Block 4

Emerging Challenges

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UNIT 13 POVERTY, MALNUTRITION AND INCLUSIVE GROWTH

Structure

13.0 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;
- Analyse the implication of Poverty in India;
- Define the Concept of Malnutrition;
- Identify factors that contribute the mal-nutritional among children and adults in India;

- Recognize factors that influence nutritional outcomes with in the households and whether they are different from the monetary poverty line;
- Identify the time horizon to end malnutrition under different income growth scenarios;
- Compare the nutrition problem in India despite the progress made in poverty reduction;
- State the concept of inclusive growth;
- Examine the status of India in terms of inclusive growth; and
- Explain the policy implications on poverty, malnutrition and inclusive growth.

13.1 INTRODUCTION

To begin the discussion, on poverty, inequality and inclusive growth, two important points need to be stated: (i) Poverty, inequality (and hence the need for inclusive growth) and unemployment are interrelated issues. One cannot be appreciated without understanding the dimensions of the other, and (ii) we need to distinguish between the concept of absolute poverty and relative poverty. Some other concepts of poverty – income poverty, human poverty and multidimensional poverty are equally important. As to the first, it needs to 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 society – asset owners and assets to share in the fruits of growth. Basically, it is the equitable distribution of income and wealth that ensures inclusive growth. Empirical evidence has 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 visualized. 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, thus a large part of the national product goes to the pockets of a few, and the large masses are left to take care of themselves. Whatever the situation is, if a meaningful

effort is to be made to lift poor persons to a respectable level of living, inclusive growth is the answer.

13.2 THE CONCEPT OF POVERTY

Poverty is a multi-dimensional phenomenon. The Beijing Platform for Action recognized that "poverty has various manifestations, including lack of income and productive resources sufficient to ensure sustainable livelihoods; hunger and malnutrition; ill health; limited or lack of access to education and other basic services; increased morbidity and mortality from illness; homelessness and inadequate housing; unsafe environments; and social discrimination and exclusion. It is also characterized by a lack of participation in decision-making and in civil, social and cultural life". Thus, while the economic dimension of poverty remains central, other factors such as lack of opportunities, deprivations , vulnerabilities and social exclusion are recognized as key components in defining poverty.

[1 United Nations, 1995a, para. 47. This characterization of poverty was first stated in the Copenhagen Programme of Action of the World Summit for Social Development (United Nations, 1995b, Annex II, para. 19).]

In the development literature, poverty is defined as 'multi-dimensional' which is measured not just concerning lack of income, but also related to basic needs such as health, education, nutrition and shelter. In the broader approach, poverty includes a 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. Various concepts of poverty such as Absolute poverty, Relative poverty, Income poverty, Human Poverty, and Multidimensional poverty have been developed by the UNDP and presented in Human Development Reports, 1990 and 1997. Poverty has been defined as

'a human condition characterized 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 the capability to function in society. Poverty arises in a 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 a lack of capability, not merely from low income. Sometimes poverty is defined in terms of the 'human rights approach' which defines poverty as the violation of economic, political, social and civil rights. The rights may be the right to education, the right to minimum health, the right to decent living and the right to employment. These rights ensure an individual is above the minimum threshold of capability.

Absolute poverty: Poverty is defined in absolute terms if the content of a poverty standard (whether defined by commodities or characteristics) is taken to be fixed across time and space. A historical notion of subsistence — reflecting a very minimal list of basic needs — is at the base of this notion, where the defining variables are commodities or their characteristics.

Absolute poverty is measured by comparing a person's total income against the total cost of purchasing a specific 'basket' of Goods and services representing the essentials of daily life. People with inadequate income to purchase this basket of goods and services are considered to be living in absolute poverty.

Relative poverty: The relativist approach defines requirements not merely for existence but for leading a full life as members of a social community. The living standard can be defined by conducting a survey of actual consumption practices or by surveying a sample of households for what they consider adequate consumption practices. The relativist approach is thus sociocultural rather than narrowly physiological. Since it goes beyond commodities as well as characteristics and consumption practices, it demands more data.

Relative poverty compares a person's total income and spending patterns with those of the general population. People with lower income who spend a larger portion of their income on a basket of goods and services, compared with some threshold that is more typical of the general population, are considered to be living in relative poverty.

Income Poverty: Income poverty is a well-accepted concept of poverty. The concept states that if a person or household does not has that much level of income which is sufficient to meet daily requirements of food – in terms of calories – to survive and lead a healthy life—and other necessities of life , then it is presumed that he is poor. HDR 1997 states, "Amenable to econometric analysis and statistical exercises, the measurement of income poverty has dominated the literature. Those measuring income poverty have focused more on it incidence than on its depth and severity. The incidence of income poverty is usually measured by a headcount index, which represents the percentage of people below the chosen poverty line."

Often, an international poverty line is chosen to compare the incidence of poverty across border. World Bank used a poverty line of $1 (1985 PPP$) a day per person to compare poverty in most of the developing world. The dollar-a-day line, created by Ravallion et al. (1991), used 1985 PPPs. When a new set of PPPs was published in 1993, the line changed to $1.08 per day. PPPs were revised again in 2005, and the line was correspondingly upped to $1.25. The World Bank updated the international poverty line from $1.25 to $1.90 per day in 2015. The new extreme poverty line of $2.15 per person per day, which replaces the $1.90 poverty line, is based on 2017 PPPs. Developing countries, including India, that have set national poverty lines have generally used the food poverty method. These lines indicate the

insufficiency of economic resources to meet basic minimum needs in food. There are three approaches to measuring food poverty.

Human Poverty: Human Development Report 1997, published by the UNDP, presented the concept of Human Poverty on a wider canvas of poverty-particularly the income poverty. Human poverty is more than income poverty-it is the denial of choices and opportunities for living a tolerable life. Poverty of live and opportunities — or human poverty—is multidimensional in character and diverse rather than uniform in content. Human poverty includes many aspects that cannot be measured or are not being measured. It is difficult to reflect them in a composite measure of human poverty. Critical dimensions of human poverty excluded from the Human Poverty Index (HPI) for these reasons are lack of political freedom, inability to participate in decision-making, lack of personal security, inability to participate in the life of a community and threats to sustainability and intergenerational equity.

Multidimensional Poverty: One of the most comprehensive measures of poverty is the Multidimensional Poverty Index, developed in collaboration with the Oxford Poverty and Human Development Initiative (OPHI), and published for the first time in the twentieth anniversary edition of the HDR in 2010. The Multidimensional Index (MPI) – with slightly different indices now published separately by UNDP and OPHI – goes beyond monetary measures of poverty by considering overlapping deprivations suffered simultaneously. The MPI emerged from the MDG indicators but instead of combining country's aggregates across indicators it used information at the level of household to enable counting of overlapping deprivations and number of people that contend with them. The index identifies deprivations across the same three dimensions as the HDI and shows the number of people who are multi-dimensionally poor (suffering deprivations in 33% or more of weighted indicators) and the number of deprivations with which poor households typically contend with. MPI captures deprivation in health (nutrition & Child mortality), education (years of schooling & children enrolled), standard of living (cooking fuel, toilet, water, electricity, floor & assets). It can be deconstructed by region, ethnicity and other groupings as well as by dimension, making it an apt tool for policymakers.

