
UNIT 11 POVERTY, INEQUALITY AND INCLUSIVE GROWTH: SOME POLICY IMPLICATIONS

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11.0 OBJECTIVES

After reading this unit, you will be able to:

- define the concept of poverty;
- state different income and non-income indicators of poverty;
- identify the income and non-income dimensions of poverty in India;
- explain the concept of inequality;
- identify the income and non-income measures of inequality;
- analyse the level of inequality in India;
- state the concept of inclusive growth;
- examine the status of India in terms of inclusive growth; and
- explain the policy implications on poverty, inequality and inclusive growth.

11.1 INTRODUCTION

To begin the discussion, on poverty, inequality and inclusive growth, two important points need be stated: (i) Poverty, inequality (and hence need for inclusive growth) and unemployment are inter-related issues. One cannot be appreciated without knowing the dimensions of the other; and (i) we need to distinguish between the concept of absolute poverty and the concept of relative poverty. As to the first, it need be made clear that a simple increase in the GDP may not be a sufficient condition (although a necessary condition) to enable all sections of the society – asset owners and asset – less to share in the fruits of growth. On the contrary, empirical evidence has clearly demonstrated that the benefits of growth are unevenly distributed (especially when an economy is in transition from a low-income category to a high-income category). With a time lag as the growth process continues, the distribution of income begins to become more even. This relationship between growth and distribution of income has given rise to kuznets' famous hypothesis reflected in kuznets' inverted U-shaped curve.

Secondly, absolute poverty explains a situation in which some persons, small or large in number, live in a state of destitution. In this pitiable situation, these persons (or groups of persons) fail to meet their basic needs. They may live at bare subsistence, or even below subsistence. This however does not have any implication for the size of cake available for distribution. Here, again, two situations can be visualised. One, the size of the national cake may be so small, that it is not adequate to meet the minimum needs of all sections of the society. Two, the size may be fairly large, but the existing institutions and practices do not result in equitable distribution, so that a large part of national product goes to enrich the pockets of a few, and the large mass are left to take care of themselves. Whatever the situation may be, if a meaningful effort is to be made to lift poor persons to a respectable level of living, inclusive growth will be the answer.

11.2 THE CONCEPT OF POVERTY

In the development literature, poverty is defined as 'multi-dimensional' which is measured not just with respect to lack of income, but also directly with respect to basic needs such as health, education, nutrition and shelter. In the broader approach, poverty includes the lack of social security and empowerment. All the income and non-income aspects of poverty help us to understand whether an individual is living decently and respectfully or not. The broader definition is promoted by UNDP in 'Human Development Report' and World Bank in 'World Development Report'. It defines poverty as 'a human condition characterised by the sustained or chronic deprivation of the resources, capabilities, choices, security and power necessary for the enjoyment of an adequate standard of living and other civil, cultural, economic, political and social rights.' (UN, 2001).

The broader approach of poverty (well being) is defined by the Noble Laureate Prof Amartya Sen as well being that comes from capability to function in the society. Poverty arises in the society where its subjects lack capability, for example, inadequate income or health, low self confidence or powerlessness. Hence Sen's definition of poverty arises from lack of capability, not merely from low income. Sometimes the poverty is defined in terms of 'human rights approach' that define poverty as the violation of economic, political, social and civil rights. The rights may be right to education, right to minimum health, right to decent living and right to employment. These rights ensure an individual to be above the minimum threshold of capability.

11.3 MEASUREMENT OF POVERTY

Before analysing the measurement of poverty, it is necessary to have a clear cut idea that why do we need to measure poverty or in other words what is the benefit of measuring poverty. Poverty measurement is a powerful instrument to focus the attention of policy maker or government to focus on the living condition of poor. The second reason for measuring poverty is targeting. The measure of poverty clearly analyses the extent and gravity of poverty that varies among different geography (rural, urban, hilly, tribal dominated), different social categories of population (Scheduled caste, Scheduled tribe, Muslims, women headed households, households without earning members) etc. Take some example to explain this point. If the poverty among agricultural labour is high, government can take some measure so that this section of population can bridge the poverty gap by providing cheap credit facility, housing facility, different type of training facility etc. Likewise, if among ST population, the poverty rate is high than government can take some specific measure for this section of population. Poverty measurement also helps many international agencies to easily target the extremely poor region for intervention (within their limited resources). The measurement of poverty also helps the government to evaluate the policies and programmes specifically implemented to eradicate poverty. For example, if the KBK (Kalahandi-Koraput-Bolangir) region in Odisha is most poverty ridden, then government can implement some focused programmes in the same region. If we found that despite the implementation of different programmes, the poverty level in the region is high, the government can again review the policy and programmes. Ravallion (1998) points out that, “a credible measure of poverty can be a powerful instrument for focusing the attention of policy makers on the living conditions of the poor.”

11.3.1 Income Indicators of Poverty

At the outset, in estimating the incidence of poverty, we need an income threshold or poverty line to identify the poor. Income cut-offs used to identify the poor are often viewed as arbitrary. The poverty line can be defined as the minimum requirement of an individual for a healthy living. The minimum requirement can include both food and non-food items. There are many income poverty measures. We have discussed below some of the important poverty measures frequently used by researchers.

a) Head Count Index (HCR)

The most widely used poverty measure is the *headcount index*, which simply measures the proportion of the population that is counted as poor. In other words the incidence of poverty is defined as the proportion of poor to the total population.

$$\text{Poverty HCR} = \frac{\text{No. of People below poverty line (Np)}}{\text{Total population (N)}} \times 100$$

For example, if 120 people out of 600 total population are poor, then the proportion of population below poverty line is calculated as 20 per cent ($120/600 \times 100=20$ per cent). This is expressed in per centage. The headcount index is simple to construct and easy to understand and helps to compare among different subgroup/ areas (like rural/urban or social category such as SC/ST/OBC or different states) in a point of time or over a period of time. HCR enables us to know whether poverty rate is reducing and if reducing what is the pace of reduction.

However, the HCR method is not free from limitations. Firstly, the head-count index does not indicate how poor the poor are, and hence does not change if people below the poverty line become poorer. Moreover, the easiest way to reduce the headcount index is to target benefits to people just below the poverty line, because they are the ones who are cheapest to move across the line. But by most normative standards, people just below the poverty line are the least deserving of the poor. This can be explained by way of an example. Let us take two countries i.e. country 'A' and country 'B' and each having four persons.

HCR of Country A and B assuming poverty line 450

HCR of Country A and B assuming poverty line 450					
	Expenditure 1 st individual	Expenditure 2 nd individual	Expenditure 3 rd individual	Expenditure 4 th individual	HCP
Country A	250	275	500	500	50 per cent
Country B	448	449	500	500	50 per cent

If the poverty line is 450, then in both the countries 50 per cent of people are below poverty line, but country A shows the high intensity of poverty as compared to country B. Hence the proportion of people just below poverty line are less deserved poor as compared to the people lying far from poverty line. Secondly the HCR calculate poverty level by household. Hence if for a community or area where the family size is high, the per centage of poor is higher as compared to low family size area. Again the intra household issue of poverty is not captured by this method and we assume that the level of well being is same for all the household members. But in many cases, it is found that poverty level among girl child or senior people are higher than the adult member within the same household. The depth and severity of poverty can not be captured by the HCR method. This is captured by poverty gap index.

b) Poverty Gap Index (PGI) and Squared Poverty Index (SPI)

PGI is another measure that is derived from income or expenditure distribution. This measure shows how far below is the income/consumption from poverty line. In other words, it indicates the shortfall of poor relative to poverty line.

