

CHANGES IN RURAL POVERTY IN INDIA: IMPLICATIONS FOR AGRICULTURAL GROWTH*

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It is indeed a great honour to be invited to deliver a lecture in memory of Dr. Rajendra Prasad, and I am grateful to the Indian Society of Agricultural Statistics for giving me this opportunity to reflect on some of the issues appropriate to this occasion.

Dr. Rajendra Prasad was one of those founding-fathers of our Republic who combined the struggle for national independence with the struggle for emancipation of the toiling peasantry from feudal exploitation. Their vision of rural development in free India reflected an integrated approach in which the objective of agricultural development was intertwined with the goals of poverty eradication and reduction of social and economic inequalities. They did not conceive of agricultural development as something independent of the drive for social justice. Nor did they think of anti-poverty programmes as a separate venture independent of the process of agricultural development.

This link between agricultural development and social justice was clearly visible in the first decade of our planning. The First Five Year Plan gave a pre-eminent place to programmes of agricultural development. At the same time, there was a big drive for land reforms e.g., abolition of intermediaries, security of tenure to tenants and regulation of

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rents, imposition of ceiling on landholdings and distribution of surplus land to the landless.

The present dichotomy between programmes of agricultural development on the one hand, and those for poverty removal on the other, developed since mid-sixties with the launching of new technology in agriculture. While this technology characterised by the use of high-yielding varieties of seeds and fertilisers, contributed substantially to achieving self-sufficiency in foodgrains, it is necessary to examine whether in the process of applying new technology, we have been able to exploit the available opportunities for making an effective impact in terms of reducing rural poverty and inequalities.

In conjunction with the use of high-yielding varieties of seeds and fertilisers, maximization of yield *per hectare of net sown area* would entail increase in cropping intensity which would have substantial impact in terms of raising employment and wages. However, increasing yield *per hectare of cropped area* through the application of high-yielding varieties of seeds and fertilisers became the central concern of new agricultural strategy until recently. Even the identification of 'progressive farmers' was often reduced, in practice, to selecting farmers who are resourceful in terms of ownership of land and command on capital resources.

It is heartening to note, however, that the emphasis in agricultural research is now shifting towards techniques that promote cropping intensity, save on cash inputs, and reduce risks. This is evident from the increasing emphasis given to research on inter-cropping and cropping systems which raise output *per hectare of net sown area* in a crop year. Research on biological fixation of nitrogen, on minimizing wastages in fertiliser-use and on evolving high-yielding seeds with multiple resistance to pests and droughts, are some such examples.

With the exclusive emphasis on raising yield *per cropped hectare* through the intensification of inputs, the locus of agricultural development inevitably shifted to the developed regions and the rich farmers. It is now wellknown that the bulk of the increase in foodgrains output as a result of application of new technology has been concentrated in a small geographical area, while in large parts of the country where small farmers and sharecroppers predominate and where wages are low, and where indeed a large part of the population below the poverty line lives, the gains from new technology have been very limited. Consequently, despite a generally impressive performance of agriculture leading to self-sufficiency in foodgrains, the impact of this development in terms of increasing purchasing power of the poor by raising employment and wages in the less developed regions, including the dryland areas, has been extremely limited.

Even those who recognise the positive role of agricultural development

in eradicating poverty, think merely in terms of 'trickle-down' effects of agricultural growth. This very term implies scanty benefits flowing to the poor from agricultural growth. They do not talk of the pattern of agricultural development, such as its regional spread, productivity growth among small farmers and sharecroppers, increase in cropping intensity, rise in agricultural wages and employment as necessary mechanisms through which agricultural development can make a significant impact on rural poverty and inequality.

