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Adoption Level Of New High Market Value Crops In Agriculture Of Assam

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Abstract

Adoption of innovative agricultural practices is very much essential for speedy development of agriculture of a region. Such innovative practices including the use of modern agricultural implements, irrigation, fertilizers, HYV seeds, new High market value crops etc play a vital role in improving the agricultural production and productivity. A number of physical and socio-economic determinants are responsible for the levels of adoption of these innovative agricultural practices .Like other parts of Assam, the farmers of Sonitpur district of Assam have been adopting numerous innovative agricultural practices during the recent period. Use of High Yielding varieties of crop and introduction of new high market value crop varieties are two important triumphs in regard to agricultural development of the district. The work is mainly based on primary field data collected thorough a survey of 28 sample villages of seven revenue circles of the district. Here, an attempt is made to analyse the adoption pattern of HYV seeds and new high market value crops by the farmers of the district towards agricultural development.

Introduction

Innovative agricultural practices play a vital role in regional agricultural development. In an agrarian country like India where agriculture and allied activities are the main stay of economy, the development of agricultural sector plays an important role in overall progress of rural scenario and also the society. Various agrarian developmental practices of rural communities like use of innovative practices, commercialization of agriculture have impact on upgradation of economic and social levels of farming communities or rural people. Such innovative practices including the use of modern agricultural implements, irrigation, fertilizers, HYV seeds, new high market value crops etc. play a vital role in improving the agricultural production and productivity. A number of physical and socio-economic determinants are responsible for the levels of adoption of these innovative agricultural practices .Like other parts of Assam, in Sonitpur district also a considerable innovative agricultural practices have been observed to be implemented during the recent period. The Sonitpur district (fig: 1) located in the central North bank plain of the Brahmaputra valley, Assam with three sub divisions and seven revenue circles is essentially a region based on agrarian economy.

