

HAS AGRICULTURE CHANGED IN THE LAND OF SEVEN SISTERS?

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Background

Decidedly changes do occur through time, for better or for worse. It is societal evaluation and judgement that morality can be assigned to events, whether such changes are good for people or not, whether the processes and their correlates desirable, or for that matter whether the process is progressive, moving the society to a higher plane of achievement. And how can we make such a judgement? In fact, the bases of such moral judgements are to be sorted out before we go for evaluation. The intention in this chapter is to address such bases of evaluation, and then to evaluate whatever is happening in the agricultural situation in the region.

First is the question of quantitative growth in agriculture. Decidedly this does not happen in agriculture in isolation from other sectors of the economy, nor without competitive influences from other regions of the country. But, nevertheless, higher growth, especially led by higher productivity of land (yield) is generally accepted as a better situation. This is principally, for two reasons: (a) Since, a very large proportion of the population are farmers, larger production and productivity is assumed to make the small farmers have access to food from their own labour and the little bigger farmers will have a better disposable income at their hands, therefore, increasing their economic and social welfare; (b) the region being chronically short of food in relation to what is locally produced, it provides a comfort level of regional food security.

Second relates to the question of distribution of benefits from growth. Two types of changes may occur: (a) changes in land (asset) distribution; e.g., higher incomes (whether from agriculture or other sectors) may change land distribution, through the 'hidden hand'; (b) the nature of product distribution, i.e., whether the increased availability of say food, reaches or meets the nutritional needs of the vulnerable groups of people. To think that food self-sufficiency of a State or a district solves the problem of the hungry and under-nourished is banal. Here, as Professor Sen argued, "access" to food is more important than "availability", unless we assumed a closed economy with no external trade from that district or State. Else, we have to look at a progressive policy regime by the State to make food accessible at lower prices to the most vulnerable classes, as probably is pursued now in India, with doubtful effectiveness.

Third relates to the question of rural employment (wage employment) emanating from increased disposable income at the hands of (at least) the larger farm holdings, the large farmers being willing to "deepen capital" with employment opportunity for the wage earners. This is not guaranteed. Indeed, if one looks at the rural income elasticity for consumer products, it is far higher than the response to employment. The rural rich would tend to splurge on either durable assets (including land transactions) or on current consumption rather than further invest in farming (Bharadwaj, 1975), which is especially true of poorer agricultural States.

Fourth is the question of rural poverty itself. The expectation that growing agriculture could bring down the level of rural poverty is never automatic without appropriate enabling public policies, like food subsidies to the poor, crop insurance and other social sector inputs. Indeed, experience of some developed agricultural States like Punjab, Andhra Pradesh and Karnataka, etc. indicate deteriorating condition of small and marginal farmers, land alienation, and suicides (due to increased debt burden and crop failures). On the other hand, subsidies on fertiliser, water and electricity have a built-in favourable bias to the rich farmers. These issues are well known. We are in any case, not very clear about higher agricultural growth and reduction in rural poverty, with possible exception of the States of Punjab and Haryana, where urban poverty exceeds rural poverty. Here, however, the data does not indicate who these urban poors are? Invariably

these are the physical transfer of poor (destitution) from rural to urban areas, or migrant wage-workers from other States and areas. During the nineties, West Bengal has emerged with the highest agricultural growth, but has it led to reduction of rural poverty to an acceptable level?

In fact, there have been some changes in agriculture in the NE region, both in the plains as well as in the hill areas in the last two decades, though the pace of growth is far from satisfactory. Many strategies have been introduced and then discarded without very definite results and the experimentation has continued. Undoubtedly, the potential is great and it would be unthinkable for the region to progress without a resilient agriculture sector. But, it is more important too, to judge whether such growth has led to more equitable and desirable welfare for the bulk of the population aspiring for a better standard of living. Instead of a mechanical narration of the success or failure of the farming sector, the attention has to be focussed on the consequences of such growth or progress or whatever nomenclature one chooses to use.

