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# Sustainable Agriculture, Poverty and Food Security

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## Poverty and Equity Issues in Indian Agriculture\*

D.P. Chaudhri

“The poor will be with you always”, said Jesus two millennia ago. At the beginning of the third millennium, awareness of their being with us has heightened considerably.<sup>1</sup> Policy makers in India and internationally have witnessed a paradigm shift during the 1990s.<sup>2</sup> The World Trade Organisation’s Singapore meeting (1995), Seattle meeting (1999) and IMF/IBRD annual meeting 2000 agenda – happenings inside and outside the meeting rooms – have brought the issues of equity and poverty into sharp focus.<sup>3</sup> The Joint Declaration of the UN/IMF/IBRD/OECD (2000), UNDP (2000a, b) and Sen (1999a) clearly require development and trade policies to be equity-driven. Indian concern on these issues has a long and chequered history.<sup>4</sup> Economic growth as a solution to the problem of poverty has lost its shine but not its relevance.<sup>5</sup> Hence, concerns about shared economic growth or growth with equity. The new policy “mantra” in India and internationally is participatory, shared economic growth. Success in achieving it in East Asia has attracted the attention of policy makers. However, India and other developing countries have a major gap to bridge – that between what is ideal and what is realistically achievable. This gap need not daunt an intelligent radical. Sir James Meade (1975) advises:

We are a long way from this state of affairs at the moment; but the intelligent radical does not despair. History suggests that ideologies, given time, can be basically revised by persistent education and persuasion; and he may sense that among the young there are already sings of growing impatience with large concentration of wealth and with large centralized organizations of power and privilege.<sup>6</sup>

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India's share of the world's population is about 20 percent and over 40 percent of the world's poor live there. This asymmetry needs to be corrected urgently in the interest of political democracy and economic vibrancy. The paper primarily deals with this issue.

## I

### Poverty Concepts and Measurement

Indian social scientists were among the pioneers in the area of poverty research. Their work during the 1960s and 1970s resulted in a revival of interest in research on poverty and inequality.<sup>7</sup> Debate in parliament and the Planning Commission's assertion that widespread poverty "is a challenge which no society in modern times can afford to ignore" led to the appointment of a working group in 1961. The Working Group, made several recommendations in July 1962 as under:

- (i) The national minimum for each household of 5 persons (4 adult consumption units) should be not less than Rs.100 per month in terms of 1960-61 prices or Rs. 20 per capita. For urban areas, this figure should be raised to Rs.125 per month per household or Rs.25 per capita to cover the higher prices of the physical volume of commodities on which the national minimum is calculated.
- (ii) This national minimum excludes expenditure on health and education, both of which should be provided by the State according to the Constitution and in the light of its other commitments.
- (iii) An element of subsidy in urban housing should be included after taking Rs.10 per month, or 10 percent as the rent element payable from the proposed national minimum of Rs.100 per month.
- (iv) As a first exercise, the target period within which the national minimum should be attained may be taken as fifteen years from 1960-61 or by 1975-76.

This was the first officially defined poverty line and implied head-count poverty measurement as the most appropriate measurement for use in the Indian Republic. The Expert Group (1993) revised and updated it. Ravallion (1998a, b) provides an excellent summary of the various measures of poverty, with head count poverty being a convenient and popular measure. He also provides cogent analytical arguments regarding poverty comparisons over time. Suryanarayana (2000), Mehta and Venkatraman (2000) comment on the overestimation of poverty reduction, which needs to be examined with appropriate analytical tools. Note also the unambiguous target date and duty of the state in providing health and education facilities proposed by leading Indian experts in 1962.

Sen (1999d), indicating the limitations of the head count measure, enlarged its scope. In addition to bringing in health and education, he states:

Poverty is typically seen in terms of the lowness of incomes, and it has been traditionally measured simply by counting the number of people below the poverty line income; this is sometimes called the head count measure. A scrutiny of this approach yields two different types of questions. First, is poverty adequately seen as low income? Second, even if poverty is seen as low income, is the aggregate poverty of society best characterised by the index of the head count measure?

[V]arious contingencies can lead to variations in the “conversion” of income into the capability to live a minimally acceptable life, and if that is what we are concerned with there may be good reason to look beyond income poverty. There are at least four different sources of variation: (1) personal heterogeneities (for example, proneness to illness), (2) environmental diversities (for example, living in a storm-prone or flood-prone area), (3) variations in social climate (for example, the prevalence of crime or epidemiological vectors), and (4) differences in relative derivation connected with customary patterns of consumption in particular societies...

There is, thus, an important need to go beyond income information in poverty analysis, in particular to see poverty as capability deprivation. However (as was discussed earlier), the choice of the informational base for poverty analysis cannot really be dissociated from pragmatic considerations, particularly informational availability.

The shift in informational focus from food supply to entitlements (involving incomes as well as supply, and the resulting relative prices) can make a radical difference, since famines can occur even without any major decline – possibly without *any* decline at all – of food production or supply.

With intellectual input from a number of social scientists, in particular Mahbub-ul-Haq, UNDP developed a Human Development Index (HDI) and produced a Human Development Report in 1990. In 1995, Gender Development Index (GDI) and Gender Empowerment Measure (GEM) were added. Human Poverty Index (HPI), prepared for developed and developing countries separately, were reported in 1997 as part of UNDP’s annual Human Development Report. The methodologies of these Index Numbers have been extensively commented upon. HDR (1999) includes comments from leading economists such as Amartya Sen.

In India and South Asia, these efforts have triggered much interest resulting in HDR for South Asia, India, Rajasthan and Madhya Pradesh. In all these reports, the rural dimension needs considerable strengthening. These measures serve an important role in comparisons across time and space that can be used as aids to policy and also rods for making politicians and “*Indian Babudom*” behave responsibly. Research effort on theoretical underpinnings and empirical evidence in this direction would have huge social benefits. To be meaningful, poverty targets must be explicit, conceptually defensible, transparent and publicly available, with State and District as the unit of analysis.

## II

### Rural Poverty and Nutrition Trends

A number of researchers during the 1990s have commented on the implications of economic reforms for rural and urban poverty. Abhijit Sen (1996) provides more factual details and is representative of researchers commenting on these aspects. According to Sen, a telescopic view of trends in the percentage of population living under poverty in India for the period 1950-51 to 1993-94, with updates to 1997-98

from the World Bank (2000 a, b, c, d, e) for recent years based on various rounds of National Sample Surveys (NSS) (some of them are full-blown surveys and some are based on thin samples only), rural poverty declined during this period from over 45 percent in rural areas to 36 percent. Comparable figures for urban areas are somewhat lower. These are summarised in columns 14 and 15 of Table 1. Gupta (2000), basing his remarks on a thin sample, has examined the issue of rural poverty for the period 1993-94 to 1997-98 and reports an increase in rural poverty during the last few years. A number of writers (Tendulkar (1998), Datt (1999), Sen (1996) among many others) suggest that the decline in rural poverty, observed during the 1970s and 1980s has been arrested during the reforms decade of 1990s.

**Table 1** *India: Annual Compound Growth Rates of Populations, Poverty, Income and Food Grains Production, 1951-1998*

Period	Popu- la- tion	Foodgrains Production									Percent of Population in Poverty (Head Count Ratio)		
		Rice	Wheat	Coarse Cereals	Total Cereals	Pulses	Total Food Grains	Per Capita Food	Per Capita Income			Initial Year	Rural Ur- ban
1	2	3	4	5	7	8	9	10	11	12	13	14	15
1950-51 to 1959-60	1.85	3.28	4.51	2.75	3.00	2.72	3.22	1.86	0.69	-1.08	1.55	47.37	35.46
1960-61 to 1969-70	2.24	1.15	5.90	1.48	2.51	1.35	1.72	-0.32	-1.28	3.44	1.25	45.40	44.65
1970-71 to 1979-80	2.23	1.91	4.69	0.74	2.37	-0.54	2.08	-0.98	-0.61	2.37	0.76	54.84	44.98
1980-81 to 1989-90	2.02	4.29	4.24	0.74	3.63	2.78	3.54	1.61	1.00	5.92	3.83	45.31	35.60
1990-91 to 1997-98	1.84	1.53	3.67	-0.49	1.84	0.76	1.66	*	1.00	3.26	2.54	36.43	32.76

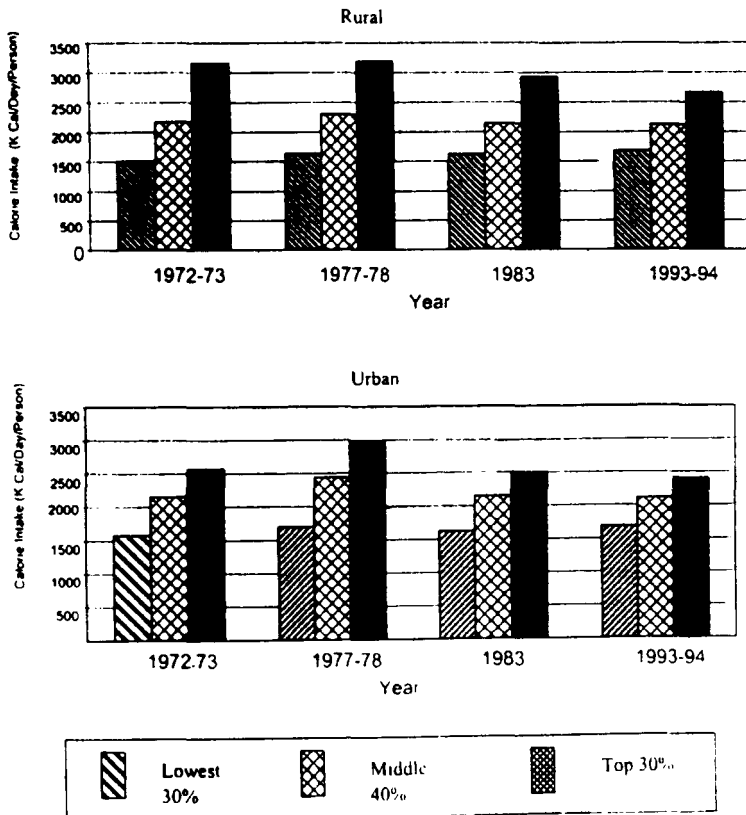
Chaudhri and Wilson (2000b) checks it by applying standard statistical tests to examine structural breaks in All-India trend and also state level trends in rural head count poverty. The change is observable and we feel that the reform process may or may not have contributed to it.

