



Changing Pattern Of Agricultural Practices & Productions In Coochbehar District, West Bengal

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ABSTRACT:

The North Bengal, northern part of the state of West Bengal is basically rural and agro-based. Rapid growth of Population with infiltration shares a larger section of the demography. Industrially backward area's agricultural practices also changes with time. Over the decades, the alarming rate of increase of population pressure on land reduced the man-land ratio. Agricultural scenario within the district has changed from traditional agricultural practice to intensive one. But the landless backward classes' people are forced to leave their homeland to search new jobs elsewhere. Attempts have been made in this paper to focus the existing pattern of Agricultural practices, its temporal changes within last two decades and future trends

KEYWORDS:

Agricultural Practice, controlling Factors, and Production

1.INTRODUCTION:

From the primitive times the then forest dwellers depend on agriculture. With the progress of civilization, human beings are now assisted with many other economic activities such as secondary, tertiary, quinary etc. Agriculture still plays a dominant role in the economic activities though its nature and practices are changes over time. Changing land use pattern affect human life in a modified way. How this affect the society should be a prime concern for the planner and researchers.

2.OBJECTIVES:

The study has some specific objectives:

1. To observe the nature of agricultural practices in the district with its recent changes.
2. To find out the causes and consequences of changing nature of agriculture.
3. To suggest some remedial actions to reduce disparities as if planner and policy makers can take necessary

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measures.

3.DATABASE & METHODOLOGY:

The entire information and data are taken mainly from two secondary sources- district statistical handbook and district census handbook. Availability is considered rather suitability of data. Methodology applied in the study are totally depends statistical analysis by tables and charts.

4.STUDY AREA:

Cooch Behar district is located in the north-western part of the state of West Bengal. It lies between 26°03'20" & 25°57'47" North Latitude; between 89°05'35" & 88°04'44" East Longitude. It is surrounded by the district of [Jalpaiguri](#) in the north and north-west, state of [Assam](#) in the east (bounded by the districts of [Kokrajhar](#) and Dhubri in Assam) and the International Border in the form of Indo-Bangladesh boundary in the south and south-west. Beside this bounded area there are enclaves (called Chhits) which are outlying and detached tracts of land situated inside

Bangladesh. There are 110 such Chhits. The district occupies a total area of 3387 Sq. Kms, which makes up 3.82 percent of the landmass of the state of West Bengal. Of this, the total agricultural area is 2530.63 Sq. Kms.

5.NATURE OF AGRICULTURAL PRACTICES:

Out of 3, 38,700 hectare land area 2, 48, 14 hectare is net cropped area in the District. Major agricultural crops are Rice (Aus, Aman, Boro), Wheat, Pulses, Jute, Maize, Oil seeds, etc. Among the cultivable land maximum area (36.80%) is occupied by rice of which Aman (26.50%) variety dominated followed by jute (9.73%) and Boro variety of rice (8.08%). The region has some spatial characteristics regarding the crop combination because of the physiographic variety.

Table: 1. Area under principal crops in the district of Cooch Behar (2009-10)

SL. No.	Principal Crops	Area ('000 hectare)	% to total cultivated land
1.	Rice	311.99	36.80
a)	Aus	18.75	2.21
b)	Aman	224.70	26.50
c)	Boro	68.54	8.08
2.	Wheat	10.60	1.25
3.	Potato	27.50	3.24
4.	Total Pulses	9.08	1.07
5.	Total oilseeds	27.72	3.27
6.	Jute	82.46	9.73
7.	Tobacco	12.05	1.42
8.	Vegetable	54.50	6.43
	TOTAL	847.89	100.00

Source: Data computed by the author from district Statistical Handbook,

6.CONTROLLING FACTORS OF AGRICULTURE:

6.1.Climate:

The climate of the district is characterised by a very high level of humidity and abundant rainfall. The temperature is hardly ever excessive. The South-West monsoon season falls in the period between June

and the beginning of October. October to mid-November constitutes post-monsoon season, and winter falls between November and February. January is the coldest month with temperature varying between 10.4 degree Celsius to 24.1 degree Celsius April is the hottest month with a mean daily maximum of 32.5 degree Celsius and mean daily minimum of 20.2 degree Celsius. The atmosphere is highly humid throughout the year except February to May when relative humidity is as low as 50 to 70 percent. The average rainfall in the district is 3, 2013 mm. The rainfall generally increases from the south-west to the north-east. About 70 percent of the annual rainfall is received during the southwest monsoon season, June being the rainiest month. On an average there are about 102 rainy days with records of more than 400 mm rainfall in 24 hours.

