PROCEEDINGS OF

NORTH EAST INDIA HISTORY ASSOCIATION

NINTH SESSION

GUWAHATI : 1988

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PREFACE

The ninth session of the North East India History Association at the Gauhati University was indeed the fulfilment of a long cherished objective of the Association to hold a session in the premier University of the region. In fact, there had been efforts on the part of the Association ever since it came into existence in 1979 *to hold a session at the Gauhati University. We are thankful to the authorities of the Gauhati University for inviting the ninth session and organising it in an excellent manner.*

Shri Bhisma Narain Singh, the Governor of Assam, inaugurated the session. Professor D. P. Barooah, Vice-Chancellor, and Professor J. N. Phukan, Head, Department of History, Gauhati University did the Association a great honour as Chairman of the organising committee and Local Secretary respectively for the session. It was presided over by Professor Bhupen Qanungo of the North-Eastern Hill University. More than one hundred and fifty delegates attended the session in which eighty-five research papers were presented and discussed.

The present volume is the proceedings of the ninth session of the North East India History Association held at the Gauhati University on November 3-5, 1988. *I am thankful to my colleagues Dr. J. P. Singh, Dr. O. P. Kejariwal, Dr. M. S. Sangma and Dr. D. R. Syiemlieh for the help in selecting and editing the papers and publishing the volume. We are also thankful to the Indian Council of Historical Research for the generous financial assistance extended to the Association.*

J. B. Bhattacharjee
General Secretary,
North East India History Association.

Shillong
The 25 August 1989

CONTENTS

Agriculture situation in Meghalaya

M.C. Pandey

The State of Meghalaya stretches from 25.47° and 26.10° North Latitude and 89.45° and 92.47° East longitude. The total population of the State as per 1981 Census is 13,27,874 with a growth rate of 3.12 percent per annum. The density of population is 59 person per square kilometer. The State is divided into five administrative districts, namely, East Khasi Hills, West Khasi Hills, Jaintia Hills, East Garo Hills and West Garo Hills. It was given statehood on January 21, 1972. Prior to this it was an autonomous district under the State of Assam. The State of Meghalaya covers an area of about 22.5 lakh hectares and of this 2.17 lakh hectares of land is under cultivation. The State falls under heavy rainfall zone. The average rainfall is between 200 mm to 500 mm. The soil are rich in nitrogen, poor in phosphorus and medium in potash[8]. However the soil is generally acidic in nature. About 85 percent of the population live in rural areas and depend on agriculture for this livelihood.

Land Distribution

Land Utilisation Statistic (1982-83) (in 'oooha)

Total Geographical Area	- 2249
Not available for cultivation	- 316
Uncultivated Land	- 616
Fallow Land total	- 932 (41.4)
Total Cropped Area	- 208
Net sown area	- 193 (8.5)
Area sown more than once	- 15 (0.66)
Area under Forest	- 812 (36.1)
Area under Shifting Cultivation	- 53 (2.3)

(Figures in parenthesis indicate percentage)

Of the total area, only 8.5 percent is under cultivation. 41.4 percent of land is either not available for cultivation or has been classified as uncultivated land. 36 percent of the area is under forest and 2.3 percent under shifting cultivation. Considering that a large area of Meghalaya is mostly covered by hills and plateaus, the net sown area of 8.5 percent could be considered satisfactory as against 15 percent of the entire North Eastern Region and 47 percent of the National average.

Cropping Pattern

Cultivation of crops in Meghalaya are more or less similar to that in other parts of India[2]. Crops grown in the State are:

FOOD GRAIN - Paddy, Maize, Wheat, Millet and Pulses

CASH CROPS - Potato, Jute and Mesta, Cotton, Black Pepper and Arceanut.

ROOT CROPS - Ginger, Turmeric and Tapicca.

OIL SEED - Mustard and Sesamum.

FRUITS (Horticultural Crops)- Pineapple, Bannana, Guava, Jackfruit, Plum, Pear, Orange, Lemon etc.

VEGETABLE - Cauliflower, Cabbage, Beans, Brinjal, Gaurds etc.

Area and production wise foodgrain account approximately 70 percent of the gross cropped area (Table 1 and 2). Rice is the major crop grown in the State. It is grown throughout the State ranging from plain areas to higher elevation of about 1800 meters. Of the 137.1 thousand hectars under foodgrain (1984-85) 111.4 thousand is under rice cultivation. Potato, Cotton, Ginger, Banana, Pineapple and Jute are other important crops cultivated in the State. Pulses oilseed, Black Pepper, Wheat and small millets are cultivated to a limited extent though some of these crops (Black Pepper, Wheat and Pulses) have large scope and good potential for expansion.

The area under high yielding varieties is gradually increasing (Table-3). During the span of 10 year (1976 to 1985) the area under high yielding varieties has

increased by 187 percent.