The PGI, which adds up the extent to which individuals on average fall below the poverty line, and expresses it as a per centage of the poverty line. More specifically, the poverty gap (G_i) is the poverty line (z) less actual income (y_i) for poor individuals; the gap is considered to be zero for everyone else.

$$PGI = \frac{1}{N} \sum_{i=1}^n (Z - Y_i) | Z \quad (Y_i < Z) \quad \dots(1)$$

On the other hand the Squared Poverty Index (SPI) is simply a weighted sum of poverty gaps (as a proportion of the poverty line), where the weights are the proportionate poverty gaps themselves; a poverty gap of (say) 20 per cent of the poverty line is given a weight of 20 per cent while one of 50 per cent is given a weight of 50 per cent; this is in contrast with the poverty gap index, where they are weighted equally.

The SPI can be defined in equation as

$$SPI = \frac{1}{N} \sum_{i=1}^n ((Z - Y_i) | Z)^2 \quad (Y_i < Z) \quad \dots(2)$$

(N = total population, Z = Poverty line, Y_i = Income/consumption expenditure)

The PGI and SPI can be explained with the help of a numerical example given below.

Calculating the Poverty Gap Index (PGI) and Squared Poverty Index (SPI), assuming poverty line of 130				
	Expenditure of each individual			
Expenditure in country A	110	115	150	160
Poverty gap	$(130-110)=20$	$(130-115)=15$	0	0
Gi/z	$20/130=0.15$	$15/130=0.12$	0	0
$(Gi/z)^2$	$(0.15)^2=0.024$	$(0.12)^2=0.013$	0	0
Poverty Gap Index = $(0.15+0.12)/4 = 0.07$				
Square Poverty Index = $(0.024+0.013)/4 = 0.009$				

You can check the above example where expenditure of first and second individual is 110 and 115 respectively (poverty gap is low) and for other two person this is the same, the PGI = 0.07 and SPI=0.009 whereas if the expenditure of first and second individual is 75 and 80 respectively then the PGI and SPI will be 0.20 and 0.082 respectively.

c) Sen Index (P_s)

Prof. Sen developed this index which combine the effect of number of poor, the depth of their poverty, and the distribution of poverty within the group. This can be defined in the equation as

$$P_s = P_0 \left(1 - (1 - G^p) \frac{\mu^p}{z} \right)$$

where P_0 is the headcount index, μ^p is the mean income (or expenditure) of the poor, and G^p is the Gini coefficient of inequality among the poor. There are two other measures the 'Sen-Shorrocks-Thon index' and the 'Watts Index' which we shall not go into detail.

11.3.2 Income and Non-Income Indicators of Poverty

As discussed in above sub section, the poor are identified by setting a poverty line on the basis of household consumption expenditure or income. The well being of a person defined on the basis of income or consumption expenditure is a unidimensional approach and this does not provide the complete picture of the extent of deprivation. Hence there is a need to define a multidimensional picture of poverty which includes several non income indicators like housing status, sanitation status, health status (child mortality, maternal mortality rate, morbidity), educational status etc.

Since 1990, UNDP has been preparing the Human Development Index by using three most important attainments such as

- Longevity:** The choice to lead a healthy life
- Educational attainment:** The choice to acquire knowledge
- Economic attainment:** To have access to the resources needed for a decent level of living

The countries ranked are on the basis of the composite indicators of the three choices. The HDR also estimates the Human Poverty Indices by taking three deprivations such as

- i) Proportion of population not expected to survive beyond 40 years
- ii) Adult literacy rate
- iii) Per centage of population without sustainable access to an improved water source and per centage of children aged 5 or below who are underweight for their ages.

Under the UNDP framework, the Planning Commission has also prepared the India's human development report by including 15 major states. The selection of indicator in planning commission's HDI is to some extent different from that of UNDP report. The basic difference between these two reports are given below. UNDP HDI takes life expectancy at birth, whereas the planning commission takes life expectancy at age 1 and IMR for longevity.

- For educational attainment, UNDP has taken adult literacy and enrolment ratio whereas planning commission has taken literacy 7+ and intensity of formal education.
- For economic attainment, UNDP has taken real GDP but planning commission has taken real per capita consumption expenditure adjusted for inequality.

By taking the above parameter, a composite index of diverse indicators is obtained and the countries or states are ranked according to the composite value of index.

Gender Related Development Index (GDI) or Gender Equality Index (GEI)

The human development index devised by planning commission or UNDP explain the over all development or well being of a person. But this attainment does not reflect gender based disparity in such attainment. In many of the indicators, the gender based disparity is there which directly or indirectly affects the poverty level of female population as compared to its male counterpart. The GEI has been estimated to measure the inequality in attainments on human development indicators between females and males. This approach helps the policy makers to reflect more on the gender related programmes and policies. The same three indicators are used for males and females separately and the gap of males and females in these attainments are found. The index has been presented as a ratio of attainments for females to that of males.

Capability Poverty Measure (CPM)

UNDP has also developed a new multi dimensional measure of human deprivation called the capability poverty measure (CPM). The CPM focuses on human capabilities. The capability poverty measure reflects per centage of people who lacks basic essential human capability.

The CPM considers the lack of three basic capabilities:

- The first is the lack of being well nourished and healthy represented in this case by the proportion of children under five years who are underweight.
- The second is the lack of capability for healthy reproduction, shown by the proportion of births unattended by trained personnel.

- The third is the lack of capability to be educated and knowledgeable, represented by female illiteracy.

11.4 DIMENSIONS OF POVERTY IN INDIA: THE INCOME AND NON-INCOME DIMENSION

The first step to estimate poverty rate is to define and quantify poverty line.

The Task Force on 'Projection of Minimum Needs and Effective Consumption Demand' constituted by the Planning Commission in 1979 defined the poverty line as per capita consumption expenditure level based on the nutritional requirement of 2400 calories per capita per day in rural areas and 2100 calories per capita per day in urban areas along with a minimum of nonfood expenditure. It used the age-sex-activity specific calorie allowances recommended by the Nutrition Expert Group (1968) to estimate the average daily per capita requirement for rural and urban areas using the age-sex-occupational structure of their respective population. They found out the monetary convert for the said kcal for both rural and urban areas. The poverty line is hence partly normative and partly behavioural as it takes the value of minimum calories requirement by a person along with a minimum non-food requirement like clothing, shelter, transport etc. By taking 28th round NSS data, the Task Force estimated that on an average, consumer expenditure of Rs. 49.09 per capita per month meet the requirement of 2400 calories in rural area and Rs. 56.64 per capita per month with an intake of 2100 calories per capita per day in urban areas. The same poverty line defined at national level (separately for rural and urban areas) was used in all the States/Union Territories (UTs). The expert group constituted by the Planning Commission in September 1989 on Estimation of Proportion and Number of Poor realised that due to inter state variation in prices the same all India poverty line cannot be used for all the states and union territories. Hence the expert group disaggregated these national level poverty lines of the Task Force into state-specific poverty lines using state-specific price indices and inter state price differential. The expert group took the state-specific cost of living indices for estimating and updating the poverty line separately for rural and urban areas. The poverty line inflated from time to time depending on the cost of living index. The poverty line as calculated in various rounds of NSS survey is given in Table 11.1.

Table 11.1: Poverty Line (Rs. Monthly Per Capita).

Year	Rural	Urban
1973-1974	49.63	56.76
1977-1978	56.84	70.33
1983	89.50	115.65
1987-1988	115.20	162.16
1993-1994	205.84	281.35
1999-2000	327.56	454.11
2004-2005	356.30	538.60

Source: Planning Commission (1997), Press Information Bureau (2001), Press Information Bureau, (2007).