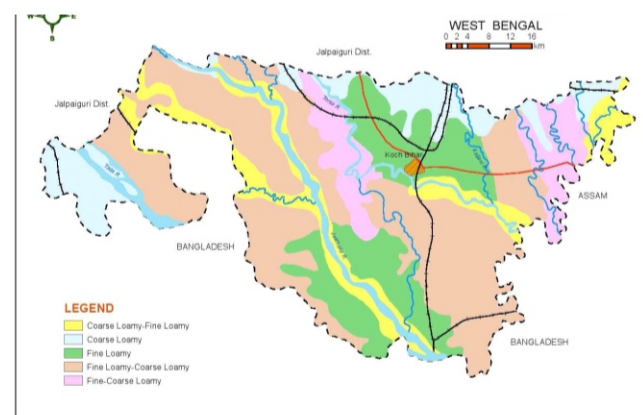
6.2. Soil:

Cooch Behar is essentially a flat country with a slight south-eastern slope along which the main rivers of the district flow. Most of the high land lies in the Sitalkuchi area and most of the low lands lie in [Dinhata](#) area. The pre-dominant soil found here is [alluvial soil](#) of very recent formation. It is mostly sandy and loose. The surface soil is loam and hardly any good clay is found. The rivers flow in a slanting course from north-west to south-east. Six river systems cut through the district flowing in a south-easterly direction. From the west to east these are: the [Teesta river](#) system, [Jaldhaka river](#) system, Torsa, Kaljani, [Raidak River](#) and Gadadhar system.

Table no. 2. Major Soil Groups in the District

Major Soils	Area ('000 ha)	Percent (%) of Total
Sandy	49.1	1.4
Coarse loamy	1061.3	31.3
Deep to very deep fine loamy	1812.0	53.4
Fine	260.3	7.7
Miscellaneous	204.3	6.2

Figure No. 1.



6.3. Agricultural Economy:

Economy of Cooch Behar District is primarily dependant on agriculture. A large part of the income in the district is generated by agriculture, and the majority of people are involved in the same. Among the various crops grown here, wheat is one of the most important cereal crops in the Rabi season. The coverage of crop in this district is gradually increasing. Pulse is one of the important cereal crops and

steps have been taken to increase the productivity as well as production of the same. This district is marginally surplus in rice production.

Among the total workers 37.43% cultivators, 29.53% agricultural labourers dominated by marginal (77.59%) and small (15.78%) farmers operating less than one hectare and less than two hectares respectively. The average size of holdings is 0.85 hectare (2005-2006). Increasing population causes parallel growth of cultivators and agricultural labourers. Substantive agriculture developed in the area, cereal crops are cultivated in most cases.

Efforts are consistently being made for the marketing of agricultural goods. Marketing extension is a continuous process to disseminate all relevant information to the farmers, traders and consumers about various measures taken for improvement of marketing system so that they may all derive the benefits flowing from such measures. The information is disseminated through documentaries, cinema slides, printed literatures, exhibitions, conferences, seminars and workshops. The DMI headed by the Agricultural Marketing Advisor, Department of Agriculture and Co-operation (DAC) implements agricultural marketing policies and programmes of the Government of India. Among the various measure undertaken, farmer's training (Male and Female) under departmental normal schemes are carried out throughout the year which have significantly improved cultivation and brought about diversification in cropping practices and visibly improved socio-economic condition for farmers.

6.4. Low Agriculture Infrastructure:

Irrigation facilities cover only 35 % of the district's net cropped area, which is lower than the state average. There is a little possibility that the Teesta irrigation canals will benefit the district because of the topography. The district has a large numbers of perennial rivers, khals, beels, and water bodies. These resources are being utilized as a source of surface irrigation through a number of RLI (River Lift Irrigation) and mini RLI schemes in the region. However, most of these RLI are often unused or underused because of yearly flooding, meandering and heavy siltation of the rivers. Groundwater potential in the district is very high. Pump-operated shallow tube wells are the most viable and popular irrigation scheme among the farmers of this district. Agriculture is the main economic activity in the district but modernization is yet to implement. Revolutionary methods are being used in Boro paddy and potato cultivation. But due to non adoption of modern technology, a large number of farmers still depend on traditional technology. The lands are fertile but additional manure is required to promote it. In 2004 the consumption of chemical fertilizer was 72.6 kg/hectare. The total consumption of electricity was 123.119 million kWh during the period 2006-07 out of which only 5.34% is utilized for agriculture and irrigation purposes. These are all lower than the state average.

