

Status of Agriculture “A Case Study at Patharpratima Block of South 24 Parganas District”

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Abstract:

Agriculture is the most important economic activities of the people of the Indian Sundarban. By constructing embankments along the major rivers and coastal region on premature land which people reclaimed rice cultivation started here. Patharpratima is the most remote block of South 24 Parganas district. There are thirteen islands in this block which are criss-crossed by so many tidal rivers. Most People of this block are engaged in agriculture and pisciculture. In the low lying alluvial soil the farmers are producing mainly rice, jute and many other crops and vegetables. Gradually the pressure of population increased a lot on the agricultural land and the natural hazards like embankment breaching, flood, saline water intrusion and cyclonic impact also increasing day by day. So there is a loss of agricultural productivity and diversion of agricultural land to fish farm land can also be seen. Soil salinity is a major concern of the farmers. Thus the present paper reveals the study of the Status of Agriculture of the Patharpratima block.

Key words: - Agriculture, crop diversification, soil salinity, crop productivity, employment pattern, globalization, livelihood option

Introduction:

Patharpratima block is situated in the southern part of South 24 Parganas district. It is bounded by

Thakuran river in the east, Kakdwip and Namkhana blocks on the west, Mathurapur 1 and 2 blocks on its north and Bay of Bengal in the South. This is one of the largest blocks of West Bengal consisting of 15 gram panchayats and 87 mouzas. It is entirely rural area. The total area of this block is 484.47 square km. According to 2011 census the total population of this block is 328769 and the density of population is 678 persons per sq. Km. Most people of this block adopted agriculture as their main occupation. Agricultural activity totally controls the socio-economic status of the people at this block.

The Study Area:

But breaches in embankments change in livelihood pattern from land base to water based which has significant bearing on the health of the ecosystem. The distributaries of the Ganga which criss-cross this land include Hoogly, Baratala, Saptamukhi, Thakuran, Mridanga-Bhanga, Matla, Gosaba, bidya, Hatania-Duania, Herobhanga etc. They are fed by sea tides twice a day. Sea water enters more than 100 km through these estuaries and inundate the lowlying plains. Tidal effect, seasonal flooding and impact of full moon cause embankment breaching in all the river banks area. This causes serious damage to agriculture, road, etc.

Objectives of the study :-

- i) To analyse employment trend in agricultural sector
- ii) To analyse the trend of production of agricultural crops
- iii) To identify the major problems of agriculture
- iv) To suggest the proper management options for the development of agricultural activities.

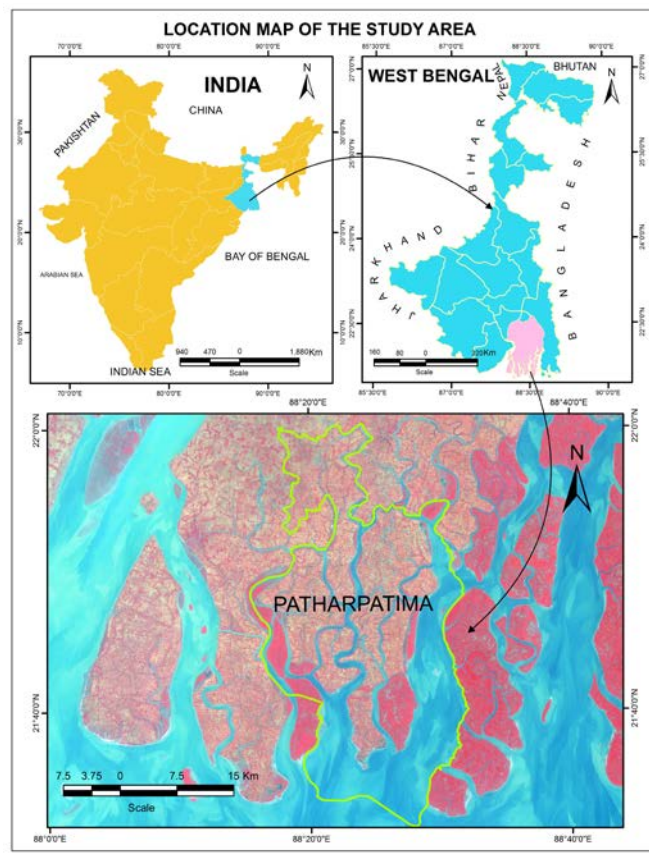
of field survey farmers perception about the perception about the climate change impact on agriculture also assessed. Ground level reality verified by field observation. Cartographic techniques applied to analyse the statistical data on crop production.