Agricultural (Quantitative) Growth

It is generally perceived that growth is good, for the country, for the region and for the people. Agricultural growth is even better since a large part of the population is, invariably dependent on agriculture for their livelihood, especially in an agrarian society like ours. However, growth could be of total output resulting from either change in expansion/contraction of cultivated area or change in productivity (of land as well as labour). Change in cultivated area may arise out of: (a) actual area increases or brought under crop practices, (b) multi-cropping, i.e., increases in the number of times the same piece of land is cropped, and (c) interchanges of areas put to different crop practices due to various responses to prices and other non-monetary considerations. Land productivity changes are due to yield changes in different crops, which in economic terms is a rent growth, whereas the labour productivity changes is connected with the concept of value addition and can be linked with wage rates and change thereof.

On the other hand, changes (or growth) in agriculture cannot be viewed in isolation from changes in other sectors, like fertiliser or

diesel oil (for energising private irrigation) and other such inputs whose availability and prices are important for farmers' decision to use them affecting output and yield in agriculture. Farmers' decision to sow some crops or not is not entirely dependent on his family's requirements but market conditions and even access to markets, either physical access or information. Similarly, public policies could effect farming practices like providing support prices to selected and strategic agricultural goods or other forms of subsidies, fiscal incentives, etc.

Finally, the farmer's own situation, his socio-economic condition, size of operational holding, access to water management (public irrigation), access to credit which undoubtedly have important influence on production and productivity in farming the practices. Even environmental conditions like flooding or droughts, precipitation and other factors would influence the quality of farming practice. Harvest of the crop and output may reflect a result of the complexities of technical, economic and socio-economic situation of the farmer placed in particular locales, environmental niches and the manner he may try to get the best out of the situation. Whereas his welfare is directly dependent on his harvest, he may have very little influence on the whole complex of realities, which affect the crop output.

When one looks at the agricultural changes in the North-Eastern region, one has to be conscious of these complexities within which the farmers operate, their specificities and peculiarities, the political economy in assessing what meaning these changes may imply for the welfare of the farmers. However, whereas at one level one wishes to understand the changes in the region as a whole, the complexities of environmental and societal conditions are diverse and thus, provide different opportunities as well as impose variegated constraints. There are the great river valleys of Brahmaputra, Barak and Imphal Rivers that largely produce the staple food, rice, in family held subsistence farms. On the other hand, the surrounding hills are home to myriad tribesmen, small and large, but nucleated into specific regions and niches who have a wide variety of farming practices ranging from rice-paddies in small valleys, to vegetable farms on slopes, sylviculture, horticulture, animal rearing and to shifting cultivation in many areas, which has great implication for the subsistence of the families concerned but has little implication in

a rapidly expanding market economy. Indeed, little definite information is available at the State or regional scale of the areas cultivated under such practices or the total volume of products of commercial significance, except products like potatoes, ginger, and horticultural products like pineapples, oranges and now, apples which have appeared in the market, principally consumed within the region itself. So, essentially, by way of hard facts available are principally on rice and some other minor cereals and oilseeds. Ventures into animal farming, dairying, poultry and fishery are in very small scale and are of limited economic significance at the moment, since large volume of these products are in any case regionally imported in substantial quantities (over one-fourth of the quantity demanded) to meet the overall demands in the region.

Table 2.1 shows the State-wise figures for area, production and yield of rice between 1985-86 and 1997-98, a period of 12 years. Rice being the staple crop and food of the people, it is itself an indicator of the ground reality. The total rice output of the region improved from 3.986 million tonnes in 1985-86 to 4.848 million tonnes in 1997-98 at an arithmetic rate of 1.8 per cent a year, way below the growth of population (2.5+ per cent), which means the per capita availability of the regional produce has been on the decline during the reference period. Coupled with this, the overall demand on foodgrains in the region (around 175 kg. per head/year) of an estimated over 6.5 million tonnes, the deficit continues to increase with increasing dependence of the region for imports from other regions of India to the tune of nearly Rs. 2,000 crores either through the FCI mechanism or the open market transactions. Except the tiny States of Meghalaya (3.48%), Mizoram (3.25%) and Nagaland (1.67%), the contribution of area growth in rice has been negligible a fact that indicates exhaustion of easier potentials for expansion of rice farming and output rise accruing from expansion of area under rice.