The failure of agricultural growth to make a sizeable dent on poverty has inevitably led us to focus attention on what is now popularly called the strategy of 'direct attack' on poverty through the beneficiary-oriented programmes. Whereas these programmes have to form an essential component of the strategy for poverty eradication in our situation, in the absence of equity-oriented or redistributive agricultural growth, it would be difficult to solve the poverty problem by the strategy of 'direct attack' alone. Unfortunately, the tendency to view agricultural development programmes as different from those for poverty alleviation and vice versa has become quite pronounced. Those concerned with raising agricultural productivity are preoccupied exclusively with input combinations to raise yield per hectare and naturally with the so-called progressive farmers and regions where the results can be quick and substantial. They are not as much concerned with extending methods which protect and increase employment in areas where the purchasing power of the poor needs to be raised. Similarly, in the pursuit of anti-poverty programmes such as IRDP, NREP, RLEGP, etc., one does not find much concern for undertaking activities like soil conservation, drainage and construction of field channels which raise agricultural productivity. In fact when one goes round visiting the field, one often finds each Department considering the other as a rival competing for staff and other resources.

The lack of concern for equity in agricultural growth is inimical to agricultural growth itself. Last year, I had an occasion to visit some areas in Champaran district which put Dr. Rajendra Prasad on the map of the country for his leading role in the peasant movement which combined the struggle for freedom with the struggle for peasant agriculture, free from feudal exploitation. Even today, in Champaran district, between 25 per cent to 50 per cent of cultivated area is under share-cropping, as much as 50 per cent of output is paid as rent, very often without deducting any input costs borne by the tenants. Consequently, growth in demand for fertilizers was not as encouraging as even in some of the predominantly tribal areas in south Bihar. As high as 50 per cent of the rural population in Champaran is landless. Agricultural wages do not exceed Rs. 6, which is less than the minimum wage of a little over Rs. 8 per day. All this is the direct consequence of excessive reliance on technocratic approach to

agricultural development, to the neglect of institutional approach, which was so much a part of the ideology of the founding-fathers of our Republic like Dr. Rajendra Prasad.

I now propose to present the recent trends in rural poverty and relate them to certain socio-economic characteristics in different States. I shall then discuss the implications in terms of the rate and pattern of agricultural development in different States during the Seventh Plan, if targets set for poverty reduction are to be achieved in a way that makes a dent on the poorest of the poor.

CHANGES IN POVERTY RATIO: ALL-INDIA

For the estimation of percentage of persons below the poverty line, the information collected in the NSSO surveys on household consumption expenditure is utilised. As per the recommendation of the 'Task Force on Minimum Needs and Effective Consumption Demand' (1979), Planning Commission defined poverty line as monthly per capita income of Rs. 49.09 in rural areas and Rs. 56.64 in urban areas at 1973-74 prices, corresponding to the calorie requirement of 2400 per capita per day in rural areas and 2100 per capita per day in urban areas. This poverty line is updated by the price rise in the consumption basket. For the Seventh Five Year Plan the updated poverty line is annual household income of Rs. 6400/- in rural areas and Rs. 7300/- in the urban areas.

On the basis of the estimates of 32nd Round (1977-78, revised) and 38th Round (1983, provisional), the decline in the number of persons below the poverty line in rural areas for all population is estimated around 12.5%, as against 7.8% reduction in urban areas (Table 1). The

TABLE 1—NUMBER OF POOR AMONG SCHEDULED CASTES, SCHEDULED TRIBES AND THE REST OF THE POPULATION (Million)

	Rural		Percentage	Urban		Percentage
	1977-78	1983-84	Change	1977-78	1983-84	Change
	(1)	(2)	(3)	(4)	(5)	(6)
Scheduled Castes	53.7	49.6	(-) 7.6	7.7	7.8	(+) 1.3
Scheduled Tribes	33.7	31.3	(-) 7.1	1.3	1.5	(+) 15.4
Rest of the Population	165.7	140.6	(-) 15.1	44.7	40.2	(-) 10.1
All-India	253.1	221.5	(-) 12.5	53.7	49.5	(-) 7.8

decline in the number of rural poor belonging to Scheduled Castes is estimated at around 7.6%, Scheduled Tribes at around 7.1%, and the rest of the population (other than SCs and STs) around 15.1%. Thus,

the rate of decline is more than double for the rest of the population as compared to the decline for Scheduled Castes and Scheduled Tribes, bulk of whom constitute the poorest of the poor suffering from various socio-economic disabilities. Secondly, in urban areas, there has been an increase in the number of poor belonging to Scheduled Castes and Scheduled Tribes, presumably due to their migration from rural areas, whereas the number of poor among the rest of the population declined by, 10.1 per cent.

