

CHAPTER - IV

Nature of Agriculture and Land Revenue Settlements in
Cooch Behar.

I N T R O D U C T I O N

The district of Cooch Behar is predominantly an agricultural district and agriculture forms the principal industry of the district. Most of the workers of the district are engaged in agricultural pursuits. Every four out of any group of five workers seem to be in agricultural sector either as a cultivator or as an agricultural labourer. According to Census Report of 1981, in the state of West Bengal as a whole 55 percent of the total working population are engaged in agriculture against 79.26 percent in the district of Cooch Behar. Among the working population 52.02 percent are cultivators and 27.24 percent are agricultural labourers in the district whereas in the state of West Bengal as a whole, the percentages are 29.76 and 25.23 respectively. The proportion between cultivators and agricultural labourers in the district is very wide. The district does not have any large or medium scale industry. As a result, the participation of workers in the primary sector has been found to be higher in proportion here than the state average.

The soil and other characteristics like rainfall, weather condition etc. which govern the agriculture of any tract to a considerable degree have been described earlier in Chapter II. The district generally experiences very favourable rainfall. Potato and Jute can be grown here even without any irrigation.

(a) Agricultural Pattern in Cooch Behar.

The district of Cooch Behar forms an irregular triangle, intersected by numerous rivers, streams and marshes. This district is a level plain, undiversified by jheels or many large sheets of water. The surface, however, rises in gentle swells, some of which remain above water even at high flood. The low lands are sometimes only a few inches above the level of the marshes and bills which surround them and are inundated by the first showers of the monsoon. High lands are most sandy and found in Mekliganj and Dinjata Sub-division. The people generally select the highlands for their homestead and garden, which are also suitable for the cultivation of valuable crops of the district viz. tobacco, sugarcane, betel-nut and bamboo. The low lands are chiefly suited to winter paddy. Low land preponderates the sub-division Dinjata as well as Mathabhanga. The land intermediate between the high and low is generally richest. It is of a dull ash colour and grows Jute and Paddy. It is a

loam of a high order and can raise two crops in a year. The western portion of Mekliganj sub-division, the northern portion of Mathabhanga sub-division, a tract in the north of Cooch Behar sub-division and almost the whole of Tufanganj sub-division preponderate medium lands and known as paddy districts. (1) The greater portion of the district is well cultivated, composed of green fields studded with bamboo clumps and orchards which surround the homestead of every substantial farmer. But tracts of jungle of heavy grass and wood are to be seen in the northeast corner around Mahishkuchi. There is no forest worth the name. In the present century teak and Sisoo trees have been extensively planted and long avenues of Sisoo may now be seen along most of the roads.

The soil of the district is formed alluvial deposition of different river system. It is mainly sandy loam to loam and heavy soil is found in small pockets only. The depth ranges from 0.15 metre to 1.00 metre and is superimposed on a deep bed of sand. The moisture retentive capacity of land in the higher situation is low and as such less fertile. The lower situation is more fertile while in the middle order land, multiple cropping has gained popularity. With assured irrigation facility, these lands can be better utilised for crop production.

Rainfall starts by the end of February, when sowing of Aus and Jute commences and it continues upto October. The total precipitation is not uniform throughout the district. It is highest in the Eastern part and as one proceeds westward, it decreases. The cropping pattern and sowing time varies accordingly. Generally, there is sufficient soil moisture for crop raising from April to December, though occasional moisture stress is not uncommon. For a good crop irrigation is necessary from November to March. In certain parts on the North - Eastern side of river Torsa and also in some parts of Dinhata sub-division, sufficient moisture remains in the soil even upto March as a result of which a fair crop can be raised even without irrigation. The low lands situated between the river Mansai and Torsa raises unirrigated crop but in higher situation, irrigation is essential for good Rabi crop or early sowing of pre-Kharif crops. In the Teesta tract, good Rabi crop or early sowing or pre-Kharif crop is not possible without irrigation. Thus, more or less, the district can be divided into three micro Agro-climatic zone along the main three rivers of the district i.e. Teesta belt, Mansai belt and the Torsa belt.

(2)

The soil condition of Cooch Behar is congenial for the production of five main groups of crops like I. food-

grains II. oilseeds III. tobacco IV. manufactured crops V. roots and bulbs. Among foodgrains, the people of Cooch Behar produces different variety of paddy like aus (bitri), haimanti (Aman) and wheat, barley, china, kaon, pulses. Among oilseeds, mustard and til is produced here. Tobacco is also another principal profitable crop of the district. The manufactured crops include jute, shan or net-fibre, kunkura or reath, sugarcane, matting grass. Roots and bulbs include potato, onion, garlic, giger, turmeric etc. (3)

(b) Land Revenue Settlements in Cooch Behar.

A regular history of the internal and more particularly of the land revenue administration of Cooch Behar begins with its connection with the British Government in 1773. From very early times lands appears to have been divided into two kinds (1) revenue paying and (2) rent-free. Persons holding the first kind of land had to pay revenue to the state and were called Jotedars. The holders of rent-free land, on the otherhand, were private individuals who obtained them for special purposes and enjoyed them free of any charge. Rent-free lands were denominated Debutter, Brahmatter, Lakhera, Patbhata, Jaigir and Pirpal according to the purposes to which they were allotted. The revenue paying lands were divided into three parts Mal, Deubutter and Khangi. Mal was revenue pro-

per which went to the resources of the state; the incomes from Debutter lands were appropriated for the worship of the deities and for other religious purposes; and the income from the Khangri land went to the maintenance of the household of the Maharaja. After Col. Haughton, the Commissioner, introduced the budget, (4) the Khangri lands were merged with the Mal.