Result and Discussion: -

Employment Trend in Agricultural Sector in Patharpratima Block:-

There are 29 blocks in the South 24 Parganas district. In the year 1991 we find that 48.44 percent male population belongs to main workers group where as only 2.84 percent belongs to marginal group. Quite contrasting features can be seen in case of female workers. Only 3.03 percent female falls under the category of main worker where as 9.85 percent female people belongs to marginal workers. Trend of working participation can be seen in 2001 census data. In the Patharpratima block 43.73 percent male population were engaged as main workers. So 4.71 percent decrease of main male workers in the next census. Male marginal workers increased by 8.42 percent in 2001 census. It means that from main workers group, people shifted to marginal group. There was significant change in female main workers group. The female main workers increased by 4.71 percent in the 2001 census than 1991 census. In the 1991 census data we find that the female marginal workers were 9.85 percent and it became in the next census 20.87. So the female marginal workers increased by 11.02 than earlier census. 2011 census we find that 42.6 % population are engaged in different activities.

The main workers in the Patharpratima block had been converted into marginal workers with changing nature of climate (Gupta S. And Sarkar



Methodology:-

The present paper is based on the collection of primary data collected from the field survey. Secondary data collected from the different offices and literatures. On the basis of statistical data, analysis done to represent the relationship population and crop production. During the period

Small farmers	7107
Marginal farmers	30780
Bargadars	21394
Patta Holders	25031
Agricultural Labourers	43615

Other workers	32.27%
Main workers	26.65%
Marginal workers	15.95%
Non workers	57.4%

G. , Climate Change and Economic Adaptability of Indian Sundarban, 2014).

Occupational composition of the people of Patharpratima block: -

Percentage of Total Workers in the Population of the block:

Main worker (female):- Occupational Diversification:-

Active participation of male workers can be seen in recent times in Patharpratima block. The female members have come forward to make a successful alternative economy with the change of environment of Indian Sundarban. A significant

number of male workers have left the agricultural field and joined the alternative occupations. The female members also come out and have been started to work recently as rented daily labour. At present a greater percentage of female main workers have been added in the agricultural practices.

Patharpratima block-(2011 census) --

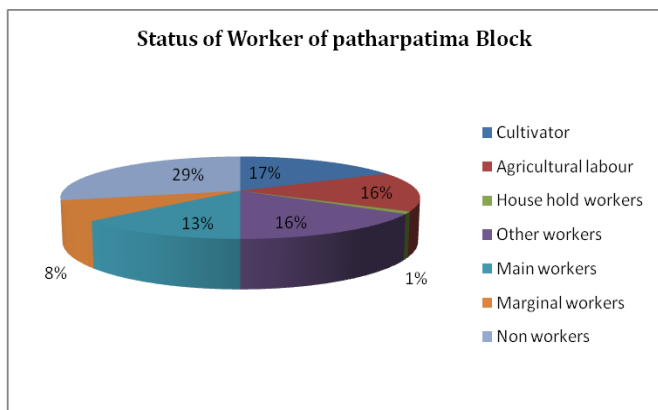
Cultivator	34.7%
Agricultural labour	31.1%
House hold workers	1.9%

Workers	Percentage	Total Workers Percentage
Main Worker(male)	48.44	51.28
Marginal worker(male)	2.84	
Main worker(female)	3.09	12.94
marginal worker(female)	9.85	
(year-1991)		

- Data source- District Statistical Handbook, South 24 Parganas (2009) and Census Report, 2011.

Block is mainly low lying having 61 percent. The percent of medium and uplands are 26 percent and

11percent respectively. Agriculture in this block depends on monsoon rain Micro irrigation Potentials created through rain water harvesting and trapping of ground water in some villages. Both Kharif and Rabi crops grow here. Classification of farming communities based on land holding pattern of Patharpratima block is as follows :-



Grampanchayat wise Agricultural Status:-

Banashyamnagar Gram Panchayet is located in the south eastern side of Patharpratima block within a distance of one km. This GP is comprised of four viz Choto Banashyamnagar, Banashyamnagar, Shibnagar and Gangpur. The area is mainly monocropped. The soil contains medium to high salinity condition during dry season and it becomes unsuitable for Aman paddy cultivation. About 80 percent traditional variety and 20 percent HYV paddy cultivated during kharif and boro season. With the help of irrigation other rabi crops like winter vegetables. Potato, sunflower. Til, chillies etc grown. About 85 percent of the households are farmers. Most of the cultivators

Workers	Percentage	Total Workers Percentage
Main Worker(male)	43.73	54.99
Marginal worker(male)	11.26	
Main worker(female)	8.73	29.60
marginal worker(female)	20.87	
(year-2001)		

belong to marginal and sub marginal farmers who have landholdings less than 1 hectare.

