Trends and Determinants of Poverty: 1973-74 to 1999-2000

This paper examines trends in rural and urban poverty in Andhra Pradesh. It also looks at the role of poverty alleviation programmes in eradicating poverty. While the incidence of poverty shows a significant decline, policy interventions such as provision of education and healthcare facilities, food subsidy and rural public works can benefit the chronically poor and those unable to participate in the growth process.

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I Introduction

The major thrust of planning in India has always been reduction in the incidence of poverty. There are differences in the incidence of poverty and composition of the poor among Indian states. The incidence of poverty and the factors underlying its persistence differ significantly from state to state. While there was a significant reduction in poverty in the country, the decline in the incidence of poverty in rural Andhra Pradesh, according to official estimates, was very steep between 1973-74 and 1999-00 and the poverty level was much lower than the national average. However, the incidence of urban poverty in Andhra Pradesh was more or less similar to the national level. It was rural poverty which showed a drastic decline compared with national poverty. Hence, it is necessary to examine the source of this puzzle to have a realistic estimate of rural poverty in AP for which different estimates were provided by a number of researchers for the period 1973-74 to 1999-00. There are differences in the magnitude of poverty due to the adoption of different poverty lines.

The objectives of this paper are: (1) to examine the trends in rural and urban poverty; (2) to analyse the determinants of rural poverty; (3) to explain the role of the poverty alleviation programmes in eradicating poverty. The estimates of poverty in AP are based on secondary data and the analysis is based on existing literature. Wherever possible, an attempt has been made to analyse inter-relationships between various factors using secondary data. These relationships provide guidelines for state interventions in improving the quality of life. This paper is organised as follows: the incidence of rural and urban poverty at the state level, human poverty index and the determinants of rural poverty are presented in the second section; the third section deals with poverty alleviation programmes, and summary and conclusion are provided in the last section.

II Rural Poverty in AP

In the literature relating to poverty, different estimates of rural poverty in AP are available from 1973-74 to 1999-00 for both rural and urban areas. Six quinquennial surveys – two each in the last three decades – have been carried out. Their respective rounds and survey periods are: (1) 27th round from November 1973 to October 1974; (2) 32nd round from July 1977 to June 1978; (3) 38th round from January to December 1983; (4) 43rd round from July 1987 to June 1988; (5) 50th round from July 1993 to June 1994; and (6) 55th round from July 1999 to June 2000 (Table 1). The expert group (1993) and the Planning Commission (2001) have estimated the incidence of poverty for the period from 1973-74 to 1999-00 (Table 2). The poverty line for rural AP was found to be the lowest of all Indian states, whereas the poverty line for urban AP was higher than urban India. The urban poverty line was found to be Rs 457.40 for AP against Rs 454.11 for all-India. When urban prices are higher in AP than all- India, rural prices cannot be lower by 20 per cent. Moreover, the urban poverty lines for three rounds starting from 1987-88 onwards are around 74 per cent higher than the corresponding rural poverty lines. As a result, the incidence of poverty in urban Andhra Pradesh is higher than rural AP. The Planning Commission used a low poverty line of Rs 262.94 per capita per month for AP and a high poverty line of Rs 374.79 per capita per month for Kerala and Rs 327.56 per capita per month for all-India for 1999-2000. The poverty lines for the other three southern-states indicate a smaller deviation from all-India poverty line (Table 2).

Is the poverty line of rural AP estimated by the expert group method a realistic one? When the poverty lines of AP and all-India are considered, the former are found to be about 80 per cent of the all-India poverty line. Are the prices really lower by 20 per cent in AP? As price adjustment has been a controversial issue in Indian literature and policy discussions, some illustrations may be helpful. The incidence of poverty in rural India is computed by using the consumer price indices for agricultural labourers (CPIAL). The expert group (1993) has used the CPIAL to estimate the consumer price index for the middle rural population (CPIMR) in order to derive poverty lines. The CPIAL for food is available but the CPIAL index for non-food is not available. The CPIAL was derived from the general index and the weighing diagram. Having obtained food and non-food CPIALs for each state, a combined index is estimated making use of the consumption pattern of the people around the poverty line in rural areas at the national level for 1973-74. The base year price index for CPIMR was much lower for AP than all-India in 1973-74. As a result of the lower CPIMR, the poverty lines in AP in the base year were lower than all-India. The price index of CPIAL for AP at 1960-61 prices is lower by 15 per cent in all the years (Table 3). The price of firewood has been held constant in the official CPIAL series since 1960-61 [Datt 1997]. According to Deaton and Dreze (2002), CPIALs are based on fixed and frequently outdated commodity weights. These could be the major reasons for the lower levels of poverty in AP.

The poverty estimates reveal that the incidence of poverty has continued to decline more decisively since the 1970s. The incidence of poverty in AP showed a dramatic decline in all the years for which estimates are available. The proportion of poor in rural areas declined from 48.41 per cent in 1973-74 to 15.92 per cent in 1993-94 and further to 11.05 per cent in 1999-00 (Table 1). Though the sample survey of the 55th NSS round pertaining to 1999-00 indicates a steep decline in the incidence, the results are not dependable because of the simultaneous use of two reference periods namely, week and month, in the same questionnaire. The 55th round (1999-00) is not directly comparable to the 50th round (1993-94) due to changes in questionnaire design. The NSS introduced an experimental questionnaire with different recall periods for different classes of goods. The experimental questionnaire of the 30-day recall and seven-day recall periods for food, 'paan', tobacco and intoxicants were used for the same households in two adjacent columns on the same page of a single questionnaire. In addition, a 365-day recall period questionnaire was used for the less frequently purchased items, namely, clothing, footwear, durables and health expenditure (institutional) instead of the traditional 30-day recall period questionnaire. Some critics have alleged that the two sets of questionnaires may have confused both respondents and enumerators such that even the 30-day recall estimates for 1999-00 are not comparable with those of the earlier large sample studies. But when month and week are introduced in the same questionnaire, the estimates based on the month reference period appear to have been distorted and the incidence came down to a very low level and became close to the estimates based on 'week' reference period. The 'headcount ratios' estimated from the 55th round with a seven-day reference period for food, paan, tobacco and intoxicants had been found to be uniformly lower than those based on a 30-day reference period. The consumer expenditure data of the 55th round on a 30-day recall basis yields poverty ratios of 11.05 per cent in rural areas, 26.63 per cent in urban areas and 15.77 per cent for the state as a whole for 1999-00. The corresponding figures from the 7-day recall period are 9.15 per cent in rural areas, 24.48 per cent in urban areas and 13.79 per cent for AP as a whole. In terms of absolute numbers of rural poor, there was a decline of 29.08 lakh persons between 1973-74 and 1977-78; 35.67 lakh persons between 1977-78 and 1983; 18.57 lakh persons between 1983 and 1987-88; 16.89 lakh persons between 1987-88 and 1993-94; and 21.36 lakh persons between 1993-94 and 1999-00 (Table 4).

Deaton and Dreze (2002) recalculated the poverty lines and poverty estimates by using new prices. They estimate the distribution of total consumption as if there had been no change in survey design under two key assumptions of seven-day recall (7/30/365-day recalls) and 30-day recall (30/30/365-day recalls) recall for food. Firstly, the reported expenditures on intermediate goods, for which the recall period is unchanged, are unaffected by the changes elsewhere in the questionnaire. Secondly, the relation between intermediate-goods expenditure and total expenditure is much the same in 1999-00 as in 1993-94. Applying this method, Deaton and Dreze found a fall in poverty in 1999-00, though not as great as implied by the 55th round. The results of Deaton and Dreze suggest that the fall in incidence of rural poverty between the 50th and 55th rounds obtained by the Planning Commission (2001) is attributable to the change in survey design. They presented two estimates of poverty for 1993-94 namely, 29.20 per cent and 33.47 per cent. The incidence of poverty was 35 per cent in 1987-88, 29.20 per cent in 1993-94 and 26.20 per cent in 1999-00. The incidence of rural poverty in AP estimated by Deaton and Dreze was higher by 15.15 percentage points compared with the official estimate for 1999-00. A comparison of the incidence of poverty has been made from the estimates provided by different studies (Table 1).