13.3 MEASUREMENT OF POVERTY

Poverty measurement is a powerful instrument to focus the attention of policymakers or government on the living conditions of the poor. The second reason for measuring poverty is targeting. The measure of poverty analyses the extent and gravity of poverty that varies among different geographies (rural, urban, hilly, tribal-dominated), different social categories of population (Scheduled caste, Scheduled tribe, Muslims, women-headed households, households without earning members) etc. 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 that are specifically implemented to eradicate poverty. Ravallion (1998) points out that,

"a credible measure of poverty can be a powerful instrument for focusing the attention of policymakers on the living conditions of the poor."

13.3.1 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 healthy living. The minimum requirement can include both food and non-food items. There are many income poverty measures. Some of the important poverty measures frequently used by researchers are.

a) Head Count Ratio (HCR)

The most widely used poverty measure is the *headcount Ratio*, 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.

$$\text{Poverty HCR} = \frac{\text{Number of people below the poverty line (Np)}}{\text{Total population (N)}} \times 100$$

This is expressed in percentage. The greatest virtues of the headcount Ratio are that it is simple to construct and easy to understand and helps to compare among different subgroups/areas (like rural/urban or social categories such as SC/ST/OBC or different states) in a point of time or over some time. From this, we can know whether the poverty rate is reducing or not 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 ratio is to target benefits to people just below the poverty line, because they are the ones who are to be moved across the line.

Again, the intra-household issue of poverty is not captured by this method and we assume that the level of well-being is the same for all the household members. But in many cases, it is found that the poverty level among girl children or senior people is higher than the adult members within the same household. The depth and severity of poverty cannot be found by the HCR method. This is captured by the poverty gap index.

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

PGI is derived from income or expenditure distribution. This measure shows how far a household's income/consumption is below from the poverty line. On the other hand, the PGI shows the shortfall of the poor relative to the poverty line.

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

$$PGI = 1/N\sum_{i=1}^{N}(Z-Y_i)/Z \quad (Y_i<Z) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

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% of the poverty line is given a weight of 20% while one of 50% is given a weight of 50%; this is in contrast with the poverty gap index, where they are weighted equally.

The SPI can be expressed in the equation form as

$$SPI = \frac{1}{N}\sum_{i=1}^{N}\frac{Z-Y_i}{Z}^2 \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

Where $Y_i<Z$

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

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

Table13.1: Calculating the Poverty Gap Index (PGI) and Squared Poverty Index (SPI), assuming a 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=.15	15/130=.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 = (.024+.013)/4 =.009				

You can check the above example whether the expenditure of the first and second individual is 120 and 125 respectively (poverty gap is low) and for the other two people this is the same, the PGI=0.03 and SPI=.002 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 (Ps).

Prof. Sen developed this index which combines the effect of several poor, the depth of their poverty, and the distribution of poverty within the group. This is expressed can be defined in the equation form as:

$$P_S = P_0(1 - (1 - G^P)\frac{\mu^P}{z})$$

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.

13.3.2 Non-Income Indicators of Poverty

As discussed in the above sub-section, the poor are identified by setting a poverty line based on 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.

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 the percentage of people who lack basic essential human capability. This helps them to have a strong human development.

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.

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

The first step to estimating the poverty rate is to define and quantify the poverty line. Planning Commission had constituted following task forces/Expert groups /Committees to estimate the level of poverty in the country.

The Task Force on 'Projection of Minimum Needs and Effective Consumption Demand', headed by Prof. Y.K. Alagh was constituted by the Planning Commission in (1979). It defined the poverty line as the 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 non-food 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. Then they find 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 calorie 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 average, consumer expenditure of Rs. 49.09 per capita per month meets the requirement of 2400 calories in rural areas 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 the national level (separately for rural and urban areas) was used in all the States/Union Territories (UTs).

In September, 1989 an **Expert Group on 'Estimation of Proportion and Number of Poor' was constituted under the chairmanship of Prof D.T. Lakdawala**, to look into the methodology for estimation of poverty and to redefine the poverty line, if necessary. The Expert Group which submitted its report in 1993 did not change the definition of poverty defined by Task Force. However, the Expert Group recommended the disaggregation of the national poverty line into state wise poverty lines in order to reflect the state wise price differences.

In 2005, an **Expert Group under the Chairmanship of Prof. Suresh D. Tendulkar** was set up to review the methodology of estimation of poverty. The Expert Group has submitted its report recently on 8th December 2009.

The Tendulkar 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 the non-poor. The expert committee's proposed price indices are based on the household level unit value obtained from the 61st round NSS household consumption expenditure survey for different food and non-food items for both rural and urban areas. As the Tendulkar Committee adopted a new reference basket and new price indices, hence it is not comparable with the official headcount ratio. Table 13.2 explains the poverty line and the percentage of the population below the poverty line. The percentage of the population below the poverty line declined to 21.9 % in 2011-12 from 37.2 % in 2004-05 in India. In rural India, the proportion is comparatively higher as compared to urban areas. A 12-percentage point

difference in poverty headcount ratio is found between rural and urban areas in the year 2011-12. Between the years 2004-05 to 2011-12, a 16-percentage point reduction is visible in rural areas whereas the same for urban areas is 12 percentage points. Based on the consumption expenditure data, Himanshu et.al. estimated the poverty rate for the year 2022-23. As per their findings, the total poverty rate reduced from 21.9 per cent to 4.9 per cent implying a 17-percentage point reduction as compared to the rate of poverty in 2011-12. The rural and urban poverty rate for 2022-23 was calculated as 5.8 and 2.5 per cent respectively for rural and urban areas indicating a reduction of 20 per cent and 11 percentage points respectively.

Table 13.2: Poverty Line (Rs. Monthly Per Capita)

	Poverty Line (Rs)		Poverty Head Count Ratio (%)		
Year	**Rural**	**Urban**	**Rural**	**Urban**	**Total**
2004-05	446.7	578.8	41.8	25.7	37.2
2009-10	672.8	859.6	33.8	20.9	29.8
2011-12	816.0	1000.0	25.7	13.7	21.9
2022-23#	1715	2005	5.8	2.5	4.9

Source: From 2004-05 to 2011-12, calculated from different NSS consumption expenditure data. #: Himanshu et.al 2025

The poverty line inflated from time to time depending on the cost-of-living index. The poverty lines as calculated in various rounds of the NSS survey is given in Table 13.3.