However, area expansion arising out of intensive practices have not been exhausted, though irrigated rice double cropping potential is limited in the hill areas as scope for public irrigation works is limited. There exists, however, large such scope in the fertile valleys of Brahmaputra, South Assam and Imphal Valleys, which have been imbued to traditional single rice crops. In very recent times, in certain areas of Brahmaputra Valley energised private irrigation and

Table 2.1: Area, Production and Yield of Rice
(Area in '000 ha, production in '000 tonnes and yield in kg)

States	Area, Production & Yield				Growth Rates per Year			
	1985-86	1990-91	1995-96	1997-98	85-86 to 90-91	90-91 to 95-96	95-96 to 97-98	85-86 to 97-98
Arunachal Pradesh	A	108.0	121.8	118.7	120.0	2.56	0.55	0.93
	P	117.6	142.5	124.5	129.5	4.23	2.01	0.84
Assam	Y	1,088.0	1,170.0	1,049.0	1,079.0	1.51	1.43	-0.07
	A	2,464.1	2,490.0	2,503.4	2,489.8	0.21	0.11	0.09
	P	2,846.6	3,270.2	3,390.0	3,382.9	2.98	0.73	1.57
	Y	1,155.0	1,313.0	1,354.0	1,359.0	2.74	0.62	1.47
Manipur	A	164.6	157.4	154.4	157.9	-0.87	-0.38	0.34
	P	332.5	274.2	331.8	351.7	-3.51	4.20	0.48
Meghalaya	Y	2,020	1,742.0	2,149.0	2,227.0	-2.75	4.67	0.85
	A	111.4	103.6	104.0	157.9	-1.40	0.08	3.48
Mizoram	P	125.2	119.8	111.8	150.1	-0.86	-1.34	1.66
	Y	1,124.0	1,155.0	1,075.0	1,427.0	0.55	-1.39	2.25
Nagaland	A	49.0	51.3	65.8	68.1	0.94	5.65	3.25
	P	45.3	63.8	101.5	110.6	8.17	11.82	12.01
Tripura	Y	924.0	1,244.0	1,543.0	1,624.0	6.93	4.81	6.31
	A	120.8	127.4	140.0	145.0	1.09	1.98	1.67
	P	130.0	156.3	185.0	187.0	4.05	3.67	3.65
	Y	1,076.0	1,227.0	1,321.0	1,290.0	2.81	1.53	1.66
North-East Region	A	280.6	274.0	231.5	257.8	-0.47	-3.10	0.68
	P	389.6	501.3	465.5	535.8	5.73	-1.43	3.13
All India	Y	1,388.0	1,830.0	2,011.0	2,078.0	6.37	1.98	4.14
	A	3,298.5	3,325.6	3,317.8	3,396.5	0.16	-0.05	0.25
All India	P	3,986.8	4,528.1	4,710.1	4,847.6	2.72	0.80	1.80
	Y	1,209.0	1,361.0	1,420.0	1,427.0	2.51	0.87	1.50
	Y	1,417.0	1,751.0	1,797.0	1,895.0	4.71	0.53	2.81

Compiled from Basic Statistics of North-Eastern Region, 2000, NEC, Shillong.

double cropping, especially the winter-rice is showing impressive results.

Table 2.2: Index Number of Rice Yield (All India = 100)

States	1985-86	1990-91	1995-96	1997-98
Arunachal Pradesh	76.78	66.82	58.38	56.94
Assam	81.51	74.99	75.35	71.72
Manipur	142.55	99.49	119.59	117.52
Meghalaya	79.32	65.96	59.82	75.30
Mizoram	65.21	71.05	85.87	85.70
Nagaland	75.94	70.07	73.51	68.07
Tripura	97.95	104.51	111.91	109.66
NE Region	85.32	77.73	79.02	75.30
All India	100.00	100.00	100.00	100.00
1985-86 = 100	100.00	123.57	126.82	133.73