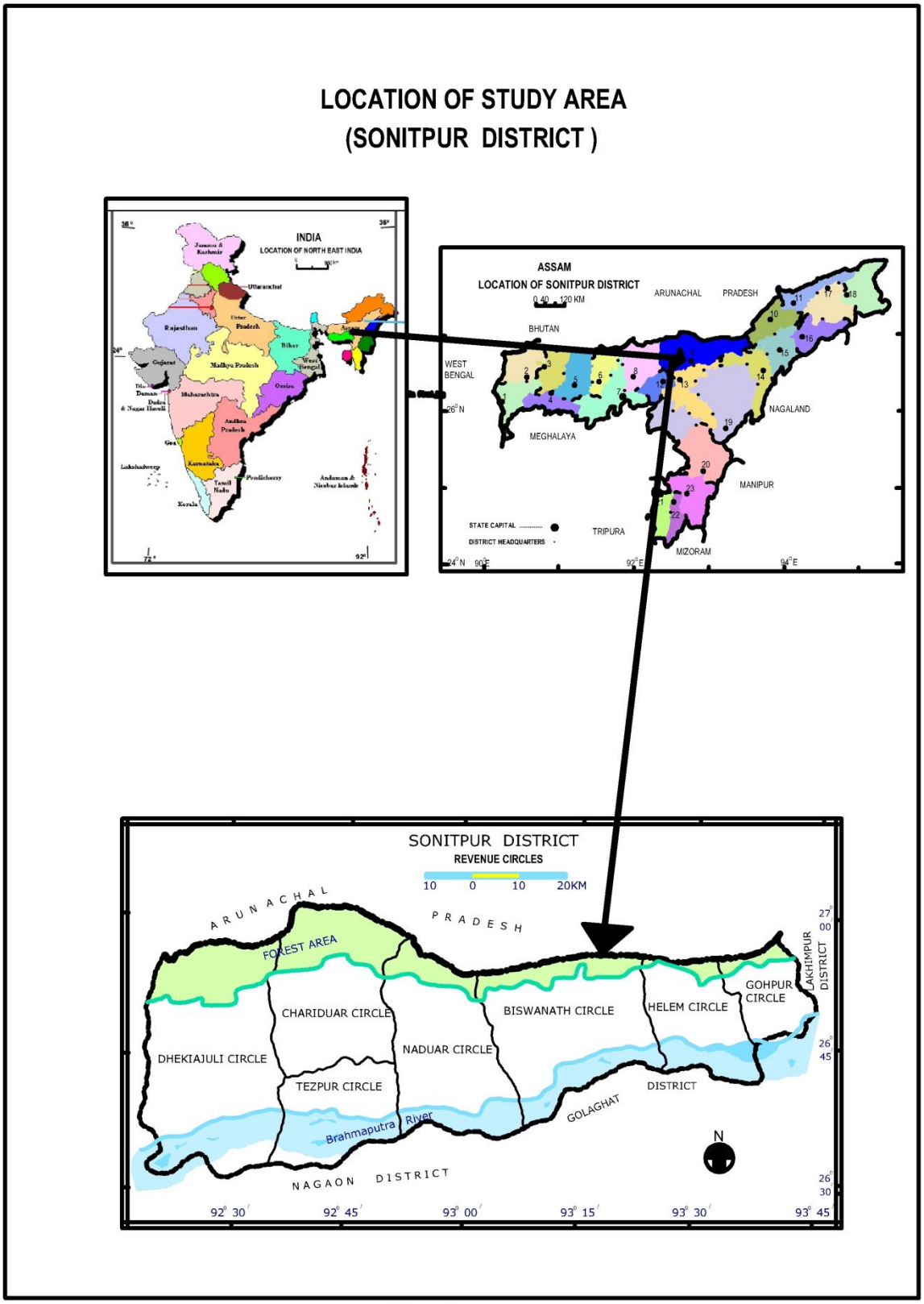

Fig.: 1

Its areal extent is from 26°30 N to 27°01'N latitude and from 92°16' E to 93°43'E longitude. The district covering a total geographical area of 5324 square km with a

population of 1681514 persons (2001), accounting for 6.78% of the total geographical area and 6.80% of the total population of the state respectively.

In the district, due to adoption of various innovative farming measures the traditional age old system of agriculture has been gradually getting transformed in to a near modern one, bringing remarkable dynamism in crop productivity pattern. Use of High Yielding varieties of crop and introduction of new high market value crop varieties are two important triumphs in regard to agricultural development of the district.

Objectives

The Principal objectives of the study are

1) To analyse the level of use of HYV seeds by the farmers of Sonitpur district
2) To study the pattern of cultivation of new high market value crops other than HYV in the district.

Database and Methodology

In the study, the base map wherein the revenue circles of the district are considered as spatial unit of investigation is prepared with the help of cadastral map prepared by Revenue Dept., Govt. of Assam, and the satellite map prepared by Assam Remote Sensing Application Centre, Guwahati (ARSAC). The required primary data and information for the work are collected through sample survey in 28 sample villages. The samples are selected at random with certain qualitative stratification. The selective qualities of samples are based particularly on ethnic character, though the samples are distributed in all the seven revenue circles of the district. The primary data are collected by using a household survey questionnaire from these 28 sample villages and in each of the sample villages 10% of the household has been considered for primary survey.

Level of Use of HYV seeds

High yielding seeds breading technology is a revolutionary transition from the old tradition to contemporary innovation in the practice of agriculture. Under the green revolution technology, the high yielding variety seeds are major input of agricultural production. Their main characteristics are increased responsiveness to chemical fertilizer, short period of maturity, high productivity etc. Introduction of these varieties in the soil of North western India during the late sixties of the 20th century as part of Green revolution brought about significant changes in the level of food grain output of the country. Such a revolutionary change in north-western India generated a spread effect, which even entered into north-east India in the later period of time. In Sonitpur district of Assam there is extensive application of HYV seeds by the farmers. Its adoption is however overwhelmingly confined to the rice and wheat cultivation only. Of the total cropped area (756.95 hectares) under the possession of surveyed households as high as7.68%(536.47 hectares) was under Rice cultivation. The HYV Rice area accounted of 68.31% of the total area under rice among the households surveyed in different circles of

the district. Table 1 reveals the proportionof HYV rice area in the totalrice area of the surveyed households of different circle of the district.

Table: 1 Proportion of HYV rice area to total rice area (Area in Hectare)

Revenue Circles	Total number of surveyed households	Total rice area	HYV rice area	Percent
Naduar	63	76.55	33.04	44.31
Dhekiajuli	65	80.83	67.84	86.05
Tezpur	66	127.72	93.28	77.26
Chariduar	51	68.31	47.37	72.53
Biswanath	67	76.85	56.31	77.30
Helem	69	66.43	49.78	79.73
Gohpur	48	64.77	18.85	30.53
District Total	429	561.46	366.47	68.31

Source: primary survey, 2021

It revealed from the Table: 1 that Dhekiajuli circle recorded the highest proportion of area under HYV rice, where 86.05% of total rice area is devoted to HYV crops. Dhekiajuli circle is followed by Helem andBiswanath circles with 79.73% and 77.30% of HYV rice area respectively. In case of Tezpur and Chariduar circles, however the proportion is above 70%. In remaining two circles namely Naduar and Gohpur the adoption of HYV rice by farmers is found to be lower, as the percentage of HYV rice area to the total rice area of surveyed household of these two circles are 44.31% and 30.53% respectively.