Fertilizer

The consumption of fertilizer per hectare in Meghalaya is below the standard requirement. The average rate of consumption of fertilizer in Meghalaya is only 16.3 Kilogram per hectare. However, it has increased from 8.5 Kg/ha in 1973-74 to 16.3 in 1986-87 an increase of 68.2 percent in a 14 year period. (Table-4 and 6). The consumption of fertilizer is highest on Potato (Personal communication) and negligible on the other crops. It has been estimated that about 90 percent of the fertilizer consumed is used for Potato cultivation[2].

Land Holding

The data on land holding has been collected from Agriculture Census 1970-71, 1976-77 and 1980-81[1]. Majority of the farmer in Meghalaya cultivate their own land. However, land is owned by individuals, village communities, district councils and religious bodies. 65 percent of the cultivators cultivate less than 1 hectare of land and owned only 33.5 percent of the cultivated area. 34.5 percent cultivators cultivate about 70 hectares of land while only 0.5 percent of cultivators cultivate 4.4. percent of cultivated area and owne 10 hectares or more cultivated area. (Table-5). Average size of operational holding in Meghalaya as per the 1980-81 agricultural Census is only 1.74 hectare, as compared with the all India average of 1.82 hectares[1]. The percentage of agricultural labours to cultivators is very low.[6] Though there is an increase in the ration of agricultural labour to cultivators during the last 10 years however, the increase is not significant. The pressure of population on land is very low and the percapita availability of land is significantly higher than the national average[6,7].

Food Grain Production

One of the main problem of agriculture production in Meghalaya is low production of foodgrain. The per hectare productivity is associated with low inputs like fertilizer, irrigation and improved seed. Since the seventies the food grain production has not fallen in line with its population growth. In a hilly State like, Meghalaya

increase in foodgrain Production can be achieved in several ways, such as:

1. Increase in per hectare productivity by use of imporved agronomic practices: Such as use of fertilizer, improved seeds etc.
2. Increase in the intermity of cropping. Rice which is the main crop of the State is cultivated during three seasons:
   (a) Autumn (Rabi)
   (b) Winter (Kharif)
   (c) Spring (Zaid)
   The main growing seasons are Autumn and Winter. Very small area is under rice cultivation during spring and during this period the per hectare yield is also very low. Area under rice during Winter needs to be intensified and rice yield on Autumn crops needs to be increased with the introduction of improved varieties suitable during this period. The practice of intensive cultivation needs to be practiced. Any change towards this direction can bring encouraging results.
3. Change in the present cropping pattern.

There is a limited scope of increasing the area under cultivation. In Meghalaya 53 thousand hectare is under shifting cultivation practice by 52,290 families. (3.91 percent). Inspite of the sincere efforts made by the State Government to control shifting cultivation, it has met with little success. With the existing problem of shifting cultivation improved varieties of crops cultivated under shifting cultivation of upland rice need to be developed to increase yield of foodgrains cultivated under shifting cultivation.

Important feature of Meghalaya cropping pattern is that the largest proportion of cultivated area is under foodgrain. From 1972-73 to 1984-85 foodgrain production increased by only 25.7 percent. Increase in foodgrain production is relatively slower than commercial crop. During the same period Potato production increased by 115.4 percent. It is interesting to note that under low fertilizer levels average yeild of rice (Winter-Kharif) is satisfactory indicating that the land is rich and fertile. The total production of foodgrain

in the State amounts to 157.1 (1985-86) thousand tonnes, according to the yardstick used by the Ministry of Agriculture 475 gram per day per person is the normal foodgrain requirement[3]. The State requirement would be 259.9 thousand tonnes. Thus the present foodgraim production in Meghalaya falls short by 102.8 thousand tonnes. A large quantity is being imported from outside.

Conclusion

Agriculture situation in Meghalaya is different from that of the other State of the North Eastern Region. Since 1971-72 all the States in the North Eastern Region except Assam, Mizoram and Meghalaya have recorded a gradual increase in the shortage of food grain production, as compared with Manipur, Tripura and Arunachal Pradesh which have recorded a gradual increase (surplus) foodgrain production. Nagaland though deficit in foodgrain production, their deficiency is gradually decreasing.

During the last 14 years in the entire North Eastern Region area under cultivation has not increased significantly. It increased by nine thousand hectares in Meghalaya, while area sown more than once decreased by 20 thousand hectars.

Though foodgrain production in Meghalaya increased from 120 thousand tonnes in 1972-73 to 157.1 thousand tonnes in 1985-86, an increase of 37.10 thousand tonnes. During the same period its deficency has increased from 44 thousand tonnes to 102.8 thousand tonnes. From the existing available information it is evident that low agriculture production in Meghalaya are due to:

1. FERTILIZER CONSUMPTION

Fertilizer consumption in Meghalaya is very low. In a span of 13 to 14 years fertilizer consumption increased from 8.5 Kg/ha (1972) to 16.2 Kg/ha (1986). Though this increase is about 90 percent, however, base figure being low the increase is not significant, from the available information most of the fertilizer is used for potato cultivation.