The all-India and the state-level declining trends of the 1970s and 1980s and non-declining period of the 1990s discussed above are proportions of poor. When rural poverty is measured in absolute numbers, the situation in five states has been improving while in another five it has been deteriorating fast. Demographic pressures, performance of agricultural sector and wage rates are likely to provide some clues and are discussed below. These are formally modelled in Chaudhri and Wilson (2000b).<sup>8</sup>

The distribution of rural poor in major states of India computed from the head-count poverty proportions within the rural population of major states of India reveal three important points. First, over fifty percent of India's rural poor are living in only four states. These are Bihar, Uttar Pradesh, Maharashtra and Madhya Pradesh. Second, absolute number of rural poor has been declining at a compound annual rate of change in Kerala (-2.61%), West Bengal (-1.14%), Orissa (-1.34%), Andhra Pradesh (-1.15%) during 1970-72 and 1993-94. During the same period, it has been rising in Bihar (1.38%), Uttar Pradesh (0.59%), Rajasthan (0.72%) and Haryana (0.14%). In other states, the rate of growth has been less than one percent. Thus, assertions that poverty declined in rural India during the 1970s and 1980s, when measured in absolute numbers, rather than percentages, does not apply to Bihar, Uttar Pradesh, Maharashtra and Madhya Pradesh.

On an all-India basis, the nutritional intake of the bottom 30 percent of the rural and urban population slightly improved over the period 1972-73 to 1993-94 (Figure 1). However, the level of consumption of the bottom group at about 1600 calories

Figure 1 India: Levels of Calorie Intake by Broad Consumption Expenditure Groups, 1972-73 to 1993-94



Sources: R. Radhakrishna (1997) as reported in India's Integrated Child Development Services Program Assessment and Options for Radhakrishna, R., Reform, Indrakant, S., and Ravi, C., Centre for Economic and Social Studies, Hyderabad, September 1998, p. 54.



per day remains considerably below the recommended minimum. Seen in this light, the record of the 20-year period does not provide grounds for self-congratulations on the part of policy makers. This record would disappoint the Expert Committee of 1961.

We have computed cereal consumption per capita per month of the poorest 30 percent in major states of rural India for the period 1972-73 to 1993-94. The results, grouped into wheat, rice, coarse cereal and total cereal consumption, are reported in Table 2. Four points as under are worth noting from this table:

- (i) Huge variations in patterns of cereal consumption exist in different states of India.
- (ii) Coarse cereal consumption declined between 1972-73 and 1993-94 in all states except Assam, Maharashtra, West Bengal and Kerala where the changes are negligible. Highest changes are noticeable in Rajasthan (6.48 kgs), Bihar (3.68 kgs), Punjab (3.83 kgs) and Uttar Pradesh (4.14 kgs). These declines are driven by declining land area and production of coarse cereal grain in these states.
- (iii) Total cereal consumption increased between 1972-73 and 1993-94 in West Bengal (3.75 kgs), Orissa (3.34 kgs), Kerala (3.30 kgs), and Bihar 1.07 kgs). It declined by 3.74 kgs in Haryana, 2.83 kgs in Punjab, 1.56 kgs in Rajasthan and 1.32 kgs in Uttar Pradesh.
- (iv) The implications of the decline in cereal consumption and changes in cereal consumption can be seen in terms of per capita energy intake from total cereal consumption by the poorest 30 percent in rural India from 1972-73 to 1993-94 (Table 2). Three points are noteworthy. The decline in energy intake from coarse cereals is broadly compensated by a rise in energy intake from wheat and rice in half the states of India. This is particularly true for West Bengal (+436 calories), Orissa (+383 calories), Kerala (+381 calories), Bihar (+107 calories) and Gujarat (+93 calories)). In all other states, the energy intake from cereal declined with the highest decline recorded in Punjab (-343 calories), Haryana (-442 calories), Rajasthan (-212 calories), Uttar Pradesh (-170 calories), Tamil Nadu (-132 calories) and Assam (-96 calories).

Use of a public distribution system by different states has been very uneven during the last 25 years. Implications for a move to targeting, as suggested by the World Bank (2000b and c), are enormous.

### III

#### Identifying Attributes of the Rural Poor

Poverty and high total fertility rates, translated into population growth, have been examined extensively and their mutually reinforcing nature has been commented upon. UNICEF (1999) summarises it as a PPE triangle where poverty, population growth and environmental degradation form three points. That family size and number of children in each household is related to poverty is now well understood among poverty experts.

**Table 2** *Per Capita Daily Energy Intake from Total Cereals of the Poorest 30 Percent in rural India 1972-73 to 1993-94*

	1972-73				1977-78				1983			
	<i>Wheat</i>	<i>Rice</i>	<i>Coarse Cereals</i>	<i>Total</i>	<i>Wheat</i>	<i>Rice</i>	<i>Coarse Cereals</i>	<i>Total</i>	<i>Wheat</i>	<i>Rice</i>	<i>Coarse Cereals</i>	<i>Total</i>
Andhra Pradesh	7	604	709	1320	3	784	703	1491	2	971	250	1224
Assam	47	1359	0	1406	98	1273	0	1371	78	1272	2	1352
Bihar	273	394	575	1241	366	627	334	1328	432	404	549	1385
Gujart	267	95	638	1000	133	159	1088	1380	134	148	940	1222
Haryana	1166	120	382	1668	1162	105	133	1400	1106	81	190	1377
Karnataka	110	289	915	1314	16	192	1097	1305	18	275	1016	1309
Kerala	51	537	0	588	7	706	65	778	35	842	0	877
Maharashtra	273	135	740	1148	72	140	1034	1245	76	146	1196	1418
Madhya Pradesh	161	790	628	1580	214	599	647	1460	344	521	643	1508
Orissa	40	938	158	1136	23	1072	192	1286	57	1134	138	1329
Punjab	870	102	463	1434	996	80	206	1281	1034	81	545	1660
Rajasthan	273	8	1430	1711	546	70	1076	1692	212	15	1189	1715
Tamil Nadu	9	651	610	1271	5	643	591	1239	24	539	587	1150
Uttar Pradesh	698	298	585	1581	790	403	284	1477	951	298	174	1423
West Bengal	275	753	10	1038	269	938	0	1207	286	841	20	1148
All India	236	557	531	1324	265	597	466	1328	386	513	489	1388

Column Contd...

	1987-88				1993-94				Difference 1972-73 to 1993-94			
	Wheat	Rice	Coarse Cereals	Total	Wheat	Rice	Coarse Cereals	Total	Wheat	Rice	Coarse Cereals	Total
Andhra Pradesh	5	986	468	1459	6	1048	253	1307	(1)	444	(456)	(13)
Assam	84	1302	19	1405	66	1243	1	1310	19	(117)	1	(96)
Bihar	490	739	168	1397	477	735	137	1349	205	341	(438)	107
Gujart	405	158	668	1230	290	171	632	1093	23	76	(6)	93
Haryana	1272	79	39	1390	1129	79	19	1226	(38)	(42)	(363)	(442)
Karnataka	48	313	1226	1586	69	329	865	1264	(41)	40	(50)	(50)
Kerala	32	923	0	955	58	911	0	969	7	374	0	381
Maharashtra	148	218	975	1341	126	180	857	1163	(147)	45	117	15
Madhya Pradesh	383	665	402	1451	398	594	390	1382	236	(196)	(238)	(198)
Orissa	18	1269	151	1439	10	1445	64	1519	(30)	507	(94)	383
Punjab	1073	68	51	1192	1012	73	7	1092	142	(29)	(456)	(343)
Rajasthan	1240	14	375	1629	818	22	659	1500	546	14	(771)	(212)
Tamil Nadu	6	767	367	1139	13	957	169	1139	3	306	(441)	(132)
Uttar Pradesh	985	337	295	1618	917	401	93	1411	219	103	(493)	(170)
West Bengal	145	1230	0	1376	116	1347	11	1473	(159)	594	1	436
All India	422	663	336	1421	384	705	271	1360	148	148	(260)	36

Source: Computed from data in NSS, Sarvekshana Analytical Report Number 2, P.D. Joshi, Changing Pattern of Consumption Expenditure in India and Some Selected States.