The Planning Commission set up an expert group under the chairmanship of Prof. Suresh Tendulkar to examine the issue relating to new poverty line and estimates. The expert group submitted their report in the year 2009. The committee has

taken the NSSO quinquennial household consumption expenditure survey. The committee has taken the Mixed Reference Period (MRP) based estimate. The committee has taken the consumption poverty line as the reference poverty line basket of household goods and services consumed by those households at the borderline separating the poor from non-poor. The expert committee's proposed price indices are based on the household level unit value obtained from 61st round NSS household consumption expenditure survey for different food and non-food items for both rural and urban areas. As Tendulkar Committee adopted new reference basket and new price indices, hence it is not comparable with the official head count ratio. Table 11.2 explains the poverty line and per centage of population below poverty line. The per centage of rural population below poverty line declined to 33.8 per cent in 2009-10 from 41.8 per cent in 2004-05 in rural India.

Table 11.2: Poverty Line (Rs. Monthly Per Capita).

Year	Poverty Line (Rs)		Poverty Head Count Ratio (per cent)	
	Rural	Urban	Rural	Urban
2004-05	446.68	578.80	41.8	25.7
2009-10	672.80	859.60	33.8	20.9

a) **Income Poverty Indicators**

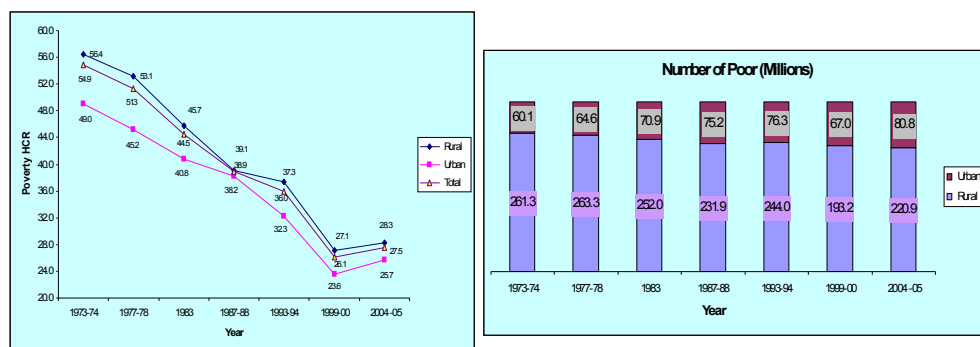
- Over the time period, India has shown a dramatic reduction in poverty which is well documented by the researchers. During the period between 1973-74 and 2004-05, the incidence of poverty declined continuously from 54.9 per cent to 27.5 per cent or the absolute number of poor decreased from 321.3 million in 1973-74 to 301.7 millions in 2004-05. In rural areas the poverty level reduced from 56.4 per cent to 28.3 per cent and in urban areas the same has reduced from 49 per cent to 25.7 per cent.
- However one thing should be kept in mind that the pace of reduction in poverty varies considerably during this period with a large decline in 1983 and a very small decline in 1993-94. The number of people below the poverty line increased by 7.6 million during the 1973-74 to 1977-78 and decreased by 21.8 million during the 1983 to 1987-88 and by 6.4 million during 1987-88 to 2004-05 (see Table 11.3).

Table 11.3: HCR Poverty in India, 1973-74/2004/05.

Year	Head Count			Absolute No. of Poor Below		
	Ratios (per cent)			Poverty Line (in million)		
	Rural	Urban	Total	Rural	Urban	Total
1973-74	56.4	49	54.9	261.3	60.1	321.3
1977-78	53.1	45.2	51.3	263.3	64.6	328.9
1983	45.7	40.8	44.5	252	70.9	322.9
1987-88	39.1	38.2	38.9	231.9	75.2	307.1
1993-94	37.3	32.3	36	244	76.3	320.4
1999-00	27.1	23.6	26.1	193.2	67	260.2
2004 -05	28.3	25.7	27.5	220.9	80.8	301.7

Source: Planning Commission downloaded from 'http://planningcommission.nic.in/news/conference/part2.pdf'

Graph 1: Trend of Poverty- Head Count Ratio and Number of poor.



Source: Planning Commission downloaded from

<http://planningcommission.nic.in/news/conference/part2.pdf>

The trend of poor is clearly visible in the above graph. The diagram shows that the rural share of total poverty is 81 per cent during 1973-74 which reduced to 73 per cent (8 per centage point reduced) in 2004-05. The number of urban poor increased by 10.6 million during 1973-74 to 1987-88.

- Highest levels of HCR among SCs and STs go with the highest depth as well severity of poverty.

The head count poverty by social category from the year 1983 to 2004-05 has been provided in tables. The poverty rate among STs reduced by 19.5 per centage point (from 63.9 per cent in 1983, 44.7 in 2004-05), whereas for SCs the per centage point reduction is 20.5 (from 58.4 in 1983 to 37.9 per cent in 2004-05). The per centage point reduction for other caste population is 18.4 per cent. The poverty rate in rural areas is high as compared to urban areas.

Table 11.4: Poverty rates among social category (1993-94 and 2004-05).

Location	Social Category	1983	1993-94	2004-05	Change 1983 to 2004-05
Rural	ST	63.9	50.2	44.7	19.2
	SC	59.0	48.2	37.1	21.9
	Other	40.8	31.2	22.7	18.1
	All	46.5	36.8	28.1	18.4
Urban	ST	55.3	43.0	34.3	21.0
	SC	55.8	50.9	40.9	14.9
	Other	39.9	29.4	22.7	17.2
	All	42.3	32.8	25.8	16.5
Total	ST	63.3	49.6	43.8	19.5
	SC	58.4	48.7	37.9	20.5
	Other	40.5	30.7	22.7	17.8
	All	45.6	35.8	27.5	18.1

Source: 'Poverty and Social Exclusion in India' The World Bank, 2011, Page 11.

- Poverty rates by religion in the year 2004-05 shows that poverty rate is highest among Buddhists (40.59 per cent) followed by Zorastrians (36.02 per cent). The rate is lowest among Sikhs (5.0 per cent) followed by Jains (2.59 per cent).

It may be noted that poverty is getting concentrated in few states and social groups. A group of four states comprising Bihar, M.P., Orissa and U.P. had a share of 49.8 per cent in the rural poor of the country in 1983. This share increased to 55 per cent in 1993-94 and further to 61 per cent in 2004-05.

- The poverty gap ratios have been incorporated in table 11.5 separately for rural and urban areas. About 16.56 per cent of the total consumption in the rural areas in 1973-1974 was needed to bring the poor to the poverty line whereas this came down to 5.70 per cent in 2004-05. The trend was the same in the urban areas where 13.64 per cent of the total consumption was needed to bring the poor to the poverty line in 1973-74 and only 6.12 per cent in 2004-05.

Table 11.5: Poverty gap ratio (Percentage).

Year	Rural	Urban
1973-1974	16.56	13.64
1977-1978	15.73	13.13
1983	12.32	10.61
1987-1988	9.11	9.94
1993-1994	8.45	7.88
1999-2000	5.11	4.84
2004-2005	5.70	6.12

Source: Estimated from the household consumer expenditure data of the NSSO, various Rounds.

b) Income and non-income indicators of Poverty

So far we have discussed poverty expressed by way of poverty ratio. No doubt it is an important aspect of the living standard, but this does not reflect certain aspects of non-income poverty expressed by way of the measures like health, education, nutrition, human development index, human poverty index, gender inequality index etc. Let us discuss the Indian situation in terms of non-income measure of poverty.

The National Human Development Report for India was prepared by Planning Commission in the year 2001. In the HDI index it has taken only the major states and in calculating the HPI it has taken all states. The HDI for the backward states like Bihar (0.367), Uttar Pradesh (0.388), Madhya Pradesh (0.394), Orissa (0.404) shows a very dismal performance as compared to the developed states like Kerala (0.638), Punjab (0.537), Tamil Nadu (0.531). In terms of Human Poverty Index the states like Rajasthan (46.67), Madhya Pradesh (43.47), Uttar Pradesh (48.27), Bihar (52.34), Orissa (49.85) have a relatively higher incidence of poverty. On the other hand the states like Kerala (19.93), TN (29.28), Punjab (25.06), Maharashtra (29.25) and Gujarat (29.46) shows a good performance.