Figure No. 2

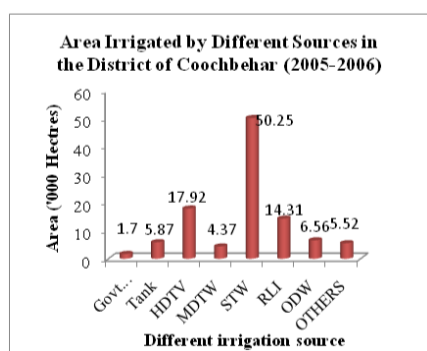
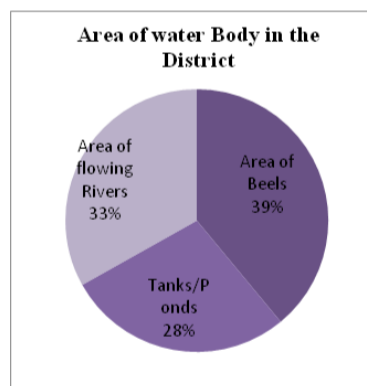


Figure No. 3



Source: Bureau of Applied Economics and statistics Govt. of west Bengal

N.B. HDTV= High capacity Deep Tube well, MDTW=Middle capacity deep Tube well, STW=Shallow Tube well, RLI=River Lift irrigation, ODW=Open Dug Well,



7. Temporal Changes of Agricultural Practices:

Temporal Changes of Agricultural Practices, Production and yield rate: With the progress of time cultivation of crops considerably changes in the region. From 1989-90 to 2009-10 within this 20 years the crops production, yield and areas are changed. Considerable reduction in areas are Aus (-78.77), Wheat (-54.70%) and total pulses (-14.34%). Positive changes occur in crops like Boro (645.00%), Potato (497.83%), oilseeds (118.27%) and tobacco (32.42%) etc. Over the years Aman and Aus cultivation areas are replaced by Boro cultivation (Table no. 3 and fig. no.4). Traditional Aus cultivation is not profitable because of its poor production now a day. Slow but gradual development of economy creates parallel demand in cultivation of cash crops like Potato.

Table No. 3 Area under Principal crops

SL. No.	Principal Crops	Area in '000 Hectare						% Change (1989-90 to 2009-10)
		1989-90	1993-94	1997-98	2001-02	2005-06	2009-10	
1.	Rice	320.1	305.1	273.7	279.2	280.4	311.99	-2.53
a)	Aus	88.3	78.5	35.0	28.6	12.0	18.75	-78.77
b)	Aman	222.6	215.8	228.4	222.4	235.2	224.7	0.94
c)	Boro	9.2	10.8	16.3	28.2	33.2	68.54	645.00
2.	Wheat	23.4	19.5	21.7	25.6	14.0	10.6	-54.70
3.	Potato	4.6	8.7	14.2	11.2	24.1	27.5	497.83
4.	Total Pulses	10.6	11.8	7.8	11.3	9.2	9.08	-14.34
5.	Total oilseeds	12.7	13.6	14.0	13.8	22.5	27.72	118.27
7.	Tobacco	9.1	-	8.0	8.2	13.1	12.05	32.42