**Table 3** Family Size, Number of Children per Household among Rural Poor and Non-Poor, in Major States of India (1993-94)

States	Family Size				Number of Children (0-14) Per Household			
	Very Poor	Moderately Poor	Non-Poor Low	Non-Poor High	Very Poor	Moderately Poor	Non-Poor Low	Non-Poor High
	1	2	3	4	5	6	7	8
Andhra Pradesh	5.1	4.4	4.2	3.9	2.2	1.5	1.2	1.0
Arunachal Pradesh	5.7	5.4	4.6	4.1	2.1	2.1	1.5	1.4
Assam	5.7	5.4	5.1	4.7	2.6	2.0	1.6	1.2
Bihar	5.7	5.1	4.9	4.5	2.6	1.9	1.7	1.3
Gujarat	6.4	5.7	5.5	4.5	2.8	2.2	1.9	1.2
Haryana	6.3	6.0	6.3	5.6	3.3	2.7	2.6	1.9
Himachal Pradesh	6.2	6.3	5.3	4.3	2.7	2.5	1.8	1.2
Jammu & Kashmir	6.8	6.3	6.0	4.9	3.4	2.9	2.3	1.6
Karnataka	6.2	5.6	5.5	4.5	2.6	2.0	1.7	1.2
Kerala	5.6	5.3	4.7	4.2	2.2	1.9	1.3	1.0
Madhya Pradesh	5.7	5.5	5.2	4.9	2.5	2.1	1.8	1.5
Maharashtra	5.5	5.1	4.9	4.3	2.4	1.7	1.5	1.2
Manipur	6.0	5.9	5.5	4.8	3.0	2.4	1.8	1.4
Meghalaya	5.2	5.2	5.0	3.7	2.5	2.1	1.7	0.9
Mizoram	6.6	5.4	5.8	4.6	1.8	2.5	2.3	1.4
Orissa	5.3	5.1	4.8	4.3	2.2	1.6	1.4	1.0
Punjab	6.3	5.7	5.7	5.3	3.3	2.4	2.0	1.5
Rajasthan	6.3	5.9	5.6	4.7	3.1	2.5	2.2	1.6
Sikkim	5.6	5.2	4.4	3.2	2.4	1.8	1.4	0.8
Tamilnadu	4.7	4.3	4.0	3.7	1.8	1.4	1.1	0.8
Uttar Pradesh	6.2	6.0	5.8	5.2	2.9	2.5	2.2	1.7
West Bengal	5.6	5.4	5.1	4.9	2.8	2.1	1.7	1.3
All-State Average	5.9	5.5	5.2	4.5	2.6	2.1	1.8	1.3

Notes: "." = Not compiled.

a TFR for both Rural and Urban Indian Population.

Source: Computed from National Sample Survey, 50th Round (1993-94), Household Data CD, NSS Organisation, Calcutta.

However, it needs spelling out in the Indian context because of its enormous equity and educational policy implications. Based on NSS 50<sup>th</sup> Round (1993-94), rural household data, we prepared information on family size and number of children per household (Table 3). Note that in every state of India the poor and very poor have larger family size and number of children. Four sensitive policy issues emerge. First, compulsory or semi-compulsory family planning can be seen by the

poor as an attempt to eliminate the poor rather than any real attempt to deal with the problem of poverty. In a democratic polity, this would be a rather sensitive issue. Second, all efforts at improving rural primary school education will benefit the poor households at twice the rate of the non-poor. As such *moving rural primary education to the centre of anti-poverty programme would help the poor and also the economic growth process*. The Probe Report (1999) explodes the myth of demand deficiency in rural primary education. Policy failure resulting in supply constraint in states with a high incidence of poverty needs to be addressed. Third, over 90 percent of child labour is in rural areas, affecting some states more than others. Chaudhri and Wilson (2000) highlight the fact that 97.5 percent of child labourers are in the age group 10-14

**Table 4** Illiteracy Rates of Rural Poor and Non-Poor, aged above 15 years, in Major States of India (1993-94)

States	Very Poor 15y+ (%)		Moderately Poor 15y+ (%)		Non-Poor Low 15y+ (%)		Non-Poor High 15y+ (%)	
	Females	Males	Females	Males	Females	Males	Females	Males
	1	2	3	4	5	6	7	8
Andhra Pradesh	91.1	70.4	85.4	60.5	75.0	48.5	57.3	29.2
Arunachal Pradesh	88.6	78.2	88.4	71.2	86.5	64.2	82.6	63.6
Assam	71.4	45.6	58.8	32.2	37.3	18.4	23.1	11.1
Bihar	92.9	66.1	83.8	48.7	74.1	35.6	56.8	20.8
Gujarat	88.3	51.6	79.5	43.8	68.1	35.3	53.6	24.6
Haryana	91.3	62.2	82.2	49.9	76.2	41.7	67.1	26.8
Himachal Pradesh	81.5	56.3	63.7	39.2	59.8	30.8	46.7	20.1
Jammu & Kashmir	94.0	72.1	83.3	56.7	71.7	36.6	57.7	29.7
Karnataka	88.4	64.9	78.6	50.6	65.9	36.2	45.9	22.9
Kerala	27.4	15.3	17.2	11.0	14.2	6.9	7.9	2.6
Madhya Pradesh	92.7	66.4	85.3	51.6	77.2	40.2	66.4	28.0
Maharashtra	77.8	48.4	67.7	34.5	58.3	24.8	44.2	15.2
Manipur	71.5	45.2	45.4	24.5	51.3	23.4	47.9	18.4
Meghalaya	64.0	52.6	53.4	40.2	49.9	31.8	39.6	25.5
Mizoram	66.7	60.0	38.5	23.2	10.7	3.6	14.3	6.0
Orissa	85.0	61.2	40.6	15.6	44.0	22.2	25.4	9.0
Punjab	86.0	70.3	72.2	41.5	59.7	26.6	41.2	14.9
Rajasthan	95.5	69.9	80.1	60.7	71.5	50.1	51.5	33.5
Sikkim	78.5	35.7	92.6	58.5	89.1	49.6	82.6	40.1
Tamilnadu	77.8	50.5	65.7	33.3	54.6	28.4	24.7	7.5
Uttar Pradesh	91.5	59.9	58.6	30.5	43.3	23.6	25.5	9.2
West Bengal	75.6	57.0	85.2	48.3	77.4	40.5	64.9	31.2

Source: Computed from National Sample Survey, 50th Round (1993-94), Household Data CD, NSS Organisation, Calcutta.



Table 5 Educational Level of the Rural Poor and Non-Poor Household heads in the Major States of India (1993-94)

States	Very Poor (%)				Moderately Poor (%)			Non-Poor Low (%)			Non-Poor High (%)					
	Illiterate	Below Primary	Above Primary	Technical	Illiterate	Below Primary	Above Primary	Technical	Illiterate	Below Primary	Above Primary	Technical	Illiterate	Below Primary	Above Primary	Technical
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Andhra Pradesh	77.3	12.0	10.5	0.3	70.2	13.9	15.7	0.2	59.1	14.1	25.8	1.0	35.3	15.1	41.7	7.9
Arunachal Pradesh	90.8	4.9	3.7	0.6	80.2	9.0	10.5	0.3	73.5	7.3	17.5	1.7	72.2	4.6	20.0	3.2
Assam	54.5	20.2	25.1	0.2	39.0	25.0	35.1	0.8	23.3	26.0	48.6	2.1	14.0	15.6	61.0	9.4
Bihar	73.1	10.6	15.5	0.8	57.0	12.2	28.8	2.0	41.6	13.9	38.8	5.7	24.9	14.0	49.6	11.5
Gujarat	62.7	16.4	20.6	0.3	55.5	19.9	24.5	0.2	44.2	18.3	36.5	1.0	30.0	18.8	45.7	5.5
Haryana	69.3	8.9	21.8	-	61.8	12.6	25.6	-	54.4	8.3	36.0	1.3	41.9	10.5	42.7	5.0
Himachal Pradesh	70.2	8.8	20.5	0.6	56.8	16.0	27.0	0.2	49.2	19.7	30.3	0.8	35.1	13.8	46.3	4.9
Jammu & Kashmir	80.4	3.9	15.7	-	72.6	6.7	20.7	-	57.4	7.2	34.0	1.3	44.1	8.1	42.7	4.6
Karnataka	73.4	12.3	14.0	0.3	60.5	16.2	22.3	1.0	48.4	17.4	32.3	1.9	31.5	16.1	46.4	6.0
Kerala	31.3	31.3	37.5	-	23.9	27.5	48.6	-	15.1	21.5	62.5	0.8	6.5	17.2	69.1	7.1
Madhya Pradesh	73.1	13.9	12.6	0.4	59.5	18.7	21.0	0.9	49.4	21.0	27.7	1.8	34.6	20.0	40.9	4.5
Maharashtra	57.2	14.7	27.8	0.2	45.8	14.6	38.6	1.0	35.1	16.0	46.6	2.4	24.5	13.9	54.0	7.6
Manipur	55.6	13.9	30.6	-	38.3	12.6	47.2	1.8	37.9	11.3	46.0	4.8	31.3	10.9	45.3	12.5
Meghalaya	58.3	16.7	25.0	-	55.5	19.7	24.8	-	46.3	14.0	38.7	1.0	37.5	16.7	43.0	2.8
Mizoram	75.0	-	25.0	-	28.2	12.8	59.0	-	8.6	19.5	71.9	-	8.2	17.7	70.4	3.7
Orissa	67.2	20.8	11.9	0.1	48.3	27.8	23.2	0.8	34.2	32.5	30.6	2.8	19.2	24.0	48.6	8.1
Punjab	75.4	4.3	20.3	-	72.2	9.6	17.8	0.4	63.7	6.9	28.3	1.1	45.0	7.4	43.9	3.7
Rajasthan	77.3	9.1	13.1	0.5	69.1	12.8	16.9	1.3	62.1	16.0	20.0	2.0	51.4	13.0	30.8	4.9
Sikkim	50.0	28.6	21.4	-	48.1	25.6	26.4	-	36.1	19.4	41.7	2.8	8.5	16.4	64.8	10.3
Tamilnadu	62.5	15.1	22.4	-	49.8	21.1	28.6	0.6	38.6	21.5	38.2	1.7	22.4	16.8	53.3	7.5
Uttar Pradesh	70.1	10.3	19.1	0.5	59.4	12.2	26.2	2.2	51.3	13.9	32.3	2.5	38.6	12.1	41.5	7.7
West Bengal	62.2	18.9	18.7	0.1	46.8	21.9	30.2	1.0	33.2	20.1	43.4	3.4	16.2	15.4	56.5	11.9