It is also seen from Table 2 that for 1983-84, the percentage of people below poverty line amongst SCs and STs is quite high, i.e., 50.9 and 57.1 per cent respectively as against the figure of 37.4 for all population. The corresponding figure for 1977-78 is 63.2 for SCs, 71.4 for STs and 48.3 for all population. Thus the poverty ratio which is quite high for SCs, and

TABLE 2—PERCENTAGE OF PERSONS BELOW POVERTY LINE
(Scheduled Castes, Scheduled Tribes vs All Population)

	Area	1977-78	1983-84	Percentage Change
		(1)	(2)	(3)
Scheduled Castes	Rural	64.6	53.1	-17.8
	Urban	54.3	40.4	-25.6
	Combined	63.2	50.9	-19.5
Scheduled Tribes	Rural	72.4	58.4	-19.3
	Urban	52.6	39.9	-24.1
	Combined	71.4	57.1	-20.0
All Population	Rural	51.2	40.4	-21.1
	Urban	38.2	28.1	-26.4
	Combined	48.3	37.4	-22.6

STs, declined at a lower rate (19% and 20%) when compared to the decline for all population (23%), indicating the difficult challenges ahead in tackling the harsher dimensions of poverty. This is reinforced by the fact that in 1983-84 the per capita consumption expenditure per month for the rural poor belonging to SC and ST was lower than the average for the rural poor in general (Rs. 67.08 and 61.44 respectively as against 70.94 for all population).

The decline in the poverty ratio is the combined result of growth achieved, especially in Agriculture, and the implementation of various poverty alleviation programmes.

The decline in poverty ratio is 21% in rural areas as against 26% in urban areas. The higher decline in urban areas could be attributable to the relatively higher share of benefits from the general development accru-

ing to urban areas as compared to rural areas. However, while interpreting these results one should not overlook the rate and pattern of rural-urban migration. Part of the reduction in rural poverty would be due to the migration of the poor from the rural to urban areas. Besides, the rate of rural-urban migration among the non-poor, on which also we do not have any information, would influence the respective poverty ratios and their rates of decline. Such information on group-specific rural-urban migration could throw light on a higher rate of decline in urban poverty ratio among Scheduled Castes and Scheduled Tribes population, despite the absolute increase in the number of poor among them in urban areas as noted in Table 1.

DECLINE IN RURAL POVERTY RATIO : REGIONAL VARIATION

The decline in rural poverty ratio has been quite divergent among different States. Table 3 gives the estimate of percentage of persons below the poverty line in rural areas for the years 1977-78 and 1983-84 for the 14 Non-Special Category States. The rate of decline in the proportion of people below the poverty line in rural areas is highest (45%) for Kerala. This is due to the steep rise in the remittances from migrants abroad. Kerala is a clear case where the growth of SDP, as we estimate, is not an objective indicator of growth in consumption from the income accruing. There is an increase in poverty ratio for Rajasthan and the decline is quite small for States like Uttar Pradesh and Bihar where the poverty is widespread.

It is possible to classify the 14 Non-Special Category States into three broad groups, according to the level of development which bears a significant correlation with the poverty ratio. In general, poverty ratio is lower in the developed States and vice versa. In any case, the level of development of a State, as measured by its per capita income, indicates its capacity to cope with the poverty problem. The States in the Eastern and Central Regions, in general, have a high rural poverty ratio, followed by the states in the Southern Region. The top four States in the country in terms of per capita income show the lowest poverty ratio.