Purling, the collector of Rangpur, prepared a Hustabood or account of land revenue of Koch Bihar in 1773. The land revenue was then realised in three parts appropriated respectively to the Maharaja, the Nazir Deo and the Dewan Deo. He found that the persons paying revenue to the State (Jotedars) actually formed the first grade tenancy of the country. Revenue payable by the rayat consisted of two parts namely assal or original rent and abooab or additional cesses which were then consolidated into one. There was no fixity of rent and regular Pattahs were not granted to the tenants. The settlement of land revenue was made annually and the assessment was not fixed. The unit of land was a bish which equals 12 bighas and 16 kathas. There were three different rates for assessment for different qualities of land. The rates were Rs. 20, Rs. 15 and Rs. 10 per bish of land. The mode of assessment and the system of collection were both irregular and the dishonesty and greed of the State Officials caused great sufferings to the people. Large portions of the land were alienated, new and irregular

exactions were imposed and the administration of justice was perverted for the purpose of securing gratifications. The harassed and oppressed tenants left the state in large numbers. Purling's hast-o-bud of 1773 showed a net revenue of about 2 lakhs of rupees. After 15 years the revenue fell to Rs.141230 and in another four years it was reduced to Rs.120000 Narayani rupees. After deducting Rs. 99560 as tribute of the East India Company, very little was left for the management of the state. (5)

To improve the state affairs Douglas introduced the Ijaradari system in 1790. The country was divided into small parcels and put upto auction and the highest bid with approved security was accepted. The Ijaradar then distributed the total amount he expected to collect amongst the Jotes comprised in his Ijara. In addition to the Jama formally fixed by the Ijaradar, he used to collect an additional amount amounting to about a sixth of the Jama as Ijaradari and Saranjami charge. Seven years after the introduction of the Ijara system, Ahmuty, the commissioner, wrote to the Governor General on the evil effects of the Ijara system thus:

"The system adopted in former years was the mode to obtain the highest possible revenue for a short period, but it appears from experience ill calculated to promote the happiness of the people and the permanent prosperity of the country.

Exclusive of the loss sustained by the proprietor, the actual cultivators of the soil have suffered considerably from the lands being let at rack-rent to individuals, many of whom could have no interest in their welfare, and who availed themselves of every opportunity of extorting from them as much as possible. Consequently, whole villages deserted and retired into the adjacent districts of Rangpur and Dinajpur, where they found greater security and encouragement of their labour under established regulations of government, and a difference of more than seventy thousand of rupees was experienced in the Jama of year subsequent to 1201 B.E." (6)

The ladies of the royal seraglio, the relatives of the king (Rajgans) and the principal amlahs of the state used to take out the Ijaras benami and by virtue of their position they could easily make exactions from the ryots.

In order to remove all these evils, there was felt the necessity of a general survey of the whole state and preparation of a record of rights of all the tenants from the Jotedar downwards and to determine rents at each level. Accordingly, the first survey of Koch Bihar by O'Donnel was concluded in 1870. O'Donnel's survey measured the ~~KAMMXXY~~ country in standard bighas of eighty cubits square (cubit = 18 inches) and in Kathas and dhurs. He divided the country into six

parganas or circuits and within the parganas, the taluks were geographically demarcated. The Jotes comprised in each taluk was demarcated. From 1872 under orders of George Campbell, the Lieutenant Governor of Bengal, the Ijaradari system was abolished and the Khas collection was introduced from 1st April 1872. The work of the first land revenue settlement of the country was concluded by 1877. The undertenures running upto six degree were noted at this settlement. They were in order of successive lower grade, Jote, Chukani, Dar Chukani, Dar-a-dar chukani, Tasya chukani, Tali chukani and Tasya tali chukani. The profit of each upper stage in collecting the rent from the next lower stage was also recorded. The general rates adopted for the settlement were:

	<u>Per bigha</u>	
	Rs.	As.
For homestead lands and gardens	2	8
For Bamboo lands	1	2
For other cultivable lands including thatching grass lands and small bills of less than 2 bighas.	0	8
For Fallow and Jungle lands	0	1

The total amount of revenue secured by first settlement was Rs. 938610 which showed an increase of Rs. 574471 over the old Jama of Rs. 364139⁽⁷⁾.

The first settlement was concluded with the Jotedars, varied from 8 to 13 years and ended in 1983-84. An extension of five ~~years~~ years on the same terms was made and from 1986-87 resettlement (which was known as Rakamcharcha settlement) was started. In the meantime, another petty settlement of patit (fallow) lands, which was known as patit charcha settlement had taken place between 1884 and 1886. In the Re-settlement operations from 1886, no survey of the state was done. Old papers of the first settlement was the basis. The classification of land and different rates which were recorded in Re-settlement are given in table 4.1.

Table - 4.1

Rates per bigha

Class of Land	1st Class Taluk		2nd Class Taluk		3rd Class Taluk	
	Rs.	As	Rs.	As	Rs.	As
1. Betel nut	4	0	4	0	4	0
2. Bastu	3	0	3	0	3	0
3. Udbastu	3	0	3	0	3	0
4. Garden	3	0	3	0	3	0
5. Bamboo	1	2	1	2	1	2
6. Tobacco 1st class	1	8	1	8	1	8
7. Tobacco 2nd class	1	4	1	4	1	4
8. Tobacco 3rd class	1	0	1	0	1	0

Contd.....

