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Agriculture as a Source of Livelihood and its Challenges of Sustainability among Bangladeshi Hindu Refugee Communities in West Champaran District of Bihar

ORIGINAL ARTICLE

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Abstract

Agriculture is the main source of livelihood of the people of West Champaran district of Bihar. 2,78,519 hectares of land out of 4,84,351 hectares land is cultivatable. District is situated on north-west part of Bihar which is rich in soil fertility. After partition during 1950s, many Bangladeshi Hindu migrants were rehabilitated in different parts of the district. At present their population is about 1.5 lakhs. This community is mainly dependent upon the agriculture sector for their livelihood. Paddy, Wheat, sugarcane, and vegetables are main agricultural products they produce. To feed the rapid growth of population it is a challenge to maintain the healthy relationship between production and sustainable agricultural practices. Land and water issues, small and fragmented landholdings, recurring floods, usages of chemical fertiliser, marketing of agricultural produces etc create hurdle in sustainability of agriculture that poses threat to the three pillars of sustainability of environment, economy, and society with harmony. This paper tried to assess the dependency on agriculture as livelihood and sustainability in agricultural practices. Data have been collected from primary as well as secondary sources. Primary data have been collected from Panchayat level by Schedule method. The nature of the paper is descriptive and analytical. This paper also focuses on the possible measures to be taken for retaining the sustainability of agriculture as a source of livelihood in West Champaran.

Key Words

Agriculture, Livelihood, Sustainability, Bangladeshi Migrants.

Introduction

Growing population is a severe problem for the world and to feed the the population is the major challenge. According to the report of "International Food Policy Research Institute" all the country of the world is going to face problem of food scarcity by 2100. According to "The Global Food Policy Report

2022" nine crores of Indian population will face hunger by 2030. According to the report in coming 70 to 80 years production of the farming will drastically decrease and heat wave will increase the global temperature more and more. In result to overcome the food scarcity problem and to feed the growing population as well as increase the production requires more and more chemical fertiliser and pesticides that will poses threat to the environment and sustainable approach for agriculture. Chemical fertilisers and pesticides also disturb the equilibrium of the biotic and abiotic component of the ecosystem. The use of more chemical fertiliser and pesticide also deteriorate the soil health. So, the time has come to must focus on sustainable approach which refers to economic viability of the farmer and society along with environmental concern. But in the way of sustainable agriculture numerous challenges can be seen like to increase productivity, loss of agricultural land, small landholding, climate change, unaware of sustainable approach, lack of marketing facility etc.

Agriculture is the art and science of cultivating the soil, growing crops, and raising livestock. Agriculture with its allied sectors is the largest source of livelihood in India. 70% of its rural households still depend primarily on agriculture for their livelihood. In Bihar agriculture is the main source of income and livelihood. 76% of its population engaged in agricultural activities. West Champaran is the largest district of Bihar situated in north west corner of Bihar which is famous for fertile soil and surplus production. In the district 2,78,519 hectare is cultivatable out of 4,84,351 hectares. 82.25% of total worker of the district is associated with agricultural activities. Paddy, Wheat, Sugarcane, Vegetables etc are the main agricultural product that are used to produce here. Total population of the district is 3935042 and population density of the district is . . . . . [2]. To feed such large population and to maintain the sustainability is an emerging challenge. Sustainability refers to the process of living within the limit of available physical, natural, and social resources in ways that allow the living systems in which human are embedded to thrive perpetuity. Sustainability consists of three pillars:

1. Environment Protection
2. Economy viability
3. Societal Equity

Resettlement of Bangaladeshi Hindu Refugee Communities in West Champaran

India got freedom in 1947 with the pain of partition of India as India-Pakistan two nations and cross border migration from both the nations had been seen. After the Partition of India, many Hindu Bengalis migrated from East Pakistan to India mainly in West Bengal. Outside of West Bengal a large number of refugees were rehabilitated in West Champaran of Bihar also. The first batch of displaced families arrived on the 4th June 1956 at the Bettiah Refugee Relief Camp. By Feb 1957 the population of displaced persons in Bettiah camp came to 28,065 comprising 7,707 families. Arrangements were made to accommodate the batches displaced persons on arrival in transit camps located at Bettiah. The dispersal of families from the transit camps to the rehabilitation centers could follow only after lands had been purchased and preliminary arrangements were completed for the reception and settlement of the displaced persons. There are two transit camps (1958)-one at West Hazari and the other at Kumarbagh at a distance of about 3.5 miles and 7 miles respectively from Bettiah town. The transit camps were under the administrative control of the camp commandant, who was a gazetted officer of the state civil services. For the rehabilitation of the displaced persons blocks of good cultivated lands have been acquired. In Bettiah Subdivision alone 7,400 acres of land were acquired till the middle of December 1958. Some lands have been offered by the Narkatiaganj Sugar Mill and Motihari Sugar Mill within the district of Champarn. The villages are Barwa, Bherihari, Mejhariya, Chautarwa, Kargahiya etc. The colonies are under administrative control of the 5 respective Subdivisional Magistrate of Bettiah and sadar under the direct supervision of District Magistrate. In order to give a start to the displaced persons in the colonies, cash doles and lands were given for the purchase of seeds, agricultural implements, bullocks, and the building materials of huts. Voluntarily citizenship have been given to them with the rehabilitation. As being the citizen of the nation, they contributing their full effort in grow of the nation.