Table 13.3: 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
2011-2012	972.00	1407.0
2022-2023	1715.00	2005.00

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

Himanshu et.al (2025), 'Prices, Poverty Lines, and Poverty in 2022–23' March 8, 2025 vol lx no 10, EPW

The Expert Group under the Chairmanship of Dr. C. Rangarajan to Review the Methodology for Measurement of Poverty in the country constituted by the Planning Commission in June 2012 had submitted its report on 30th June 2014. Key findings of Rangarajan Group were the following:

- The Expert Group (Tendulkar) had used the all-India urban poverty line basket as the reference to derive state-level rural and urban poverty. This was a departure from the earlier practice of using two separate poverty line baskets for rural and urban areas.
- The Expert Group (Rangarajan) reverts to the practice of having separate all-India rural and urban poverty basket lines and deriving state-level rural and urban estimates from these.
- The Expert Group (Tendulkar) had decided not to anchor the poverty line to the then available official calorie norms used in all poverty estimations since 1979 as it found a poor correlation between food consumed and nutrition outcomes.
- The Expert Group (Rangarajan) took a considered view that, "deriving the food component of the Poverty Line Basket by reference to the simultaneous satisfaction of all three nutrient -norms would be appropriate when seen in conjunction with the emphasis on a full range of policies and programmes for child-nutrition support and on public provisioning of a range of public goods and services aimed at the amelioration of the disease-environment facing the population."
- According to Rangarajan Group, "The poverty line should be based on certain normative levels of **adequate nourishment, clothing, house rent, conveyance and education, and a behaviorally determined level of other non-food expenses**".
- The new poverty line thus worked out to monthly per capita consumption expenditure of Rs. 972 in rural areas and Rs. 1,407 in urban areas in 2011-12. For a family of five, this translates into a monthly consumption expenditure of Rs. 4,860 in rural areas and Rs. 7,035 in urban areas.
- The Expert Group (Rangarajan) therefore estimates that, "30.9% of the rural population and 26.4% of the urban population was below the poverty line in 2011-12. The all-India ratio was 29.5%. In rural India, 260.5 million individuals were below poverty and in urban India 102.5 million were under poverty. Totally, 363 million were below poverty in 2011-12."
- The poverty ratio has declined from 39.6% in 2009-10 to 30.9% in 2011-12 in rural India and from 35.1% to 26.4% in urban India. The decline was thus a uniform 8.7 percentage points over the two years. The all-India poverty ratio fell from 38.2% to 29.5%. Totally, 91.6 million individuals were lifted out of poverty during this period.

Income Poverty Indicators

Over the period, India has shown a dramatic poverty reduction which is well documented by the researchers. During the period between 1973-74 and 2022-23, the incidence of poverty declined continuously from 54.9 per cent to 4.9 per cent or the absolute number of poor decreased from 321.3 million in 1973-74 to 68 million in 2022-23. In rural areas, the poverty level reduced from 56.4 per cent to 5.8 per cent and in urban areas, the same has reduced from 49 per cent to 2.5 per cent.

However, one thing should be kept in mind that the pace of poverty reduction varies considerably during this period with a large decline in 2022-23 and a very small decline in 1987-88. The number of people below the poverty line increased by 7.6 million during 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 21.3). A decline of 137 million was registered between 2004-05 and 2011-12. The decline in 2022-23 is about 202 million over about a decade. The annual average decline (%) from 1993-94 to 2004-05 is 0.74 % whereas the decline between 2004-05 to 2011-12 is 2.18. The annual average decline from 2011-12 to 2022-23 is 1.42 per cent whereas, in rural areas and urban areas, the annual average decline is respectively 1.68 per cent and 0.83 per cent.

Table 13.4: HCR Poverty in India, 1973-74/2011/12

Year	Head Count Ratios (%)			Absolute Number of Poor Below Poverty Line (in millions)		
	Rural	Urban	Total	Rural	Urban	Total
1973-74	56.4	49.0	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	252.0	70.9	322.9
1987-88	39.1	38.2	38.9	231.9	75.2	307.1
1993-94	37.3	32.3	36.0	244.0	76.3	320.4
2004-05	41.8	25.7	37.2	326.3	80.8	407.1
2011-12	25.7	13.7	21.9	216.7	53.1	269.8
2022-23*	5.8	2.5	4.9	52.0	12.0	68.0
Annual Average decline (%) 1993-94:2004-05	0.75	0.55	0.74			
Annual Average decline (%)2004-05: 2011-12	2.32	1.69	2.18			
Annual Average decline (%) 2011-12: 2022-23	1.68	0.83	1.42			

***Source*:** Planning Commission and *Himanshu et.al.2025

The trend of poor is visible in the graph 13.1 (a and b). The Graph shows that the rural share of total poverty was 81 per cent during 1973-74 which increased to 83 per cent (2 percentage points increased) in 2022-23. The number of urban poor increased by 10.6 million during 1973-74 to 1987-88. Between 2004-05 to 2011-12, it decreased by 28 million in urban areas whereas in rural areas it declined by 109 million during the same period. Again, the absolute number of populations below the poverty line reduced from 53 million to 12 million in urban areas and in rural areas, it reduced from 217 million to 52 million in urban areas between 2011-12 and 2022-23.

The poverty headcount ratio by social category provides an insight into the inequality in the prevalence of poverty. The highest levels of HCR among SCs and STs go with the highest depth as well as severity of poverty.