Patharpratima GP is completely isolated from from the mainland and surrounded by the rivers Mridangabhanga in the east, Barchara in the North, Saptamukhi in the west and Karjon creek in in the south. This GP is comprised of seven villages viz Madhabnagar, Paschim Dwarakapur, Baradapur, Bhagatpur, Krishnanagar, Dakshin Lakshminarayanpur and Dakshin Shibganj. The area is mainly monocropped. During the rainy season soil salinity comes down through natural leaching process. Then it becomes favourable for Aman paddy cultivation. Around 60 percent of this area is cultivable. Around 70 percent traditional variety aman rice and 30 percent HYV paddy grow during kharif and boro season. Around 20 percent of the cultivable land supported with irrigation from storage ponds and canals. Betel vine is the main commercial crop of this GP . Eighty percent of the households are farmers.

Digambarpur Gram Panchayet is located in the north of Ramganga GP. It is composed of eight villages viz Dakshin Durgapur, Indranarayanpur, Digambarour, Gurudaspur, Paschim Sridharpur, Uttar Mahendrapur, Parbatipur and Ramnagar Abad. The cultivable area is mainly mono cropped. The soil possesses low to medium salinity condition during dry season. But in the dry season soil salinity comes down through natural process and becomes suitable for Aman paddy cultivation. The major soil types are clay and sandy loam. About 50 percent of the land is cultivable. The cropping intensity is little bit high at this GP. The major rabi crops are the winter vegetables, sweet potato, sunflower, til, chilly, summer moong and many other vegetables. Betel vine is the main commercial crop here. Livelihood of the people dependent on agriculture.

Achintanagar GP is located in the eastern side of the Patharpratima block within a distance of 2 km. This GP is comprised of six villages viz Lakshmipur, Kamdevpur, Bishnupur, Achintanagar, Purba Sripatnagar and Paschim Sripatnagar. Maximum households are basically cultivators. They belong to marginal to sub-marginal category. The soil possess high salinity condition during dry season and becomes unsuitable for cultivation. But during the rainy season soil salinity comes down through dilution and it becomes favourable for cultivation of Aman rice. The coverage of Aman paddy is 100 percent of the net cultivable area during the kharif season. During winter season boro paddy and other rabi crops like winter vegetables, potato, sunflower, til, chilli also grown in and around 17 percent of the cultivable land supported with irrigation from many ponds and canals. Here 85 percent of the households are farmers.

G Plot Gram Panchayet is situated in the southern most part of Patharpratima block. This GP is completely isolated from the main land and surrounded by river, creeks and seas. The villages are protected by earthen embankments and agricultural fields are also protected by the same. Soil characters vary from one village to another. Medium to high range soil salinity exists in this GP. The area is mainly mono cropped. Most of the villagers are farmers and belong to marginal, sub-marginal farmers and bargadar categories. The villages adjacent to rivers and seas are possess medium to high salinity condition during dry season and its come down through the process of dilution. Then it becomes favourable for the cultivation of Aman paddy. Other than rice rabi crops like winter vegetables, potato, sunflower, til, chilli, watermelon and summer vegetables also grown in G Plot. During Aila cyclone in 2009 around 80 percent agricultural crops damaged (Report Aila Cyclone, 2009 , B.D.O Patharpratima block).

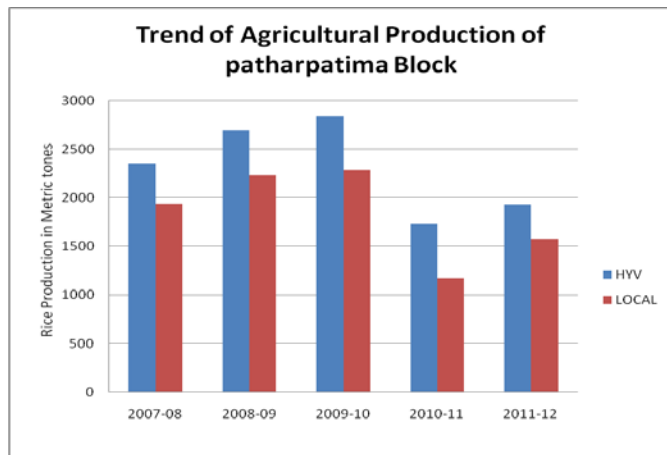
Brajoballavpur GP is located in the southernmost part of Patharpratima block. It is completely isolated from the mainland. Its southern portion is attacked by sea waves and causes embankment breaching. As a result agricultural land is very much affected by saline water. About 65 percent land is cultivable. Aman paddy is cultivated over 90 percent of the agricultural land. Most of the owner cultivators belong to marginal and sub-marginal farmers. Due to high salinity in the soil the amount of rice productivity is very low. During the period of high storm surge riverside and sea side villages get inundated with saline water which makes the cultivable lands unsuitable for cultivation. Seasonal vegetables like brinjal, ladiesfinger, spinach, amaranth, lablab bean, pumpkin, ridged gourd, snake gourd and others are cultivated on the uplands.