Study Area

West Champaran is an administrative district in the state of Bihar in India. It is a part of Tirhut division which is situated in the north-west corner of Bihar. This is the largest district of Bihar, occupying an area of 5,228 km^2.This district lies between 26°25' N to 27°31' N latitude and 83°49' E to 84° 45' E longitude. It lies between the Great Himalayan terrain of the extra peninsular region and Great Gangetic Alluvium plain of India. Indo-Nepal borders make its northern boundary, Uttar Pradesh makes its western boundary, East Champaran makes its eastern boundary, Gopalganj and East Champaran makes its southern boundary. Refugees have been rehabilitated in 12 blocks out of 18 blocks of West Champaran in following blocks Bettiah, Bairiya, Majhaulia, Jogapatti, Jogapatti, Lauriya, Chanpatiya, Bagaha, sidhaw, Ramnagar, Gaunaha, Mainatand, Narkatiyaganj.

Objective

1. To determine the dependency on agriculture as sources of livelihood.
2. To find out challenges in Sustainable Agricultural practices.

Database and Methodology

The article is based on primary as well secondary data. Primary data have been collected at Panchayat level by schedule method. To collect primary data nine panchayats have been selected and from each panchayat one Bengali village has been selected. Selected panchayats and Bengali villages are as follows Barwa Panchayat (Barwa and Kaulapur), Chauhatta (Dhokraha), Bhangha (Jasauli), Rampur (Behri), Kukura (Odaraw), Damrapur (Biranchi No.-3), Rupwaliya (Sarpharwa), Sonkhar (Shivpur), Bajra (Kamta). Secondary data have been collected from News Paper, Collectorate, Article etc. The nature of the article is descriptive and analytical.

Discussion

Sustainable agriculture seeks to sustain farmers, resources, and communities by promoting farming policies and methods that are profitable, environmentally sound and good for communities. Land and water issues, small and fragmented landholdings, recurring floods, usages of chemical fertiliser, procurements of agricultural produces etc creates hurdle in sustainability of agriculture that poses threat to the three pillars of sustainability of environment, economy and society with harmony.

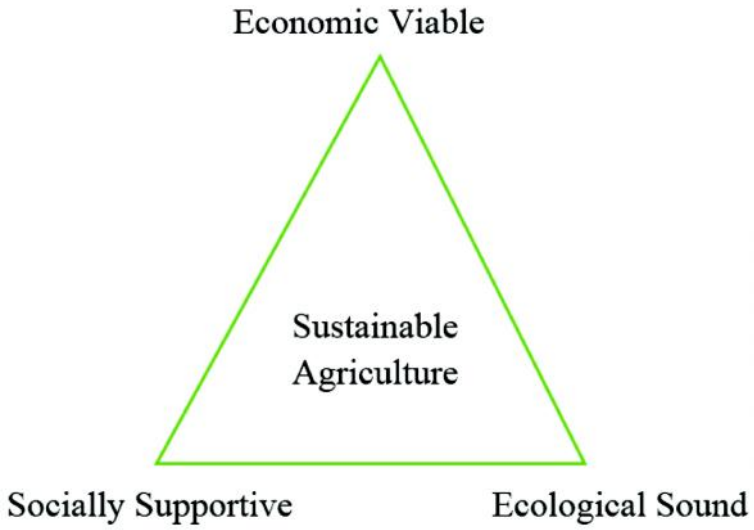


Fig.: Three Aspects of Sustainable Agriculture

1. **Economic Viable:** Protecting the financial viability of farms and supporting the longevity of their business, including the ability to reinvest.

2. **Socially Supportive:** Ensure food security by following practises that guarantee human access to food and improvement of their welfare and do not exploit workers.
3. **Ecological Sound:** Efficient use of resources and integrated approaches that minimise waste and negative impact on natural environment.