The rate of decline in the rural poverty ratio between 1977-78 and 1983-84 has also been highest (32.4%) for this group of developed States. It is lowest (14.5%) for the less developed States in the Eastern and Central Regions (Table 3).

The small and marginal farmers are important both in terms of their number and area held by them in poorer States in the Eastern Region. Even in Madhya Pradesh, there are regions like Chhatisgarh, where there is a preponderance of small and marginal holdings both in terms of

TABLE 3—CHANGES IN POVERTY RATIO (RURAL)

Regions/States	Poverty Ratio		Per Cent Decline
	1977-78	1983-84	
	(1)	(2)	(3)
<i>Eastern and Central Regions</i>			
Orissa	67.89	44.76	34.1
Madhya Pradesh	61.63	50.30	18.4
West Bengal	58.31	43.84	24.8
Bihar	57.82	51.35	11.2
Uttar Pradesh	49.79	46.48	6.6
Rajasthan	33.48	36.63	(-)9.4
<i>Average</i>	54.5	46.6	14.5
<i>Southern Regions</i>			
Tamil Nadu	56.26	44.08	21.6
Karnataka	53.15	37.49	29.5
Kerala	47.37	26.05	45.0
Andhra Pradesh	45.45	38.67	14.9
<i>Average</i>	50.4	37.7	25.2
<i>Western and Northern Regions</i>			
Maharashtra	60.36	41.50	31.2
Gujarat	43.10	27.62	35.9
Haryana	23.21	15.19	34.5
Punjab	13.12	10.87	17.1
<i>Average</i>	44.8	30.3	32.4
<i>All India</i>	51.2	40.4	21.1

number and area. The marginal and small farmers are relatively less important among the four developed States constituting the Western and Northern Regions which also have the lower poverty ratio. These regions also account for the highest wage rate for agricultural labour. The wage rates are generally lower in the Eastern States, having a high poverty ratio.

Since the rate of decline in poverty ratio has been lower in the Eastern and Central Regions, the share of these regions in the total number of rural poor in the country has increased. Even in 1977-78, these regions accounted for a little over 57 per cent of the number of rural poor in the country which has risen by as much as 5 percentage points to 62.4% in 1983-84. Their share has increased in the total number of poor belonging to Scheduled Castes and Scheduled Tribes. As many as two-thirds of the poor among the scheduled castes and scheduled tribes in the country belonged to the States in the Eastern and Central regions in 1983-84 (Table 4).

TABLE 4—PERCENTAGE DISTRIBUTION OF PEOPLE BELOW THE POVERTY LINE

Region	Total Poor		Scheduled Castes Poor		Scheduled Tribes Poor	
	1977-78	1983-84	1977-78	1983-84	1977-78	1983-84
	(1)	(2)	(3)	(4)	(5)	(6)
Eastern and Central Regions	57.32	62.42	65.05	66.53	61.80	66.37
Southern Region	22.91	21.25	24.20	23.38	8.77	10.29
Western and Northern Regions	14.45	12.36	8.35	8.13	19.40	18.95
All India	100.00	100.00	100.00	100.00	100.00	100.00

These facts highlight the need for concentrating efforts for the removal of rural poverty in the Eastern and Central Regions as it reflects the major dimensions of poverty both from the economic and social angles. This has to be achieved through a higher agricultural growth and a pattern of agricultural growth which generates larger incomes for the rural poor. Besides, the beneficiary-oriented programmes would have to play a larger role in the regions.