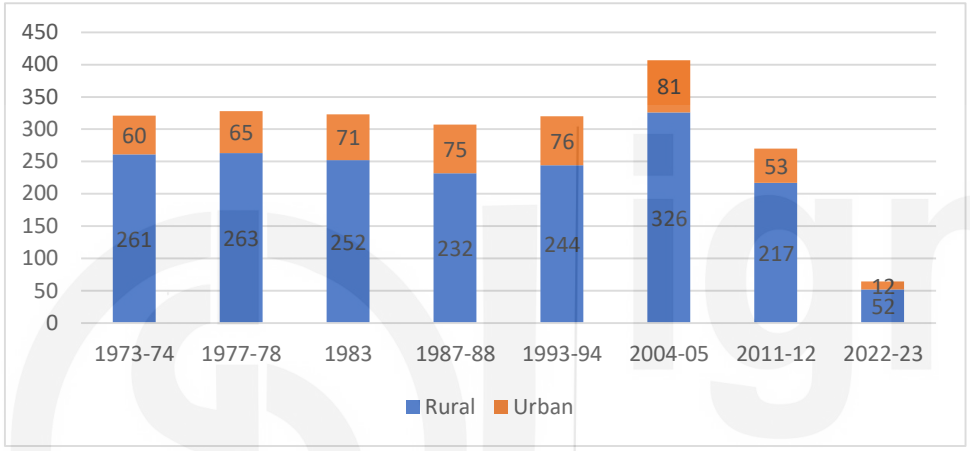

Fig. 13.1a: Trend of Poverty- Head Count Ratio and Number of Poor

Source: same as Table 13.3

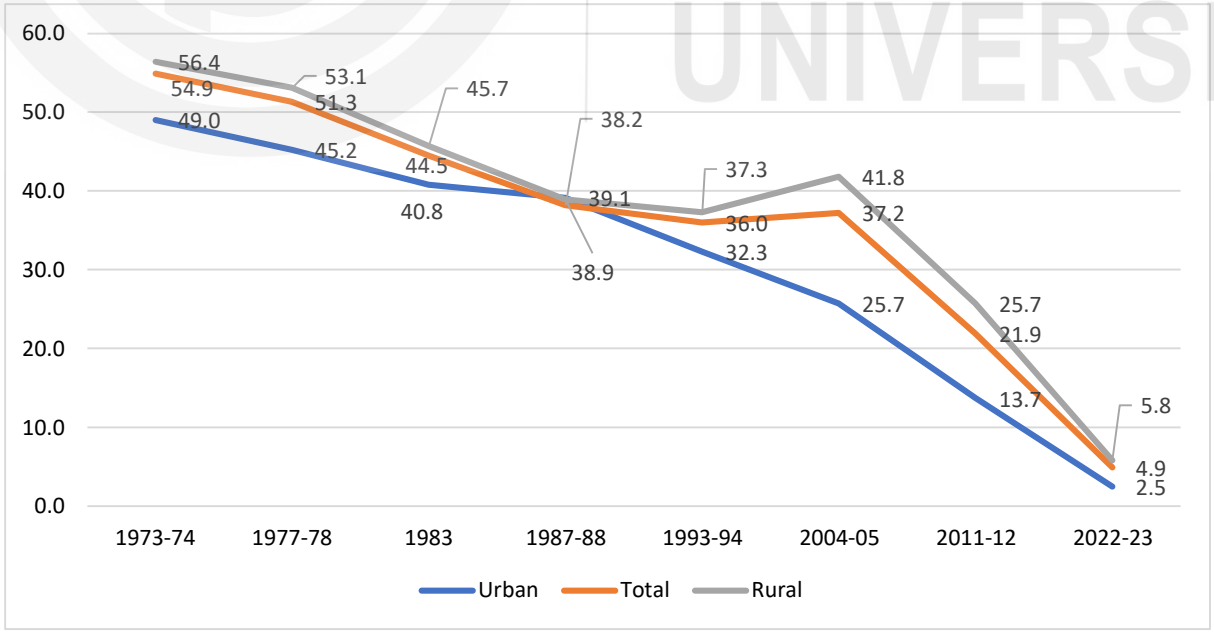

Fig 13.1b: Trend of Poverty- Head Count Ratio and Number of Poor

Source: same as Table 13.3

The headcount poverty by social category from the year 1993 to 2022-23 has been provided in Table 13.5. The poverty rate among STs reduced by 44.4 percentage points (from 60.0 per cent in 2004-05 to 15.6 in 2022-23), whereas for SCs the percentage point reduction is 44.9 (from 50.9 in 2004-05 to 6.0 % in 2022-23). The percentage point reduction for other caste populations (other than SC/ST/OBC) is 21.0 percentage points (23.0 per cent in 2004-05 to 2.0 in 2011-12). A large differential in poverty rate is found between rural and urban areas. In 2022-23 the poverty rate of ST is 16.8 percent in rural areas whereas in urban areas it is 5.7 per cent (11 percentage point difference).

Table 13.5: Poverty rates among social categories (1993-94 and 2022-23)

Area	Social Category	Percentage population below the Tendulkar line					Percentage point poverty reduction	
		1993-94	2004-05	2009-10	2011-12	2022-23*	2004-05 to 2011-12	2011-12 to 2022-23
Rural	ST	65.9	62.3	47.4	45.3	16.8	16.9	28.5
	SC	62.4	53.5	42.3	31.5	6.6	22.0	24.9
	OBC	44.0	39.8	31.9	22.7	4.8	17.1	17.9
	FC		27.1	21.0	15.5	2.6	11.6	12.9
	All	50.3	41.8	33.3	25.4	5.8	16.4	19.6
Urban	ST	41.1	35.5	30.4	24.1	5.7	11.4	18.4
	SC	51.7	40.6	34.1	21.7	3.6	18.8	18.1
	OBC	28.2	30.6	24.3	15.4	1.9	15.2	13.5
	FC		16.1	12.4	8.1	1.1	8.0	7.0
	All	31.9	25.7	20.9	13.7	2.5	12.0	11.2
Total	ST	63.7	60.0	45.6	43.0	15.6	17.0	27.4
	SC	60.5	50.9	10.6	29.4	6.0	21.5	23.4
	OBC	39.5	37.8	30.0	20.7	4.0	17.1	16.7
	FC		23.0	17.6	12.5	2.0	10.5	10.5
	All	45.7	37.7	29.9	22.0	4.9	15.7	17.1

Source: Arvind Panagariya and Vishal More, 'Poverty by Social, Religious and Economic Groups in India and Its Largest States, 1993-94 to 2011-12, Colombia University downloaded from https://academiccommons.columbia.edu/doi/10.7916/D8QC0C2S.

*Author's calculation

Poverty rates by some religions in the year 2022-23 show that the poverty rate is highest among Hindus (5.3 %) followed by Hindus (5.2 %). The rate is lowest among Jains (0.0 %) and Sikhs (0.2 %). It is interesting to find that the percentage point reduction in poverty headcount between 2011-12 to 2022-23 shows that the reduction is highest among Muslims (25.4% in 2011-12 to 4.2 % in 2022-23) followed by Hindus (from 25.4% in 2011-12 to 4.2 in 2022-23). The lowest reduction is registered among Jain 3.3.

Table 13.6: Poverty rates among religious categories (1993-94 and 2011-12)

Religion	1993-94	2004-05	2011-12	2022-23	Percentage point reduction	
					2004-05 to 2011-12	2011-12 to 2022-23
Christian	38.5	24.5	16.4	5.2	8.1	11.2
Hindu	45.6	37.5	21.9	5.3	15.6	16.6
Muslim	51.2	43.6	25.4	4.2	18.2	21.2
Jain	10.5	4.6	3.3	0.0	1.4	3.3
Sikh	19.6	18.9	5.9	0.2	13.1	5.7
Total	45.7	37.7	21.9	4.9	15.7	17.0

Source: Same as Table 13.4

It may be noted (Figure 13.2) that poverty is getting concentrated in a few states and social groups. A group of five states comprising Chhattisgarh, Jharkhand, Orissa, Uttar Pradesh and Bihar had the highest proportion of poor in 2022-23. On the other hand, states like Telangana, Tamil Nadu, Kerala, Punjab, Karnataka, Jammu and Kashmir, Himachal Pradesh, and Delhi show the lowest rate of poverty.