Status of India on Capability Poverty Measures

On capability poverty measures also India fares poorly. The Body Mass Index (calculated below 18.5 kg/m^2) of women shows that 35.6 per cent of women are below 18.5 kg/m^2 . The per centage is almost same as that was in 1998-99. Bihar occupied the highest and Sikkim occupied the lowest position in 2005-06. The weight for age (underweight), height for age (stunting) and weight for height (wasting) are the three important anthropometrical measures that shows the nutritional status

of child. The per centage of underweight children was as high as 42.5 per cent in 2005-06. It reduced only by 11 per centage point from 1992-93. Madhya Pradesh bears the highest per centage of underweight children in India. Uttar Pradesh has the highest per centage of stunted children (48.0 per cent) in India.

Check Your Progress 1

- 1) In what way is the PG index more useful in assessing the poverty situation?

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- 2) Name the indicators which take note of income as well as non-income aspects of poverty.

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- 3) Do you find any difference in the trend of poverty reduction by social category and religion? Give reasons in support of your answer?

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- 4) What are the indicators of capability poverty measure?

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11.5 THE CONCEPT OF INEQUALITY

Literally, inequality means the lack of evenness or social disparity or disparity of distribution or opportunity, services, benefits or being unequal. In other words inequality is related to unequal access or different degrees of access of different individuals or groups of individuals to these opportunities, services and benefits. It looks at the relative levels of access of different groups to development opportunities and benefits. As inequality increases disparity also increases. The inequality occurs due to physical attributes (distribution of natural ability is not equal), personal preference (distribution between leisure and work), social process (pressure to work or not to work varies) and public policies (policy affects distribution of resources).

The analysis of inequality helps the policy maker to target a particular group of people or to a particular area.

11.6 INEQUALITY MEASUREMENT: THE INCOME AND NON-INCOME MEASURE

11.6.1 The Income Measure

There are different methods to measure inequality. The most commonly used measures of inequality are as follows:

Range: The range is simply the difference between the highest and lowest observation. If we have four observation i.e. 115, 78, 45, 220, the range will be equal to $(220-45)=175$. This method is very simple and easy to calculate and at the first hand gives us an impression on inequality. But the serious drawback of this method is that it ignores all other observations excluding two. The result is heavily affected by skewed out liers.

Range Ratio: Range ratio is calculated by dividing the income/expenditure of predetermined highest and lowest per centile. For example, if the income of 15 persons are 45, 48, 78, 87, 98, 120, 200, 221, 238, 250, 252, 267, 287, 322, 327 respectively and if we choose the 95th and 5th per centile than the range ratio will be

95th Per centile $\{(95/100 \times 15)=14^{\text{th}}$ person's income $\} 322 / 5^{\text{th}}$ per centile $\{(5/100 \times 15)= 1^{\text{st}}$ Person's income $\} 45=7.16$

This method is easy to understand and calculate and also minimise to some extent the heavy out layer. Like range method, the range ratio also has taken into account only two observations and this does not weigh other observations.

The McLoone Index: The McLoon Index divides the summation of all observations below the median, by the median multiplied by number of observation below median. In the above example median value is 221. Hence the sum of below median value is $=45+48+78+87+98+120+200=676$

Hence McLoone Index $=676/(221 \times 7)=0.44$

This method is easy to understand and comprehensive information on bottom half. The limitation of this index is that the above median observation is not taken into account.

Coefficient of Variation

The coefficient of variation (CV) is a distribution's standard deviation divided by its mean. For a clear understanding let's take an example of income of five persons in three countries.

Table 11.6

Person	Country 1	Country 2	Country 3
1	50	48	18
2	50	50	78
3	50	51	12
4	50	49	48
5	50	52	94
Mean	50	50	50
SD	0.0	1.4	32.2
CV	0.00	0.03	0.64

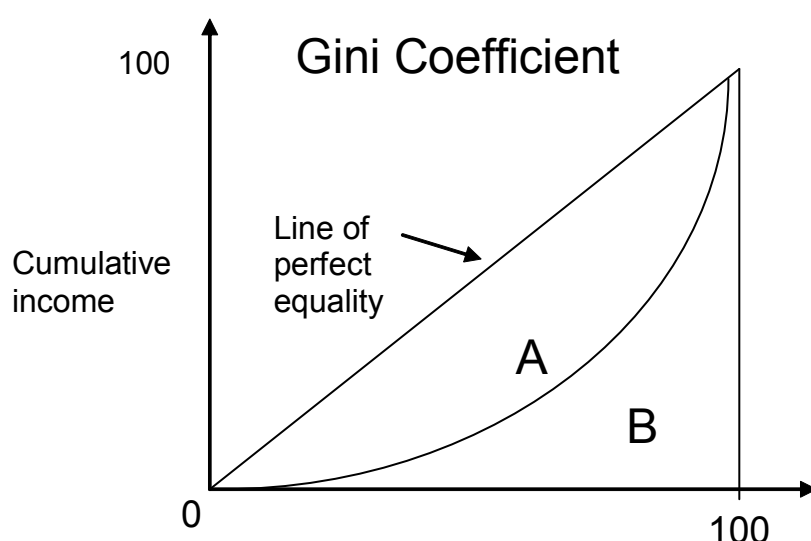
The above table shows that the income distribution in country 1 has perfect equality as the dispersion of income is zero, whereas in country 2 the dispersion is 1.4 (low) and in country 3 the dispersion is extremely skewed. The CV is weighted and fairly easy to understand.

Lorenz Curve

Lorenz Curve is a graphical representation of the proportionality of a distribution. It represents a probability distribution of statistical values, and is often associated with income distribution calculations and commonly used in the analysis of inequality. The population in the Lorenz curve is represented as households and plotted on the x axis from 0 per cent to 100 per cent. The income is plotted on the y axis and is also from 0 per cent to 100 per cent.

This can be plotted by a graph. In the graph shown below OX axis represents per centage of population and OY axis represents per centage of income.

If income distribution were perfectly equal then the cumulative per centage population will be exactly equal to cumulative per centage of income. The perfect equality line forms an angle of 45 degrees with a slope of $100/N$. The Gini coefficient is derived from the Lorenz curve.



The Gini coefficient is defined graphically as a ratio of two surfaces involving the summation of all vertical deviations between the Lorenz curve and the perfect equality line (A) divided by the difference between the perfect equality and perfect inequality lines (A+B). If the area between the line of perfect equality and Lorenz

curve is A, and the area under the Lorenz curve is B, then the Gini coefficient is $A/(A + B)$.

The major limitation of the method is that when comparing two Lorenz curves, it is not possible to determine which distribution has more inequality if the two curves intersect. It does not take into account the life time income. The construction of a Lorenz curve does not consider the ages of the persons, who receives income. The income of a young individual who enters jobs recently, those in mid-career and those of the old people who have retired, are not the same. But the Lorenz curve does not distinguish incomes by ages and reflects inequalities across all ages. It is therefore not correct to group the incomes of the people belonging to different age groups for measuring income inequality.

11.6.2 The Non-Income Measures

As analysed in the above section, the quality of life is measured in terms of both income and non-income aspect. The non-income aspect includes the access to safe drinking water, access to sanitation, access to education and health, employment opportunity. The levels of access of different facilities are measured in terms of inequality indicators. The level of access of different services varies among social groups, gender, geographical areas etc.