The key to agricultural prosperity lies in the growth of yield, which from Tables 2.1 and 2.2 indicate a dismal picture. Except for the two States of Manipur and Tripura where the rice yield is around the national average (though with some decline in case of Manipur), the average rice yield grew at a rate of 1.5 per cent during the entire period, and was less than 0.5 per cent during the nineties (increased from 1,361 kg. to 1,427 kg. per hectare between 1990-91 to 1997-98). During this period, the All India average rice yield increased from 1,751 kg. to 1,895 kg. per hectare.¹ This is, of course not to compare with the best performing rice States like Punjab, Haryana, Tamil Nadu, Andhra Pradesh, or even the neighbouring West Bengal² where the average yield is around 2,500 kg./ha. At the level of the individual States, over the entire period the yield growth has been substantial in two States only, Mizoram (6.31%) and Tripura (4.14%); in rest of the States, either the yield increases have been negative as in Arunachal Pradesh and Nagaland or only marginal, well below the national average. Surprisingly, in most of the States the yield growth in end eighties was reasonably higher than during the nineties, a definite cause for concern. This must be viewed against the agro-climatic backdrop in which unlike many parts of India the monsoon regime is fairly stable over the North-East Region, with little scope for blaming an erratic monsoon. Indeed, as indicated by the index number, not only the figures are well below the 100 marks (except,

Manipur), they are on the decline, further leading one to conclude that by and large the States are falling behind in comparison to the All India average picture.

Land Distribution

Undoubtedly the most important asset that an average farming family in India holds is farm land, which with increasing population pressure, holding fragmentation through successive generations and without any major population shifts to non-agricultural occupations have made these farm holdings unremunerative, and the farmers (cultivators) virtually unemployed even with their own lands. As some studies from prosperous agricultural States like Punjab and Haryana indicate, small and marginal farmers discovered a better option of either selling out the small parcels at a remunerative price or even renting out to rich farming neighbours and migrating out to towns/cities for non-farm wage work. An overall growing economy may provide such non-farm opportunities unlike the stagnant one as in the North-East. Traditionally, North-East Region used to be relatively low on population and without the influence of the notorious zamindari system (except for parts of Goalpara district); by and large the Assamese cultivator had some land often neither too large or too small holdings. In the hills, land question was unimportant till about recent times. All this have changed in the region and are changing very fast to the detriment of small and marginal farmers.

Table 2.3 highlights the State-wise size classes of operational holdings (5 classes) for 1995-96 in percentages of area and number of holdings as well as the Ginni Ratios (Coefficients) indicating the level of inequalities in land assets in the States. As compared to 59 per cent of farmers in India having less than one ha holdings (very small), Assam comes the closest with 60 per cent, Tripura 68 per cent, Mizoram 48 per cent and the least in Nagaland 9 per cent only. On the other hand, in the large holding category (10 ha +), in Nagaland 23 per cent of farmers have 57 per cent of cultivated holdings, as compared to country average of 1.59 per cent having 17.45 per cent of area, in Assam 0.25 per cent having 14 per cent large farms (area). Mizoram has no large holdings as such, so also Tripura and Manipur (negligible). With the exception of Nagaland, the general expectation of revealing an egalitarian asset distribution

Table 2.3: Size of Operational Holdings and Ginni Ratios (1995-96)

Size Classes/ States (in ha.)	Arunachal Pradesh		Assam		Manipur		Meghalaya		Mizoram		Nagaland		Tripura		All India	
	Area	Num.	Area	Num.	Area	Num.	Area	Num.	Area	Num.	Area	Num.	Area	Num.	Area	Num.
0 to 1	2.91	17.89	18.98	59.98	21.71	48.59	10.96	36.42	21.43	47.54	0.93	9.15	28.25	68.24	14.87	58.99
1 to 2	7.85	18.95	24.07	22.57	38.29	34.51	19.86	25.93	42.86	37.70	3.10	14.79	34.42	21.70	17.34	18.97
2 to 5	24.71	31.58	27.65	13.39	31.43	14.79	40.07	28.40	29.76	14.75	7.85	18.31	25.00	8.81	23.16	13.21
5 to 10	43.02	27.37	15.22	3.80	8.57	2.11	24.32	8.02	4.76	1.64	30.79	33.10	5.84	1.26	27.20	7.25
10+	21.51	4.21	14.08	0.25	0.57	0	4.45	0.62	0	0	57.44	23.24	6.49	0	17.45	1.59
Ginni Coefficients	0.44		0.53		0.35		0.41		0.34		0.43		0.45		0.58	

Source: CMIE, 1999.

is belied in the region. The Ginni ratios in Assam follows closely the pan Indian pattern, only in three smaller States of Mizoram and Manipur that one encounter Ginni ratios somewhat lower (0.34 and 0.35 respectively). Without a comparable series in recent times, it is difficult to comment on the process; the quinquennial agricultural censuses have become erratic and the publications, even more unpredictable. However, the impression one gets is that the landholdings inequalities in the region are on the rise, so also landlessness, especially in the hilly tracts where the earlier traditions of egalitarian land distribution has gone with the wind, especially that the conversion of community held land in rural areas have been constantly and swiftly replaced by private property. The consequences are not far to seek.