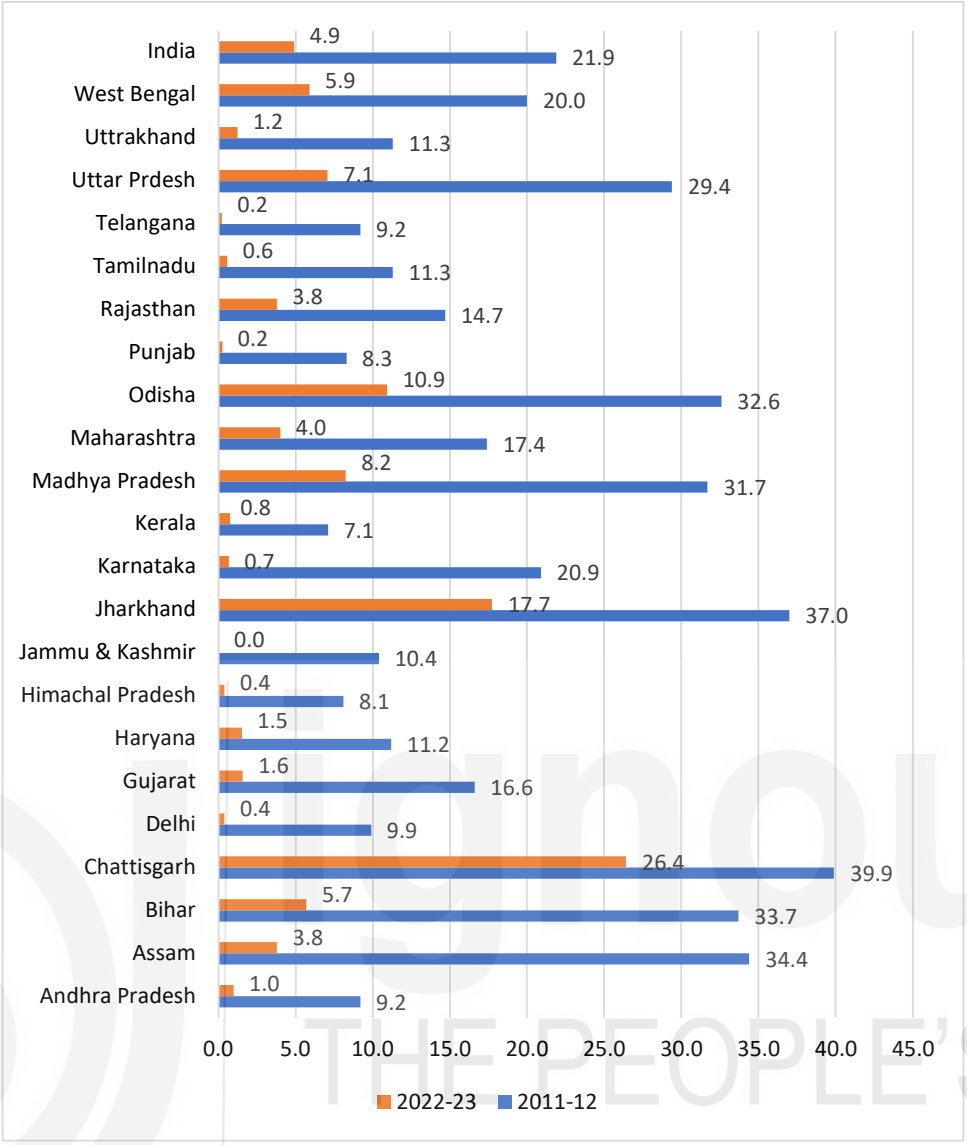

Fig. 13.2: Poverty Head Count by States, 2011-12, 2022-23

Source: Calculated from NSS 61st and 68th Round and HCES 2022-23

The reduction in poverty rate between 2011-12 and 2022-23 is highest in Assam (30.6 percentage points) followed by the states Bihar (28.0 percentage points) and Madhya Pradesh (23.5 percentage points), Uttar Pradesh (22.3 percentage points) and Odisha (21.7 percentage points). On the other hand, Andhra Pradesh, Punjab, Himachal Pradesh and Kerala registered the lowest reduction.

The poverty gap ratios have been incorporated in Table 13.6 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 9.63 per cent in 2004-05 and further to 5.05 per cent in 2011-12. 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, 6.12 per cent in 2004-05 and 2.7 per cent in 2011-12 (Table 13.7).

Table 13.7: Poverty Gap Ratio (Percentage)
(MRP Consumption Distribution)

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	9.63	6.12
2011-12	5.05	2.7

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., Studies show the headcount ratio as discussed in this section as a static measure and chances is there that people may falling back to poverty (Klasen and Waibel 2013). Again, other studies highlighted education, health and nutrition as other poverty dimensions that need to be taken into account (Clark and Hulme 2010). Let us discuss the Indian situation in terms of non-income measure of poverty.

The **multidimensional poverty index (MPI)** as developed by Niti Aayog and OPHI is a multidimensional poverty measure which takes into account three dimensions i.e. health, education and living standard. Within health, they have taken three indicators such as nutrition, child/adolescent mortality and maternal health, in education two indicators i.e. a year of schooling and school attendance and in living standard seven indicators such as cooking fuel, sanitation, drinking water, housing electricity, asset and bank account. All the dimensions have given equal weight and within the dimension, all the variables have equal weight.

As per the findings of NITI Aayog and OPHI multidimensional poverty indicators (using NFHS 4 and 5 database) India has been able to reduce its poverty by 135 million over the 2015/16 to 2019-21. The proportion of people multi-dimensional poor decreased from 25 per cent to 15 per cent over the same period. In 2015-16, children constituted 34.6% of India's multidimensional poor population, totalling 364 million, with 27.1% of all poor individuals being under the age of 10. By 2019-21, this percentage had declined to 21.8%. The Multi-dimensional poverty indicator shows that a percent of the population is MPI poor. As compared to the income poor of 4.9 per cent in 2022-23 the MPI poor shows a 10 percentage point higher poor. This method also calculates the contribution of 12 indicators in overall poverty. For 2015-16 and 2019-21, the contribution of different dimensions to overall poverty is given in Figure 13.3.