11.7 LEVEL OF INEQUALITY: THE INCOME/ CONSUMPTION AND OTHER NON-INCOME MEASURES

Over the recent years, the growth rate of GDP marked a spectacular progress. It increased from 3.5 per cent in 1950-51/1979-80 to 5.5 per cent in 1980-81/2000-01 and 7 per cent in 2001-02/2009-10. At the same time, the poverty rate has also declined to a significant extent. However, with the increased growth and reducing poverty, increased inequality in income and non-income aspects is observed. This means that a small segment of population has benefited from the fruits of economic growth and it has not percolated down to a large segment of population with the symptoms like low wages, little or no social services, and very little opportunity for improved mobility. The data available in Table 11.7 shows that the average monthly per capita consumption expenditure (MPCE) for poor was Rs 35.10 in 1973-74 and that of non-poor was Rs. 76.30. The poor have about 57 per cent less MPCE as compared to non-poor. On the other hand in 2004-05, the MPCE of poor and non-poor is Rs 284.80 and 666.90 respectively. This shows that the poors consumed about 42.7 per cent less as compared to non-poor. The Gini Coefficient of consumption expenditure was 0.2758 and 0.3013 in 1973-74 in rural and urban areas respectively. The Gini coefficient in 2004-05 and the inequality in distribution of consumption was 0.25 and 0.35 respectively..

Rural monthly per capita expenditure (MPCE) as per cent of urban MPCE declined from 75 per cent in 1973-74 to 61.4 per cent in 1993-94 and to 56 per cent in 2004-05 at all India level (Table 11.7). Again the above table shows that the gap in MPCE between poor and non-poor in both rural and urban is extremely high. The rural monthly per capita consumption expenditure of poor as a per centage of non-poor increased from 46 per cent in 1973-74 to 46.8 per cent in 1999-00 to 42.7 per cent in 2004-05. On the other hand the MPCE of poor as a per centage of non-poor in urban areas declined for 42.3 per cent in 1973-74 to 35.8 per cent in 1999-00 and further to 32.3 per cent in 2004-05.

Table 11.7: Average monthly per capita expenditure (Rs. per month at current price) and Gini Coefficient of Distribution of Consumption, 1973-2005.

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Year	Rural			Poor MPCE as per cent of non-poor	Urban			Poor MPCE as per cent of non-poor	Rural MPCE as per cent of urban	Gini Coefficient of Distribution of Consumption	
	Poor	Non-poor	Total		Poor	Non-poor	Total			Rural	Urban
1973-74	35.10	76.30	53.0	46.0	41.00	97.00	70.80	42.3	74.9	0.2758	0.3013
1993-94	159.20	353.60	281.4	45.0	212.80	575.40	458.00	37.0	61.4	0.2819	0.3400
2004-05	284.80	666.90	558.8	42.7	410.80	1273.30	1052.30	32.3	56.0	0.25	0.35

Source: (1) Reports of household consumer expenditure surveys conducted by NSSO.

(2) Gini Coefficient: From 1973-74 to 1999-00 taken from ERD Working Paper No. 51

Poverty Estimates in India: Some Key Issues, Assian Development Bank, 2004 and for 2004-05 taken from planning commission http://planningcommission.nic.in/data/datatable/1705/final_42.pdf

Inequality in distribution of consumption expenditure

The Table 11.8 shows the decile share of consumption expenditure. In rural areas the first decile (most poor) occupied with only 4 per cent of total consumption expenditure in rural areas in 1973-74 which increased to 4.13 per cent in 1993-94 and 4.08 per cent in 2004-05. On the other hand the highest quintile of people (most rich) occupied with about 22.88 per cent of rural consumption expenditure which has increased to 24.34 per cent in 1993-94 and 26.41 in 2004-05. Similar trend continued in urban areas.

Table 11.8: Deciles share of consumption expenditure in India.

Deciles	1973-1974		1993		2004-05	
	Rural	Urban	Rural	Urban	Rural	Urban
1st	4.02	3.90	4.13	3.37	4.08	3.07
2nd	5.52	5.27	5.51	4.65	5.32	4.19
3rd	6.46	5.90	6.31	5.54	6.12	5.07
4th	7.23	7.03	7.16	6.33	6.91	5.94
5th	8.17	7.68	7.98	7.31	7.72	6.95
6th	9.15	9.21	8.89	8.37	8.64	8.15
7th	10.38	9.33	10.06	9.77	9.74	9.64
8th	11.98	12.35	11.56	11.82	11.26	11.66
9th	14.21	14.21	14.06	15.18	13.81	15.13
10th	22.88	25.21	24.34	27.66	26.41	30.21

Source: Reports of household consumer expenditure surveys conducted by NSSO.

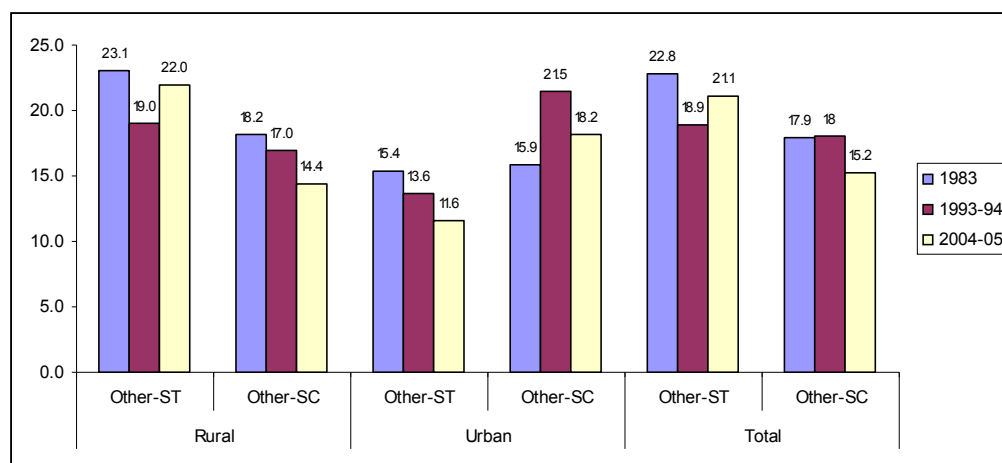
A big inequality is also observed among states in terms of monthly per capita consumption expenditure. Among the major states Delhi occupies the highest place.

The MPCE in rural Bihar risen from Rs. 93.76 in 1983 to Rs. 417.11 in 2004-05. On the other hand, in rural Kerala MPCE increased from Rs. 145.2 in 1983 to Rs. 1013.1 in 2004-05. In urban areas, Punjab shows a marked increase in MPCE (Rs. 184.38 in 1983 to Rs. 1326.00). On the other hand, the states like Bihar ranks the lowest position in MPCE in urban areas (Rs. 139.58 in 1983 to Rs. 696.27 in 2004-05).

Inequality in social category

The inequality in poverty rate is also visible among the sections belonging to different social categories. The graph given below shows the per centage point difference in poverty among population belonging to different social category. In rural areas, the difference of poverty rates between ST and Non-SC/ST in 2004-05 was 22 per cent point. This difference has not been reduced much since 1983. On the other hand the difference in per centage point between SC and non SC/ST is 14.4 per cent point. In urban areas the difference between SC and non SC/ST is 18.2 per cent point. For ST the difference is 11.6.