The average per capita consumption expenditure for the rural poor is lowest in the Eastern and Central Regions. The expenditure on the anti-poverty or beneficiary-oriented programmes like IRDP, NREP and

RLEGP per head of rural poor was also the lowest in Eastern and Central Regions during the Sixth Plan period (Table 5). Such expenditure was

TABLE 5—AVERAGE RURAL CONSUMPTION EXPENDITURE AND EXPENDITURE ON POVERTY ALLEVIATION PROGRAMMES (Per Capita Per Month for the Rural Poor)

<i>Region State</i>	<i>Consumption Expenditure (1983-84)</i>	<i>Expenditure on Poverty Alleviation Programmes (1980-84)</i>
	(1)	(2)
<i>Eastern and Central Regions</i>		
Orissa	69.95	8.01
Madhya Pradesh	68.60	8.44
West Bengal	69.64	4.95
Bihar	69.03	6.60
Uttar Pradesh	69.51	9.01
Rajasthan	69.67	11.39
<i>Average</i>	69.32	7.84
<i>Southern Region</i>		
Tamil Nadu	66.84	12.13
Karnataka	70.16	9.07
Kerala	76.18	10.09
Andhra Pradesh	72.27	11.56
<i>Average</i>	70.57	10.97
<i>Western and Northern Regions</i>		
Maharashtra	71.88	6.74
Gujarat	78.44	10.40
Haryana	80.83	17.37
Punjab	81.69	31.22
<i>Average</i>	74.52	9.41
<i>All-India</i>	70.94	8.83

highest for some of the States in the Western and Northern Regions, which may partly account for higher rate of decline in the rural poverty ratio in these regions. The allocation of outlays under IRDP in the Sixth Plan was on a uniform basis per block in the country. This position has been changed for the Seventh Five Year Plan and the allocation will now be according to the incidence of poverty.

Recently the Planning Commission brought out a Report of the Study Group on Agricultural strategies for the Eastern Region of India, comprising east-Uttar Pradesh, Bihar, Orissa and West Bengal. The results of the study throw some light on the growth profile in relation to certain social characteristics of the population. The districts in this region have been classified according to the level of productivity, namely, districts where the growth has been negative, slow-growing districts, medium-growing and high-growing districts.

It will be seen in Table 6 that the growth rate of output between 1970-73 and 1980-82 shows a positive relationship with the proportion of population belonging to scheduled castes, but a negative relationship with

TABLE 6—AGRICULTURAL GROWTH IN EASTERN REGION—SOME PARAMETERS (1980-81)

	<i>Negative Growing</i>	<i>Slow Growing</i>	<i>Medium Growing</i>	<i>High Growing</i>	<i>Aggregate</i>
	(1)	(2)	(3)	(4)	(5)
1. Growth Rate between 1970-73 and 1980-82	-0.77	+0.91	+2.05	+4.07	1.84
2. Productivity per NSA (Rs./ha)	1402.06	1497.10	1592.32	1743.54	1575.80
3. NPK/NSA (kg./ha.)	31.63	30.44	32.32	58.73	37.59
4. % S.C. Population	16.23	16.40	19.69	19.97	18.22
5. % S.T. Population	10.58	8.24	5.17	3.49	6.48

the percentage of population belonging to scheduled tribes. It is known that landlessness is widespread among the Scheduled Caste population who work essentially as landless agricultural labour. The for demand

labour in areas of high-growth would induce their migration. The Scheduled Tribes population, on the other hand, is not characterised by landlessness but their agricultural practices are traditional and their access to inputs and technology is weak. The fact that Scheduled Tribes population is relatively high in the districts showing negative or slow growth suggests the need for special efforts in these districts, particularly in tribal areas, for making an effective impact on the poverty problem.

IMPLICATIONS FOR AGRICULTURAL GROWTH

Apart from adequate allocations for the poverty alleviation programmes and their effective implementation, a higher rate of agricultural growth with a clear redistributive orientation is essential for making a significant impact on a poverty problem. It would be necessary to step up the rate of growth of agriculture substantially in the poorer States, even if the rate of reduction in poverty in these States during the Seventh Plan is to be the same as the average rate of reduction contemplated for the country as a whole.