Datt (1997) has estimated the levels of rural poverty for AP and all-India using the poverty lines of Rs 49 for rural and Rs 57 for urban areas for 1973-74 at all-India prices. For rural areas corrected CPIAL series were used by making upward adjustments to the nominal price of firewood as it has been kept constant at 1960-61 prices in the official CPIAL series

Table 3: Consumer Price Indices of Agricultural Labour at 1960-61 Prices

Year	CPIAL AP	CPIAL All-India	Ratio between AP and All-India Prices Per Cent
1973-74	242	283	85.51
1977-78	297	323	91.95
1983	426	502	85.03
1987-88	537	650	82.61
1993-94	999	1215	85.22
1999-00	1539	1802	85.40

Sources: (i) Expert Group (1993), (ii) Malhotra (1997), (iii) Planning Commission (2001 and 2002).

Table 1: Estimates of Poverty in AP

Areas	Name of the Researcher	Incidence of Poverty					
		1973-74	1977-78	1983-84	1987-88	1993-94	1999-00
Rural	Expert group and Planning Commission	48.41	38.11	26.53	20.92	15.92	11.05
	Datt	56.84	47.84	37.99	34.02	28.93	
	Deaton and Dreze				35.00	29.20	26.20
	Datt et al					28.90	23.80
Urban	Expert group and Planning Commission	52.56	46.46	40.13	44.63	41.51	26.63
	Datt	51.02	43.53	35.63	39.98	30.82	
	Deaton and Dreze				23.40	17.80	10.80
Rural + Urban	Expert group and Planning Commission	49.25	39.96	29.88	27.20	23.08	15.77

Sources: (i) Expert Group (1993); (ii) Datt (1997); (iii) Deaton and Dreze (2002); (iv) Datt et al (2002); and (v) Planning Commission (2001 and 2002).

Table 2: State-Specific Poverty Lines for South Indian States and All-India

Areas	year	Tamil Nadu	Karnataka	Kerala	Andhra Pradesh	All-India
Rural	1973-74	45.09(90.9)	47.24(95.2)	51.68(104.1)	41.71(84.0)	49.63
	1977-78	56.62(99.6)	51.95(91.4)	58.88(103.6)	50.88(89.5)	56.84
	1983	96.15(107.5)	83.31(93.1)	99.35(111.1)	72.66(81.2)	89.45
	1987-88	118.23(102.4)	104.46(90.5)	130.61(113.2)	91.94(79.6)	115.43
	1993-94	196.53(95.5)	186.63(90.7)	234.84(114.1)	163.01(79.2)	205.84
	1999-00	307.64(93.9)	309.59(94.5)	374.79(114.4)	262.94(80.3)	327.56
Urban	1973-74	54.34(95.4)	57.87(101.6)	62.08(109.0)	55.11(96.7)	56.96
	1977-78	71.18(98.2)	71.25(98.3)	71.82(99.0)	71.56(98.7)	72.50
	1983	123.73(105.2)	121.23(103.0)	127.84(108.7)	111.84(95.0)	117.64
	1987-88	174.82(105.6)	171.23(103.4)	175.11(105.7)	159.50(96.3)	165.58
	1993-94	313.36(109.3)	303.23(105.8)	298.91(104.2)	289.94(101.1)	286.72
	1999-00	475.60(104.7)	511.44(112.6)	477.06(105.0)	457.40(100.7)	454.11

Note: Figures in brackets indicate the ratios of state-specific poverty lines to all-India poverty lines.
Sources: (i) Expert Group (1993); (ii) Malhotra (1997); (iii) Planning Commission (2001 and 2002).

for urban areas. The consumer price indices for industrial workers (CPIIW) with 1960-61 prices was used. Datt has provided poverty estimates in terms of three poverty indicators, namely, the headcount ratio (HCR), the poverty gap index (PG) and the squared poverty gap index (SPG). The estimates of rural poverty declined fairly steadily from 64 per cent in 1972-73 to 34 per cent in 1986-87 (Table 5). The rate of decline of poverty slowed in the late 1980s despite the public distribution system, through which rice was supplied at Rs 2 per kg, and poverty alleviation programmes. AP reduced the depth and severity of poverty even faster than the overall poverty rate. The poverty gap index and the squared poverty gap index have declined from 17 to 6 and 7 to 2 per cent respectively over the last two decades in AP (Table 5), which is faster compared with all-India levels. There has been a continuous decline in the incidence of poverty in rural AP. All the measures of poverty indicate that AP has performed extremely well compared with all-India.

Datt, et al (2002) used a model-based approach for projecting poverty in India after 1993-94. Using the poverty lines of the Planning Commission (1979) namely, Rs 49 for rural and Rs 57 for urban areas at 1973-74 prices, they have constructed a consistent set of price indices across states and survey periods using monthly data on consumer price indices from the labour bureau over the whole 35-year period. Their primary deflators were the consumer price indices for industrial workers (CPIIW) for the urban sector and the adjusted all-India consumer price indices for agricultural labourers (CPIAL) for the rural sector. The adjustment carried out to the CPIAL was for the price of firewood that has been held constant in the official CPIAL series since 1960-61. The nominal state-level distributions were further normalised into inter-state cost of living differentials estimated separately for urban and rural areas, anchored to the consumption pattern of households in the neighbourhood of the poverty line. Datt et al, in their projections up to 1999-00, suggest that the incidence of poverty has been falling in AP. The rural poverty reduction implied by their results is 0.9 percentage points per year for the period since 1993-94. In other words, the incidence of poverty has declined from 29.5 per cent in 1993-94 to 24.1 per cent in 1999-00.

Table 6: Rural and Urban Poverty Lines in AP

Year	Rural Poverty Lines	Urban Poverty Lines	Percentage Difference between Rural and Urban Poverty Lines
1973-74	41.71	55.11	32.13
1977-78	50.88	71.56	40.64
1983	72.66	111.84	53.92
1987-88	91.94	159.50	73.48
1993-94	163.01	289.94	77.87
1999-00	262.94	457.40	73.96

Sources: Expert Group (1993), Planning Commission (2001 and 2002).

Table 4: Number of People below Poverty Line
(in lakh)

Year	Andhra Pradesh			All-India		
	Rural	Urban	Combined	Rural	Urban	Combined
1973-74	178.21(78.33)	49.31(21.67)	227.52(100.0)	2612.90(81.25)	603.12(18.75)	3216.03(100.0)
1977-78	149.13(74.28)	57.64(25.72)	200.77(100.0)	2642.46(79.60)	677.40(20.40)	3319.86(100.0)
1983	113.46(69.93)	56.07(33.07)	169.53(100.0)	2517.15(76.98)	752.93(23.02)	3270.08(100.0)
1987-88	94.89(56.56)	72.88(43.44)	167.77(100.0)	2293.96(73.35)	833.52(26.65)	3127.48(100.0)
1993-94	79.49(49.64)	80.64(50.36)	160.13(100.0)	2440.29(75.45)	794.17(24.55)	3234.46(100.0)
1999-00	58.13(48.84)	60.88(51.16)	119.01(100.0)	1932.43(74.25)	670.07(25.75)	2602.50(100.0)

Note: Figures in brackets are percentages to combined figures.
Sources: Expert Group (1993); Planning Commission (2001 and 2002).