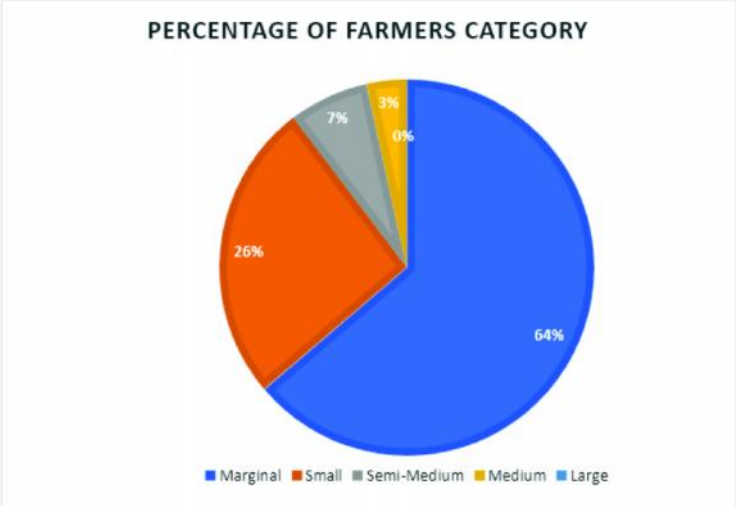
Agricultural practice among Bangladeshi Hindu Refugee Communities

Crops Grown: Crops are plants, or products made from plants, that are grown and harvested for subsistence or for profit. Crops are typically divided into six categories: food crops, feed crops, fibre crops, oil crops, ornamental crops and industrial crops. This community mainly grow food crops that are used for human consumption. They mainly grow paddy, wheat, vegetables, potatoes, sugarcane etc.

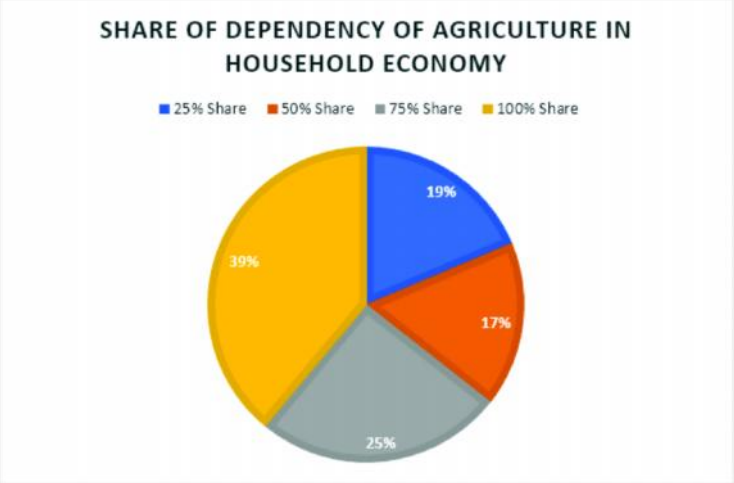
Types of Farmers: Farmers are the "Annadata" in India they work hard and provide food to the human being. Farmers are classified into five categories according to their landholding. Types of farmers in India are as follow:

- **Marginal Farmers:** Farmers who have less than 1 hectare of land are called Marginal farmers.
- **Small Farmers:** Farmers who have 1 or 2 hectares of land are called small farmers.
- **Semi-medium farmers:** Farmers who have 2 to 4 hectares of land are called semi medium farmers.
- **Medium Farmers:** Farmers who have 4 to 10 hectares of land are called medium farmers.
- **Large Farmers:** Farmers who have 10 hectare and above land are called large farmers. This is also a type of farmer.

Among this Refugee community in West Champaran maximum number of farmers belong to marginal category of farmer. 64% of farmer belong to marginal category, 26% farmers belong to small category, 7% belong to semi-medium and only 3% belong to medium category farmer while there is no any farmer belongs to large category farmer. Maximum number of farmers belong to marginal and small category farmer because of this they produce only to meet their own needs. They are unable to use high level of technology, high yielding variety of seed, irrigation facility, soil testing, market facility etc that creates hurdle in sustainability of agriculture.



Dependency on Agriculture: This community mainly belong to agriculture sector. At the time of rehabilitation each family has been given four acres of farming land and loan of Rs. 1290 for agricultural practices. Still the community mainly depend upon agricultural activity and their main source of livelihood is agriculture. 39% of the household of this community 100% depend upon agriculture. 25% of household having 75% of agricultural contribution in their household economy. So, it can be said about 80% of population having more than 50% of agricultural contribution in their household economy.