Contd.....Table -4.1

9. Awal	1	0	0	14	0	13
10. Duiam	0	12	0	11	0	10
11. Saiam	0	9	0	8	0	7
12. Chaharam	0	7	0	6	0	5
13. San	0	7	0	6	0	5
14. Laik Patit	0	2	0	2	0	2
15. Garlaik Patit	0	1	0	1	0	1
16. Jala	0	8	0	8	0	8

Source : West Bengal District Gazetteers, Cooch Behar, February, 1977, p. 146.

In the Re-settlement rate of rent to be paid by the undertenure was also fixed. The total revenue obtained by the re-settlement was Rs. 1241060, an increase of Rs.288418 over the first settlement and Patit Charcha settlement revenue of Rs. 952642.⁽⁸⁾

The Rakamcharcha Re-settlement was to expire in about 1918-1920. In order that the next Re-settlement might come into force soon after the expiry of the above period, the operations in connection with the present Re-settlement were started in 1912-13. A new survey was taken from 1912 and ended in 1916-17. The expiring settlements of the Rakam Charcha settlement were extended upto 1927 and in 1927 a new

Re-settlement was made. The rates and classification of land adopted in the Re-settlement of 1927 were as follows:

Table - 4.2

Rates per bigha

Class of Land	1st class Taluk		2nd class Taluk		3rd class Taluk	
	Rs.	As	Rs.	As	Rs.	As
1. Betel nut	4	0	4	0	4	0
2. Bastu	3	0	3	0	3	0
3. Garden	3	0	3	0	3	0
4. Bamboo	1	2	1	2	1	2
5. Tobacco 1st class	1	8	1	8	1	8
6. Tobacco 2nd class	1	4	1	4	1	4
7. Tobacco 3rd class	1	0	1	0	1	0
8. Awal	1	3	1	1	0	15
9. Duiam	0	14	0	13	0	12
10. Saiam	0	11	0	9	0	8
11. Chaharam	0	7	0	6	0	5
12. San	0	7	0	6	0	5
13. Laik Patit	0	2	0	2	0	2
14. Garlaik Patit	0	1	0	1	0	1
15. Jala	0	8	0	8	0	8

Source: West Bengal District Gazetteers Cooch Behar, Feb. 1977, p. 148.

The total revenue demand secured by the 1927 settlement was a little over Rs. 18 lakhs. (9)

The present settlement of 1913-27 which was given effect from the year 1927-28 was about to expire in 1956 when the Estates Acquisition Act was enforced in Cooch Behar. The Revisional settlement operations in Cooch Behar started from 1955. Under Estate Acquisition Act the government issued notification for the preparation of Record of Rights and the various types of undertenures which existed earlier in Cooch Behar (under the Jotedary system) came under the category of raiyas. Raiya of various grades actually cultivating land had been accepted as tenants directly under the government and the ceiling of land holding had to be applied to each of them. An elaborate machinery had also been set up to collect rent direct from the tenants. With the help of West Bengal land reforms Act, land in excess of the ceiling prescribed in the Act, which was in occupation of the intermediaries or tenants became vested by the government and was distributed among the landless cultivators. (10)

In the past, for most parts of North Bengal, the dominant form of land management was based on Jotedari-adhiari (share-cropping) system, leaving little scope for non-adhiari hired labour employment. Share cropping in most

part of Cooch Behar differed considerably in its form from those of other parts of West Bengal. In southern Bengal, share cropping, though prevalent, was more an adjunct to the dominant form of ownership cultivation. Further, South Bengal's bargadari system differed from North Bengal's adhiari in one important respect and that was the provision of the supply of the means of production. (11)

The share cropping as the dominant form of cultivation in some parts of Cooch Behar, may have emerged historically as the result of a combination of circumstances. First, large areas of reclaimed lands resulted in a favourable land-man ratio which would enable the extension of cultivation mainly through the labour intensive methods. Complementarily, there was available a sizeable labour force of scheduled caste population habituated to a low subsistence level and monocrop cultivation with negligible material inputs.

After partition in 1947, waves of refugees, many belonging to the peasant class, started moving into the comparatively less dense barind area of Cooch Behar district. The increased pressure of population changed the nature of cultivation, ownership pattern and the traditional adhiari system. Further, since the late 50's an attack on the system of share-cropping both through extra-legal and legal methods added to the

weakening of the institution. For example, the "Tebhaga" (33:66) movement just before independence highlighted the lack of distributive justice inherent in the adhiari (50:50) system. In the post-Independence period particularly after coming to power of Left Front in the State of West Bengal in the late 70's, different laws in favour of share-croppers regarding imposition of ceiling on landholding, security on tenancy rights on land, share of produce, have been passed and enacted. As a result, the local or regional circumstances favourable to share-cropping as a form of cultivation now came under the pressure from several new factors. There was noticed the growing demand for reducing the owner's share of return under share cropping system.