Table 5: Estimates of Poverty, Poverty Gap Index and Squared Poverty Gap Index

Year	Andhra Pradesh					
	Incidence of Poverty		Poverty Gap Index		Squared Poverty Gap Index	
	Rural	Urban	Rural	Urban	Rural	Urban
1973-74	56.84	51.02	17.029	13.763	6.921	4.968
1977-78	47.84	43.53	13.606	12.196	5.477	4.879
1983	37.99	35.63	9.555	9.376	3.291	3.537
1986-87	33.96	38.63	8.775	10.998	3.545	4.209
1987-88	34.02	39.98	7.538	10.113	2.270	3.380
1989-90	31.85	31.96	6.844	8.037	2.046	2.738
1990-91	36.90	27.91	7.843	7.398	2.351	2.759
1992	41.85	33.05	9.422	8.776	3.148	3.141
1993-94	28.93	30.82	5.819	6.842	1.801	2.032

Source: Datt (1997).

Urban Poverty

The urban poverty line was around 15 per cent higher than the rural poverty line in 1973-74. Subsequently, urban poverty lines for AP are around 73 to 78 per cent higher than the corresponding rural poverty lines for 1987-88, 1993-94 and 1999-00 (Table 6). The rate of decline in urban poverty has been slower in AP up to 1993-94 but declined much faster between 1993-94 and 1999-00. According to the expert group and the Planning Commission, the urban poverty ratio in AP declined from 52.56 per cent in 1973-74 to 26.63 per cent in 1999-00 (Table 1). There was a decline of 6.1 percentage points between 1973-74 and 1977-78; a decline of 6.33 percentage points between 1977-78 and 1983; an increase of 4.5 percentage points between 1983 and 1987-88; a decline of 3.12 percentage points between 1987-88 and 1993-94 and a decline of 14.88 percentage points between 1993-94 and 1999-2000. The estimates show an increase in the number of urban poor in AP for the period between 1973-74 and 1993-94 and a marginal decline in the 1990s between 1993-94 and 1999-00. There was an increase of 31.33 lakh persons between 1973-74 and 1993-94 and a decline of 19.76 lakh persons between 1993-94 and 1999-00 (Table 4).

The incidence of urban poverty was estimated by Datt (1997) from 1973-74 to 1993-94. It fluctuated around 50 per cent in the 1950s and the 1960s (Table 6), and started declining since 1977-78. In the two decades starting from 1973-74 the incidence of urban poverty declined by 20 percentage points. But the decline was the highest during 1973-74/1983. The pace of decline slowed down during 1983/1993-94. A comparison of the performance of AP with all-India reveals that AP has done extremely well in terms of decline in the incidence of poverty. Similar trends could be seen from the poverty gap index and the squared poverty gap index (Table 5).

Deaton and Dreze (2002) recalculated the urban poverty line for the 55th NSS round 1999-00. According to them, with this recalculated urban poverty line (Rs 344.76), the incidence of urban poverty for 43rd round (1987-88) was 23.40 per cent; 17.80 per cent in 1993-94 and 10.80 per cent in 1999-2000. The incidence of urban poverty in AP estimated

by Deaton and Dreze was lower than the official estimate by 15.83 percentage points for 1999-00. The decline in the incidence of urban poverty between 1987-88 and 1993-94 was 5.60 percentage points and between 1993-94 and 1999-00 was 7.0 percentage points (Table 1).

The United Nations Development Programme (UNDP) devised a human poverty index (HPI) in its 1997 report to redefine poverty, since it felt that the income measure of poverty was inadequate. While the report draws attention to human deprivation to complement income measures of poverty, their focus is on the percentage of poor who lack basic capabilities as well as access to minimal facilities. The human poverty index (HPI) includes three indicators: a) Vulnerability to death at a relatively early age as quantified in the percentage of people expected to die before the age of 40 years; b) Deprivation in respect of reading and communication, measured by the percentage of adults who are illiterate (adult illiteracy); and c) Deprivation in overall economic provisioning which is a combined index of three variables namely, percentage of people without access to safe drinking water, percentage of people without access to health services, and percentage of children under five who are moderately and severely underweight. The values of the human poverty index for southern states are presented in Table 7. The highest deprivation among the south Indian states is observed to be in AP at 40.78 per cent which is higher than all-India, while it is lowest in Kerala (23.19 per cent) [Prabhu and Kamdar 1998].

Determinants of Rural Poverty

An attempt is made to examine the relationship between poverty and economic growth. Much of the recent literature emphasises an inverse relationship between poverty and economic growth. In the context of rural areas, the focus is on the poverty-alleviating role of agricultural growth. This effect varies, however, depending on the nature of the agricultural growth process. If, for example, growth takes place in a setting of extreme inequality in endowments, its benefits are not likely to 'trickle down' to large segments of the poor. Relevant evidence is therefore reviewed here to illustrate the conditions under which impoverishment occurs. Ahluwalia (1978) observed an inverse association between the incidence of rural poverty and agricultural performance. A faster rate of economic growth (GDP), especially when it is biased towards agriculture, under a favourable institutional framework, will have a considerable impact on the incomes of the poor [Rao 1994]. Dharm Narain showed that changes in the incidence of poverty are positively related to changes in the consumer price index, while the growth of output per head has a negative impact on poverty [Desai 1986]. Ahluwalia (1986) questioned the role of prices, basing his arguments on statistical grounds: since poverty calculations themselves are based on price adjustments, the use of prices again on the right-hand- side of the regression equation would amount to an incorrect specification. However, Amartya Sen explains that it is not an incorrect specification Desai (1986), and, in general, the effect of inflation on poverty is not denied. Ravallion and Datt (1998) constructed a simultaneous equation model to include wages, prices and agricultural productivity as explanatory variables and each of these variables influenced poverty. A negative relationship exists between poverty and agricultural growth. If there is rapid agricultural growth, which is labour-using and hence wage enhancing, there is reduction in poverty [Acharya and Papanek 1995]. If agricultural growth is related to the increasing use of labour, demand for labour would push up agricultural wages, increasing the incomes of casual labourers and thus reduce poverty.

In order to find out the annual change in the incidence of poverty, a trend equation is used for pre-green revolution and post-green revolution periods separately. The results show a declining trend in the incidence of poverty in both periods. But the first period experienced a very slow rate of decline at 0.4 percentage points per annum, which is not statistically significant. On the other hand, the second period, the post-green revolution period experienced a high rate of decline in poverty at 1.3 percentage points, a statistically significant rate of decline (Table 8).

Any decline in rural poverty is discernible only when the real wages increase. Datt and Ravallion (1998) found a strong interlink age between real wage rates and rural poverty. In fact, the authors found a more significant relationship of the real wage with the poverty gap and squared poverty gap measures of poverty than with the headcount ratios. The implication is that the real wages have a strong effect not only on poverty but also on the distribution of income below the poverty line. Hence, a better understanding of recent trends in agricultural wages is important for greater clarity about the nature of rural poverty and the possible means of removing it. The rise in the money wages will not be of much significance if the prices of commodities purchased by the poor also rise at a high rate [Desai 1986]. The trends in real wages and consumer price indices for agricultural labourers are estimated for the periods under consideration (Table 9). The results clearly indicate a steep rise in the consumer price Indices for agricultural labourers in the 1990s at an annual rate of 9 per cent. Such a high rate was not observed in the earlier three decades. Even during the 1960s when the agricultural

Table 7: Human Poverty Index for South Indian States, 1991-93
(Per Cent)

States	Health	Knowledge	Provisioning	Human Poverty Index
Andhra Pradesh	14.88	49.51	42.88	40.78
Karnataka	15.68	39.14	41.12	35.42
Kerala	5.14	8.47	33.22	23.19
Tamil Nadu	13.45	30.69	32.98	28.19
India	17.99	42.69	48.70	40.49

Note: The human poverty index has been computed using the methodology of the UNDP.
Source: Prabhu and Kamdar (1998).