The Ramganga GP is located at the end point of mainland of Patharpratima block. This GP has 11 villages which are very developed for agriculture. There are 3258 households who are basically marginal and sub marginal category. The major land type is low. Around 60 percent land is cultivable. Here 70 percent traditional tall variety and 30 percent HYV paddy grow during kharif season. Mono cropped area generates limited employment opportunity in this GP. Globalization of agricultural crop marketing started in this Grampanchayat.

Trend of Agricultural Production (Rice Production in Metric tonnes)

BLOCK	YE AR	20 07- 08	20 08- 09	20 09- 10	201 0-11	201 1- 12
PATHARP RATIMA	HY V	23 56	27 00	28 46	173 7.16	193 5.1
	LOC AL	19 44	22 33	22 86	117 2.52	158 0

Data Source: District Statistical Hand Book and Principal Agricultural Office, Alipore.



Production of Other Crops in Metric Tons (Year-2011-2012)

Block- Patharpratima, South 24 Parganas.

Khesary-1295

Summer moong-280

Mash calai-13.75

Arhar-2.23

Sunflower-25.5

Problems of Agriculture:-In Patharpratima block although agriculture is the main occupation of the local people, but due to natural and socio-economic constrains the farmers are facing a lot of problems.

1)

Land erosion is one of the major problems for agricultural development here. The villages located along the sea and river side are mostly vulnerable to soil erosion and embank breaching. So there is a loss of agricultural land during every year. The Land erosion is one of the major problems for agricultural development here. The villages located along the sea and river side are mostly vulnerable to soil erosion and embank breaching. So there is a loss of agricultural land during every year. The Gobardhanpur village is situated at the southern most part of Patharpratima block. This village had already lost three fourth of its land area due to land erosion. In this block 33 percent population have no agricultural land.

2)

In the Patharpratima block 80 percent net cultivable area is under rain fed kharif paddy cultivation with low yield. Change

in monsoonal pattern affect the productivity of the rice.

- 3) Population pressure imposes huge pressure on the monocropped agrarian economy of the people of this block.
- 4) In this block during winter season due to lack of irrigational facilities boro rice cultivation can be done only at some selected lands.
- 5) Soil salinity is one of the most important problems for agricultural development. Due to embankment breaching saline water enters the agricultural land and makes it unsuitable for cultivation. When a strong cyclone attacks the area saline water enters the agricultural field and damages crops. Even three or four consecutive years no crops can be grown. During the summer season soil salinity increases. So at this time agricultural activities are very much hampered.

Management:-

The livelihood system of the people of Patharpratima block completely dependent on agriculture and pisciculture. But at present agricultural activities are facing a lot of problems which affect the livelihood security of the rural people. So policies need to be taken for making agriculture more remunerative (Human Development Report, South 24 Parganas).

- Technological percolation specially better irrigational facilities in rural areas required. This will help multiple cropping in the Patharpratima block. Multiple cropping will also lead to higher employment

opportunities of the local people. Multiple cropping and crop diversification would allow the rural workers to get higher employment days in the agricultural sector.

- To cope with high salinity in the soil at present some salt tolerable species are cultivated by the farmers at many villages of Patharpratima block. Expenditure is very low but the production rate is very high. Such species are Randhunigopal, Tulsimukul, Badsabhog, Kanakchur, Gandeswari, Chinai Atap, Kanthali Chapa, Gujuri Bhog etc.
- Bhut Muri, Jhumur Kandi, Dular etc are flood tolerable rice species also cultivated by the farmers. The farmers of G Plot (Patharpratima block) are practising such rice species.
- Rain water must be preserved in cut off channel of the old river. New ponds must dig up in the agricultural field. Cannals have to cut up with sufficient depth and width so that rain water may store here as well as during dry season it can be used as irrigational purpose.
- Agricultural lands must be used for multipurpose benefits. High earthen Aalbandh must be constructed surrounding the agricultural land. On the Aalbandh the farmers will be able to produce different kinds of vegetables and fruits. At the same time Aman rice cultivation will be possible on the land. The most advantage aspect of such land use is that throughout the year the farmers can earn money. It will help to develop their standard of living. Salt exploiting trees are also planted in the agricultural field.

Conclusion:-

With increasing population pressure and intensity and frequency of natural hazards agriculture of Patharpratima block is facing tremendous problems. Land erosion, saline water intrusion, climate change, change of occupation etc. are controlling the scenario of agriculture of Patharpratima block. At present the people of this block shifted from their original occupation to fishing other marine base activities. Sustainable use of agricultural resources, farmers awareness and governments policies can change the agricultural status of the Patharpratima block and also save the farmers.

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