The decline of the traditional adhiary system had wide effects on the whole economy of North Bengal specially Cooch Behar. Such a process contributed most to the sharp increase in the number of agricultural labourers in all North Bengal districts, including Cooch Behar. Large number of adhiars were converted to the status of agricultural labourers. Though de facto contribution of cultivation on adhiary terms is not at all uncommon, yet in the census enumeration, all such tillers of soil would not be accounted as share croppers. The reported claim of vast increase in the recording of adhiars in the wake of the current land settlement operations unmistak-

ably indicates that a very large number of cultivators operating on adhiari terms were previously included (till 1971) in the agricultural labour category. It is not improbable that the urge for recording as landless agricultural labourers rather than as poor cultivators might have been stoked by the movements of programme of vested land redistribution during the period. Often, marginal landowners felt encouraged to declare themselves as agricultural labourers for the prospect of entitlement to portions of vested land. An excess amount of people is engaged in agriculture and out of this, a large proportion of people is either marginal or small farmer. Table 4.3 delineates this:

Table - 4.3

Position of Marginal and Small Farmers and Agricultural Labourers in Cooch Behar District.

District Cooch Behar	Total main work- ers.	Number of margi- nal far- mers.	Number of small far- mers.	Number of big far- mers.	Number of agri- cultu- ral labour- ers.	Indus- trial work- ers.	Other workers.
Number	513590	140916	91050	35207	139914	10356	96147
Percentage to main workers.	100	27.44	17.73	6.86	27.24	2.01	18.72

Source: 1. Census 1981.

2. Development Plan of Cooch Behar, 1986-87.

c) Land utilisation pattern.

One of the important aspects of agriculture is the pattern of land utilisation. It actually means the use and distribution of available land for different purposes. The classification of the total area of the district of Cooch Behar according to utilisation shows that a large proportion of area to total area is available for cultivation. In 1975-76 total area, according to D.L.R., West Bengal was 341.35 thousand hectares. Net cropped area covered 76.20 percent of the district's total area. Current fallow accounted only .06 percent. Miscellaneous tree crops and groves, permanent pastures and grazing ground, culturable waste and other fallow lands, all combined accounted for 6.05 percent of the total area. Area not available for cultivation covered 16 percent of the district's total area. Very negligible percent of land (1.7) of the district was under forest.

In 1980-81, net cropped area increased to 77.46 percent of the district's total area. Miscellaneous tree crops and groves, permanent pastures and grazing ground, culturable waste and other fallow lands, all combined accounted for 6.43 percent of the total area of the district. Current fallow accounted only .05 percent. Area not available for cultivation was reduced to 14.36 percent of the district's total area. Area under forest remained same and accounted for 1.7 percent only. The table 4.4 shows the land use pattern in the district Cooch Behar.

Table - 4.4

Land use pattern in Cooch Behar district for the years 1975-76 and 1980-81 (in thousand Hectares)

Year	Total area according to DLR, West Bengal.	Forests	Area not available for cultivation.	Permanent pastures and grazing land.	Misc. tree crops and groves	Culturable waste	Other fallow land.	Current fallow	Net cropped area.
1975-76	341.35	5.70 (1.7)	54.16 (16)			20.68 (6.05)		0.67 (.06)	260.14 (76.20)
1980-81	341.35	5.70 (1.7)	49.05 (14.36)			21.97 (6.43)		0.19 (.05)	266.44 (77.46)

Note: Figures in the parenthesis indicate percentages to total area of the district.

Source: 1. District Statistical Handbook, Cooch Behar, 1975-76 combined, Bureau of applied economics and statistics, West Bengal.

2. Directorate of Agriculture, West Bengal.

The cropping intensity for different districts of North Bengal can be compared favourably with the State of West Bengal. It is highest in Cooch Behar and lowest in Malda among the five districts of North Bengal. The table 4.5 shows the districtwise cropping intensity.

Table - 4.5

District	Net area available for cultivation (ha)	Gross cropped area (ha)	Cropping intensity.
Cooch Behar	230891	452358	196
Jalpaiguri	225676	400169	179
Darjeeling	66871	112476.40	168
West Dinajpur	395984	609796	153
Malda	280850	414838	148

Source : Economic Review 1985-86

Relatively high rainfall and low monthly potential evapo-transpiration contribute towards retaining the favourable trend. Moreover, soil moisture is contained for a considerable period even after the departure of monsoon.

d) Cropping pattern.

The proportion of agricultural land devoted to different crops at a particular period of time is known as

"Cropping pattern". From the earlier discussion of land use pattern in the district of Cooch Behar, it has been found that a substantial proportion of land is available for cultivation. Table 4.6 gives an account of the area under different crops in the district over the period 1960-61 to 1986-87. A perusal of the table 4.6 discloses increasing preponderance of food crops. The entire agricultural economy largely depends on paddy, wheat, jute, tobacco and potato. Over the period (1960-61 to 1986-87), on an average more than 70 percent of the total gross cropped area are under paddy cultivation. Proportion of area under "Aman paddy" to total paddy over the period remains more or less stable. It is the most important crop of the district. Proportion of crop under "Aus" Paddy seems to have a declining trend. But in case of Boro Paddy, although the proportion of land is not very significant, yet its percentage seems to rise steadily.

The proportion of area under wheat cultivation is rising steadily. In 1960-61, the percentage of area under wheat cultivation to gross cropped area was .67. It rose to 7.33 percent in 1986-87. So, wheat emerged as an important crop of the district. Proportion of area under pulses, rape and mustard exhibits a declining trend over the period (1960-61 to 1986-87). In case of the cash crops-Jute and Tobacco, proportion of area under cultivation seems to have a declining

trend. On the otherhand, potato (a commercial crop) seems to occupy an important position in the district. In 1960-61, the proportion of area under potato to gross cropped area was 0.56 percent which rose to 2.15 percent in 1986-87.