Table 8: Results of Regression with Incidence of Poverty as Dependent Variable

Period	Constant	Independent Variables			R^2
		Wage Rate	Agricultural Output	Time	
1957-58 to 1999-00	69.0507	-	-	-0.9958 (-11.282)	0.852
1957-58 to 1969-70	64.4287	-	-	-0.3905 (-1.712)	0.227
1970-71 to 1999-00	76.4688	-	-	-1.2605 (-5.909)	0.795
1957-58 to 1999-00	145.154	-22.6042 (-3.651)	-15.9453(-3.266)	-	0.928
1957-58 to 1969-70	166.706	-7.9809 (-0.530)	-21.4225 (-2.616)	-	0.480
1970-71 to 1999-00	131.840	-25.5373 (-2.644)	-13.0736 (1.339)	-	0.871

Note: Figures in parentheses are t values.

sector experienced slow growth, the increase in prices was only 7.4 per cent per annum. In the 1980s, the growth rate of consumer price indices for agricultural labourers was only 5.6 per cent per annum. The real wages of rural male labourers increased at 1.2 per cent in the 1990s against 5.6 per cent in the 1980s. A similar trend is also observed for wage rates of rural female labourers. The only feature in the 1990s was a slightly higher growth rate of female wages (1.6 per cent) than male wage rate (1.2 per cent). Thus, this evidence indicates that poverty might not have declined significantly during the economic reform period (Table 9).

Another pertinent question is the relative importance of agricultural growth and growth of wages in reducing poverty. Agricultural growth can have an indirect effect on poverty reduction in so far as the trickle-down operates through wage increase and increase in employment. On the other hand, growth rate of real wages, impelled partly from forces other than agricultural growth, is expected to have a direct impact on poverty alleviation. In order to understand the relative importance of these forces, the incidence of poverty is regressed on real wage rate and agricultural output index [Subrahmanyam and Reddy 2001]. These are found to be statistically significant for all the periods. The results show that in the post-green revolution periods (1970s and 1980s) increase in real wages played a more important role than the growth of agricultural output. On the other hand, the effect of real wages was low in the pre-green revolution period. For instance, a 10 per cent increase in the agricultural output reduced poverty by 1.3 percentage points, whereas the same growth in the real wage rates resulted in the reduction of poverty by 2.6 percentage points in the post green revolution period. In the pre-green revolution period, a 10 per cent increase in agricultural output facilitated a decline in poverty by 2.1 percentage points, whereas a 10 per cent increase in real wage rate could reduce poverty by only 0.8 percentage points (Table 8). It is possible that the gains from agricultural growth were shared more widely in the pre-green revolution period. Also, poverty in the post-green revolution period was concentrated more among the wage labour.

An increase in real wage rates of labourers engaged in the farm sector was mainly attributed to the rise in the demand for labour in the non-farm sector, mostly in the construction and service sector. Since the wages in the non-farm sector have been consistently higher than the wages in the farm sector, it is inferred that a part of the significant decline in rural poverty was due to opening up of employment opportunities in the non-farm sector. In other words, real wage rates in the farm sector are directly related to the availability of non-farm employment, leading to a decline in the incidence of rural poverty.

III
Public Interventions for Poverty Alleviation

Poverty alleviation programmes have been designed from time to time to enlarge income-earning opportunities for the poor. In the 1950s and 1960s, measures like land reforms, credit reforms, introduction of panchayati raj and others were implemented to improve the income earning power of the poor. In the seventies, special programmes were launched to strengthen the income earning power of the small and marginal farmers, scheduled castes and tribes. In the 1980s, the endowment of assets to the poor for self-employment under the IRDP, the special programmes for wage employment, programmes for women like DWCRA were designed to empower the poor [Rao 1995]. Human development is given priority so as to enable the vast majority of people to benefit from growth. Our failure to invest sufficiently in our biggest and most valuable asset, our human resources, is one of the primary reasons for the persistence of large-scale poverty. Investment in human resources, in their health, education and nutrition would tend to reduce rural poverty. Education and health services in AP face three fundamental problems: (a) lack of easy access for the needy, (b) high costs and (c) poor quality. The problem of poverty is tackled through infrastructural development like roads, well-designed irrigation systems, flood control, electrification sustained over a period of time. The impact of various poverty alleviation programmes on poverty is analysed in the following sections.

Table 9: Growth Rates of Consumer Price Indices and Real Wages
(Percentages)

Dependent Variable (in logs)	1960s	1970s	1980s	1990s
Consumer price indices of agricultural labour	7.40	6.41*	5.67*	9.03*
Males real wage	-0.76	2.49	5.60*	1.23*
Females real wage	-0.27	2.99	4.83*	1.64*

Notes: Computed from logarithmic trend regression equations estimated for each decade;
* Significant at one per cent level.

Land Reforms

The relationship between rural poverty and access to land is complex. Many factors are involved, including differences in land quality, availability of complementary inputs, access to credit and markets and opportunities for off-farm employment. When the land quality is poor and access to inputs and markets is limited, access to land – even large quantities – may not significantly reduce the risk of poverty. Nevertheless, to the extent that land is a major source of income in rural areas and its distribution has important linkages with the non-farm sector, land reforms are crucial to poverty alleviation. Land reforms comprise a wide range of measures, including land redistribution, regulation of tenancy contracts and land titling, with varying degrees of targeting on the poorer population segments. While some aspects of land reforms have received attention in the recent literature, there has been a waning of interest in the redistribution of land as a key component of reform. This is in a large measure attributable to the dismal record of land redistribution in many developing countries. In the few countries that undertook land redistribution, it met with strong resistance and the pace consequently slowed down. Moreover, the benefits to the poorest groups were quite limited. Nevertheless, it is argued below that land redistribution plays a major role in poverty alleviation [Lipton 1991]. The distribution of ownership holdings of land, given in Table 10 at four points of time from the early 1960s to early 1990s, shows that the number of small and marginal holdings (up to 2 ha) has increased from about 78 per cent to about 94 per cent, while the large holdings (>10 ha) have decreased from about 2.26 per cent to less than half per cent, medium holdings from about 8.6 per cent to 5.5 per cent and semi-medium from about 10.6 per cent to about 3.5 per cent. It is similarly seen that the area under small and marginal holdings has risen from about 18 per cent to about 51 per cent while the area under medium and large holdings has fallen from about 65 per cent to about 32 per cent. In absolute

terms, thus, there is a move towards smaller holdings because of the demographic pressure leading to land fragmentation, which is compounded by the limited occupational diversification.

Ownership holdings may not reflect access to land since many smaller holdings are too small to be operationally viable. Some small land pieces may be merged with others through lease systems to form a single operational holding. Table 11 shows that at the all-India level, as well as at the level of AP, the operational holdings are proportionately more in the semi-medium and medium-sized categories, and fewer in the smaller sized groups. Naturally, the total number of operational holdings is less than ownership holdings. It is no coincidence that around 40 to 50 per cent of the agricultural workers are engaged as casual agricultural labourers

Distribution of Surplus Land: The earliest of public interventions for poverty alleviation was provision of access to land through land reforms. Abolition of intermediaries did not change the ownership structure of landholdings directly. But it had two indirect effects: first, growth through its percolation effect on poverty; second, it freed rural labour from the grip of the zamindar and his control over common property resources [Parthasarathy 1995]. Under the land ceiling legislation, against an estimated surplus of 20 lakh acres by 1992, about 8 lakh acres were found surplus and around 5.11 lakh acres were distributed, although much of this was dryland of inferior quality. AP holds the third position in the country with respect to the extent of land distributed [Sankaran1996].A study conducted recently in Nalgonda district to assess the impact of distribution of surplus land reveals that the land distributed per household for agriculture, mining, and free 'putta' categories is 1.83 acres, 2.82 acres and 3.00 acres respectively. Twenty-five per cent of the beneficiaries have sold the agricultural land to meet their expenses and to clear debts, and due to their inability to cultivate the land because of lack of finances and experience. Lack of access to inputs, such as, credit and technology constrains the beneficiaries from deriving the potential benefits from the lands distributed. But the indirect impact of land reforms contributes to a shift from rentier to entrepreneurial agriculture, to growth and thereby to a reduction in poverty through percolation effects in the deltas of coastal Andhra [Parthasarathy 1995].