Source: Computed from National Sample Survey, 50th Round (1993-94), Household Data CD, NSS Organisation, Calcutta.

years. Any attempt to address this problem requires extending the period of compulsory education from primary school level to Middle School level. Do we have

the political will and moral stamina to tackle it? If not, the Supreme Court of India (with its decision of December 1996)<sup>9</sup> or world opinion on human rights will compel it. Incorporation of social clauses in trade agreements is just around the corner. The schooling of rural youth and vocational training need a policy shift. Visaria (1999) provides an outline. This needs research and policy orchestration. Fourth, half the poor in rural India are under 15 years of age. Investment in their health, education and capability enhancement is good for poverty reduction, economic growth and human rights.

Apart from nutritional deprivation that forms the core of poverty measurement in India, literacy and education, or rather lack of it, is an important identifier of poverty. In Table 4, we provide information on the incidence of illiteracy among all adult males and females in rural households and in Table 5 we report educational level of the heads of rural households. Information is based on NSS 50<sup>th</sup> Round (1993-94) household data. Incidence of illiteracy among females of very poor households in Andhra Pradesh, Bihar, Haryana, Jamma and Kashmir, Madhya Pradesh, Rajasthan, and Uttar Pradesh is 91-95 percent. Comparable figures for the non-poor higher income groups in those states are 53-66 percent. Within groups, gender differences are sharper among the non-poor than among the poor. Kerala has an incidence of illiteracy of 27 percent among females and 15 percent among males in the poorest group. Across states, differences are also more pronounced among the non-poor than among the poor. Educational level of the heads of rural households in different states of India follow similar patterns. Except in Kerala, poorest households are predominately headed by illiterates. This changes progressively as we move to better off groups. The non-poor have higher proportion of heads with above primary school and technical education. The inference that the incidence of education and that of poverty are inversely related is unmistakable. The intensity varies across states with Kerala at one extreme and Arunachal Pradesh at the other.

Another important identifier of poverty can be found in modes of employment. Proportion of wage earners is higher among the poor of the non-poor (Table 6). Categories of self-employed and those who live on other means (e.g. remittances, etc.) have high variability across states as well as income groups. Interestingly, 16-20 percent of the poor in Andhra Pradesh, Gujarat, Kerala and Maharashtra depend on other sources. Comparable figures for the high income non-poor in these states are in the range of 27-38 percent.

Land ownership in rural India, as in most agrarian societies, is considered an important marker of prosperity and its absence is associated with poverty. The data defies commonly held perceptions (Table 7). The proportion of landless, non-poor, high-income households in different states of India ranges from 17.5 percent in Madhya Pradesh to 59 percent in Kerala. The proportion of medium and large farms in all states of India is much less than is commonly believed. Detailed research is needed to reformulate the land ownership and ceiling policy that has been an important plank of India's equity strategy.

Table 6 Modes of Employment of Rural Poor and Non-Poor in Major States of India (1993-94)

States	Very Poor			Moderately Poor			Non-Poor Low			Non-Poor High		
	Self-Employed	Wage Earners	Other	Self-Employed	Wage Earners	Other	Self-Employed	Wage Earners	Other	Self-Employed	Wage Earners	Other
	1	2	3	4	5	6	7	8	9	10	11	12
Andhra Pradesh	27.7	55.7	16.7	35.2	47.8	17.0	47.7	31.2	21.1	55.6	17.3	27.1
Arunachal Pradesh	90.2	3.7	6.1	91.0	5.0	4.0	88.5	4.7	6.8	71.6	10.1	18.3
Assam	31.1	63.1	5.8	56.3	36.9	6.8	65.7	19.3	14.9	57.6	11.2	31.2
Bihar	34.9	57.8	7.2	55.0	35.6	9.4	67.6	20.8	11.5	71.5	8.4	20.1
Gujarat	19.2	64.5	16.4	36.8	48.0	15.2	43.7	36.0	20.3	49.6	21.3	29.1
Haryana	27.7	65.3	6.9	50.7	40.6	8.7	61.8	24.6	13.6	69.0	12.5	18.5
Himachal Pradesh	64.9	29.8	5.3	77.6	17.3	5.0	75.0	14.2	10.8	69.7	7.9	22.4
Jammu & Kashmir	82.4	17.6	-	64.0	25.0	11.0	66.8	12.8	20.4	67.8	8.1	24.1
Karnataka	38.8	57.3	3.9	51.4	42.0	6.6	62.7	28.0	9.2	65.7	17.2	17.1
Kerala	19.2	63.0	17.8	25.6	56.5	17.9	31.3	46.9	21.8	47.3	22.1	30.6
Madhya Pradesh	45.2	52.1	2.6	62.2	33.5	4.3	66.9	25.8	7.3	72.3	15.4	12.3
Maharashtra	24.4	55.9	19.7	40.2	37.8	22.0	46.6	27.1	26.3	45.2	16.1	38.7
Manipur	75.0	16.7	8.3	74.5	11.7	13.8	69.2	8.0	22.8	61.9	8.3	29.8
Meghalaya	56.7	36.7	6.7	74.9	22.9	2.2	72.7	18.4	8.9	66.8	14.3	18.8
Mizoram	37.5	62.5	-	74.4	23.1	2.6	81.4	7.8	10.9	72.1	6.8	21.1
Orissa	41.6	52.6	5.8	56.5	32.5	10.9	58.2	23.2	18.6	59.1	13.4	27.6
Punjab	18.8	75.4	5.8	20.7	69.6	9.6	44.1	41.5	14.3	68.6	14.3	17.1
Rajasthan	50.4	41.6	8.0	65.3	28.4	6.3	74.8	17.5	7.8	71.8	14.1	14.1
Sikkim	61.9	31.0	7.1	63.6	18.6	17.8	50.7	15.3	34.0	37.6	5.5	57.0
Tamilnadu	22.7	69.3	7.9	34.7	58.6	6.7	44.5	44.0	11.6	53.7	23.1	23.1
Uttar Pradesh	57.4	37.9	4.7	70.3	23.3	6.4	75.3	17.5	7.1	77.5	9.6	12.9
West Bengal	29.4	67.5	3.0	51.0	43.2	5.7	59.2	29.0	11.8	59.5	13.1	27.5

Source: Computed from National Sample Survey, 50th Round (1993-94), Household Data CD, NSS Organisation, Calcutta.

Table 7 Landholdings among Rural Poor and Non-Poor in Major States of India (1993-94)