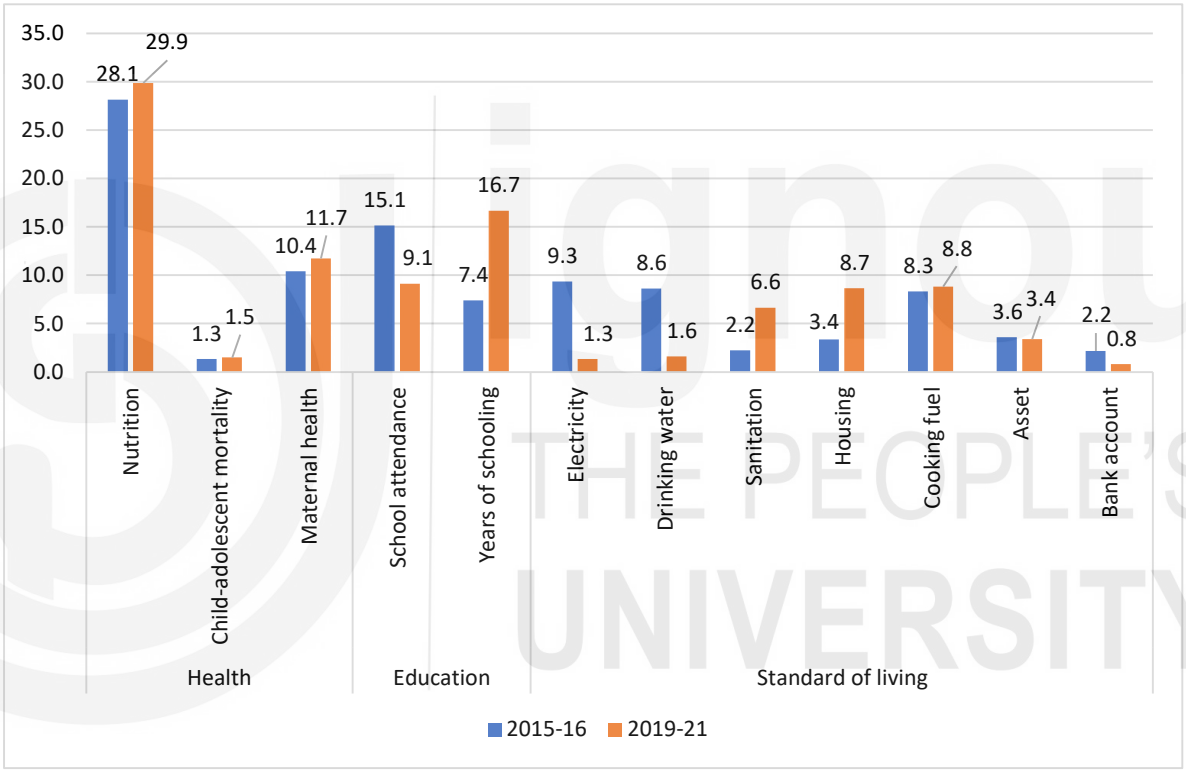

Fig. 13.3: Indicator Contribution to Overall Poverty by Area

Source: OPHI (2020)

Figure 13.3 indicates that nutrition contributes 30 per cent to total poverty followed by the years of schooling (17%), maternal health (12%) and school attendance (9 %). The variables which contribute least to overall poverty are bank accounts, drinking water and electricity, and mortality (each contributing less than 3%).

The state-level MPI poor indicates a large inequality in MPI poor among different states. States like Chattisgarh (26%), Jharkhand (18%), Odisha (11%) and Madhya Pradesh (8.2%) have the highest poverty head count in terms of MPI poor in the year 2019-21.

On the other hand, the states registering the lowest proportion of people MPI poor are Jammu and Kashmir, Telangana, Punjab, Himachal Pradesh, Delhi, Tamil Nadu, Karnataka and Kerala (Contribution less than 2%) (Figure 13.4). Between 2019 and 2021, the four poorest states in India, namely Bihar, Jharkhand, Uttar Pradesh, and Madhya Pradesh, were home to 196 million people living in multidimensional poverty (MPI), which constituted more than half of all MPI-poor people in India.

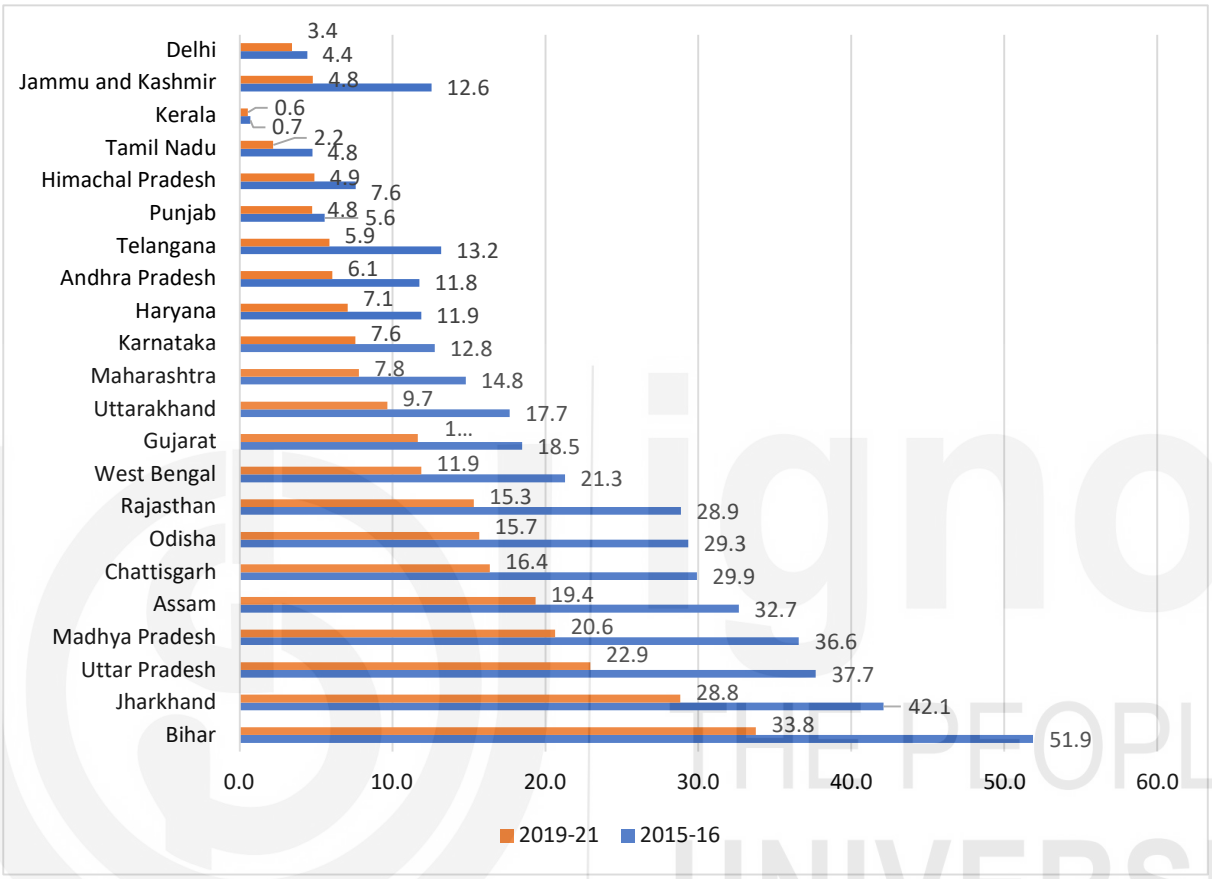

Fig. 13.4: State Level MPI Poor, 2015-16 and 2019-21

Source: NITI-OPHI (2023)