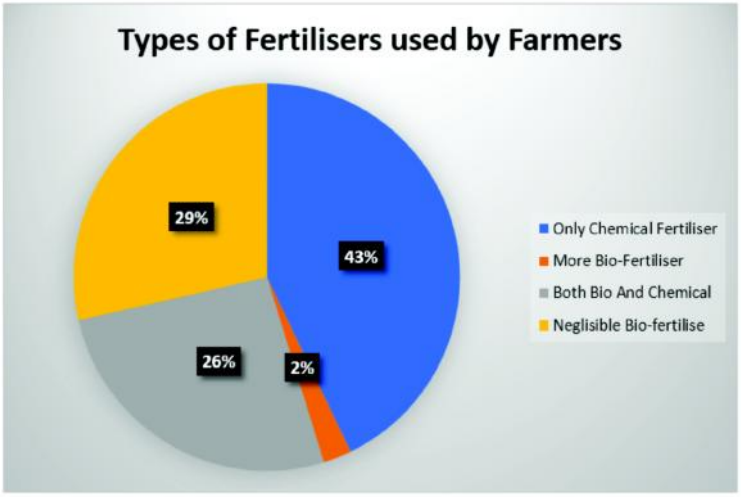
Irrigation Facility: Irrigation is one of the most important aspects in agricultural practising which enhance the productivity and income of the farmer. This community mainly uses rainfall and tube well for irrigation. Untimely rainfall affects their agricultural practices and uses of diesel for irrigation increase the input cost in farming. To improve the income of farmer it should provide electricity to the agricultural field, boring facility and solar energy which will be a part of sustainable approach.

Soil Testing: Soil testing is the process to determine the fertility and health of the soil. By measuring pH level and pinpointing nutrients which provide the guideline to protect the environment from contamination by runoff and leaching of excess fertilizers, to aid in the diagnosis of plant culture problems, to improve the nutritional balance of the growing media and to save money and conserve energy by applying only the amount of fertilizer needed. This community is still not getting the soil testing facility.

Procurement Facility: The procurement under price support is taken up mainly to ensure remunerative price to the farmers for their produce which works as an incentive for achieving better production. But there is lack of efficieancy in the facilities provided by the Government for the marketing of agriculture produs. So, the farmers are bound to sell their products to the middle men.

Fragmented landholding: Fragmented landholding is one more hurdle in smooth practice of agriculture. Due to their different location input cost got increased and their focus in agriculture also got distributed and as result production got decreased and margin of input and output got decrease. Among this community mainly the landholdings are fragmented that results in inconvenience for the farming practices as their effort for agriculture got distributed among several landholdings.

Fertiliser: Fertilizers are chemical substances supplied to the crops to increase their productivity. These are used by the farmers daily to increase the crop yield. The fertilizers contain the essential nutrients required by the plants, including nitrogen, potassium, and phosphorus. They enhance the water retention capacity of the soil and increase its fertility. Maintaining or improving soil quality is an important part of sustainable crop management. But the excessive use of fertilizer degrades the plants health reduced soil fertility ultimately soil health got deteriorated. Long term use of it reduces the microbial activity and disturb the pH value of the soil and leaching of chemicals also pollute the underground water as well as flow in water bodies increase the eutrophication. So, the time has come to shift the focus from chemical fertiliser to organic fertiliser. A new concept of Nano urea is emerging which should be used because it is eco-friendly and it also lessen the input cost which help to reduce the economic pressure on government as well as farmer. Among this community bio-fertiliser like livestock manure have been used but mainly chemical fertiliser has been used.



Integrating animal husbandry with farming: It is utilization of crops and livestock in a way that they complement one another through space and time. Domestication of animals like cow, ox, goat etc can be grazed on agricultural field and their manure can be used for fertilizer, and selling of dairy products will increase the income of farmers. Among the community about 20% of population used domesticate livestock.

Climate Change: Climate change is a severe threat to agriculture in India. Untimely rainfall, inappropriate rainfall, flood, drought, increasing temperature all these are the result of climate change that severely affect the productivity and quality of production as well as increase the input cost.

Conclusion and Suggestion

From all above discussion it can be concluded that the approach of sustainable agriculture requires for feeding the growing population, maintain the deteriorating soil quality and environment, employment to the population because more proportion of the population involved in agriculture as a source of livelihood and to increase their quality of life etc. But a lots of stumbling blocks like untimely and inappropriate rainfall, small and fragmented landholdings, under-developed infrastructure like electricity, dependency upon fossil fuel, lack of irrigation facility, lack of Governmental marketing facility, more utilisation of chemical fertiliser, unaware about organic and sustainable agriculture create challenge in sustainable agriculture. So, it is the time to draw attention toward the sustability so that we will fullfil the present need as well as save the resources for the upcoming generation. Policies should be also focused on marginal and small farmers, farmers should be aware and trend about sustainability, Government should start campaigns like "Nukkad Natak" to aware about sustainability among the farmers.

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