States	Very Poor					Poor					Non-Poor Low					Non-Poor High				
	Landless	Sub marginal	Marginal	Small	Med + Large	Landless	Sub marginal	Marginal	Small	Med + Large	Landless	Sub marginal	Marginal	Small	Med + Large	Landless	Sub marginal	Marginal	Small	Med + Large
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Andhra Pradesh	51.8	29.5	14.0	3.4	1.3	49.2	28.6	16.6	4.2	1.4	45.8	25.1	15.1	8.1	5.9	37.6	19.1	19.8	10.1	13.3
Arunachal Pradesh	6.7	54.0	13.5	6.7	19.0	7.4	40.9	30.3	16.4	5.0	13.7	38.0	27.4	13.7	7.3	29.3	29.9	32.5	6.7	1.7
Assam	49.6	38.4	11.2	0.7	-26.4	47.0	23.3	2.4	0.9	20.4	39.6	32.1	5.6	2.3	25.2	34.9	28.4	8.3	-	-
Bihar	45.8	40.4	11.2	1.9	0.6	31.1	43.8	17.6	4.9	2.5	24.0	37.6	25.1	7.2	6.1	22.9	25.7	22.7	14.0	14.7
Gujarat	45.6	33.8	13.9	5.2	-43.0	27.0	17.0	7.5	5.5	41.4	20.9	17.1	10.5	10.1	37.0	14.0	18.7	13.6	16.6	-
Haryana	77.2	9.9	8.9	3.0	-57.5	12.1	16.9	9.2	4.3	45.6	11.4	21.5	9.2	12.3	33.5	13.5	16.1	17.5	19.4	-
Himachal Pradesh	7.6	81.9	8.8	1.8	-	5.5	76.1	16.0	2.0	-	8.3	72.6	16.7	1.8	0.6	16.7	64.8	14.9	2.1	-
Jammu & Kashmir	2.0	64.7	33.3	-	-	9.8	58.5	27.4	4.3	-	16.6	44.3	34.5	4.3	-	18.1	40.5	31.9	8.1	-
Karnataka	39.3	26.1	22.2	7.3	5.0	32.8	28.3	22.1	9.0	7.8	29.1	25.3	24.3	10.8	10.6	31.5	19.5	23.1	12.4	13.5
Kerala	74.0	25.5	0.5	-	-73.9	25.6	0.2	0.2	-	70.3	28.2	1.3	0.2	-	58.8	34.6	5.2	1.0	0.5	-
Madhya Pradesh	29.9	24.6	27.9	11.3	6.3	17.7	21.5	31.5	16.8	12.6	19.5	18.1	27.7	17.3	17.5	19.1	12.7	23.1	17.9	27.2
Maharashtra	47.4	18.5	20.3	8.8	5.1	33.9	22.6	23.9	10.7	8.9	35.6	20.0	22.2	10.8	11.3	36.4	19.0	15.7	13.0	15.8
Manipur	16.7	66.7	13.9	2.8	-15.3	63.5	19.6	1.5	-	19.6	56.6	20.6	2.4	-	25.7	43.8	25.7	3.8	1.1	-
Meghalaya	21.7	61.7	15.0	1.7	-11.3	77.5	10.5	0.7	-	11.7	69.5	17.1	1.6	-	23.3	59.3	14.8	2.1	-	-
Mizoram	-	-50.0	37.5	-	5.1	25.6	61.5	5.1	-	3.9	28.7	58.9	7.8	-	9.2	38.8	43.5	8.5	-	-
Orissa	34.4	44.3	17.6	2.3	1.4	30.9	39.0	21.2	6.4	2.5	29.8	34.7	25.6	6.2	3.8	34.7	23.8	22.5	10.9	8.1
Punjab	87.0	8.7	4.3	-	-88.9	4.1	4.1	1.9	1.1	69.6	7.1	11.8	6.9	4.7	39.1	10.7	17.3	14.0	19.0	-
Rajasthan	20.8	35.5	26.1	10.1	7.5	16.6	29.7	26.1	14.5	13.2	14.4	21.5	24.9	18.8	20.4	18.3	18.7	22.3	18.6	22.1
Sikkim	23.8	64.3	7.1	2.4	-18.6	48.1	28.7	3.1	-	21.5	45.1	28.5	4.9	-	55.8	25.5	13.3	4.2	-	-
Tamilnadu	66.6	27.1	5.6	0.7	-61.2	26.5	10.0	1.7	0.6	54.2	28.3	13.0	3.9	0.6	46.7	21.5	16.0	9.4	6.4	-
Uttar Pradesh	25.3	53.5	16.3	3.5	1.3	20.1	50.4	20.1	6.9	2.6	15.9	44.3	24.1	10.8	4.9	17.5	33.6	23.7	15.8	9.4
West Bengal	51.6	45.0	3.2	0.2	-37.8	50.5	10.1	1.2	-	32.0	48.5	15.2	4.0	-	28.4	39.5	22.1	8.2	1.9	-

Source: Computed from National Sample Survey, 50th Round (1993-94), Household Data CD, NSS Organisation, Calcutta.

## IV

**Growth of Food Output and Consumption Trends of the Rural Poor**

Indian planners did not anticipate acceleration in population levels when they embarked upon planned economic growth in 1951. Population growth accelerated from 1.85 percent during 1950s to 2.24 percent during the 1960s and continued at that rate during the 1970s, as is clear from Table 1. Deceleration, which started during the 1980s (growth rate of 2.02 percent), continued through to a growth rate of 1.84 percent in the 1990s. The optimism among demographers suggests that the census of population for 2001 will record a population growth rate of between 1.7 and 1.8 percent. This all-India average conceals enormous disparities across states of India. The implications of high levels of population growth for growth in per capita income are obvious. In Table 1 (columns 11 and 13) we have presented the compound growth rate of per capita income for the period 1950-51 to 1997-98.

Three points are relevant from an equity perspective. First, per capita income growth in the agricultural sector for the entire period has been substantially lower than that of the non-agricultural sector. The disparities between agricultural and non-agricultural per capita incomes have been rising. This should have been a cause for serious concern for policy makers. While analysing historical data for Europe, North America and Japan, Kuznets (1957, 1966) has shown that an unambiguous indicator of successful structural transformation is convergence between agricultural and non-agricultural per capita income as well as labour productivity. Second, the decade-to-decade variability in growth of non-agricultural per capita income should also command the attention of planners concerned with industrialisation strategy. Third, dismally low growth in agricultural per capita income for the entire period, negative during the decades of 1960s and 1970s should have been and was a cause for alarm in policy making circles. This low growth in agricultural per capita income underlines the problem of fast growth of population in rural areas and the relatively slow growth of rural and agricultural output. *The fundamental cause of India's poverty is buried in a less than satisfactory performance of her agricultural sector and in particular food production. Asset holdings inequality reflected in land ownership and technical progress biased against labour compounds the problem*

The rate of growth of foodgrain production reported in columns 3-9 of Table 1, when compared with the rate of growth of population, reported in column 2, throws up two important policy concerns. First, it is only during the 1950s and 1980s, that the rate of growth of foodgrain production was higher than that of population, as can be seen by comparing columns 2 and 9 of Table 1. Second, since 1971, the coarse cereals output growth has been very low, having been negative in the 1990s. This finding has important nutritional implications particularly for the bottom 30 percent of the population. As a by-product of interaction between the rate of growth of foodgrains and population, per capita foodgrain availability has grown at a modest rate in the last two decades. Food availability represents food production net of import and export. During the 1960s and 1970s, India had to depend heavily on the import of foodgrains.



During the last two decades, India has neither been a major importer nor an exporter of foodgrains. Changes in the agricultural trade policy regime may alter the situation soon. As regards public procurement of foodgrains and public distribution of foodgrains three points are noteworthy. First, during the last two decades, the level of procurement has been substantially higher than during the earlier decades. The strategy of management of food economy in India as a consequence of the Ashok Mehta Committee Report (1957) seem to have performed its allocated role way beyond the expectations of those who devised the food management strategy. The quantity of foodgrains distributed under the public distribution system also increased as a consequence of the food management strategy of the mid-1960s. It is clear that the public distribution system handled over 20 percent of foodgrains during the drought year of 1966 and from 10-15 percent during the last two decades. It is only in the last three years that the percentage handled by the public distribution system has been falling. We have not analysed the financial cost of this strategy. Parikh (1998) and Swaminathan (2000) deal with it and discuss the issue of equity and social efficiency in this context. The issue needs extensive research.<sup>10</sup>

Comparing broad consumption expenditure groups based on the National Sample Surveys (NSS) of 1972-73 to 1993-94, Radhakrishna (1997) and Radhakrishna et al. (1998a) provide details of calorie as well as protein intake per day per person. According to their analysis, average per capita calorie intake has declined from 2,268 calories in 1972-73 to 2,152 calories in 1993-94 in rural India, and from 2,107 to 2,071 calories per day in urban India. The decline in rural as well as urban India, according to them, has occurred because of the changing consumption basket of the middle 40 and top 30 percent of rural as well as urban consumers. The calorie intake of the bottom 30 percent of consumption expenditure group in rural as well as urban India has marginally increased from 1,504 calories per day in 1972-73 to 1,678 calories per day in 1993-94 and 1,579 calories to 1,682 calories per day respectively. Protein intake also improved marginally from 42.56 gms to 46.55 gms in rural India and 44.6 gms to 46.8 gms per day in urban India from 1972-73 to 1993-94. This is also presented in Figure 1.

Three points are noteworthy. First, the calorie intake of the bottom 30 percent in rural as well as in urban India remains substantially lower than the recommended minimum required for efficient functioning at 2,500 or 2,350 (depending on location, sex and occupation) calories per day. Only the top 30 percent of Indian consumers enjoy a calorie intake considered acceptable according to FAO/WHO norms. Of the remaining 70 percent, the gap between ideal and actual calorie intake of the bottom 30 percent of the rural as well as urban population continues to be large, but has declined slightly. The gap of ideal and actual calories intake of the middle 40 percent has widened slightly. The reasons for this can be traced back to the slow growth of per capita agricultural income but are largely consequences of a changing consumption basket in rural as well as urban India. Decline in the share of coarse foodgrains in the total cereal consumption needs to be analysed further in this connection.

## V

**Equity, Capabilities and the Rural Poor**

The word *equity* is derived from Latin '*aequitas*' which means "equality". In its social aspect, it deals with fairness or just condition or treatment. In law, it refers to the concepts of *natural justice* as opposed to *common law* or *statute law*. The classical economists, in particular Adam Smith, John Stuart Mill and Karl Marx have used it in the sense of societal fairness or lack of it (Ganguly, 1975).

The modern view of efficiency conditions of economic policy is derived from a theoretical separability of equity and efficiency conditions under very restrictive assumptions and static conditions. This is only a subset of the political economy concern about the joint determination of efficiency and equity. The subject matter of economics, therefore, was known as *political economy*. That economic policy making in modern democratic societies involves participation of stakeholders in political debates is obvious. As such, economic policy making, being a political process, cannot underplay the importance of either efficiency or fairness if it is to be pursued in a democratic context and if goals are long term. In this context, the Indian reform process, particularly that of the agricultural sector, requires support of a majority of stakeholders. Given the numeral proportion of the poor and near poor, equity considerations become as relevant as efficiency ones.