As it is clear from the non-income poverty analysis, nutrition constitutes an important dimension to the overall non-income poverty. In the next section, we will analyse malnutrition as a non-income poverty and its comparison to the income poverty measure.

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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5) What do you mean by MPI and how is it calculated? What are the advantages of the MPI poverty measure over income poverty measure?

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13.5 THE CONCEPT OF MALNUTRITION AMONG CHILDREN AND WOMEN

The nutritional status of children is mostly measured in terms of stunting (height for age), wasting (weight and height) and underweight (weight and age) and generally the age group of children taken for the analysis is below 5 years of age. The short period of undernutrition of children can cause low cognitive outcomes and low productivity even when they grow into adults. Again, children's bodies react faster to changes in food supplies and food shortages. Hence, the anthropometric measures (stunting, wasting and underweight) of children are considered to be a good proxy of the nutrition situation of the country. Stunted growth means low height relative to age, and wasted growth means acute undernutrition because weight can drop rapidly during acute food shortages. However, height is unaffected by

short-term changes in food supply. For the three indicators of malnutrition of children as suggested by WHO, a Z-score of minus 2 standard deviation below the median of their reference group is used. The anaemia among children is measured by the haemoglobin levels and a child is considered to be anaemic if their haemoglobin level is below 11.0 g/dl.

The nutritional status of women is measured by mainly two indicators i.e. Body Mass Index (BMI) level and Anaemia level. BMI is calculated by dividing weight in kilograms by height in metres squared (kg/m2) and a cutup is used the define the BMI status. The women in the age group 15-49 are categorised as thin for their height if their BMI is below 18.5. If the BMI is ranged between 18.5 to 24.9 they are considered to be normal whereas above 24.9 they are considered to be overweight or obese. The anaemia among women is measured by the haemoglobin level. If the haemoglobin level of a non-pregnant woman is below 11.0 they are considered anaemic whereas for pregnant women it is less than 12.0.

13.5.1 Malnutrition Type and Measurement among Children

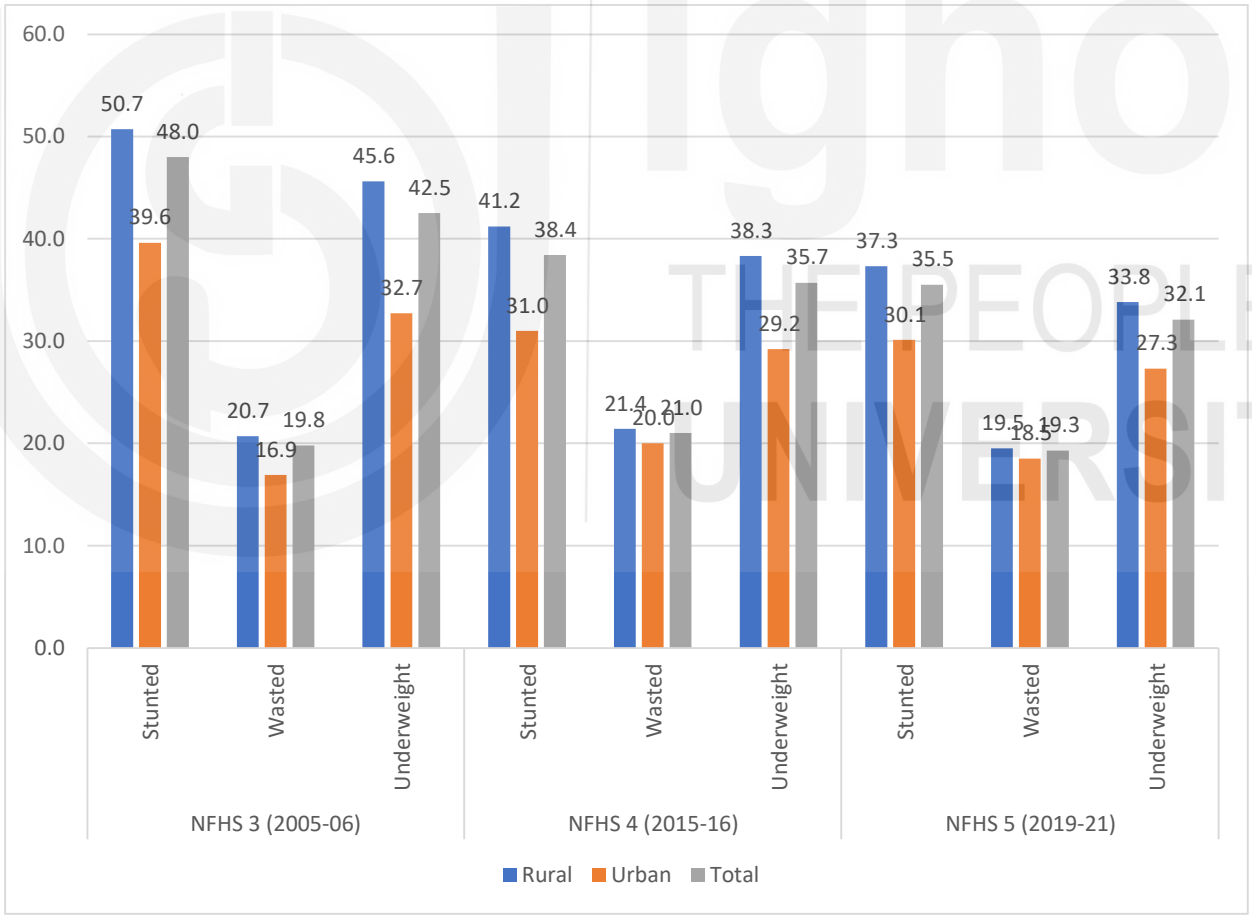

Fig. 13.5: Trend Analysis of Malnutrition in India (2005-06 to 2019-21)[in %]

Source: Calculated from NFHS 2005-06, 2015-16 and 2019-21.