The distribution of land at the disposal of the government, commonly known as 'banjar' land, constitutes an important component of the land reforms programme in AP. It has been estimated that by the end of 1992, about 37.29 lakh acres have been assigned to the landless poor, catering to about 19.13 lakh beneficiaries. Of this, 11.24 lakh acres were allotted to members of scheduled castes and 6.06 lakh acres to scheduled tribes. In this regard, distribution of land to the landless poor in AP is perhaps the highest in the country. While the surplus land alone would constitute only 1.5 per cent of operated area, taken along with the government land, the land allotted to the poor would constitute about 12.5 per cent of the operated area, and this cannot be considered insignificant [Sankaran 1996].

Tenancy Reforms: The gains from tenancy legislation were considerable for the tenants in the Telangana area, though the impact was very little in the Andhra area [Sankaran 1996]. Recent trends in the districts of AP suggest a rise in tenancy due to a number of factors: increasing shift of large and middle-class owners into more lucrative non-agricultural occupations, along with a shift from rural to urban locations; entry of the entrepreneurial agriculturist class into trading ventures in rural areas and partial leasing out by resident landowners; growing shortage of labour especially during peak seasons, resulting in increased leasing out by large landowners [Parthasarathy 1995].

Depriving tribals of their land, which in turn may have resulted in the growing Naxalite movement, should be considered an important issue for public policy. Tribal deprivation takes two major forms: alienation of land, and declining access to forests, a source of livelihood [Subba Reddy 1988,1989]. Access to common property resources (CPRs) such as, village forests, developed under watershed development projects in the dryland areas of AP, for collecting fodder has enhanced the capacity of landless agricultural labour, marginal and small farmers to rear animals and has induced them to take up dairy activity. Thus, access to CPRs also constitutes a strategy for poverty reduction [Sharma 1997].

Asset Development

*Integrated Rural Development Programme:*The concurrent evaluation (fifth round) of IRDP during 1995-96 in AP has revealed that the programme has covered 12 per cent of rural households (Table 12). The coverage of the scheduled castes and scheduled tribes is higher than their share in the population but is lower than the target of 50 per cent of total coverage. The coverage is marginally less than proportion in the population of women-headed

Table 10: Percentage Distribution of Households and Area Owned over Five Broad Holding Size Categories

Region	Year	Marginal (Less than 1 ha)		Small (1-2 ha)		Semi-medium (2-4 ha)		Medium (4-10 ha)		Large (10 ha and above)	
		House-hold	Area Owned	House-hold	Area Owned	House-hold	Area Owned	House-hold	Area Owned	House-hold	Area Owned
AP	1961-62	66.32	8.15	11.46	9.69	10.60	16.97	8.61	31.29	3.01	33.90
	1971-72	65.30	9.92	13.65	13.16	11.22	21.22	7.57	30.15	2.26	25.58
	1981-82	67.49	11.26	14.03	15.29	10.01	20.70	6.69	29.83	1.78	22.92
	1991-92	73.74	21.30	20.34	39.91	3.50	15.53	5.46	30.74	0.43	8.06
India	1961-62	60.06	7.59	15.16	12.40	12.86	20.54	9.07	31.23	2.85	28.24
	1971-72	62.62	9.76	15.49	14.68	11.94	21.92	7.83	30.75	2.12	22.91
	1981-82	66.64	12.22	14.70	16.49	10.78	23.38	6.45	29.83	1.42	18.07
	1991-92	69.38	16.93	21.75	33.97	5.06	17.63	2.84	17.64	0.95	13.83

Source: NSS 17th (1961-62), 26th (1971-72), 38th (1981-82), and 48th (1991-92) round.

Table 11: Changes in Percentage Distribution of Operational Holdings and Area Operated by Size Categories of Operational Holdings

Region	Year	Marginal		Small		Semi-Medium		Medium		Large	
		Number	Area	Number	Area	Number	Area	Number	Area	Number	Area
AP	1961-62	41.90	6.76	18.59	9.31	19.10	17.83	14.80	30.60	5.61	35.50
	1971-72	47.29	9.28	19.14	11.74	18.23	21.91	11.87	31.32	3.47	25.75
	1981-82	48.64	10.25	22.13	15.37	15.51	21.08	10.80	30.20	2.92	23.10
	1991-92	59.27	17.54	21.38	23.34	13.16	26.23	5.38	23.49	0.81	9.40
India	1961-62	39.07	6.86	22.62	12.33	19.8	20.70	13.99	31.17	4.52	28.94
	1971-72	45.77	9.21	22.38	14.80	17.66	22.52	11.11	30.49	3.08	22.98
	1981-82	56.00	11.50	19.32	16.59	14.23	23.55	8.56	30.15	1.89	18.21
	1991-92	62.79	15.60	17.79	18.70	11.99	24.13	6.10	26.37	1.33	15.20

Sources: NSS 17th (1961-62), 26th (1971-72), 38th (1981-82), and 48th (1991-92) round.

households and manual-labour households. Selection by the grama sabha was to the extent of 60 per cent of beneficiaries – this percentage has declined from 92 in the fourth round of evaluation. The percentage of old beneficiaries whose current non-IRDP income is higher than the old poverty norm (Rs 6,400) is 66 and those whose non-IRDP income is higher than the revised poverty norm (Rs 11,000) is 25 – an indication of the non-poor covered under the programme. The assistance provided has ranged between Rs 3,000 and Rs 10,000, a higher proportion of SCs, STs and manual labour beneficiaries have received smaller investment assistance than others. More than half of the schemes financed are in the primary sector, more than a third in the tertiary sector and less than a tenth in the secondary sector. The IRDP is contributing to diversification of rural occupations/ employment, with self-employment in non-agriculture being the principal gainer. Three-fifths of the assets of old beneficiaries are in productive use, most of the rest having been sold or transferred and in respect of new beneficiaries 91 per cent are in productive use. The average net income from IRDP asset is Rs 1,898 per annum and is equivalent to less than two months' prevailing wage earnings for the male agricultural field labour in the state. A rupee of investment in IRDP assets yielded an income of Rs 0.55. There has been a sizeable reduction in the proportion of the poor among old beneficiaries, from 75 per cent to 56.6 per cent and that of the very poor from 34 per cent to 16 per cent. Some of the beneficiaries (3 per cent) continue as bonded labour [Venkatramaiah et al 1997]. An overwhelming majority of the respondents expressed satisfaction with the IRDP. Studies done on regional variations revealed that the more developed regions and those families near the poverty line showed a better performance than others [Subba Rao 1985, Rao and Rangaswamy 1988].

The entry of the non-poor into the programme is around 26 per cent across the selected districts, Anantapur, Nalgonda, and Vizianagaram. The expenditure incurred in obtaining the assets under the programme accounted for 7 per cent of the subsidy provided to the poor. The average net income from IRDP assets is Rs 1,273 per annum. While 77 per cent of the beneficiaries retained the assets, 71 per cent of poor beneficiaries crossed the poverty line. The employment gain to the beneficiary households came to around 120 mandays in the selected districts. The income gains are more pronounced in the developed districts and among the relatively better off among the poor. The income mobility matrix also indicated that the crossing of poverty line is more pronounced among the near poor rather than among the poorest. The banks are found to be indifferent in providing credit to the poorest of the poor, as they are unsure about the repayment from the poorest. As a result, the poorest of the poor are not covered under the programmes. The absence of institutional building to enhance social capital among the poor for undertaking collective actions with regard to market intermediation may be one of the main reasons for this [Dev and Rao 2002].