The reform process has a chance of success in a democratic polity if and only if (i) there is a consensus on reforms based on political calculations of major parties, (ii) benefits of the reform process reach the poor in a short period of time, and (iii), there is a wide mass participation in the reform process. To succeed in the largest democracy with huge regional variations, these measures require the active support of the majority of rural poor. Unless their losses are compensated and/or gains are efficiently delivered and shared, they will not remain passive. Binswanger and Deininger (1997) summarise the evidence and experience of a number of countries in this context.<sup>11</sup>

The last fifty years of research on concepts of development and the history of the economic development processes have enriched our understanding of the interactions between the two in a dynamic context. Insights thrown up by study of the economic development of late entrants to the industrialisation process of the last century (Germany, Japan, USA and the former Soviet Union) provide us with guidelines to the elementary requirements of fairness in achieving fast structural transformation and sustained economic growth. Despite huge organisational differences in the economies of the USA and the former Soviet Union, pursuit of equality was emphasised by both: for the US equality of opportunity and for the former Soviet Union goal of equality of outcomes. Germany and Japan, deprived of a fair share of world markets due to a colonial pattern of international trade, invested heavily in human development as a means of overcoming the market handicap. Sen (1981, 1992, 1999a, 1999b, 1999c, 1999d) calls them improvements in human capabilities, and considers them as preconditions for *shared economic growth*.

In the post-second world war period, economists' notion of equity collapsed to simpler measurable economic aspects of inequality with the use of Lorenz Curves,

Gini Co-efficient and Kuznet's measures of inequality. Sen (1973, 1992) enriched the concept of economic inequality by demonstrating its complex and multi-dimensional nature and traced its persistence to various forms of deprivation, major ones being constraints on capabilities and functionings. Their role in determining entitlements was also highlighted. The East Asian strategy of economic development, based on huge public investment in capability enhancing, basic education and health, has been extensively researched and commented on.<sup>12</sup>

A serious study of the economic history of this century and the East Asian success story has brought the role of equity in sustained economic growth in sharp focus. The strategy of shared economic growth now has increasing support from the World Bank. The United Nations have enlarged the domain of economic development.<sup>13</sup> Even the International Monetary Fund (IMF), a conservative international financial institution, has decided to look at economic policy and equity with a degree of seriousness (IMF, 1999).

Underpinning the role of social development as a precondition for shared and sustained economic growth, Dreze and Sen (1995), in the specific context of India, emphasised the need for a shift in policy direction. The reform process, according to them, is an opportunity for policy makers to move to an accelerated and sustainable economic development utilising market opportunities built on the foundations of social development that were neglected earlier.

From Tables 8 and 9, we can see that the worldwide population living below 1 dollar per day in 1998, according to the World Bank, is 1198 million persons, of which 522 million are in South Asia. Changing the poverty line to those below 2 dollars per day, the population of the poor worldwide jumps to 2,801 million and that of South Asia to 1,096 million. Interestingly, China's population below 1 dollar per capita per day is 213 million and below 2 dollar per capita is 632 million, suggesting that poverty reduction in China has occurred only to ensure minimal survival needs. The change in the number of persons below the poverty line in South Asia is in dramatic contrast with China in this context. However, the Chinese policy makers, with good reason, can claim that they have been more successful in providing elementary education, elementary health facilities and basic housing on a much wider scale that is not reflected in either of the poverty lines. Projections to 2008 with slow growth and rising inequality suggest that the decline in poverty in South Asia would be from 40 percent of total population to 31 percent when we take 1 dollar per capita as the poverty line. The decline is much sharper when economic growth is faster and when inequalities have not been allowed to increase, as in scenario B. Under Scenario B, the proportion of the population living below 1 dollar per capita income level declines to 13.7 percent. Similarly, shifting the poverty line to 2 dollar per capita, the decline of poverty under Scenario A between 1998 and 2008 is from 84 percent to 72 percent. With faster growth and an unchanged level of inequality, it declines to 63 percent. This underpins the importance of faster growth and the need to pay greater attention to inequality concerns. Lal and Myint (1996), examining the historical data for 16 countries, emphasise the importance of faster growth only. While discussing poverty alleviation programmes in India, Lal (1999) takes the market view of poverty reduction and emphasises, in our view erroneously, that only economic growth is relevant.

**Table 8** Population Living Below \$ 1 Per Day in Developing and Transition Economies for 1998-2008 under scenarios of slow growth and rising inequality (Scenario A) and inclusive (Scenario B)

Regions	1998		2008		1998		2008		Scenario A		Scenario B	
	Estimates (millions)	Scenario A (millions)	Scenario B (millions)	Estimates Per cent	Scenario A Per cent	Scenario B Per cent	Growth Rate Pc per annum	Change in Inequality pc	Growth Rate Pc per annum	Change in Inequality pc		
East Asia and Pacific	278.3	182.8	72.1	15.3	9.2	3.6	4.0	+10	4.9	0		
Excluding China	65.1	58.3	18.2	11.3	9.2	2.9	-	-	-	-		
Eastern Europe & Central Asia	24.0	45.7	7.4	5.1	9.6	1.6	2.7	+20	3.7	0		
Latin America & the Caribbean	78.2	130.8	74.7	15.6	22.9	13.1	0.6	+10	1.7	0		
Middle East & North Africa	5.5	11.4	4.7	1.9	3.3	1.4	0.4	+10	1.5	0		
South Asia	522.0	465.0	205.9	40.0	31.0	13.7	2.4	+20	4.0	0		
Sub-Saharan Africa	290.9	406.2	329.8	46.3	51.5	41.8	-0.1	+10	1.0	0		
Total including China	1198.9	1241.8	694.7	24.0	21.9	12.3	-	-	-	-		
Excluding China	985.7	1117.3	640.8	26.2	25.9	14.9	-	-	-	-		
China	213.2	124.5	53.9	-2.2	-4.0	-2.6	-	-	-	-		

**Table 9** *Population Living Below \$ 2 Per Day in Developing and Transition Economies for 1998-2008 under scenarios of slow growth and rising inequality (Scenario A) and inclusive (Scenario B)*

<i>Regions</i>	<i>1998</i>			<i>2008</i>		
	<i>Estimates</i>	<i>Scenario A</i>	<i>Scenario B</i>	<i>Estimates</i>	<i>Scenario A</i>	<i>Scenario B</i>
	<i>(millions)</i>	<i>(millions)</i>	<i>(millions)</i>	<i>(Per cent)</i>	<i>(Per cent)</i>	<i>(Per cent)</i>
East Asia and Pacific	892.2	632.0	482.7	49.1	31.8	24.3
Excluding China	260.1	218.3	169.8	45.0	34.5	26.8
Eastern Europe & Central Asia	92.9	100.8	46.3	19.9	21.2	9.7
Latin America & the Caribbean	182.9	227.3	183.9	36.4	39.8	32.2
Middle East & North Africa	62.4	74.7	47.8	21.9	21.7	13.9
South Asia	1095.9	1083.0	945.4	84.0	72.2	63.0
Sub-Saharan Africa	474.8	604.2	568.0	75.6	76.6	72.0
Total including China	2801.0	2721.9	2274.1	56.0	48.0	40.1
Excluding China	2168.9	2308.2	1961.2	57.6	53.5	45.5
China	632.1	413.7	312.9	-1.6	-5.5	-5.4



The World Bank (2000e) has looked at *participatory poverty assessment* and shows that the empirical evidence based on involvement of the poor in the study of poverty has brought out a number of qualitative factors that are ignored by policy makers and are acutely felt by the concerned poor. These are issues of *vulnerability, aspects of gender, crime and violence, and seasonality*. Schultz (1980) and Sen's (1999d) focuses on deprivations, capabilities and social choice issues that affect the poor and are (or should be) the central concern of policy makers in democratic societies. Schultz's insights emphasised *the importance of micro decisions of the poor* as part of their survival mechanisms, while Sen's focus is on *issues of social choice and public policy* that have enormous implications for the functionings as well as capabilities of the poor. The two, despite a world of difference in their view of economics, are highly complementary in emphasising *the role of human development for achieving sustained economic development*. The former emphasises its role in enhancing productivity while the later enlarges it to valuable functionings, including productivity.

Agricultural State Domestic Product computed at 1980-81 prices for the period 1970-1993 reveal that the compound annual growth rates for the period 1970-71 to 1993-94 ranged between 4.50 percent in Maharashtra and 1.07 percent in Bihar. States with growth rate of over 3 percent are Maharashtra (4.50), Punjab (4.53), West Bengal (3.74). Those with a growth rate lower than rural population growth rates are Bihar, Gujarat, Tamil Nadu, Orissa and Kerala.<sup>14</sup>

SDP agriculture per agricultural worker computed at 1980-81 prices reveal that disparity in growth of agricultural output per worker in different states is much sharper than that observed in total agricultural SDP. The co-efficient of variation across states for each of the years from 1970 to 1993 has increased from about 45-60 percent during the 1970s to about 75-86 percent in recent years. Bihar' and Orissa's agricultural output per worker declined during this period suggesting that the denominator (number of workers) has growth faster than the numerator.

## VI

### Government Policies and the Rural Poor

India's strategy of achieving national self-sufficiency in foodgrains, in a climate of Malthusian pessimism, put in place during mid 1960s is aptly summarised by its key architect, Subramanian (1979). The need to complement it in dealing with poverty was well understood (given policy makers commitment to poverty eradication) resulting in the establishment of the Public Distribution System (PDS), Ministry of Rural Development (MRD), Integrated Rural Development Programme (IRD) programmes, rural employment programmes including employment guarantee schemes (EGS) during 1967-72. These were extended to include women and children's welfare and tribal welfare programmes later.

Three of these, namely, Public Distribution System, Employment Guarantee Schemes and Integrated Rural Development programmes, are considered central to India's strategy on poverty and have been commented upon extensively. Representative ones among them are IBRD (1998b, 2000b), Singh (1999), Swaminathan (2000) and IFPRI (1999).