Source: Computed by the author from district Statistical Handbooks

Figure No. 4. Gradual changes of Boro covered area

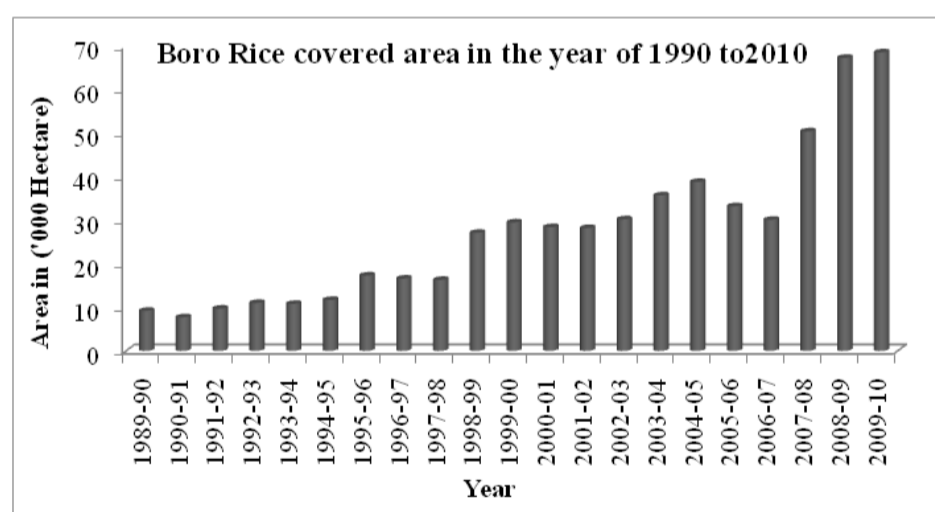
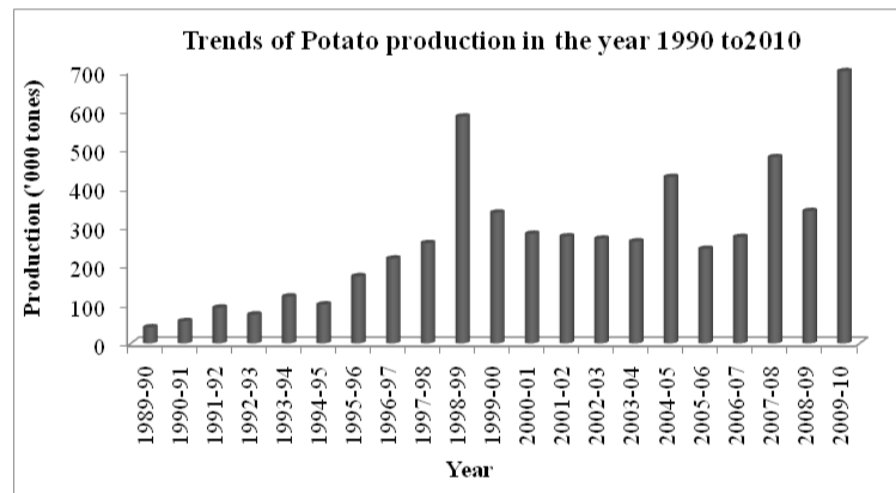


Table No. 4. Production of Principal crops

SL. No.	Principal Crops	Production in '000 tones					% Change (1989-90 to 2009-10)	
		1989-90	1993-94	1997-98	2001-02	2005-06		2009-10
1.	Rice	422.7	421.2	369.1	466.7	545.5	797.37	88.64
a)	Aus	86.9	115.9	53.1	44.8	17.7	51.1	-41.20
b)	Aman	310.0	279.1	277.1	352.2	449.0	550.51	77.58
c)	Boro	25.8	26.2	38.9	69.7	78.8	195.76	658.76
2.	Wheat	40.6	29.6	32.7	46.9	23.6	34.98	-13.84
3.	Potato	41.3	120.4	257.7	275.1	243.0	700.01	1594.94
4.	Total Pulses	6.5	7.0	4.9	5.7	8.2	6.01	-7.54
5.	Total oilseeds	6.3	7.8	6.1	7.2	12.1	16.2	157.14
7.	Tobacco	9.9	-	3.8	4.1	19.4	18.12	83.03

Source: Computed by the author from district Statistical Handbooks

Figure No. 5



Changes also occur in production within these times. Excepting Aus (-41.205), wheat (-13.84%), pulses (-7.54%), production of all other crops has a positive change. Again considerable change occurs in production of Boro variety of rice (685.76%) and Potato (1594.94%) (Table no. 4 and fig. no.5). Such positive changes in all cases are due to introduction of high yielding varieties in recent days and introduction of chemical fertilizers.

CONCLUSION:

In near future agricultural practices will be affected by huge burden on land as well as change of land use pattern. The societal changes will also affect the traditional practices in the field. Commercialization and urbanization will change the every aspects of productivity of land.

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