Table - 4.6

Cropping pattern in Cooch Behar district over the period 1960-61 to 1986-87

Year	Proportion of cropped area under									
	Aman Paddy	Aus Paddy	Boro Paddy	Total Paddy	Wheat	Pulses	Rape & Mustard	Jute	Potato	Tobacco
1960-61	51.95	19.19	0.05	71.17	0.67	4.52	3.26	15.04	0.56	4.78
1970-71	48.88	25.41	0.12	74.41	2.02	2.70	2.30	16.07	0.48	2.02
1980-81	47.38	22.16	0.03	69.57	3.22	2.07	1.99	19.24	0.31	3.60
1986-87	49.26	21.23	0.48	70.97	7.33	2.61	1.64	13.22	2.08	2.15

Note: Area under principal crops is taken as grossed cropped area.

- Sources :
1. Statistical Abstract, West Bengal 1976 and 1977 (combined).
 2. Key statistics of Cooch Behar District 1980-81, 82,84.
 3. District Statistical Handbook 1975 and 1976 (combined).
 4. Personal computation.

e) Growth rates in Area, yield and production of principal crops in Cooch Behar District from 1960-61 to 1986-87.

The yield rates and production of agricultural commodities vary due to the variations of soil, altitude and climatic conditions. The yield rate or productivity of agricultural commodities may increase due to the adoption of scientific methods of cultivation. In order to assess the progress and expansion of the agricultural sector of the district Cooch Behar, an attempt has been made to study the cropwise performances and changes in the areas under cultivation, production and yield rates during the period 1960-61 - 1986-87. For this assessment, the principal crops of the district i.e. Aman rice, Aus rice, Boro rice, Wheat, Pulses, Rape and Mustard, Jute, Potato and Tobacco have been taken into account. The percentage change per year in regard to areas, productions and productivities (yield rates) over a period of 26 years have been given in table 4.7.

Table - 4.7

Growth rates of Area, yield and production of principal crops in the district Cooch Behar for the period 1960-61 to 1986-87

Crops	(% per year)											
	1960-61 to 1970-71			1970-71 to 1980-81			1980-81 to 1986-87			1960-61 to 1986-87		
	A	Y	P	A	Y	P	A	Y	P	A	Y	P
Amam rice	2.25	3.75	6.68	0.80	-0.74	0.01	3.52	0.74	4.55	2.73	1.48	5.08
Aus rice	7.23	4.66	15.44	-0.26	-0.90	-1.28	1.94	-2.91	-1.05	3.93	0.44	4.85
Boro rice	30.00	7.50	60.00	-7.50	7.14	-5.71	350.00	-3.55	272.32	94.79	6.13	30.21
Wheat	29.44	89.37	43.80	7.74	0.00	7.78	27.64	-4.40	17.00	79.48	28.49	80.17
Pulses	- 2.10	- 1.25	- 3.22	-1.47	3.80	1.75	7.82	-1.44	6.02	-0.11	0.47	0.38
Rape & Mustard	- .79	- 2.25	- 2.85	-0.37	1.66	-1.00	-0.63	0.00	0.75	-0.65	-0.43	- 1.13
Jute	3.91	0.19	4.18	3.34	1.30	5.10	-3.31	-0.22	-3.49	2.20	0.61	3.12
Potato	2.73	53.60	2.73	-2.94	1.11	-2.15	89.36	1.53	127.39	24.07	30.33	34.49
Tobacco	-4.49	- 0.44	-4.69	3.80	7.05	13.44	0.00	-3.79	-3.84	-1.08	1.16	- 0.20

Note : A = Area : Y = Yield; P = Production.

Source: 1. Statistical Abstract, W.B., 1976-77 (combined).

2. Key Statistics of Cooch Behar, 1980-81, 1982 1984.

3. Statistical Handbook of Cooch Behar, 1976-77

4. Personal Computation.

Within the overall period of 26 years i.e. from 1960-61 to 1986-87, production of different types of rice increased due to the positive contribution of area and yield rates. But the striking feature is that among the different types of rice, the increase in production for "Aman rice" is quite satisfactory because percentage rise in area and yield rates contributed a large for the increase in percentage of production of this crop in the district per year. The increase in production for Aman paddy within the stipulated time is 5.08% per year. This increase in production is due to the increase in area and yield rates by 2.73% and 1.48% respectively per year.

In case of wheat, within the period we see that production per year has increased by 80.17%. This increase in production is the outcome of the increase in area and yield rates by 79.48% and 28.49% respectively per year. For rape and mustard, growth rates in production has decreased due to the percentage reduction in area and yield. Pulses also show a dissatisfactory scene.

The increase in production for one of the commercial crops i.e. potato is quite significant for the district within the period 1960-61 - 1986-87. The increase in production of potato per year is by 34.49%. This is due to the in-

crease in area and yield rate by 24.07% and 30.33% respectively per year. In earlier two decades i.e. 1960-61 - 1970-71 and 1970-71 - 1980-81, the growth rate in Jute production was satisfactory. But in recent times i.e. 1980-81 - 1986-87, the production of jute has reduced due to the reduction in area and yield rate. On overall performance, the production of jute has increased due to the more positive contribution of area than yield rate.