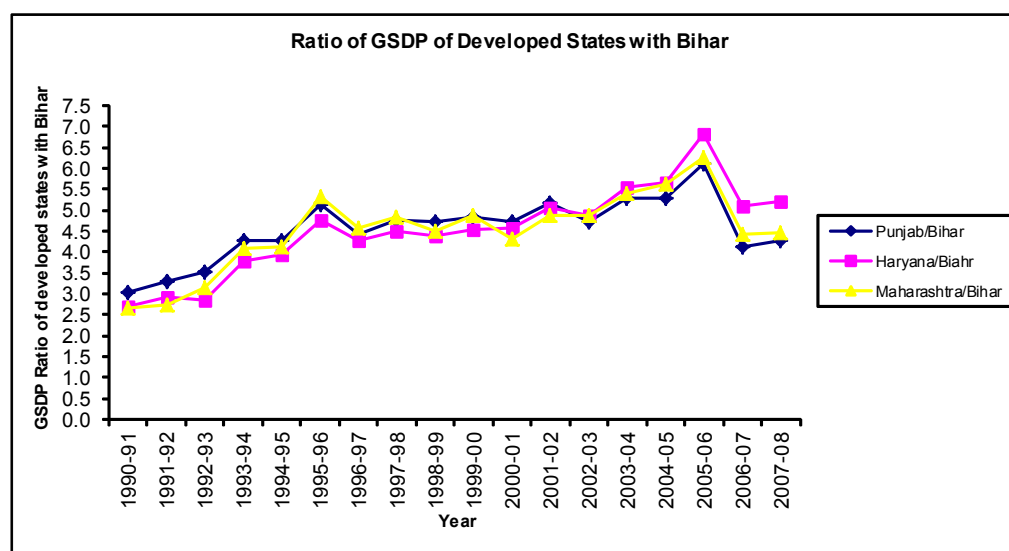
Graph 11.2: Difference in poverty rates between SC and ST with other caste population (1983 and 2004-05).



Source: Calculated from Table 11.4.

The per capita NSDP of major states given here shows a clear cut inequality among the states. The states like Haryana, Maharashtra and Punjab marked a good progress in terms of per capita NDP. On the other hand states like Bihar and Orissa lagged behind the developed states. In 1993-94, Punjab Maharashtra and Haryana have the PCNDP of Rs. 12710 and Rs. 12183 and Rs. 11079 respectively. On the other hand, the state like Bihar has a PCNNP of Rs. 3037 which is almost one fourth of that of Maharashtra and Punjab. Hence for both the time period, the per capita NSDP among the states show great inequality. The last two columns reflect the growth rate of per capita NSDP during 1993-94 – 1999-00. From 1993-94 to 1999-00 the state having a high growth rate includes Gujarat, Himachal, Karnataka, Rajasthan and Tamil Nadu. The poor performing states included Assam, Bihar, Jammu and Kashmir and Chattisgarh. In the 1999-2008 the well performing states included Uttarakhand, Kerala, Andhra Pradesh, Haryana, Gujarat and the low performing states included Madhya Pradesh, Punjab and Uttar Pradesh. Between the growth rate of two periods, the states like Orissa, Bihar and Uttarakhand registered a good progress. Bihar improved from 1.3 per cent growth to 5.4 per cent, Orissa from 2.7 per cent to 6.3 per cent and Uttarakhand from 0.9 per cent to 7.1 per cent of compound annual rate of growth. (per capita national domestic product)

Graph 11.3



Source: Calculated from data taken from National Account Statistics, MOSPI,
http://mospi.nic.in/Mospi_New/upload/SDPmain.htm

The per capita GSDP of states shows a marked inequality in India. In the graph it has been tried to capture the inter-state inequality by plotting the ratio of per capita GSDP of developed states Punjab, Haryana and Maharashtra with the backward state of Bihar. This shows that the ratio of per capita GSDP of Punjab, Haryana and Maharashtra was respectively 3.0, 2.7, 2.7 times of that of Bihar in the year 1990-91. In 1995-96, the per capita Net State Domestic Product (NSDP) of the richest states like, Punjab, Haryana and Maharashtra increased to 5.1, 4.7 and 5.3 times respectively, higher than that of Bihar (the poorest state). In the year 2005-06 the inequality became highest at 6.1, 6.8, 6.3 times respectively higher than Bihar. The graph shows that the basic hierarchy of the Indian states remained the same during the reform period, with Punjab, Haryana and Maharashtra at the top, and Bihar and Orissa at the bottom. The graph also shows that gap between the richest and poorest states opened up considerably after 1990-1991. Income share of top 1 per cent of consumer expenditure groups to average consumption expenditure is 7 times higher in 2004-05 reflecting a high degree of inequality.

Inequality in non-income aspects

The story of inequality is not limited to only income and expenditure but also extends to other dimensions like health, education and economic assets such as land. India not only has high income inequalities, but also unequal outcomes in terms of how severely underweight children are distributed across rich and poor households.

In India, 5 per cent of the children are severely underweight among the richest 20 per cent households. In case of the poorest 20 per cent households, this share is 28 per cent. The distribution of land, one of the most important economic assets, in developing Asia is heavily concentrated. This is particularly true in the South Asian countries where income/expenditure inequalities are high. A similar phenomenon is seen in terms of access to public services like clean water, health facilities, sanitation, electricity and schools.

As per the data available from the National Family Health Survey a large inequality is found in the three anthropometry measures of child nutrition. The per centage of child underweight in rural and urban areas are 32.7 and 45.6 per cent respectively. This shows a 12.9 per centage point difference. Likewise a high inequality is also

found in case of underweight by mothers' education. About 52 per cent of children are underweight for the households having an illiterate mother, whereas 17.9 per cent of children are found underweight for mothers who had completed 12 years of education. Inequality in underweight is also visible by social category. A marked difference in the per cent of underweight children is found in the wealth quintile of households. Almost 56.6 per cent of children are underweight from the lowest wealth quintile as against 19.7 per cent of children from the highest wealth quintile.

The child mortality rate and institutional delivery are the two most important aspect of health services. A large inequality is found in mortality rate. The IMR among lowest wealth quintile households is 100 per thousand as compared to 34 per thousand from highest wealth quintile households. Likewise the IMR in terms of education of mother shows a marked difference. The IMR among households having an illiterate mother is 95 as compared to 30 for households having mothers who had completed 12 years of education. The inequality in IMR among social category and NFHS rounds is also visible from the table. The per cent of delivery under a health facility also shows a high inequality. Among lowest wealth quintile households, only 12.7 per cent have undergone delivery in a health institution as compared to 83.7 per cent from the highest wealth quintile.

Maternal care indicators for births, one of the important indicators of health, shows a marked inequality. The per cent of women who received anti natal care are 90.7 and 72.2 in urban and rural areas respectively. Again, the per cent of women who had at least three anti natal care visits is 73.8 per cent and 42.8 per cent in urban and rural areas respectively. The inequality can also measured in terms of vaccination of children. Only 26.1 per cent of children having illiterate mothers are fully vaccinated as against 75.2 per cent of children with mothers completing 12 years of education and above. Among households belonging to lowest wealth quintile the per cent of children vaccinated is 24.4 per cent as compared to 71.0 per cent in the highest wealth quintile.

In terms of sanitation, electricity and asset ownership a marked difference is visible in rural and urban areas.

The inequality among states in terms of non-income aspects is found to be stark. The infant mortality rate in India decreased to 47 in 2010 from 57 in 2006. The estimates of under-five mortality in 2010 survey range from a high of 44 in UP and Chattisgarh to a low of 13 in Kerala (Appendix 1). The trend in birth delivered in a health facility is shown in Appendix Table 2. In the matter of birth cases, health facility increased to 38.7 per cent from 33.6 in 1998-99. The difference between delivery from NFHS-2 to NFHS-3 is relatively high in states like Andhra Pradesh, Jammu and Kashmir, Maharashtra and Punjab. In NFHS 3, the rate is highest (99.3 per cent) in the state of Kerala in 2005-06 (although the rate was as low as 4.4 per cent during 1992-93 in the state). The mothers' education has a great influence in nutritional status of child. Among the child having an illiterate mother, the institutional delivery rate is as low as 19.8 per cent as compared to 80.6 per cent among child having mothers' education more than 10 years and more (Appendix 3).

Driver of inequality

First, there has been a relative neglect of the agriculture sector by policymakers. While economic development entails a move from the off-farm to industry and services, deficiencies of public investments in agriculture, and in the rural economy

more generally, has been problematic precisely because the productivity of agriculture determines the standards of living of majority of the people in India. A deterioration of public ethics, public institutions, and public administration has together resulted in significant leakages of public expenditures. As a result, there exist schools with errant teachers not allowing measles immunisation to rural areas, and non-delivery of child nutrition programmes. A lack of accountability on the part of governments officials for delivery of public social services also drives inequality.