2. AREA SOWN MORE THAN ONCE

Area sown more than once has to be increased with increase in irrigation facilities. During a period

of 10 years area under irrigation increased from 43,000 hectares to 50,000 hectares, an increase of 26 percent.

3. AREA UNDER HIGH YIELDING VARITIES

Area under high yielding varieties have not shown any significant increase in yield the reason for the low yield of the high yielding varieties may be that necessary inputs are not available for cultivation of high yielding varieties.

The State of Meghalaya though gifted with many potential resources is suffering from some serious problems. Eightytwo percent of the population lives in the rural areas. The pressure of the population is gradually increasing. The per capita share of gross cultivated area has decreased from 0.20 hectare to 0.15 hectares in a span of 10 years. From the available records it is apparent that to approach self-sufficienty in food grain production Meghalaya will have to adopt a "New Agriculture Strategy" - a crash programme of increasing food grain production will have to be adopted.

Table - 1

AREA UNDER PRINCIPAL CROP (In 000'ha)

	1972-73	*1976-77*	*1980-81*	*1984-85*
Rice	*96.3*	105.4	99.1	111.4
Cereals	113.8	124.8	122.2	135.2
Food Grain	115.4	126.3	124.4	137.1
Sugar Cane	0.2	0.2	0.2	0.2
Potato	16.3	17.6	17.3	17.8
Jute	7.3	6.3	5.9	5.6
Pine apple	6.6	6.8	6.8	6.8
Total cropped Area	182.0	209.0	203.0	203.0

Source : Agriculture census

Table - 2

SHARE OF AREA UNDER FOODGRAIN

	Gross Cropped Area (000 Ha)	Area Under Foodgrain (000 Ha)	Share of Area Under Foodgrain to total Cropped Area (%)
1972-73	*182 (8.0)*	115.4	63.4
1976-77	209 (9.2)	126.3	60.4
1980-81	203 (9.0)	124.4	61.2
1882-83	208 (9.2)	134.7	64.7
1884-85	208 (9.2)	157.1	75.5

Source: Fertilizer statistic 1984-85
Basic Statistic NEC 1982 and 1985
Figures in parenthesis indicate percetage

TABLE -3

AREA AND YIELD UNDER HIGH YIELDING CULTIVERS

	Area (000 ha)	*Yield in Kilogram per Hectare*	
		Meghalaya	*All India*
1972-73	*8*	-	-
1976-77	9	-	-
1980-81	30	1339 (R)	1338 (R)
		1246 (F)	1032 (F)
1984-85	46	1115 (R)	1425 (R)
		1146 (F)	1154 (F)

R Rice F Foodgrain

Source: Fertilizer statistic of India

Table - 4

CONSUMPTION OF FERTILIZER (N, P_2O_5, K_2O)

(000 Tonnes)

	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88
Nitrogen	1.30	1.2	1.3	1.5	1.6	1.6	1.8	-
Phos Phate (P_2O5)	1.03	0.8	1.1	1.12	1.2	1.3	1.4	-
PO Hash	0.22	0.117	0.190	0.17	0.14	0.17	0.22	-
Total	2.35	2.017	2.7	2.8	2.9	3.07	3.4	17.1

Fertilizer Statistics 1982-83, 1984-85, 1985-86

Table -5

NUMBER AND AREA OF OPERATIONAL HOLDING

(in 00)

	1970-71		*1976-77*		*1980-81*	
	Number	*Area*	*Number*	*Area*	*Number*	*Area*
Marginal (Less then 1 ha)	551 (36.8)	377 (14.9)	589 (34.6)	315 (10.6)	591 (24.7)	315 (10.6)
Small (1-2 ha)	517 (34.5)	785 (31.0)	513 (30.1)	671 (22.6)	514 (30.1)	678 (22.9)
Semi Medium (2-4 ha)	261 (17.4)	983 (38.8)	452 (26.5)	1145 (38.7)	450 (26.4)	1150 (38.8)
Medium (4-10 ha)	565 (4.3)	355 (14.0)	138 (8.1)	691 (23.3)	138 (8.1)	684 (23.1)
Large (above 10 ha)	0.35 (0.16)	31 (1.26)	10 (0.5)	134 (4.5)	10 (0.5)	133 (4.5)

Source : Agricultural Situation in India August 1985
Figures in paranthesis indicate percentage.

Table - 6

CONSUMPTION OF FERTILIZER PER UNIT CROPPED AREA

YEAR	*KILOGRAM PER HECTARE*
1972-73	8.5
1973-74	12.5
1974-75	11.4
1976-77	9.1
1977-78	9.3
1978-79	9.3
1979-80	8.3
1980-81	12.2
1981-82	9.5
1982-83	10.7
1983-84	13.8
1984-85	14.3
1985-86	14.4
1986-87	16.3

Source: Fertilizer Statistic of India

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