The production of tobacco has increased substantially only in the decade 1970-71 - 1980-81. And it was possible for the increase in area and yield rate. But in recent times, this trend seems to have been reversed. During 1980-81 - 1986-87, the production has been reduced by -3.84% per year. The cause of this reduction was for no increase in area under cultivation as well as negative yield rate by -3.79% per year. Thus, on the overall performance (1960-61 to 1986-87), it appears that inspite of positive yield rate the growth of production of this crop has reduced due to the reduction in areas.

A note on Tobacco Cultivation.

It is one of the principal crops of the district and the most profitable of all agricultural products of the people. Cooch Behar district alone covers about three fourths of the total area under tobacco in the state of West Bengal. Its production

shares about 82 percent of the total tobacco produced in the state. With the exception of the north of pargana Cooch Behar and Tufanganj the cultivation of tobacco is extensive almost everywhere else. Pargana Lalbazar is specially famous for the excellence of its tobacco. This crop is also very largely raised in Dinhat, Mekliganj, Sitai and Haldibari police stations and forms one of the staple products of agriculture of those areas. Two species of tobacco are grown in the district : ordinary and hamakoo. Cultivation of hamakoo is extensive in Mekliganj. The people do not know how to cure the leaves. The knowledge of tobacco curing would be of immense benefit to the district which grows excellent tobacco and in large quantities. (12)

Tobacco grows on very poor soil. The most sandy soil which is not fit for any other crop, will, if properly manured yield good tobacco. To turn a bad soil into a tolerably good tobacco field, it requires thorough manuring over at least a couple of years. The dung and urine of the buffalo are the best manures for this purpose. Tobacco is generally grown on Chaharam land. (13)

The ploughing of the land starts in the middle of August. Cowdung is put on the land all the year round. The land requires 12 to 16 ploughings till the soil is very loose. Literally, the soil particles are broken down to size smaller

than mustard seeds. The surface is made flat with the Mai. Lines are then drawn on the field first length-wise and then breadth-wise three feet apart. The intersections give the points at which the seedlings are to be transplanted. (14)

The seedbeds are specially prepared by raising them about 6 inches above the surroundings and the land used for the seed bed is made absolutely level. About 800 to 900 maunds of old cow dung is applied per acre of seed bed. The seeds are sown in the middle of August at the rate of 14 kilograms per acre. The seed bed is then covered with San grass and a surface drain cut round the seed bed. Removable covers are kept ready to cover the seed bed in case of heavy rains. The seeds sprout in about seven days' time and when the seedlings are about an inch in length and have grown small leaves like the ears of the mouse (indur-Kania pata), the base of stem of the seedlings is held and it is given a pull so as to draw it out of the soil a little. During this operation the soil at the base of the neighbouring seedlings is kept pressed by the hand so as not to uproot them. At this time, if there is any spot where the seedlings have grown too dense, they are thinned out. In about two weeks' time the seedlings give off leaves of the size of a rupee coin (take-pata) and then it is presumed that the seedlings are ready for transplantation. (15)

Transplantation begins in the early part of October. The seedlings are taken off from the seed bed in the afternoon and carried in bamboo baskets to the field for transplantation. A hole is made at the transplantation point with a pointed bamboo stick and the seedlings is inserted in the hole to the extent of about two inches. A month after transplantation, the dry and withered leaves which are called Kanpata are removed. About one month after the removal of the Kanpata, the head of the plant is broken and the shoots coming out of the main stalk and the leaves near the ground are broken. These leaves are called Bispata. Some watering may be necessary at this stage depending on the amount of precipitation of dew and the quantity of moisture retained by the soil. Over-watering is bad for the crop. The leaves become mature and fit for gathering about two months later. (16)

A kind of insect attacks the roots of the plants when the plant is young. The local remedy for this is to light some stalks of jute sticks and plant them here and there on the land. The bhulki flower is a pest for tobacco. The gathering of the leaves commences in the early part of March. The leaves are cut in the morning and then spread out for drying in the sun. By 4 O'clock leaves are again collected and made into bundles called Jhoka with about four or five

leaves in each. The leaves are then left in the field for evening dew and then taken home and hung up in rows in a closed room. In the middle of May when the moist east wind begins to blow, the leaves are softened and these are then taken down and tied in bundles weighing about 2 to 3 seers. These bundles are then stacked in circular piles and these piles are called gadis. A gadi generally contains 50 to 60 maunds of tobacco. (17)

In very early times the cultivators of the State of Cooch Behar derived a good net profit out of tobacco cultivation. The cultivators of the state of Cooch Behar produced more than 5 lacs maunds of tobacco extending cultivation on 105000 bighas and derived a gross value about 26 lacs of rupees. Deducting a half of this for cost of cultivation, the net income derived by the farmers was 13 lacs of rupees. This is shown in table 4.8.

Table - 4.8

Name of the Pargana	Production of tobacco in maunds.	Value in rupees	Cultivator's net profit in rupees.
Mekliganj	55000	275000	137500
Mathabhanga	155000	775000	387500
Lalbazar	145000	725000	362500
Dinhata	6000	300000	150000
Cooch Behar	100000	500000	250000
Tufanganj	5000	25000	12500
	520000	2600000	1300000

Note: No specific year of the above table is mentioned in the book. Probably the year will lie between 1876 and 1903.

Source: Harendra Narayan Choudhury, the Cooch Behar and its Land Revenue Settlements, State Press Cooch Behar, 1903, p. 167.