The Seventh Plan proposes to bring down the poverty ratio in the country from 37.4% in 1983-84 to 25.8% in 1989-90, i.e., a reduction of 31%. If the rate of reduction in poverty in the poorer States is to be lower than this, as has been the case in the past, then the impact on the poorest of the poor will not be significant. Even if we are able to achieve the same proportionate reduction in poverty i.e. by 31% in the three broad groups of States, the rural poverty ratio at the end of the Seventh Plan will still be around 32.9% in the Central and Eastern Regions as against 26.4% in the Southern Region, 20.7% in the Western and Northern Regions, and 28.2% for the country as a whole. Therefore, the objective of proportionate reduction in poverty in the three regions is not over-ambitious.

I have attempted an illustrative exercise to work out the implications of such a proportionate reduction in poverty ratio for the growth of foodgrains output in these regions. I now describe the methodology involved in its sequence :

- (a) To start with, the desired level of poverty reduction has been worked out in rural as well as in urban areas, on the assumption of proportionate decline in the poverty ratio, i.e., by 31% in all States. This is expressed in terms of decline in the number of poor separately for rural and urban areas. For this, it is assumed that of the total decline in the poverty, 88% will be accounted for by rural areas and 12% by urban areas (the same as observed between NSS Rounds of 1977-78 and 1983-84).

- (b) For estimating the number of persons crossing the poverty line due to IRDP and other employment programmes, the allocation as proposed in the Seventh Five Year Plan has been used. It is assumed that the new beneficiaries will belong to the category of "poorest of the poor", i.e., income groups below the 75% of poverty line income, whereas old beneficiaries will be within 75% to 100% of poverty line income.
- (c) On the basis of this, the number of persons crossing the poverty line due to IRDP and other programmes has been estimated and then subtracted from the desired number of persons crossing the poverty line for a proportionate reduction in poverty.
- (d) Making use of the Statewise consumption distribution of 1983-84, the per capita level of consumption expenditure has been estimated corresponding to the desired poverty ratio.
- (e) Corresponding to this per capita level of total consumption expenditure, the per capita expenditure of foodgrains has been estimated (by assuming the rate of 1983-84).
- (f) On the basis of per capita consumption of foodgrains and the population, the total requirement of foodgrains consumption is calculated for 1989-90 and compared with that of 1983-84 to arrive at the desired growth rate of foodgrains consumption corresponding to proportionate reduction in poverty.
- (g) Further, making use of the ratio of foodgrain production to consumption in 1983-84, the requirement of foodgrains production is calculated for 1989-90 and then compared with the level of 1983-84 to arrive at the desired growth rate of foodgrains production.
- (h) Assuming that the ratio of irrigation and fertiliser inputs used for foodgrains would remain the same as observed in the past, the implications for fertiliser and irrigation requirements have been worked out. For this, the norms of the increase in output per unit increase in inputs are derived by using the data for the recent past.

The Seventh Plan envisages that the foodgrains output would grow at 3.7% per annum as against the long-term rate of growth of around 3%. Our illustrative exercises show that the rate of growth of foodgrains output would have to be 4.5% per annum in the Eastern and Central Regions and 3.4% in the Southern Region during the Seventh Plan, if poverty

reduction is to be at the same rate as the average for the country as a whole. These rates of growth would represent a substantial step-up over the long-term rates of growth achieved in these regions. Thus, the rate of growth in foodgrains output in the Eastern Region during the Seventh Plan would have to be significantly higher than the average for the country as a whole. For the Southern Region also, the growth rate to be achieved would represent a substantial step-up.

Our exercises also indicate that the growth of irrigation would have to accelerate substantially both in the Eastern and Central, and Southern Regions. In the Eastern and Central Regions, growth in irrigation would have to be higher than the growth for the country as a whole. In regard to fertiliser inputs, Eastern and Central as well as Southern Regions would have to show higher than All-India growth. This is also borne out by the Report of the Study Group on Agricultural Strategies for Eastern Region of India, brought out by the Planning Commission, according to which fertiliser consumption per hectare is found to be the most important variable explaining inter-district variation in productivity.