Check Your Progress 2

- 1) How would you measure the quality of life?

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- 2) Give a profile of inequality in distribution of consumption expenditure during 1993-94 to 2004-05.

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- 3) State the indicators of inequality in non-income aspects of life.

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11.8 INCLUSIVE GROWTH

The traditional economists view that inequality is inherent in the process of growth. During structural transformation of the growth process, certain sectors are highly benefitted from the process and certain sectors lagged behind. So in the initial period, growth leads to inequality. But after the process, the benefits of growth are percolated down to the lagging sectors and ultimately that leads to a more equitable growth. This process is visible in 'Kuznet curve' where inequality first rise and then fall. However, this process was not found true in India as increase in growth rate did not inevitably resulted decrease in inequality.

Inclusive growth emphasises that the economic opportunities created by growth are available to all particularly the poor — to the maximum possible extent. We may thus define inclusive growth as growth that not only creates new economic opportunities, but also ensures equal access to the opportunities created for all segments of society, particularly for the poor. Thus Inclusive growth is the process that focuses on both creating opportunities rapidly and making them accessible to all including the disadvantaged.

Felipe and Hasan explain four features of Asian economy:

- 1) high output growth with low employment growth
- 2) wage differential between bottom and top quantile and between rural and urban areas increase,
- 3) employment in informal sector where productivity and wage are low is either in rise or persistently high. These factors are important in lagging opportunity. Hence creating opportunity is the first pillar. The second pillar is equalising opportunity. Despite the attempt to equalise opportunity through different measures, there will be some section of the society which are not enjoying the fruits of growth process.

Hence there needs to be the social provision through safety net. This is the fourth pillar of inclusive growth.

The **International Policy Centre for Inclusive Growth (IPC-IG)**, is a partnership between the Poverty Practice of the Bureau for Development Policy, UNDP and the Government of Brazil. Located in Brasilia, IPC-IG facilitates South-South learning with the aim of expanding developing countries' knowledge and capacities to design, implement and evaluate effective policies towards the attainment of high inclusive growth. IPC-IG's work aims at equipping policymakers from developing countries with the skills necessary to formulate socially inclusive policies and to learn from successful policy experiences in the South. Strengthening capacity for policy analysis and implementation in the field through South-South learning is one of the services provided by IPC-IG to the development community and UNDP Country Offices.

The inclusive growth has extensively reflected in different plan period in India. In eleventh five year plan the GDP growth rate is likely to be of average 8.2 per cent as compared to 7.7 per cent of the 10th Plan. But despite an impressive growth in GDP, the country is lacking the achievement of inclusiveness. The 11th Plan defines inclusive growth to be "a growth process which yields broad-based benefits and ensures equality of opportunity for all". But this inclusiveness is not reflected as it was expected. We have seen progress on inclusiveness :Agricultural Growth, Poverty Reduction, Education, Health, Upliftment of Scs /STs etc. But however progress on inclusiveness is less than expected. It can be apprehended from different aspects. India missed achieving many indicators of millennium Development Goals (MDG). In the literacy front, the goal of increase in literacy among backward classes and other weaker sections has not been achieved. Agriculture growth is still in vulnerable conditions. The employment schemes like MGNREGS are not upto the mark. There are so many Plans, Policies, Schemes but their implementation is not according to their expected level.

As Govt. of India prepares to submit its approach paper for its 12th five-year plan, the Planning Commission's focus on instilling "inclusive growth" is making headway. The plan is expected to be one that encourages the development of India's agriculture, education, health and social welfare through government spending. It is also expected to create employment through developing India's manufacturing sector and move the nation higher up the value chain. Prime Minister Manmohan Singh, however, warned that maintaining fiscal discipline is important as well. An important aspect of generating "inclusive growth" is shifting the target of government aid to rural areas. The major aim of 12 five year plan are targeting GDP growth at 9.0 to 9.5 per cent range. An increase in literacy rates to 100 per cent between

the plan's period from 2012 to 2017, An increased expenditure on health from 1.3 per cent to 2.0 per cent of GDP. In its early stages, the 12th five-year plan promises a lot for rural development and growth. The Basic objective as stated in the Planning Commission is "Faster, More Inclusive and Sustainable Growth". It was said that the priority areas in 12th Five Year Plan would be Betterment of Farmers, Small Industries, Cottage Industries etc. It is asserted by the Planning Commission that growth need to be more inclusive.

The International Policy Centre for Inclusive Growth (IPC-IG), formerly the International Poverty Centre, is a partnership between the Poverty Practice of the Bureau for Development Policy, UNDP and the Government of Brazil. The IPC-IG facilitates South-South learning with the aim of expanding developing countries' knowledge and capacities to design, implement and evaluate effective policies towards the attainment of high inclusive growth. IPC-IG is a hub for South-South dialogue on applied research and training on development policy.

11.9 INCLUSIVE GROWTH – POLICY AGENDA

Agricultural Development

Agriculture development should be given priority. The recent trend shows that the contribution of agricultural sector to total GDP has reduced from 44.6 per cent to 17.2 per cent from the year 1958-59 to 2010-11. On the other hand, the absorption of labour in the agricultural sector has not reduced much during the same period. This shows that the pace of reduction of contribution of GDP to agricultural sector is extremely high as compared to pace of reduction of workforce in agricultural sector. Hence there is a need to develop the agricultural sector by way of irrigation and water management, credit, research and extension, marketing etc. Land and water management (including watershed development) are crucial for agriculture development. Development of agro based industries in rural areas has not only expanded the scope of employment but also reduced the heavy dependence on agricultural sector.

Public Investment

High investment in infrastructure is important for inclusive growth. In many developing countries it is visible that public expenditure as per centage of GDP is low and declining. As a result, public investment in rural development has declined sharply. Consequently agricultural growth slowed down in India. Priority to public investment in physical (irrigation, roads, communications, transport, electricity etc.) and human infrastructure (health, education etc.) is considered as one of the important factors responsible for inclusive growth.

Public Expenditure on Health and Education

There is a need to increase public expenditure on health and education. Effectiveness of these expenditures has to be improved. For example, expanded child and maternal immunisation, antenatal care coverage, nutritional supplementation (including promotion of exclusive breast feeding) and home based neo-natal services (including treatment of pneumonia) is likely to bring about significant reduction in both infant mortality and child malnutrition.

Development of Institutions

Development of institutions and strengthening the present institutions of service delivery are important. Several institutions seemed to have failed in delivering

better services particularly in health and education in rural areas. Institutions seem to be responsive when women are empowered. Decentralisation in terms of strengthening PRIs has to be improved in order to have better delivery systems.

Social Protection

The social protection system can play an important role in mitigating poverty and inequality through redistribution. This also helps to give the platform to the excluded section of the society. India has implemented a plethora of poverty alleviation programmes to address the issue of poverty and inequality. Most important programme is Public Distribution System (direct food subsidy), Indira Awas Yojana (Housing for poor) and direct cash transfer through the programmes like old age pension scheme, widow pension scheme, disability pension scheme, national family benefit schemes, etc. Some other programmes are also incentive based for example, incentives for institutional delivery, incentives for family planning, etc. For some of the educational development programmes like scholarship, free distribution of books, cycle, dresses, midday meal etc. are implemented.

From time to time the central and state governments implement different employment generation programmes which provides the minimum livelihood for rural and urban poor. The National Rural Employment Guarantee Act (NREGA) 2005, passed by the Government of India in August 2005, is a unique programme implemented by central government which guaranteed one hundred days of unskilled work per year on public works programmes to each rural Indian providing guaranteed employment entitled by law. Now, within fifteen days of a valid application, the government must provide work or unemployment allowance.