Formerly, tobacco was sent down in boats to the eastern district of Bengal in large quantities. The Burhmesse merchants annually took away thousands of maunds of tobacco from Mekliganj and Lalbazar. The value of the annual exports of this crop was about 10 lacs of ruppes in 1876. (18)

In recent times, inspite of the positive yield rate, the growth of production has been reduced due to reduction in area. The production increased substantially in the decade

1970-71 - 1980-81. It was due to the increase in area and yield rate. During 1980-81 - 1986-87, the production has been reduced by -3.84 percent per year because of no increase in area under cultivation as well as negative yield rate by -3.79 percent per year. The overall performance for the period 1960-61 - 1986-87 shows that inspite of positive yield rate, the growth of production of this crop has been reduced due to reduction in areas. Thus, the district of Cooch Behar is loosing the gravity of producing tobacco as one of the main crops day by day. The table 4.9 delineates the fact.

Table - 4.9

Growth rates in Area, yield and production of tobacco in the district Cooch Behar for the period 1960-61 to 1986-87

Area : '000 Ha
Production : 1000 Tonnes
% (per year) yield : P/A

Crop	1960-61 to 1970-71			1970-71 to 1980-81			1980-81 to 1986-87			1960-61 to 1986-87		
	A	Y	P	A	Y	P	A	Y	P	A	Y	P
Tobacco	-4.49	-0.44	-4.69	3.80	7.05	13.44	0.00	-3.79	-3.84	-1.08	1.16	-0.2

Source : 1. Statistical Abstract W.B., 1976-77 (combined).

2. Key Statistics of Cooch Behar 1980-81, 1982, 1984.

3. Statistical Handbook of Cooch Behar 1976-77.

4. Personal Computation.

f) Use of Fertiliser.

Although Cooch Behar is an agricultural district, still now agriculture of the district is primitive in nature with low productivity. Among many factors, the reluctance as well as the inability of the farmers to use more chemical fertiliser, is responsible for this low productivity. Most of the farmers of the district still are utterly dependent on animal dung as manure. For the introduction of high yielding variety programme in a wide scale, use of chemical fertiliser acts as an essential ingredient. But consumption of fertiliser is very insufficient and plays a very negligible role in the agriculture of Cooch Behar. The table 4.10 shows the fertilizer consumption per hectare of the gross cropped area of the district for the years 1980-81 to 1986-87.

Table - 4.10

Consumption of fertiliser in Cooch Behar district for the years 1980-81 to 1986-87.

Year	Name of the Fertilizer			Total (N+P+K)	Fertilizer consumption per hectare of Gross Cropped area.
	N	P	K		
1980-81	3164	2001	1640	6805	17.35
1981-82	3342	2086	1090	6518	17.10
1982-83	3874	2705	2130	8709	22.62
1983-84	6395	3370	2537	12302	32.54
1984-85	6690	3986	2960	13636	34.09
1985-86	7770	3772	2863	14405	36.46
1986-87	9567	5037	3583	18187	39.79

Note: Fertilizer consumption per hectare of gross-cropped area = $\frac{\text{KG}}{\text{Hec.}}$

Source: Key statistics of the district of Cooch Behar from 1980-81 to 1987, Bureau of Applied Economics and Statistics W.B.

From table 4.10^{it} appears that fertilizer consumption per hectare of the gross-cropped area in the district was 17.35 Kg. in the year 1980-81. During 1981-82, it was reduced a little to 17.10 Kg. From 1982-83 onwards fertilizer consumption per hectare of the gross cropped area shows a steady increasing trend. In the year 1986-87, it stood at 39.79. On the whole, fertilizer consumption per hectare of the gross cropped area for the period 1980-81 - 1986-87, shows an increasing trend.

If we compare the consumption of fertilizer of North Bengal as a whole with South Bengal, it is found that consumption of fertilizer is lower in North Bengal than that of South Bengal. Consumption of fertilizer per hectare cultivated land in North Bengal was 12.58 tonnes, whereas it was 16.79 tonnes in South Bengal in 1984-85. Of the total consumption of fertilizer in North Bengal, the percentage of consumption was highest for Malda (32.74%), followed by West Dinajpur (29.20%), Cooch Behar (18.17%), Jalpaiguri (11.40%) and Darjeeling (8.55%).
(19)

g) Nature of irrigation.

Water plays a dominant role in increasing the agricultural productivity. Irrigation facilities, though an essential pre-requisite for agricultural progress, are very much limited

in the district of Cooch Behar. The main source of making water available for agricultural fields is natural rainfall, which is marked with divergence in quantity, time and continuity. To minimise the uncertainties from the vagaries of Nature, the programme of flood control, drainage and irrigation ought to be integrated.

The present sources of irrigation in the district are private tanks and wells, deep tubewells, shallow tubewells, river lift pump etc. The district has got rich deposit of sub-soil water. The underneath water resources can be channelised into fields by sinking deep and shallow tubewells. But it has been proved that the surface water has got superior potency to fertilize agricultural fields than the sub-soil water and hence the precipitated water from the rivers, ponds, tanks, canals, beels etc. can be utilised for the intensification of productivity in agriculture. But in the district, the surface waters from the different sources are not exploited at all. So, the percentage of irrigated area to gross-cropped area is very limited.

Table 4.11 shows the percentage of irrigated area to gross cropped area for the years 1976-77 to 1982-83.