PATTERN OF AGRICULTURAL GROWTH : POLICY IMPLICATIONS

As I mentioned earlier, the above exercise is merely illustrative and highlights the need for accelerating and achieving above average growth rate in agriculture in regions where poverty is widespread, if the rate of reduction in poverty ratio in these regions is to be at least the same as for the country as a whole. One immediate practical implication is that the less developed States where poverty is widespread should protect their Seventh Plan outlays for agriculture in real terms as agreed upon. This would call for determined efforts in these States to mobilise resources for protecting the Seventh Plan outlays in real terms.

The implications for the pattern of agricultural growth are equally important. The Seventh Plan has recognised the need for a shift in the locus or regional spread of agricultural growth, and has given a pre-eminent place for a breakthrough in rice output in the Eastern Region and in dryland farming. The gap between the potential and actual yields of rice is very high in the Eastern Region, comprising the States of Assam, Bihar, Orissa and West Bengal, eastern-Uttar Pradesh and eastern-Madhya Pradesh. A Special Rice Production Programme is being launched during the Seventh Plan period as a Centrally-Sponsored Scheme in 20 per cent of the blocks in the Eastern Region for exploiting the potential for higher yields. Likewise, it is proposed to take up during the Seventh Plan a new Centrally-Sponsored Scheme, called the National Watershed Development Programme for Rainfed or Dryland Agriculture.

Besides these programmes which will raise the purchasing power of the poor through the rise in employment and wages in the less developed regions, the scheme for assistance to small and marginal farmers for increasing agricultural production will be continued during the Seventh Plan. Since the major constraint facing the small and marginal farmers is their low capacity to invest and bear risks, the special programme is designed to assist them in the investment for irrigation and to provide various inputs. This programme will have to be supplemented by measures to improve their access to credit and extension services. Security of tenure and regulation of rents for sharecroppers would be necessary, especially in the Eastern Region, to provide incentives for the intensification of input-use. Consolidation of holdings so as to bring small and marginal holdings into contiguous blocks of land will help provide various services to them economically and raise their initiative and group-effort.

The immediate benefits of afforestation are substantial for the poor in terms of generating employment as well as providing fuelwood and fodder for their animals. The Seventh Plan envisages a massive programme of social forestry to cover all the fuelwood-deficit areas in the country. Employment-generating programmes in the Plan would also be used for developing social forestry.

Water management is a key factor in raising agricultural productivity in the poorer States, as the growth of effective area under irrigation and increase in cropping intensity has not been commensurate with the increase in irrigation potential created in these States. A high priority is, therefore, given in the Seventh Plan for improving the utilisation of irrigation potential already created through Command Area Development Programmes. Besides, drainage and exploitation of groundwater, particularly in the eastern Gangetic plains, will be given a high priority. This is essential because according to the Planning Commission's study of Agriculture in the Eastern Region mentioned earlier, unlike in the high productivity districts where the variation in the consumption of fertilisers is explained by supply factors such as the number of purchase outlets, access to roads, etc., fertiliser consumption in the low productivity districts is demand-determined, being explainable mainly by the quantity and quality of irrigation available.

As I mentioned earlier, in the field of agricultural research and extension, priority will be given to programmes which strengthen the small farmer economy and raise employment. In this context, efforts will be stepped up for evolving inter-cropping and multiple-cropping systems suitable to different agro-climate conditions. Research for biological fixation of nitrogen and to increase fertiliser-use-efficiency and for evolving varieties incorporating multiple resistance against pests and diseases

and environmental conditions will be encouraged.

All these tasks, i.e., improvement in water management, research and extension, and in land tenure system as well as credit and marketing institutions are equally important in the less developed States. They require resources for investment, as well as management skills both of which are particularly scarce in these States. Enlisting the participation of people in development through the elected institutions at local levels is an equally essential and formidable task. The challenges of agricultural growth and poverty eradication are, therefore, far more difficult in the period ahead than in the first phase of green revolution experienced so far.