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AGRICULTURAL GROWTH IN LAHOAL DEVELOPMENT BLOCK—
A CASE STUDY

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The study is confined to Lahoal Development Block which is situated in the Dibrugarh Sub-division of the Lakhimpur district of Assam. The area came under the Community Development Programme on 1st April, 1962. The period under study is limited to the period under the community development programme, which is from 1962-63 to 1965-66. The year 1961-62 has been taken as the base year. The year for the purpose of the study is the agricultural year which is from 1st July to the next 30th June.

The purpose of the study is to find out the extent of agricultural growth during the said period in the block area. The measurement of growth is considered in respect of area, cropping pattern and level of production of foodgrains. In order to exhibit the basic conditions, additional information, as regards land holdings, operational holdings, livelihood classes and population growth has also been included. The contributions of the extension agency towards this growth have also been studied in brief.

A comparative study of relative performance of different blocks of the Sub-division could not be made for want of adequate data. Moreover, different blocks came under the C. D. programme in different periods and this presented technical difficulties in co-relating the periods.

The block is divided into two sectors : the tea sector and the rural sector. The tea sector occupies the major part in respect of area and population. The present study is confined to the rural sector only.

The total geographical area of the rural sector is only 50,231.67 acres. There are 100 villages of varying sizes. The population of the rural sector is 43,312 as per the Census report of 1961. It was only 34,267 in 1951. The rate of population growth is 3.5 per cent per year and at this rate the population is nearly 58,000 in 1965-66.

There are two broad classes of land—high lands and low lands. High lands are mostly occupied by tea gardens. The available high lands in the rural sector are mainly used as homestead lands. It is the usual practice of the cultivators to have orchards of mixed fruit trees, bananas, arecanuts, bamboo bushes, winter and summer vegetables plot and *Sali* paddy seed beds along with the homestead land. If possible fuel trees are also kept in these lands. Low lands are used for growing paddy.

* The study is prepared mainly from the data collected by the author from the field, directly by him and collected in his official capacity for the purpose of reporting to higher levels.

As regards soil types old alluvial soils¹ which are acidic in content constitute the major part. There are also tracts of new alluvial soils of lesser acid content near the Brahmaputra and Dibru river. Crops like mustard, potato and pulses are restricted mainly to these new alluvial soil types.

The area receives considerable rainfall during monsoon. Total rainfall for the years, 1960-61, 1961-62, 1963-64, 1964-65 were 91.47, 98.12, 92.85, 88.12 and 89.22 inches respectively.² Winter months are dry.

Livelihood Classes

The livelihood classes of the block as evident from a sample survey in three randomly selected villages are given in Table I. A total of 272 households were found in the selected villages and all the households were taken into the sample.

TABLE I—LIVELIHOOD CLASSES OF THE LAHOAL BLOCK

Village	Agricultural households			Non-agri-cultural households
	Nos. entirely dependent on cultivation of crops	Nos. with other sources of income	Total	
Lahoal patra	32	51	83	61
Moidomia	28	25	53	42
Dibrual changmai	18	12	30	3
Total	78	88	166	106
Percentage to total households	28.7	36.0	64.7	35.3
Percentage to total agricultural households	46.9	53.1	100	

As evident from Table I, 35.3 per cent of households have no cultivation and are dependent on other sources of income. The agricultural households also can be divided into two groups. The majority of the agricultural households (53.1 per cent) have other sources of income. They either supplement income from agriculture from other sources or supplement incomes from other sources by incomes from agriculture. However, the total agricultural households is found to be 64.7 per cent which is lower than the State percentage of 73.3.³

1. Soil classification is of the Agricultural Department.
2. Rainfall records as collected from Mutton Tea Estate, Lahoal.
3. Economic Backgrounds for Development Plans in Assam, published by the Department of Statistics, Assam.

Land Holdings

Table II indicates the pattern of land holdings of the cultivating households covered under the same survey.

TABLE II—PATTERN OF LAND OWNERSHIP HOLDING BY CULTIVATING HOUSEHOLDS OF THE LAHOAL BLOCK

Size-group (acres)	Nos. of households in the group	Total area owned (acres)	Average size of holding in the group (acres)	Percentage of households in the group
0— 4.9	128	315.8	2.61	77.13
5— 9.9	30	206.6	6.88	18.07
10—14.9	3	37.9	12.63	1.81
15—19.9	5	79.2	15.84	2.99
Total	166	639.5	3.8	100

The pattern of land holdings of the Lakhimpur district is given in Table III.⁴ The data relating to the distribution of land holdings according to the size-groups in the block are re-arranged and included in the table for facility of comparison. Compared to the district figures, the block figures differ considerably. The survey from which the figures are taken was conducted about a decade ago.