Table - 4.11

Area irrigated by different sources in the district Cooch Behar for the years 1976-77 to 1982-83.

Year	Govt Canals	Private			Deep Tube-wells, Shallow Tubewells and river lift pump.	Other Sources	Total area irrigated	% of irrigated area to gross cropped area.
		Canals	Tanks	Wells				
1976-77	-	-	-	-	5503	19421	24924	5.71
1977-78	-	-	-	-	8901	20230	29131	-
1978-79	-	-	-	-	14700	22600	37300	10.05
1979-80	-	-	669	8900	14320	9270	33159	8.08
1980-81	-	-	890	10720	15330	10680	37620	9.43
1981-82	-	-	1400	12500	16100	6100	36100	9.44
1982-83	247	-	1600	12500	21820	7080	43247	11.16
1983 to 1987 data are not available.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

Note: percentage of irrigated area to gross-cropped area = $\frac{\text{Total area irrigated}}{\text{Gross cropped area}} \times 100$

Source: 1. Key statistics of the district of Cooch Behar 1979-80 to 1984, Bureau of applied economics and Statistics, West Bengal.
2. Personal computation.

A careful study of the table 4.11 reveals that irrigational facilities are very negligible in comparison to the gross cropped area. In the last decade, irrigation facilities were maximum (10.05%) in 1978-79. After this year, irrigation facilities through deep tubewells, shallow tubewells, river lift pumps and other sources reduced to a considerable extent. This sudden decrease was due to rise in prices of Diesel, Petrol etc. on the one hand and alleged theft of electrical materials necessary for deepwell, shallow well and river lift pump on the other. In recent years, however, this downward tendency has been checked and in 1982-83 percentage of irrigated area to gross cropped area stood at 11.16%. From 1983 onwards, data on irrigation for the district are not available. So, explanation of very recent years is not possible.

S U M M A R Y

The characteristics of the economy of Cooch Behar region spotlight that there are various constraints to economic development. A high proportion of working population is engaged in agriculture and bulk of them are marginal farmers, small farmers and agricultural labourers. The agriculture of this region is very primitive in nature with low productivity. Irrigation facilities are highly inadequate, fertilizer consumption is very low and infrastructural facilities are also very poor in this region. Further, in this area there is no large or medium scale industry and there is no sign of quick industrialisation in near future. Under the circumstances, the poverty and extreme dependence on agriculture are the main constraints to economic development.

The earlier information^{is} available about the land revenue system of Cooch Behar from 1773 when Purling, the collector of Rangpur prepared a hast-O-bud or account of Land Revenue of Cooch Behar. Two types of land tenures were found in Cooch Behar from very early times : (I) revenue paying and (II) rent free; persons holding the first kind of land had to pay revenue to the State and were called Jotedars. The revenue paying lands were Mal, Debutter and Khanggi. On the other hand, the holders of revenue free

lands were Private individuals who enjoyed them for special purposes. Rent free lands were Debutter, Brahmatter, Lakheraj, Petbhata, Jaigir and Pirpal. Settlement prior to 1773 showed that there was no fixity of rent and regular Pattahs were not granted to the tenants. The settlement of land revenue was made annually and the assessment was not fixed.

Different land settlements were made in Cooch Behar in different times and classification of land and different rates were also recorded. The last settlement (known as new Re-settlement) which was given effect from the year 1927-28 were about to expire in 1956 when the Estate Acquisition Act was enforced in Cooch Behar. By this act, raiyats of various grades were accepted as tenants directly under the government and elaborate machinery had been set up to collect rent from the tenants. In Cooch Behar, the dominant form of land management was based on share cropping system. Since the late 50's an attack on this system through extra-legal and legal methods weakened this system. The decline of share cropping system increased the number of agricultural labourers in Cooch Behar in the '70's and '80's.

The land utilisation pattern shows that a large proportion of area of the district is quite available for cultivation. The cropping intensity of the district can be

favourably compared with the state of West Bengal and is highest among the North Bengal districts.

Regarding cropping pattern table 4.6 discloses increasing preponderance of food crops. The entire agricultural economy largely depends on paddy, wheat, jute, tobacco and potato. On an average, more than 70% of the gross cropped area is under paddy cultivation. Proportion of area under 'aman paddy' to total paddy over the period remains more or less stable. Proportion of area under 'aus paddy' seems to have a declining trend and 'boro paddy' seems to rise steadily. The proportion of area under 'wheat' cultivation is rising steadily but, on the other hand, pulses, rape and mustard exhibit a declining trend. In case of the cash crops 'jute' and 'tobacco', proportion of area under cultivation seems to have a declining trend. But in case of potato, there is a rising trend.

Regarding growth rates in area, yield and production of principal crops of the district, table 4.7 shows that percentage increase in production of Aman rice is quite satisfactory because of the percentage increase in area and yield. The growth rate in production of potato is quite significant for the district because of the percentage increase of both the area and yield. In case of

wheat also, there is a percentage increase in production both for the percentage increase in area and yield. In spite of the positive yield rate, percentage growth in production of tobacco has been reduced for the percentage reduction in area.

Agricultural development of Cooch Behar region is handicapped by the inadequate irrigation facilities. Only 11.16% of the gross cropped area can avail irrigation facilities. Fertilizer consumption per hectare of the gross cropped area is also very low. It is only 39.79 Kg. That is why, the development of agriculture has remained almost stagnant and economic development in our research area has remained hindered.

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