Development of Women and Children in Rural Areas: Development of women and children in rural areas (DWCRA), as one of the sub-schemes of IRDP, was initiated in 1982-83 and was extended to all the districts gradually. DWCRA targets poor rural women for income generating activities through credit and organisational support. Lack of adequate staff and proper coordination between the staff located at different levels of administrative hierarchy is constraining the performance of the programme. The size and composition of the group and institutional arrangement for maintaining group activity and the support mechanism provided by the programme implementation authority are the determinants of the success of the programme. Heterogeneous groups could also perform better as against the popular belief that only homogeneous groups perform well, provided appropriate support from the implementing authority is ensured. The programme has benefited the members of the groups in terms of diversifying their activities from their traditional economic activities and increasing their income levels which ultimately resulted in increased intake of nutritious food [Kanchanya 1998]. On the other hand, there are some DWCRA groups in the drought-prone and backward districts like Anantapur which are not undertaking any economic activity either individually or collectively but utilising the financial assistance as an interest free-loan among themselves [Galab et al 1997]. It has generally been found that this programme had done relatively better in AP. The performance of DWCRA had established that group approach centring on women produced better results than individual oriented schemes of IRDP leading to a big increase in the number of such groups.

In a study conducted in three districts of AP, Adilabad, Kurnool, and Visakhapatnam, it was concluded that DWCRA groups are homogeneous and cohesive (based on income, caste and neighbourhood). Twenty-two per cent of the members belong to SCs, 11 per cent to STs, 67 per cent to BCs and the remaining 4 per cent to others The average age of members is 35 (a high percentage of women in the fertility group). For 60 per cent of the groups, saving is the main purpose of group formation. A majority (94 per cent) of groups showed no defaulters in the last three months. There is high regularity in saving. There is a high rotation of group corpus (80 per cent internal loans). Active participation in pulse polio immunisation (30 per cent) and Janmabhoomi (80 per cent) was observed. There was a gradual shift from consumption loans (40 per cent) to production loans (60 per cent). In fact, 61 per cent would have gone to moneylenders had there been no women's self-help groups. 7.5 per cent of the women are illiterate, so book keeping and maintaining records is poor. A majority of the leaders and the members are aware of DWCRA bazaars. There is a need to strengthen marketing facilities

Table 12: Total Allocation, Utilisation And Total Families Covered Under IRDP

(Rs in lakh)

Items	Regions	Total Allocation				
		1994-95	1995-96	1996-97	1997-98	1998-99
Total Allocation Utilisation (Rs in lakh)	Andhra Pradesh	8,344.00 (135.27)	8,336.41 (103.45)	8,336.41 (65.85)	8,612.23 (102.68)	7,734.30 (83.21)
	All-India	1,09,822.00 (92.90)	1,09,721.16 (98.16)	1,09,721.16 (43.72)	1,13,351.23 (92.12)	1,45,627.78 (52.87)
Total Families Covered	Andhra Pradesh	1,59,908	1,22,863	75,341	1,27,776	86,238
	All-India	22,14,390	20,50,678	7,91,063	16,03,775	11,32,044

Note: Figures in brackets are percentage utilisation.

Sources: 1 Basic Rural Statistics, 1996, ministry of rural areas and employment, Government of India.
2 Rural Development Statistics, 1998, NIRD, Hyderabad and,
3 Annual Reports, ministry of rural areas and employment, Government of India.

for the products of DWCRA groups [Dev and Rao 2002].

Self-Help Group Approach: Providing the poor with access to financial services will help to increase their incomes and productivity. Hence, micro credit and cooperative programmes have been developed to fill this gap. Many of these programmes provide credit using social mechanisms such as group based lending to reach the poor and other clients including women, who lack access to formal financial institutions. Women's self-help group approach is a success story and has formed a central element in the state's social mobilisation and community empowerment strategy for poverty reduction. The key findings of the latest evaluation, on the basis of a SWOT analysis performed in seven districts (East Godavari, Kurnool, Mahabubnagar, Nalgonda, Nellore, Prakasam and Ranga Reddy) are very encouraging. Future security is becoming a more important purpose for the women to be active within the group. Dependency on moneylenders and landlords seems to be declining and, particularly, there is a gradual shift from consumption loans to productive loans. The women self-help groups now number 3.57 lakh covering 49 lakh women. They have established a corpus fund (own savings, government grants and bank loans) of Rs 750 crore. In the past two years, 96,000 groups have accessed Rs 156 crore from banks.

Joint Forest Management: AP has taken steps to demonstrate that a convergence of conservation and development objectives can be achieved through joint forest management (JFM). At present, JFM is implemented in a total of 6,575 villages covering an area of 16.32 lakh hectares. About 5.28 lakh hectares of degraded forests have been treated through JFM. Around 13 lakh people, including 6 lakh women are participating in the activity of bringing back greenery to the forests. SC/ST beneficiaries account for nearly 5.5 lakh out of these 13-lakh beneficiaries. Pursuing one of the most proactive JFM programmes in India, AP has committed 100 per cent of minor forest produce to the forest user groups. Widespread implementation of JFM is leading to an increased flow (both value and volume) of minor forest products to communities and an increase in environmental benefits resulting from improved forest conditions particularly with respect to soil and water regimes. Formation of JFM committees in AP has successfully targeted remote and under-served communities, in particular tribal populations.

Deepam Scheme (LP Gas Scheme): The cooking fuel crisis of the rural poor has particularly affected women and children by adding many hours in search of fuel with rapidly diminishing yields, by harming the schooling prospects of the poor female children as they become engaged in either fuel gathering or sharing the house work and by exposing women to dangerous amounts of smoke inhalation from cooking with twigs and plant debris on open stoves. In this backdrop, providing LPG stoves becomes a necessary component of the programme to alleviate poverty. The Deepam scheme was launched on in July 1999 for distribution of 10 lakh LP gas connections to women among families below poverty line in rural areas. The objectives of the scheme are: to provide relief to women from the drudgery of cooking with firewood and to improve the health status of rural women.

Area Development Programmes: Two major programmes of area development are drought prone area programme (DPAP) and desert development programme (DDP). The rural manpower programme of 1978 was redesigned as DPAP and DDP for mitigating the severity of scarcity conditions by organising labour-intensive and production-oriented works through augmenting land and water resources. Watershed approaches have come to be the primary strategy under these programmes. AP has done fairly well in the earlier years In general, over the years, the utilisation of resources had seen a steady decline indicating that the delivery mechanism was not strengthened in correspondence with the increase in resource flow. Since the introduction of the watershed approach, land and water conservation and augmentation measures through DPAP, DDP and also EAS received substantial resources.

Area development on a watershed basis is an important programme for employment generation and poverty reduction. A 10-year (1998-2007) action plan aimed at treating 10 million hectares using participatory processes has been initiated. So far about 3 million hectares have been treated. The government of AP has recently embarked on a programme in five districts with financial support from the Department for International Development (DFID). This programme aims to address some of the shortcomings of the existing watershed programmes and to provide support for strengthening participatory processes and providing sustained capacity building for the community-based organisations involved in watershed management. Watershed programmes can be successful in harmonising the use of water, soil, forest and pasture resources, particularly in rain-fed areas to raise agricultural productivity. Consequently, they offer an opportunity to increase growth and reduce poverty in a sustainable way.

Janmabhoomi: The Janmabhoomi programme is unique as a people-centred development process launched in 1997. The Janmabhoomi process has created a positive impact because it provides an opportunity for direct interaction between government officials and people. The five core areas of Janmabhoomi are community works, primary education, primary health and family welfare, environmental conservation, and responsive governance.