TABLE III—PATTERN OF LAND HOLDING IN THE DISTRICT OF LAKHIMPUR COMPARED TO LAHOAL BLOCK

Size-group (acres)	Average size of holding (acres) (district)	Percentage of household in the group (district)	Percentage of household in the group (block)
0—10	3.48	47.08	88.9
11—30	17.29	40.41	11.1
30 above	45.97	12.51	Nil

The average size of holding in the block area is found to be 3.8 acres per household. The corresponding figure for the State is 5.43 acres.⁵

The data given in Table IV indicating operational holding of the block area are compiled from a survey of 35 households in five different villages on the basis of random sampling. Seven samples were collected from each of the villages.

4. Source : Rural Economic Survey of Lakhimpur District, Department of Statistics, Assam.
5. Report on Land Holdings (4), No. 66, National Sample Survey, Government of India.

TABLE IV—HOUSEHOLD OPERATIONAL HOLDING OF THE BLOCK

Size-group	Nos. of households in the group	Area operated by each group (acres)	Average size of operational holding (acres)	Percentage of households in the group
0— 4.9	26	80.79	3.10	70.42
5— 9.9	7	55.26	7.88	23.87
10—14.9	2	26.32	12.66	5.71
Total	35	161.37	4.32	100

The average size of operational holding of the State is 4.51 acres⁶ per household. Both the average household operational holding and the average household ownership holding are smaller in the block area. The average household operational holding is larger than the average household ownership holding in case of groups below 15 acres. No households were found to have operational holding above 15 acres.

It is apparent from the study that the majority of the farms are very small in sizes and below 5 acres. Due to rise in population and the disintegration of families, the number of small farms is increasing and sizes of farms are decreasing.

Land Utilization

The data in Table V are collected primarily from area abstracts and crop abstracts of *Lot Mondols*⁷ and reports of *Gramsevak*s.

TABLE V—LAND UTILIZATION IN LAHOAL BLOCK

No.	Type of utilization	Area in acres		
		1961-62	1965-66	Net difference
1.	Area sown (net)	23,393.60	25,426.77	+2,033.17
2.	Area sown more than once	599.00	1,506.20	+907.20
3.	Total (1+2) gross area	23,992.60	26,932.97	+2,940.37
4.	Current and old fallow	1,574.50	898.30	—676.20
5.	Culturable waste	4,231.10	2,882.47	—1,348.63
6.	Miscellaneous tree crops and grooves not included in No. 1	7,474.17	7,420.30	—53.87
7.	Village grazing reserves	2,117.80	2,117.80	—
8.	Barren and unculturable	8,276.30	8,276.30	—
9.	Land put to non-agricultural use	3,164.20	3,210.10	+45.90
10.	Total area	50,231.67	50,231.67	

6. *Ibid.*

7. *Lot Mondols* are village revenue officials who maintain land records.

The net area sown was 46.5 per cent of the total area of the block in 1961-62 and it increased to 48.7 per cent in 1965-66. The increase in area in relation to total area was 2.2 per cent while the area increase over the base year was 8.9 per cent. Similarly, the 'area sown more than once' was 2.6 per cent of the net area sown in 1961-62 and it went up to 5.9 per cent. The area increase over the base year of 'area sown more than once' was 150 per cent. The gross cropped area increased by 12.2 per cent. The total cultivable land in the block area was 73 per cent of the total area and it declined by 0.1 per cent by 1965-66. About 31.6 per cent of the total cultivable land is yet to be cultivated.

Cropping Pattern

It is evident from Table VI that *Sali* paddy is the main crop of the area. *Ahu* paddy has also increased considerably (by 266 per cent). Similar increase in

TABLE VI—AREA UNDER DIFFERENT CROPS

Crops					(in acres)			
					1961-62	1965-66	Net increase	Percentage increase
1. <i>Ahu</i> paddy	..	..	..	..	475.3	1,741.6	1,266.3	266
2. <i>Sali</i> paddy	..	..	..	..	19,385.8	20,160.7	774.27	3.9
3. Maize	..	..	..	..	194.1	309.6	115.5	58
4. Other cereals	..	..	..	..	17.9	47.0	29.1	—
5. Pulses	..	..	..	..	238.2	362.0	123.8	52
6. Vegetables	..	..	..	..	572.8	703.6	130.8	22
7. Fruits	..	..	..	..	695.1	696.6	—	—
8. Other food crops	..	..	..	..	243.5	256.6	12.9	—
9. Fibre crops	..	..	..	..	31.2	36.3	4.9	—
10. Oilseed	..	..	..	..	277.2	693.2	416.0	146
11. Sugarcane	..	..	..	..	66.0	80.3	24.3	—
12. Tobacco	..	..	..	..	16.0	16.0	—	—
13. Other non-food crops	..	..	..	..	1,779.1	1,830.3	51.2	—
Total	..	..	..	..	23,992.6	26,932.97	2,940.37	12.2