Rural Unemployment

Since 85 per cent of the population in North-East live in rural areas (87% in case of Assam) expectedly employment essentially means rural and necessarily agricultural. If agriculture is growing, i.e., there is some dynamism in it, then with additional disposable incomes with farmers, one would expect buoyancy in both farm and non-farm work in rural areas.

Table 2.4 indicates that whereas the overall unemployment level from 1983 to 2000 has remained more or less constant (at about 2%), in many North-Eastern States it is on the rise, e.g., Nagaland from 0.3 to 3.5 per cent (10 times), Manipur from 0.4 to 3.5 per cent, Assam from 2.2 to 4.6 per cent and for reasons cited above, these could all arise out of rural unemployment. The disconcerting feature appears to be a steady rise in female unemployment, e.g., Assam 8 per cent, Manipur 3.1 per cent, Tripura 4.5 per cent.

Rural unemployment was estimated by Srivastav and Dubey (2004)³ for 1993-94 (50th round NSSO), which indicates 7.64 per cent for Assam (female 14.56%), North-East total, 5.42 per cent (female 6.94%) as compared to the All India average of 1.97 per cent (female 1.50%), also because of the large weightage of Assam in North-East population. This indicates quite a disturbing situation: (a) the rural unemployment in the region is 3 times the All India average, and (b) female rural unemployment nearly 5 times the All India average. There is undoubtedly some serious issues involved in

Table 2.4: Unemployment in North-Eastern States

(in per cent)

States	1983			1993-94			1990-2000		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Arunachal Pradesh	—	—	—	1.3	0.5	1.0	1.0	0.9	0.9
Assam	2.2	2.4	2.2	4.6	9.5	5.6	3.7	8.0	4.6
Manipur	0.6	0	0.4	2.2	1.0	1.8	3.7	3.1	3.5
Meghalaya	1.8	0.9	1.5	0.5	0.3	0.5	0.9	0.9	0.9
Mizoram	0.3	1.0	0.4	0.9	0.5	0.8	2.5	1.3	2.0
Nagaland	0.4	0	0.3	3.2	0.6	2.4	4.0	2.9	3.5
Tripura	2.1	17.7	3.9	2.2	8.4	3.4	1.6	4.5	1.9
All India	2.3	1.9	2.0	2.1	1.7	2.0	2.5	1.8	2.3

Source: P.C., NHDR, 2001 (Based on NSSO, 38th, 50th and 55th rounds).

Note: No samples from Arunachal Pradesh for 1983.

the agrarian sector in the region—even the much maligned Bihar is better off. What good is agricultural development, if any, if the villagers have no work? Second, all egalitarian theorisation of better gender situation, literacy, etc. ascribed to the region falls flat on the face of huge rural female unemployment, many times the rest of India.

Rural Poverty

The expectation that a growing agriculture could bring down the level of rural poverty is never automatic with out appropriate enabling public policies, like food subsidies to the poor, crop insurance and other social sector inputs. Indeed, experience of some developed agricultural States like Punjab, Andhra Pradesh and Karnataka, etc. indicate deteriorating condition of small and marginal farmers including land alienation, suicides (due increased debt burden and crop failures). On the other hand, subsidies on fertiliser, water and electricity have a built-in favourable bias to the rich farmers. These issues are well known. We are in any case, not very clear about higher agricultural growth and reduction in rural poverty, with possible exception of the State of Punjab, where urban poverty exceeds rural poverty.