Public policies in emerging *civil societies* of Europe from 1750 to 1939 which dealt with poverty, school education, workers rights, political and economic rights of women, democratic rights were all concerned with the State's affirmative action in dealing with various forms of *deprivations* by converting remedial access into legally enforceable *entitlements*. As such these policies were poverty focussed. Lipton and Ravallion (1995) provide a cogent summary on these issues.

Fifty years of experiments in dealing with poverty in developing countries provide us with a rich information base to evaluate their efficacy. My examples are from India mainly. Emerging concerns of poverty-focussed policies are:

- (a) Remove all distortions that affect economic efficiency adversely.
- (b) Education and health-creating human capital are good for poverty reduction and economic growth. Sen (1999 a, b, c, d) goes much further in suggesting that capability and freedom-enhancing social policies generate stable *civil societies* and deliver much more than just economic growth.
- (c) Need for social safety nets (guaranteeing food or work) is slowly getting to the centre stage.
- (d) UN and Human Rights dealing with:
  - (i) nutrition,
  - (ii) school education, and
  - (iii) decent work.

To have a meaningful impact on poverty alleviation, employment programmes must be available for at least 60 days to a worker from a poor family. We note from Table 10 that in Arunachal Pradesh 17 percent of the very poor obtained access to public employment. In all other states, the figures is less than 10 percent. Kerala's very poor have a lower participation at 1 percent compounded with a figure of 3.5-5 percent for moderately poor and non-poor. The pattern is similar across all states except in Maharashtra where the participation of the very poor is at 9.4 percent and that of the non-poor at 4.0 to 4.8 percent.

In Table 11, we report details of assistance received by poor and non-poor rural households in 1993-94. Note that the proportions totally unaffected by these programmes are rather high, about 93-96 percent in most states. That the non-poor had roughly similar access to these programmes also stands out. In these respects, rural employment programmes and integrated rural development programmes are rather similar. State effort on either is rather small and targeting will not substantially alter the ability of the poor to get themselves out of the poverty trap. Even if all resources were focussed on the poor, the number benefiting would only double and would still affect less than 10-20 percent of the poor. Lipton (1998) provides a good summary of the basic rules for efficient delivery of these services to the poor.

Purchases of foodgrains from the Public Distribution System (PDS) reported in Table 12 tell a richer and more complex story. Variation in the use of these facilities across states is high, the poor and the non-poor using this resource extensively. In Kerala, 94 percent of the poor and 91 percent of higher income non-poor use the PDS. In Punjab, the better-offs use it more than the poor at 72-74 percent as compared to 65 percent. This pattern is repeated in Bihar, Uttar Pradesh, Madhya Pradesh and a few other states also. Except for Bihar, these states are producers of foodgrain surplus.

**Table 10** Proportion of Rural Poor and Non-Poor Employed in Government Sponsored Employment Programme for at least 60 days on public works during the last 365 days in Major States of India (1993-94)

States	Very Poor (Percent)		Moderately Poor (Percent)		Non-Poor Low (Percent)		Non-Poor High (Percent)	
	Yes	No	Yes	No	Yes	No	Yes	No
	1	2	3	4	5	6	7	8
Andhra Pradesh	3.7	96.3	3.5	96.5	4.2	95.8	3.1	96.9
Arunachal Pradesh	17.2	82.8	13.0	87.0	14.1	85.9	19.7	80.3
Assam	3.9	96.1	4.4	95.6	3.6	96.4	1.4	98.6
Bihar	5.8	94.2	5.1	94.9	3.6	96.4	3.4	96.6
Gujarat	3.8	96.2	4.1	95.9	3.2	96.8	3.2	96.8
Haryana	3.0	97.0	4.8	95.2	2.6	97.4	2.2	97.8
Himachal Pradesh	9.9	90.1	10.1	89.9	8.7	91.3	3.7	96.3
Jammu & Kashmir	7.8	92.2	4.3	95.7	3.0	97.0	5.1	94.9
Karnataka	3.9	96.1	3.2	96.8	2.7	97.3	3.4	96.6
Kerala	1.0	99.0	3.6	96.4	3.5	96.5	5.0	95.0
Madhya Pradesh	6.1	93.9	4.6	95.4	6.1	93.9	4.7	95.3
Maharashtra	9.4	90.6	8.5	91.5	4.8	95.2	4.0	96.0
Manipur		100.0	3.1	96.9	9.9	90.1	7.5	92.5
Meghalaya	3.3	96.7	9.1	90.9	5.1	94.9	3.4	96.6
Mizoram		100.0	7.7	92.3	3.9	96.1	6.1	93.9
Orissa	7.7	92.3	5.7	94.3	3.0	97.0	2.3	97.7
Punjab		100.0	3.0	97.0	2.6	97.4	2.3	97.7
Rajasthan	5.3	94.7	5.1	94.9	4.3	95.7	2.8	97.2
Sikkim	7.1	92.9	2.3	97.7	2.1	97.9	1.8	98.2
Tamilnadu	2.9	97.1	3.4	96.6	2.8	97.2	3.3	96.7
Uttar Pradesh	4.1	95.9	4.0	96.0	3.7	96.3	2.8	97.2
West Bengal	3.6	96.4	3.1	96.9	2.4	97.6	2.9	97.1

Source: Computed from National Sample Survey, 50th Round (1993-94), Household Data. CD, NSS Organisation, Calcutta.

**Table 11** Assistance from IRDP to Rural Poor and Non-Poor in the Major States of India (1993-94)

States	Very Poor (%)			Moderately Poor (%)			Non-Poor Low (%)			Non-Poor High (%)		
	None	Ag. Loans	Others	None	Ag. Loans	Others	None	Ag. Loans	Others	None	Ag. Loans	Others
	1	2	3	4	5	6	7	8	9	10	11	12
Andhra Pradesh	96.4	2.4	1.2	96.0	2.4	1.6	95.4	3.1	1.5	96.1	2.4	1.5
Arunachal Pradesh	74.2	4.3	21.5	75.2	4.0	20.7	79.5	2.1	18.4	76.2	3.5	20.3

Contd...

Contd...

Assam	96.3	2.2	1.5	97.0	1.7	1.3	97.7	1.5	0.8	97.9	1.6	0.5
Bihar	94.4	4.5	1.1	94.8	4.4	0.8	95.6	3.9	0.5	96.2	3.0	0.7
Gujarat	88.2	6.6	5.2	91.3	6.1	2.7	91.4	6.5	2.2	91.8	5.3	2.9
Haryana	93.1	2.0	5.0	92.3	3.9	3.9	93.0	4.4	2.6	93.8	2.8	3.4
Himachal Pradesh	94.7	3.5	1.8	92.8	5.3	2.0	94.1	2.6	3.3	95.9	3.0	1.1
Jammu & Kashmir	96.1	3.9	-	98.2	1.8	0.0	97.9	2.1	0.0	98.4	1.4	0.3
Karnataka	94.8	4.4	0.8	94.7	4.3	1.0	94.7	3.9	1.4	94.0	4.7	1.3
Kerala	96.6	1.4	1.9	94.7	3.1	2.2	95.3	4.0	0.7	96.6	2.2	1.1
Madhya Pradesh	89.6	7.0	3.4	92.0	5.3	2.7	91.1	6.8	2.0	91.4	5.5	3.1
Maharashtra	91.2	7.4	1.4	91.8	6.5	1.7	92.6	4.9	2.5	95.1	3.4	1.5
Manipur	77.8	2.8	19.4	93.3	1.2	5.5	93.0	5.1	1.9	95.1	3.4	1.5
Meghalaya	95.0	5.0	-	97.8	1.8	0.4	97.8	2.2	0.0	98.5	1.1	0.4
Mizoram	62.5	-	37.5	71.8	0.0	28.2	93.8	0.8	5.4	92.9	1.7	5.4
Orissa	94.3	2.9	2.7	94.3	2.5	3.2	93.6	2.3	4.1	95.4	1.9	2.7
Punjab	95.7	4.3	-	97.4	0.7	1.9	96.6	3.2	0.2	95.1	2.8	2.1
Rajasthan	94.4	4.8	0.8	94.0	4.5	1.5	95.7	3.5	0.9	94.7	3.9	1.4
Sikkim	95.2	4.8	-	94.6	4.7	0.8	95.8	3.5	0.7	98.2	1.8	0.0
Tamilnadu	93.3	5.7	1.0	94.2	4.6	1.2	94.3	3.6	2.0	94.1	3.2	2.7
Uttar Pradesh	93.6	4.9	1.5	92.3	5.8	1.8	93.6	5.0	1.3	92.9	5.7	1.4
West Bengal	93.6	2.8	3.6	91.3	3.8	4.8	92.5	2.6	4.9	95.2	2.0	2.8

Note: Ag.Loans = Milch Animals, Draught Animal, Sheep/goat, Pump Set, Fish Pond. Others = Sewing Machine and Others.

Source: Computed from National Sample Survey, 50th Round (1993-94), Household Data CD, NSS Organisation, Calcutta..

