ancient methods in many areas, whereas modern machinery has been invented in this field, which can definitely lead to an increase in production. The government provides arrangements for renting out machinery, and emphasis should also be placed on promoting organic farming to enhance agricultural productivity.

Diversification of Agriculture: Agricultural diversification refers to a farming system where instead of growing just one crop or specializing on a large scale, various crops are grown and livestock farming, fish farming, poultry farming, etc., are promoted. Undoubtedly, specialized farming benefits from the use of tangible assets, and diversification not only provides relief from dependency on a single occupation but also offers benefits in terms of business diversification.

CONCLUSION

From the above discussion it is found that Murshidabad district is not much higher than the mean sea level (of the study area).Suitable agricultural landscapes are also available to suit topography, soil type and drainage patterns. The eastern side of Murshidabad district is better for various types of agricultural production than the western side. About one third of the total population is dependent on agriculture, but their economic condition is not better than other populations. Because every year agricultural production is disrupted due to flood or drought prone conditions. Hence the rate of urbanization in Murshidabad is very low compared to Raja and National urbanization rate. Murshidabad, West Bengal and India have urbanization rates of 19.78 percent, 31.89 percent and 31.16 percent as per 2011 census. Also HDI and GDI values of Murshidabad are very low compared to state and national level. Adoption of few agricultural schemes or programs will increase agricultural production and this district will be the 'portrait' of agriculture in West Bengal and our country.

Soils of Murshidabad are mainly 'Bagri'.The region is a result of the depositional activity of the Ganges and its tributaries, while the soils at Rar were deposited from other rivers of the sub-Vindhya range. Morphology indicates that fine sand and silt do not predominate throughout the depth of the 'Bagri' soil with water in the soil.

It is clear from the overview that there has been a significant fluctuation in the overall cultivated area. After reaching the lowest point in 2023-24 there has been a consistent increase in subsequent years. The sector has also increased from 2021-22 to 2023-24 expectations. The contribution of agriculture to gross state domestic product (at current prices) has also been consistently observed. It is clear that alternative strategies are being adopted. Certainly, the contribution of agriculture to the economy has increased, providing new directions for rural development. However, the pace is still slow, and concerted efforts of farmers and governments are needed to improve it further. This will ensure massive development of agriculture and rural areas.

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