It is observed during field study that Ranjit is found to be the most preferred variety of winter rice followed by Masuri, Bahadur and Basmati. Among the HYV of summer rice Jaya, IRRI, China, China-36 are important. Besides mala, Lachit, Krishna, Pussa etc.are extensively used HYV rice of the study area.

Use of High Market value Crops

During the sample survey one important aspect wasobservedi.e, cultivation of certain crops other than HYV, which were quite unknown to the region till recently are introduced by the educated unemployed youths engaged in agricultural activities.This is undoubtedly a good sign as regards agricultural development to the district, as in spite of lesser hectare strength, these crops fetch more money than some the major crops because of their higher market price and demand. Moreover the emergence of such new crops like commercial banana, small scale cultivation of tea, sunflower, citronella etc. in the cropping pattern of the district during the recent years has been found to enrich the agricultural economy of the district. The sample survey data on the use of crop fields to new crops by the farmers of the district revealed that, there is marked spatial variations in the proportion of area in different circles of the district.

Table: 2show the proportion of area under new crops to total cropped area of the surveyed households of different circles of the district. It is observed that there is significant spatial variation in the proportion of new high market value crops, to total cropped area of the farmers of different circles of the district. In Naduar circle, commercial banana and sunflower are two such new crops, which are introduced by the educated employed youths mainly in the chaparies. These two crops occupy 0.76% and 0.64% of total cropped area respectively. The level of adoption of such new crops to the cropland is found to be low in Dhekiajuli circle, Here only 0.87% of total cropped area of the surveyed households is used for cultivation of a special variety of beetle leaf, called Mithapati, which has greater market demand. In Tezpur circle 1.45% of the cropped area of surveyed household is being used for commercial banana cultivation. The chariduar Circle located north of Tezpur circle has maximum proportion of cropland devoted to the cultivation of these new high market value crops. The major are Tea (Small Tea Gardens) and citronella-an aromatic grass and both are cultivated in built-up areas. The proportion of area used for cultivation of these two crops is 1.88% and 2.51% of total crop Area of survey.

Table :2 Proportion of new high market value crops to the total cropped area in different circles of Sonitpur district 2005-06 (area in hectare)

Revenue Circles	Total cropped area of the surveyed households	New high market value crops											
		Commercial banana		Sunflower		Small tea Cultivation		Citronella		Mithapatti Betel leaf		Total	
		Area	% to total cropped area	Area	% to total cropped area	Area	% to total cropped area	Area	% to total cropped area	Area	% to total cropped area	Area	% to total cropped area
Naduar	114.99	0.87	0.76	0.74	0.64	---	--	--	--	--	--	1.61	1.40
Dhekiajuli	107.09	--	--	--	--	--	--	--	--	0.94	0.87	0.94	0.87
Tezpur	147.52	2.14	1.45	--	--	--	--	--	--	--	--	2.14	1.45
Chariduar	85.41	--	--	--	--	1.61	1.88	2.14	2.51	--	--	3.75	4.39
Biswanath	112.51	0.83	0.74	--	--	1.34	1.19	--	--	--	--	2.17	1.93
Helem	94.38	--	--	2.64	2.84	2.28	2.41	--	--	--	--	4.96	5.25
Gohpur	97.05	--	--	--	--	--	--	0.94	0.97	--	--	0.94	0.97

Source: Primary Survey, 2021

The sample survey revealed that 1.93% of area of total cropped area is under new crops in Biswanath circle.Out of which 0.7 % is used for commercial banana cultivation and 1.19 % is devoted to small scale tea cultivation. In case of Helem circle the proportion of area under new crop is found to be highest (5.25 % of total cropped area). Here 2.84 % of crop land of surveyed households is used for cultivation of sunflower, mainly in the

riverine tracts and 2.41 % used for small scale tea plantation in built-up areas. The Easternmost Gohpur circle shows a very insignificant proportion of area under such new crops, where only 0.97 % of total cropped areaof the surveyed families is used for citronella cultivation.

It is therefore found that commercially cultivated banana and small scale tea are two important high market value crops cultivated in the district with considerable hectarage strength. Banana is found to be cultivated commercially in Naduar, Tezpur and Biswanath circles and the small scale tea in Chariduar, Biswanath and Helem circles. Besides,other two important variety of new crops those were totally unknown to the region areMithapatti betel leaf and Citranella, both are cultivated in built-up areas of the district. Sunflower, cultivated mainly in and around Chaparies of the Brahmaputra is another kind of new crops. It is also to be noted that cultivation of such new high market value crops is done mainly by the educated unemployed youths of surveyed farm families of different revenue circles of the district

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