**Table 12** Purchase from Public Distribution System (PDS) by Rural Poor and Non-Poor in Major States of India (1993-94)

States	Very Poor (Percent)		Moderately Poor (Percent)		Non-Poor Low (Percent)		Non-Poor High (Percent)	
	Yes	No	Yes	No	Yes	No	Yes	No
	1	2	3	4	5	6	7	8
Andhra Pradesh	84.18	15.82	83.72	16.28	83.38	16.62	83.70	16.30
Arunachal Pradesh	84.66	15.34	82.35	17.65	83.33	16.67	91.30	8.70
Assam	83.15	16.85	85.89	14.11	87.91	12.09	85.11	14.89
Bihar	71.22	28.78	78.33	21.67	80.95	19.05	79.66	20.34
Gujarat	86.76	13.24	90.54	9.46	89.37	10.63	84.81	15.19
Haryana	87.13	12.87	91.30	8.70	92.98	7.02	87.50	12.50
Himachal Pradesh	88.89	11.11	90.57	9.43	89.63	10.37	84.26	15.74
Jammu & Kashmir	74.51	25.49	80.49	19.51	82.13	17.87	75.95	24.05
Karnataka	77.27	22.73	79.41	20.59	77.78	22.22	77.49	22.51

Contd...

Contd...

Kerala	94.23	5.77	95.93	4.07	94.29	5.71	91.23	8.77
Madhya Pradesh	63.80	36.20	69.21	30.79	72.52	27.48	73.32	26.68
Maharashtra	63.74	36.26	74.09	25.91	78.31	21.69	73.30	26.70
Manipur	27.78	72.22	35.28	64.72	34.05	65.95	37.74	62.26
Meghalaya	58.33	41.67	84.36	15.64	86.03	13.97	82.23	17.77
Mizoram	100.00	-	100.00	-	96.12	3.88	91.84	8.16
Orissa	76.80	23.20	83.28	16.72	89.08	10.92	83.72	16.28
Punjab	65.22	34.78	71.11	28.89	73.45	26.55	72.66	27.34
Rajasthan	58.93	41.07	63.81	36.19	58.17	41.83	54.20	45.80
Sikkim	66.67	33.33	66.67	33.33	64.58	35.42	47.27	52.73
Tamilnadu	87.96	12.04	90.25	9.75	88.67	11.33	87.94	12.06
Uttar Pradesh	59.60	40.23	63.12	36.88	66.70	33.30	65.64	34.36
West Bengal	90.53	9.36	92.74	7.26	91.71	8.29	91.73	8.27

Source: Computed from National Sample Survey, 50th Round (1993-94), Household Data CD, NSS Organisation, Calcutta.

Note that over half the quantity is distributed by only four states, viz., West Bengal, Maharashtra, Kerala and Tamil Nadu. Maharashtra uses employment guarantee and the PDS as complementary weapons in dealing with poverty. West Bengal and Kerala, in addition to a state-specific rural development effort to ensure implementation of minimum wage laws, use PDS in an unfocussed way. Note that the absolute number of rural poor registered significant reductions in these states. The issue of targeting is a complex one and has been commented upon extensively. Short-term and long-term strategies in dealing with poverty need to be kept in perspective in this context. IBRD (1998b, 2000b) has emphasised the importance of targeted PDS and EGS. The Indian government seems to have accepted the Targeted Public Distribution System (TPDS) as advised by IBRD. This, I believe, needs serious consideration. We have provided some pointers. Detailed research, rather than political posturing, is needed in this field.

## VII

### Conclusions and Agenda for Research and Policy Debates

Our awareness of poverty and the need to deal with it has heightened partly due to India's development strategy shift in favour of globalisation and partly due to domestic political economy compulsions of multi-party, multi-tiered democratic processes of 1990s. International factors will compel us to deal with specific aspects as a matter of priority, a prime example being the issue of child labour.

Measurement of poverty has enriched our understanding of the conceptual problems of comparisons over time and space and its inherently multifaceted nature. The simplest measure of head count poverty based on a predetermined poverty line is necessarily as pointed out by Sen, Ravallion and others, a crude but very useful measure. Information on poverty needs to be expanded to include other more important attributes, which our experts back in 1961-62 considered as part of the

duties of the state. Education and health facilities and access of the poor, or lack of it, are important markers of deprivations that are symptoms as well as causes of poverty.

We found that the absolute number of rural poor, during the last 20-25 years, based on the head count poverty measure, declined on an all-India basis. However, this decline was moderate during the 1970s and pronounced during the 1980s. The decline was arrested during 1987-89, two years before the beginning of the reform process. The National Sample Survey authorities should release the household data CDs for recent rounds, enabling researchers to make comparisons between the 1993-94 round and the recent one. In today's age of information technology, long lags in the release of data act as breaks in informed and transparent policy-making.

At the state level, the decline during 1972-73 and 1993-94 occurred only in half the states, namely Kerala, West Bengal, Tamil Nadu and Punjab. The absolute number of rural poor increased in Bihar, Uttar Pradesh and Madhya Pradesh. The total fertility rate translating into population growth rate, as per Chaudhri and Wilson (2000), has been an important driver of this increase in poverty. That it was not counteracted by poverty-focussed policies in these states is obvious.

We found that family size and poverty are mutually reinforcing. The average number of children among the poorest households in rural India in 1993-94 was 2.6 compared with about half of that number in the richer non-poor households. With a family size of 5.6 and a number of children 2.6 on average, almost half of India's rural poor are below the age of 15. Implications for the incidence of rural child labour, school education and non-participation in primary schools are obvious. Educational deprivation is an important identifier of poverty in all states of India. We could not examine health facilities deprivations in this paper. However, Radhakrishna *et al.* (1998) clearly bring this aspect into focus in the context of children.

Nutritional status of the bottom 30 percent of the rural population improved slightly during 1972-73 and 1993-94. However, nutritional intake at about 1,600 calories a day is way below the recommended minimum. Protein deficiency also remains high but has not worsened. Composition of cereal consumption has changed dramatically in most states of India. Coarse grains have been substituted by wheat and rice. Public policy has played an important role in this outcome.

We found that agricultural sector growth, total, per rural person and per agricultural workers between 1980-81 and 1995-86, has been very uneven across states. It has been high in some states and sluggish in others, in particular in Bihar. The coefficient variation for each of the years 1980-81 to 1995-96 suggests increased variation across states. It was more pronounced in the 1990s.

The dropout rates as well as rates of non-participation in the school system are high in states with sluggish agricultural growth and non-rising real wage rates.

We discovered a definite bimodal clustering of these factors in different states of India. States which reflected reinforcing factors that point towards rising productivity and declining poverty have been referred to by us as states in the *Virtuous Spiral*. Those having a cluster of negative factors reinforcing low productivity and proportion of productivity have been entitled as states in the

*Vicious Spiral.* This confirms Chaudhri's (1997) observation regarding the incidence of child labour.

To have an impact on rural poverty, employment programmes would need considerable expansion and conversion into major employment guarantee schemes. The experience needs to be researched for all states on lines similar to that of Maharashtra's scheme. The Integrated Rural Development Programmes have also been on a relatively smaller scale. Lipton (1998) outlines the ingredients for successful use of this instrument. His conclusions are similar to our contention that participatory, transparent involvement of the stakeholders is vital.

In dealing with poverty short-term and long-term strategies need to be kept in perspective. IBRD (1998b, 2000b) has emphasised the importance of targeted PDS and EGS. The Indian government seems to have accepted the Targeted Public Distribution System (TPDS) as advised by the IBRD. This, I believe, needs serious consideration. Detailed research, rather than political posturing, is needed urgently.

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#### NOTES

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1. In the first nine months of the new millennium, all major international agencies dealing with development, human rights, trade and even international financial arrangements have individually or jointly produced documents affirming their resolve to reduce poverty. See for example joint report of all regional development banks and IBRD (2000a), IMF/IBRD/OECD/UN (2000), ADB (2000), (UNDP (2000a,b), WTO (2000), Sen (1999a,b,c) and specifically on India, IBRD (1998b, 2000a).
2. India's policy reforms and opening up of the Indian Economy was triggered by foreign exchange crisis in 1991. For agricultural policy reform processes, see our annotated bibliographies and report on Subproject 2 by Acharya (2000). Establishment of WTO in 1995 accelerated the globalisation process and also awareness of poverty, seen by some observers as a byproduct and others as its solution.
3. All regional Development Banks jointly with IBRD produced a *Global Poverty Report* in July 2000 for discussion at the G8 meeting in Okinawa (Japan), resulting in a statement on time-bound poverty-reduction targets.
4. See Ganguly (1975), Gandhi (1948), Dasgupta et.al (1996), Chaudhri (2000a), Sen (1999 a, b), Dreze and Sen (1995) among many others for the Indian context and footnote 1 for the global one. Refer to our annotated bibliographies for recent literature.
5. See World Bank (1974, 2000a), UNDP (2000a) in this context.
6. Meade (1975), p.17.
7. See Sen (1973, 1976), Dandekar and Rath (1971), Srinivsan and Bardhan (1974) for example.
8. I have drawn from this paper and related ones to formulate generalisations presented here.
9. See Mishra (2000), Chaudhri (2000), Chaudhri and Wilson (2000) for details.
10. See Liu, Perera, Zhou (2000) for details on this issue.
11. See Dixit (1996) on the making of economic policy, in particular, references to trade policies - exclusion of agriculture from GATT and its inclusion in WTO.
12. See World Bank (1993), Lim (1996), Sen (1999a, 1999b) among many others.

13. See UNDP (1998), FAO (1998), UNICEF (1999), World Bank (1999), Sen (1999c) and a summary in Chaudhri (1999a, 1999b, 1999c).
14. For details on increasing regional disparities in the agricultural sector see Chand (2000).
15. For details see Chaudhri (1997).

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