Rural Employment Programmes

Rural public works (RPW) are now an integral part of a poverty-alleviation strategy – especially in densely populated agrarian economies – because of their self-targeting nature and beneficial impact on labour market in terms of increase in wages The rural public works undertaken under

Table 13: Total Allocation, Utilisation and Mandays Generated under JRY
(Rs in lakh)

Items	Regions	Total Allocation				
		1994-95	1995-96	1996-97	1997-98	1998-99
Total Allocation						
Utilisation	Andhra Pradesh	27099.96	34118.65	17372.39	10410.49	14629.93
(Rs in lakh)		(86.57)	(82.16)	(23.99)	(53.92)	(71.66)
	All-India	349872.39	434869.77	223679.48	249921.18	259702.47
		(82.34)	(76.66)	(51.87)	(78.09)	(55.97)
Total Mandays	Andhra Pradesh	946.90	675.74	373.67	336.97	254.01
Generated		(67.51)	(94.95)	(18.69)	(65.08)	(41.34)
(lakh mandays)	All-India	7997.37	8042.80	4288.58	3864.90	3966.57
		(93.20)	(98.92)	(44.44)	(94.40)	(47.97)

Notes: Figures in brackets are percentage utilisation out of total allocation
Sources: 1) Basic Rural Statistics, 1996, ministry of rural areas and employment, Government of India.
2) Annual Reports, ministry of rural areas and employment, Government of India, 1996-97, 1997-98 and 1998-99.

rural employment programmes like the national rural employment programme (NREP); the rural landless employment guarantee programme (RLEGP); Jawahar Rozgar Yojana (JRY) and now Jawahar Gram Samridhi Yojana (JGSY), and employment assurance scheme (EAS) have resulted in the creation of community assets as well as assets for the downtrodden sections besides providing wage employment to the poor. The benefits derived by the poor from the wage employment programmes are higher than those derived from the self-employment programmes [Reddy et al 1997]. However, these programmes have not contributed to a rise in wages [Galab et al 1997]. The JRY programme could cover 15 per cent of the unemployed and this should be considered significant (Table 13). This programme has contributed to generating interest among elected representatives. It has provided greater flexibility to village panchayats in the choice of projects. However, the programme needed improvements in two vital respects: it is not adequately related to agricultural development, and its location and timing need improvement [Rao 1996].

Under JRY, employment generated per person on average per year is around 40 days across the sample villages of selected districts. The employment created is not adequate to influence the wage rates in the labour market. The socio-economic backgrounds of the participants indicate that the poorer sections of society are depending on JRY works. The villagers of the sample villages have said that the wage employment programmes should be implemented in the lean season in the backward and drought prone areas [Dev and Rao 2002].

Food Security

Some sections of the poor like the old, the infirm and the handicapped are not likely to benefit from direct anti-poverty interventions. Neither land reforms nor rural public works (RPW) will help them to augment their incomes. Special interventions designed to raise their income levels are therefore necessary. There is now sufficient empirical evidence which points to the greater vulnerability of the poor to abrupt price changes of food items [Radhakrishna et al 1997]. Unanticipated fluctuations in agricultural output may, for example, cause a spurt in food prices with serious consequences for the 'entitlements' of agricultural labourers. The effects are more severe for rural labourers and casual labour in urban areas for two reasons: (1) food accounts for a large share of their household budget, and (2) liquidity constraints prevent the storage of food. In this context, there is a strong justification for food subsidies. However, the design and implementation of food subsidies raise many contentious issues. Such subsidies take a number of forms like general food subsidies, food rations, food stamps, and the choice of an appropriate form is often very difficult. Their effects vary, depending on whether a partial equilibrium or a multimarket analysis is carried out. If the food subsidies account for a large share of public expenditure, the macro effects may well be significant. These may, for example, neutralise the favourable nutrition effects through higher inflation [Radhakrishna et al 1997].

Public Distribution System: The public distribution system (PDS) has been a part of the larger food policy, which has all along aimed at providing inexpensive food to rural and urban dwellers. PDS also distributed a wide basket of goods including foodgrain, sugar, edible oil and cheap cloth. The government of AP introduced the subsidised rice scheme in the early 1980s to improve the consumption levels of the weaker sections of society. Since August 1996, a poor household is entitled to 5 kg of rice per person per month subject to a ceiling of 20 kg at Rs 3.50 per kg. Besides rice, they are entitled to sugar and kerosene.

A micro-level study reveals that most of the people had access to food from this scheme in the developed villages, but a large percentage of beneficiaries are non-poor. In the backward villages, a large percentage of poor are excluded while a sizeable percentage of the non-poor is included [Indrakant 1996].

The impact of all consumer subsidies on poverty was better in AP during 1986-87. Subsidies reduced poverty by 4.64 percentage points in rural areas and 3.24 percentage points in urban areas. About 2.53 million persons (2.09 million in rural and 0.44 million in urban areas) may have moved out of poverty in 1986-88 due to income transfers from PDS. It has been estimated that the per capita monthly gain in income for the poor due to PDS in 1986-87 was nearly Rs 5.67 in rural areas and nearly Rs 8 in urban areas; consequently, there was a reduction in poverty by 5 percentage points and 3 percentage points in rural and urban areas of the state [Radhakrishna et al 1997].

Human Capital

Human capital measured in terms of health status and education are considered critical measures of non-monetary dimensions of welfare as well as important inputs into an individual's earning ability [Sen 1981]. The poor are disadvantaged in terms of human capital measures and that improving their human capital will not only redress these inequalities but may also help reduce economic poverty.

Education: The relationship between human capital and poverty is a complex one inasmuch as each influences the other [Behrman 1990]. Lack of human capital among the poor takes a variety of forms, such as illiteracy, lack of income-augmenting skills, and morbidity resulting in loss of physical stamina. This tends to perpetuate their poverty. On the other hand, given limited facilities for acquiring human capital in rural areas, acutely poor households fail to invest in human capital. Once caught in this vicious circle, poverty reinforces itself. Empirical evidence suggests that access to basic education has the most dramatic effect on poor children's chance to escape from poverty. It plays a catalytic role for poor women, weaker sections, and people living in rural areas. Basic education is expected to lead to increased earning potential, improved labour mobility, and better health for both adults and children. In spite of considerable success in increasing education coverage over the past few decades, AP has one of the lowest literacy rates in the country. Expenditure on education in AP is low compared to all-India averages. AP does not compare favourably with its neighbouring states in its spending on education. Moreover, the composition of spending on education is also not optimal. Compared with its neighbouring states in southern India, AP has lower school enrolment and attendance rates and the state also faces a considerable problem of school dropouts. The gross enrolment ratio in primary schools was 85.2 in 1998-99,and 47.07 in upper primary schools. As regards the dropouts in class I-V, it was more than 43 per cent among general categories, 51.5 per cent among scheduled castes and 71.7 per cent among scheduled tribes in 1998-99. The social attainment indicators of AP along with Kerala and all-India are presented in Table 14.

Health: The availability of medical services is believed to reduce the risk of poverty among agricultural labour households. This seems plausible since the loss of employment on account of sickness and a consequent termination of contract may entail a more substantial loss of income for agricultural labourers. Since health is a merit good and it calls for government intervention, individuals left to them may under-provide healthcare. It is of course debatable whether all types of healthcare ought to be the exclusive concern of the government. The case for government intervention is nevertheless strengthened by some recent findings suggesting that economic growth by itself will not improve significantly the health and nutrition status of the poor. For example, among the poor and allegedly malnourished individuals in rural southern India, the responsiveness of nutrient intakes to income changes was found to be very low and almost close to zero [Behrman and Deolalikar 1987]. The improvements in health and nutrition do indeed have a positive effect on labour productivity and income of the poor [Behrman 1990]. Table 14 presents important deprivation indicators wherein Kerala and all-India indicators are also given.

Nutrition Programme: Under nutrition results in lower productivity. In a sample of rural households in southern India, weight-for-height – a medium-term indicator of an individual's nutrition status – significantly raised on-farm labour productivity as well as the wage rate earned in casual agricultural labour families [Deolalikar 1988]. Integrated child development scheme (ICDS) is a nutritional and health programme targeted towards children and women. The ICDS project covered 150 blocks during 1998-99, 185 blocks during 1999-2000 and 220 blocks during 2000-01. The total beneficiaries covered in ICDS are as follows: (1) 27 lakh children (under six years); (2) 7 lakh adolescent girls and (3) 6.35 lakh expectant and nursing mothers during 1999-2000. This programme is found to be beneficial to the poor.