Check Your Progress 3

- 1) State the concept of inclusive growth.

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- 2) State how social protection can play an important role in mitigating poverty and inequality?

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11.10 LET US SUM UP

The unit deals with the nature and dimension of poverty and inequality and how the inclusive growth addresses these two issues. In general sense, poverty implies the lack of income/expenditure and the lack of access to basic needs like food, shelter, drinking water health etc.

Poverty is measured by the methods like head count ratio, poverty gap index,

squared poverty gap index by taking the income/expenditure. Several other non-income dimensions also play a major role in determining the level of poverty. The rate of poverty in India shows a reduction trend from 1973-74 to 2004-05. High growth with inequality has a common phenomenon of developing countries. How to tackle this lopsided growth with inequality is the major challenge. The inequality is measured by different methods like range, range ratio, coefficient of variation, and most importantly Lorenz curve. In India high inequality is found both in the income and expenditure and also in other non-income variables like IMR, underweight of child, literacy rate etc. Even geographical inequality also exists.

Inclusive growth not only creates new economic opportunities, but also ensures equal access to the opportunities created for all segments of society, particularly for the poor. Creating opportunity, equalising opportunity and providing the safety net are the main pillars of inclusive growth.

11.11 EXERCISES

- 1) What do you mean by poverty? Explain the indicators that cover income and non-income dimensions of poverty.
- 2) What do you mean by inequality? How are the inequalities of income measured in an economy? Also state the different indicators that cover inequality in non-income aspects of life.
- 3) Examine the policy implications of widespread poverty and inequality in the Indian economy.
- 4) “The quality of life in India is far from satisfactory.” Comment.

11.12 KEY WORDS

Poverty Line : Poverty line is the income/expenditure cut-offs used to identify the poor from non-poor. This is the minimum requirement of an individual for a healthy living. The minimum requirement can include both food and non-food items.

Head Count Ratio : This is the simplest measures of calculating the incidence of poverty. This is the proportion of the population that is counted as poor. In other words the incidence of poverty is defined as the proportion of poor to the total population.

$$\text{Poverty HCR} = \frac{\text{No. of People below poverty line (Np)}}{\text{Total population (N)}} \times 100$$

Poverty Gap Index : This is a measure to identify the incidence as well as severity of poverty which derived from income or expenditure distribution. This measure shows how below the income/consumption from poverty line.

Capability Poverty Measures : This is a multi dimensional measure of human deprivation developed by UNDP. The

indicator of this measure is the lack of being well nourished and healthy, the lack of capability for healthy reproduction, and the lack of capability to be educated.

Lorenz Curve

: This is a graphical representation of the proportionality of a distribution. This is often associated with income distribution calculations and commonly used in the analysis of inequality.

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11.14 ANSWERS OR HINTS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress 1

- 1) The PG index is helpful in working out the shortfall of consumption below the poverty line. It will indicate the magnitude of the effort that would be required to raise the consumption level of all the persons below the poverty line to the consumption level of the poverty line.
- 2) Human Development Index and Human Poverty Index.
- 3) See Section 11.4 (a)
- 4) See Section 11.4 (status of Indian on capability measure)

Check Your Progress 2

- 1) See Sub-section 11.6.2
- 2) See Section 11.7
- 3) See Section 11.7 under the head 'Inequality in Non-Income Aspects'.

Check Your Progress 3

- 1) See Section 11.8
- 2) See Section 11.9

Appendix 11.1

Per centage of children under age five years classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, according to state, India, 2005-06.

State	Height-for-age (Stunting)	Weight-for-height (wasting)	Weight-for-age (Underweight)
Andhra Pradesh	42.7	12.2	32.5
Assam	46.5	13.7	36.4
Bihar	55.6	27.1	55.9
Chhattisgarh	52.9	19.5	47.1
Gujarat	51.7	18.7	44.6
Haryana	45.7	19.1	39.6
Himachal Pradesh	38.6	19.3	36.5
Jammu & Kashmir	35	14.8	25.6
Jharkhand	49.8	32.3	56.5
Karnataka	43.7	17.6	37.6
Kerala	24.5	15.9	22.9
Madhya Pradesh	50	35	60
Maharashtra	46.3	16.5	37
Orissa	45	19.5	40.7
Punjab	36.7	9.2	24.9
Rajasthan	43.7	20.4	39.9
Tamil Nadu	30.9	22.2	29.8
Uttar Pradesh	56.8	14.8	42.4
Uttaranchal	44.4	18.8	38
West Bengal	44.6	16.9	38.7
India	48	19.8	42.5

Appendix 11.2: Statewise IMR, 2006 and 2010

Poverty, Inequality and
Inclusive Growth: Some
Policy Implications

	2006			2010		
	Male	Female	Person	Male	Female	Person
Delhi	36	39	37	30	37	29
Haryana	57	58	57	48	51	38
Himachal Pradesh	45	55	50	40	41	29
Jammu & Kashmir	51	53	52	43	45	32
Punjab	39	50	44	34	37	28
Rajasthan	65	69	67	55	61	31
Uttaranchal	42	44	43	38	41	25
Chhattisgarh	59	62	61	51	52	44
Madhya Pradesh	72	77	74	62	67	42
Uttar Pradesh	70	73	71	61	64	44
Bihar	58	63	60	48	49	38
Jharkhand	46	52	49	42	44	30
Orissa	73	74	73	61	63	43
West Bengal	37	40	38	31	32	25
Assam	67	68	67	58	60	36
Gujarat	52	54	53	44	51	30
Maharashtra	35	36	35	28	34	20
Andhra Pradesh	55	58	56	46	51	33
Karnataka	46	50	48	38	43	28
Kerala	14	16	15	13	14	13
Tamil Nadu	36	37	37	24	25	22
India	56	59	57	46	49	47

Source: Economic Survey 2011-12; Sample Registration System 46; Dec. 2011, Office of Registrar General, Ministry of Home Affairs.

Appendix 11.3: Per centage of births delivered in a health facility five years preceding the survey by state, India, 2005-06

States	Percentage	Mothers' Education				NFHS-2
		No education	< 8 years complete complete	8-9 years	10 years complete and above	
Andhra Pradesh	64.4	46.9	76.8	85	90.8	49.8
Assam	22.4	9.8	16.7	32.5	71.2	17.6
Bihar	19.9	12.6	28.3	45.6	64.6	14.8
Chhattisgarh	14.3	5.5	12	26	67.2	13.8
Gujarat	52.7	38.4	53.5	68.6	83	46.3
Haryana	35.7	14.6	38	43.6	69.6	22.4
Himachal Pradesh	43	19	28.4	37.5	61.2	28.9
Jammu & Kashmir	50.2	40.7	52.1	65.5	81.7	35.7
Jharkhand	18.3	8.2	18.5	46.7	68.8	13.9
Karnataka	64.7	36.7	68.5	82.3	89.5	51.1
Kerala	99.3	*	98.8	99.5	99.7	92.9
Madhya Pradesh	26.2	37.7	58.4	71.8	89.6	52.6
Maharashtra	64.6	17.3	33.6	39.3	79.9	22
Orissa	35.6	14.8	48.8	61.6	74.1	22.6
Punjab	51.3	30.8	41.5	54.2	78.1	37.5
Rajasthan	29.6	20.6	45.8	60.2	78.9	21.5
Tamil Nadu	87.8	79.3	90.1	88.6	96.7	79.3
Uttar Pradesh	20.6	13.6	23.2	29.1	59.2	15.2
Uttaranchal	32.6	15.6	30.8	25.3	71.2	20.6
West Bengal	42	22.9	45.8	64.2	89.5	40.1
India	38.7	19.8	45.7	57.8	80.6	33.6