area under mustard (oilseed) was also noticed. Increase in area under other crops has no qualitative significance. The cropping pattern is traditional. The only difference with the cropping pattern of the State is that the area under jute (fibre crop) has not increased much, and area under sugarcane is insignificant. Wheat and lentil were introduced in 1965-66 and the result is yet to be seen in the coming years. The entire crop production is on the basis of subsistence. Mustard and to some extent potato are grown for the market. Besides these two crops, arecanut is the only marketable produce which gives considerable cash to the farmers. Vegetables, fruits and betel leaves are also marketed to some extent.

Production of Foodgrains

An estimate of the level of production of foodgrains has been prepared and provided in Table VII. The estimate has been prepared on the basis of average yield of crops as computed by the State Statistical Department for the Lakhimpur district.

Additional production due to increase in area and also due to improvements in the crops has been taken into consideration. The yardstick for calculation of additional production due to improvement is calculated at 200 kgs. in terms of clean rice per acre. This additional production is calculated for all improvement factors taken together, and based on evidences obtained.⁸ Combination of all factors of improvements usually doubles the yield per acre; in order to avoid over-estimation minimum figure is taken.

TABLE VII—ESTIMATE OF FOODGRAIN PRODUCTION IN THE LAHOAL DEVELOPMENT BLOCK

(in terms of clean rice)

Crops	Average yield per acre (kgs.)	Total estimated production 1961-62 (in tons)	Total estimated production 1965-66 (in tons)	Total increase in production due to increase in	
				Area	Improvement
<i>Ahu</i> paddy	370	175	697	479	43
<i>Sali</i> paddy	550	10,661	11,208	472	75
Pulses	175	41	56	22	—
Total		10,877	11,968	973	118

It is estimated from the table that the total production of foodgrains in the block area increased by 10.03 per cent resulting in an average annual increase of 2.5 per cent.

Extent of Crop Improvements

The extent of crop improvements in the block area is given in Table VIII. It is evident from Table VIII that only 1.2 per cent of the *Sali* paddy area has been covered by improved seeds up to 1965-66. Similarly, the extent of adoption of improved practices in *Sali* paddy has been only 0.6 per cent and in *Ahu* paddy, 13.3 per cent. The totals of the table in fact exhibit negative aspects of progress, as there was a decline in progress both in 1963-64 and 1964-65 as compared to the year 1962-63. But this can be explained by the fact that the area under *Sali* paddy suffered large scale attack of pests.

⁸. Results of crop cutting experiments on demonstration plots.

TABLE VIII—EXTENT OF CROP IMPROVEMENTS

(in acres)

Item of improvement	Progress in different years			
	1962-63	1963-64	1964-65	1965-66
1. Area under improved <i>Sali</i> paddy seeds	115	147	254	262
2. Area under improved package of practices :				
(a) <i>Sali</i>	37	75	36	127
(b) <i>Ahu</i> paddy	—	2	17	232
(c) Other crops	—	—	5	36
3. Area covered by plant protection:				
(a) Paddy	1,330	820	910	1,002
(b) Others	101	140	113	111
Total	1,583	1,164	1,345	1,769

Potentialities and Bottlenecks

Potentialities exist for the expansion of crop area. In particular, the expansion of area under *Ahu* paddy has got much prospect. This would also lead to more intensive use of available land because of the fact that *Ahu* paddy can be grown on succession on the same land where *Sali* paddy is grown. Growing of two crops from the same land would result in about 60 per cent increase in the production of rice. But this should be associated with increased use of organic and chemical fertilizers. Improvement in the production of *Sali* paddy by the introduction of improved package of practices is already in the take off.

The main reason for the slow progress of the improvement programme is the fact that a large number of small farmers has no means to invest in improved inputs. This major group of farmers has no agricultural surplus which is the pre-requisite for economic growth. They lack credit worthiness and for this reason the co-operative credit movement in the block area is in stagnation. This situation has resulted in economic immobility. Because of the stagnation of the co-operative credit movement, larger farms which are in need of capital to invest in improvements also suffer.⁹

The present extension agency in the block is inadequate to carry out the task before it. For efficient transmitting of scientific advances to the farmers it should be equipped with more well trained men.

For any development healthy leadership in the village is necessary. Panchayats which were created mainly for the purpose have so far been unable to achieve it.

9. Co-operative central banks do not advance money to co-operatives which are defaulters. Co-operatives are defaulters when they cannot realize the loan issued by them. Co-operatives initially then become defaulters.