Table 2.5 indicates two different sets of HCRs for all the seven States of the region (and for comparison, India average) for 1987-88, 1993-94 and 1999-2000. The first set refers to Bandopadhyay and Dubey (relevant here in Adjusted Poverty Line) for 1987-88 and 1993-94 and then the Planning Commission figures (NHDR, 2001) for 1993-94 and 1999-2000. At the All India level (1993-94) the estimate differs by about 5 per cent (APL: 30.46 to PC: 35.97%). At the All India level the overall rural poverty reduction between 1987-88 and 1993-94 has been by 6.5 per cent and between 1993-94 and

Table 2.5: Rural Poverty in North-Eastern States
(1987-88, 1993-94 and 1999-2000)

States	1987-88			1993-94			1993-94 1999-00	
	OPL	EOPL	APL	OPL	EOPL	APL	HCR	(PC*)
Arunachal	30.14	26.43	19.08	48.75	44.66	34.08	39.35	33.47
Assam	48.42	39.75	32.05	57.05	48.00	40.47	40.86	36.09
Manipur	21.11	15.82	9.52	33.08	23.91	13.74	33.78	28.54
Meghalaya	40.39	36.18	29.74	34.36	28.36	18.26	37.92	33.87
Mizoram	5.50	3.93	2.76	10.10	7.05	4.11	25.66	19.47
Nagaland	—	—	—	4.24	3.18	1.91	37.92	32.67
Tripura	28.91	23.73	18.37	32.04	26.13	21.21	39.01	34.44
All India	49.61	39.76	36.91	42.82	33.41	30.46	35.97	26.10

Source: The first set of figures (1987-88 and 1993-94) are from, Gangopadhyay & Dubey, 2000 and the second set (1993-94 and 1999-2000) from NHDR, PC, 2001.

1999-2000 by 9.9 per cent (35.97 to 26.10%). How do the North-Eastern States compare? In Arunachal, the first period had an increase by 15 per cent and second, a reduction by 6 per cent—net effect, negligible. In Assam, during the first period there was an increase by 8.5 per cent; second, reduction by 4.5 per cent—net effect, it has a rural poverty level 10 per cent higher than All India average. In Manipur, the first period was witness to an increase by 4 per cent and later period, a decline by 5 per cent—net effect negligible. In Meghalaya, during the first period there was a decline by 11 per cent, but later on, only 4 per cent—net effect, the rural poverty ratio still way above the All India average. It is only in Mizoram that one notices the rural poverty levels way below the national average, but that was the case to start with. It may be noted that during 1981-91,

Mizoram was the only State with a net absolute decline in rural population (urbanisation level jumped from 24 to 46%), which indicate a strong stream of rural to urban migration as well as declaration of larger settlements urban (in 2001, it is 49.5%). In Nagaland, from earlier very low level, the rural poverty by recent estimates (PC) has reached 39 per cent, which decline in 1999-2000 to 33 per cent, by 6 percentage points still way above the national average. In Tripura, it increased by 8 per cent during the first period, but declined by 5 per cent in the latter period, still way above the national average. What does one make out of it? Except for Mizoram, all the other States have rural poverty levels above the national average, even by different estimates. Agriculture, that is the main stay of these predominantly rural States definitely has not delivered. There is the tail-tell signal of something wrong in the basics of the situation.

Conclusion

The four tests we carried out all bore wrong signatures:

- (1) Since, rice farming is the main stay of agriculture, no apparent improvement (from mid-80s to end-90s) in land productivity (except, Mizoram) indicates lack of dynamism in the rural economy—the trend is not progressive on the wealth generation end in the rural economy.
- (2) The land distribution has perhaps worsened. But in any case, contrary to belief the inequality in land asset distribution is nothing better than the rest of the country.
- (3) Undoubtedly, the rural unemployment has only worsened over the decade. North-East as a whole has on an average 3 times more rural unemployed as compared to All India average.
- (4) The poverty level in rural areas (except Mizoram) is appreciably higher than All India average and the decline if any has been much slower as compared to the national figures.

The story of agricultural changes appears to be a dismal one for the region. But more important, the consequences of a sluggish

agriculture on rural unemployment and poverty are significant. How this could be reversed, is the moot question.

NOTES

1. The overall rice yield growth over the 12-year period has been 2.81 per cent per year for India, well above the population growth.
2. West Bengal's agricultural performance has been sterling in the past decade.
3. Nirankar Srivastav and A. Dubey, "Unemployment in North-East India: Some Issues". A.C. Mohapatra and C.R. Pathak (ed.), *Economic Liberalization and Regional Disparities in India*, Star Publication, Shillong, pp. 202-220.

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