In the context of the need for stepping up agricultural growth rate to 4.5 per cent in the Ninth Five-Year Plan, emphasis was considered necessary for developing rural infrastructure in sectors like irrigation, roads and bridges, as an essential requirement for better productivity of capital and labour. Such an emphasis would help check the migration of the rural population to urban areas. High rates of growth in agriculture and allied activities generate a lot of employment opportunities in rural areas. Non-availability of work from time to time would be a major cause of low incomes and high incidence of poverty. Poverty alleviation would naturally require creating work for agricultural labourers who are also casual labourers Firstly, the development of good physical infrastructure is very important for rapid and balanced economic growth. Most of our villages are still poorly connected or not connected at all by proper roads. Markets do not develop in areas where there are no roads. Another form of physical infrastructure needed for economic development is power. Rapid increase in electrification not only contributes to growth in agricultural productivity by encouraging private investment in irrigation, but also contributes to reduction in rural poverty through the generation of non-agricultural employment. Thirdly, the development of other rural infrastructure like well designed irrigation systems and watersheds and other irrigation facilities are most important as a high proportion of rural people derive their livelihood from agriculture. Irrigation has increased dramatically but with considerable regional variation.

Table 14: Select Social Attainment and Deprivation Indicators

	Item	Unit	Year	Andhra Pradesh	Kerala	All-India
Attainment Indicators						
1	Literacy					
	Persons	Per cent	2001	61.11	90.92	65.38
	Females		2001	51.17	87.86	54.16
2	Life expectancy at birth					
	Males	Years	1993-97	61.20	70.40	60.40
	Females	Years	1993-97	63.50	75.90	61.80
	Deprivation Indicators					
3	Total illiteracy rate	Per cent	2001	38.89	9.08	34.62
4	Female Illiteracy rate	Per cent	2001	48.83	12.14	45.84
5	Non-enrolment rate	Per cent	1994	31.30	8.90	38.10
6	Dropout rate (class I-V)	Per cent	1999-00	40.28	(-)1.22	36.27
7	Infant mortality rate (MR)	Per 1,000 live births	1998-99	66.00	16.00	72.00
8	Non-institutional births	Per cent	1998-99	50.20	9.70	66.40
9	Morbidity – diseases					
	(a) Reflecting poor living conditions	Per lakh population	1992	2782.51	2468.87	1530.90
	(b) Preventable by immunisation	Per lakh population	1992	15.78	47.80	21.55
10	Maternal mortality	Per lakh live births	1987-96	283.00	a	479.00
11	Death rates	Per 1,000	1998	8.20	6.40	9.00
12	Undernourished children (0-4 yrs)					
	(a) Weight for age	Per cent below – 2sd	1998-99	37.70	26.90	46.00
	(b) Weight for age	Per cent below – 3sd	1998-99	10.30	4.70	18.00
	(c) Height for age	Per cent below – 2sd	1998-99	38.60	21.90	45.50
	(d) Height for age	Per cent below – 3sd	1998-99	14.20	7.30	23.00

Note: 'a 'indicates that maternal mortality is so low that estimating its level from sex differentials in adult mortality for the reproductive ages is not possible.

Sources: 1 Provisional Population Totals, Census of India, 2001
2 National Family Health Survey of India, 1998-99.
3 Statistical Abstract of India (2001): Central Statistical Organisation, ministry of statistics and programme implementation, Government of India, New Delhi.
4 Bhat et al (1995), Bhat (2002), Duraisamy (2000).

IV
Summary and Conclusion

The incidence of poverty in AP shows a distinct pattern and is unique in showing a statistically significant declining trend. According to official estimates, the proportion of poor in rural areas declined from 48.41 per cent in 1973-74 to 15.92 per cent in 1993-94 and to 11.05 per cent in 1999-00. Deaton and Dreze recalculated the poverty lines and poverty estimates by using new prices. The incidence of rural poverty was 35 per cent in 1987-88, 29.2 per cent in 1993-94 and 26.2 per cent in 1999-00. According to the expert group, urban poverty ratio declined from 52.56 per cent in 1973-74 to 26.63 per cent in 1999-00. On the other hand, estimates of urban poverty show an increase in the number of urban poor in AP for the period between 1973-74 and 1993-94 and a decline between 1993-94 and 1999-00.

On the basis of official estimates, annual decline in the incidence of poverty was 0.39 percentage points in the first period from 1957-58 to 1969-70 and 1.26 percentage points in the second period from 1970-71 to 1999-00. The decline in the first period was not statistically significant. The impact of agricultural growth on rural poverty was significant in the first period but the impact of the wage rate was not significant. In the second period, the impact of wage rate was significant but the impact of agricultural growth was not significant. When the entire period is considered, both the wage rate and agricultural growth made significant contributions in reducing poverty.

Agricultural wages provide important information on poverty. Firstly, real wages

are highly correlated with headcount ratios. In other words, wherever incidence of poverty is higher, wages tend to be lower and vice versa. Secondly, the real wages act as rough indicators of poverty. A better understanding of recent trends in agricultural wages is important for greater clarity about the nature of rural poverty and the possible means of removing it. The real wage rates of agricultural labourers have grown at 1.45 per cent per annum for males and 1.42 per cent for females. In the 1980s, the real wage rates increased substantially in AP at 5.60 per cent per annum for males and 4.83 for females. In the 1990s, there was a declining/stagnating trend in the real wage rates at a growth rate of 1.23 per cent per annum for males and 1.64 for females. The increase in real wage rates despite the declining trend in agricultural growth indicates that the expansion of non-farm employment might have contributed to the rise in agricultural wages during the 1990s. An increase in real wage rates of labourers engaged in the farm sector is mainly attributed to the rise in the demand for labour in the non-farm sector, mostly in construction and service sector. Since the wages in the non-farm sector have been consistently higher than the wages in the farm sector, it is inferred that a part of the decline in rural poverty is due to opening up of employment opportunities in the non-farm sector.

It is argued that agricultural growth by itself may not make a dent in rural poverty. Even if the growth process is such that the poor participate in it, some segments, for instance, the old and infirm, are likely to be left out. In fact, there is often a large hard core of the chronically poor who fail to benefit from agricultural growth. Hence, direct anti-poverty interventions such as food subsidies and rural public works are necessary. The development of human capital through education and health has been neglected in the poverty alleviation strategy. However, in order to make the poor self-reliant, it is necessary to include the provision of human capital. Besides the inadequacy of public expenditure in this area, the allocation has been lopsided; for instance, primary education has been relatively neglected. There is a growing awareness that the promotion of self-employment opportunities is likely to benefit only a limited segment of the rural poor and, therefore, rural public works can play a significant role in poverty alleviation. An important feature of RPW is that they are self-targeting and only the needy are likely to come for manual labour.

Food subsidies must continue for some specific groups of the poor such as the old, infirm and pregnant and lactating women. Since testing of means at frequent intervals is prohibitively expensive, it is imperative to identify other targeting indicators, such as location. Also, the use of simple registration procedures would reduce transaction costs for the poor and enhance their access to subsidised food. Greater emphasis on the provision of human capital is necessary to enable the poor to break out of the vicious circle of poverty. However, allocations of public expenditure within the education and health sectors have been both insufficient and inequitable. Shifts in favour of programmes for primary education as well as for primary healthcare and control of communicable disease are necessary. Selectively imposed user fees for services for which there is private willingness to pay, like hospital care, and on certain groups like middle- and upper-income urban consumers would yield revenues both to expand primary education and primary healthcare facilities in rural areas and to improve their quality. At the same time, it is important to continue subsidies on healthcare, food and education for the poor. Women's education and healthcare important in their own right and warrant imaginative, wide-ranging interventions. For example, the expansion of female education requires not just a lowering of the opportunity cost or attending a school but also concerted efforts to overcome parental resistance.

Some broad areas of policy intervention are suggested: the provision of transport services, electricity, education and healthcare facilities and credit; access to arable land and extension services; the creation of non-farm employment activities in rural areas in order to open new avenues of employment for rural labourers and to add to their bargaining power; and the provision of safety nets (food subsidies) for mitigating acute and chronic deprivation – especially for those unable to participate in the growth process. EPW

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