In India, the percentage of children stunted was 35.5 per cent in 2019-21 as compared to 38.4 per cent in 2015-16 showing a decline of about 3 per cent. The wasting in 2015-16 was 21.0 per cent whereas in 2019-21 it was 19.3 per

cent. Again, the underweight children was 36 per cent in 2015-16 which reduced to 32.1 per cent in 2019-21 showing a decline of 4 percentage points over 4 years. The figure also shows data for 2005-06 , that shows a substantial decrease in almost all indicators of under nutrition among under 5 years of age children registered over the period.

The children belonging to rural areas show a comparatively higher proportion of children malnourished as compared to urban areas. In stunting and underweight, the rural-urban differential in the year 2019-21 is about 6 percentage points whereas in wasting it is only a 1 percentage point difference.2015-16 is about 10 percentage points whereas in wasting it is only a 1.5 percentage point difference. The rural-urban differential in 2019-21 is lower compared to the year 2015-16. 2005-06 is higher compared to the year 2015-16.

Assessing in terms of wealth index, in general, stunting among children declines, as a household moves up the income/wealth ladder (from poorest to richest). Over the last decade, the percentage of stunted children has declined across every wealth quintile. In 2015-16 the number of stunted children who belonged to the richest household was 22 per cent whereas in 2019-21, the number of stunted children who belonged to the richest household was 23 per cent. which decreased from 26 per cent in 2005-06. On the other hand, among the poorest classes about half of the total children were stunted (52 per cent) which decreased from 60 per cent in 2005-06 and further, it has declined to 46 percent in 2019-21 (Figure 13.5 and 13.6).

The number of children stunted among the poorest wealth quintile is 2.3 times higher than that of the children stunted among the richest quintile. In terms of wasting about one-fourth of the total children are wasted which only decreased by 2 per cent from the proportion of children stunted in the year 2005-06. In terms of wasting not much difference is visible between both the rounds. In terms of underweight around half of the children were found underweight in 2015-16 whereas it was 57 per cent in 2005-06 and it declined to 43 per cent in 2019-21. The ratio of underweight children between the richest and poorest children is 2.9 times which means the proportion of children underweight among the poorest children is 2.9 times higher as compared to children belonging to the richest households (Figure 21.6). Whereas the proportion of children underweight among the poorest children is 2 times higher as compared to children belonging to the richest households in 2019-21.

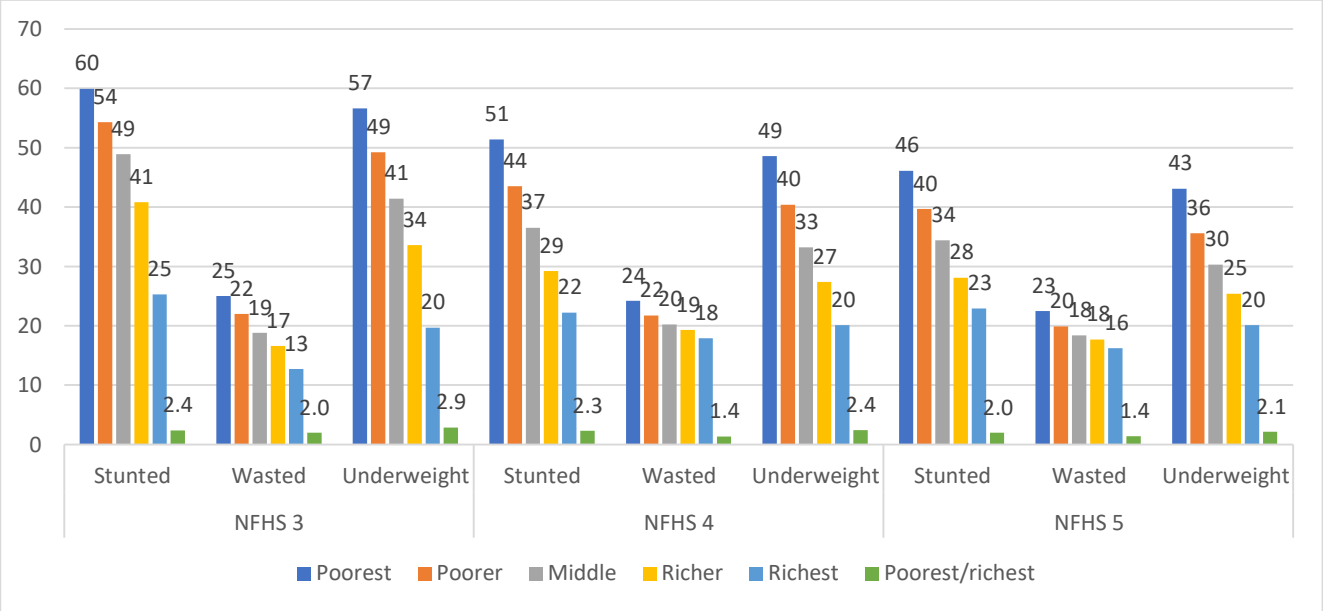

Fig. 13.6: Percentage of Children Stunted, Wasted and Underweight, 2005-06, 2015-16 and 2019-21

Source: Calculated from NFHS 2005-06 and 2015-16.

As shown in Figure 13.7, in 2015-16, stunting among children was found to be the highest among scheduled tribe households (44 per cent) and lowest among children belonging to other than SC/ST/OBC households. Stunting among ST category children was 40 per cent in 2019-21. On the other hand, in the year 2005-06, a 13 percentage point difference was found between children belonging to the SC category and those other than the SC/ST/ OBC category. In terms of wasting in 2015-16 again ST children have the highest proportion of wasted children whereas it is lowest among children belonging to other than the SC/T/OBC category. In terms of wasting ST children have the highest proportion of wasted children in the year whereas it is lowest among children belonging to SC and OBC categories. The proportion of children underweight in 2015-16 is highest among STs (45%) and lowest among the children belonging to other than SC/ST/OBCs (29%). In terms of underweight, the proportion of ST children is highest as compared to SC and OBC in all the years. Over the one-decade period, the stunted among STs declined from 54 per cent in 2005-06 to 44 per cent in 2015-16. Over the period, the proportion of stunted ST children has declined from 54 per cent in 2005-06 to 41 per cent in 2019-21. Whereas stunted children belonging to the general caste declined from 41 per cent in 2005-06 to 29 per cent in 2015-16 and to 41 per cent in 2019-21. In terms of underweight in 2005-06 the highest proportion was found among children belonging to STs (55%) whereas it is lowest among general caste children (other than SC/ST/OBCs). The percentage point difference in underweight between ST and general children in 2005-06 was 21 per cent whereas it was reduced to 16 percentage point change in 2015-16 and further, this difference was reduced to 13 percentage points in 2019-21.

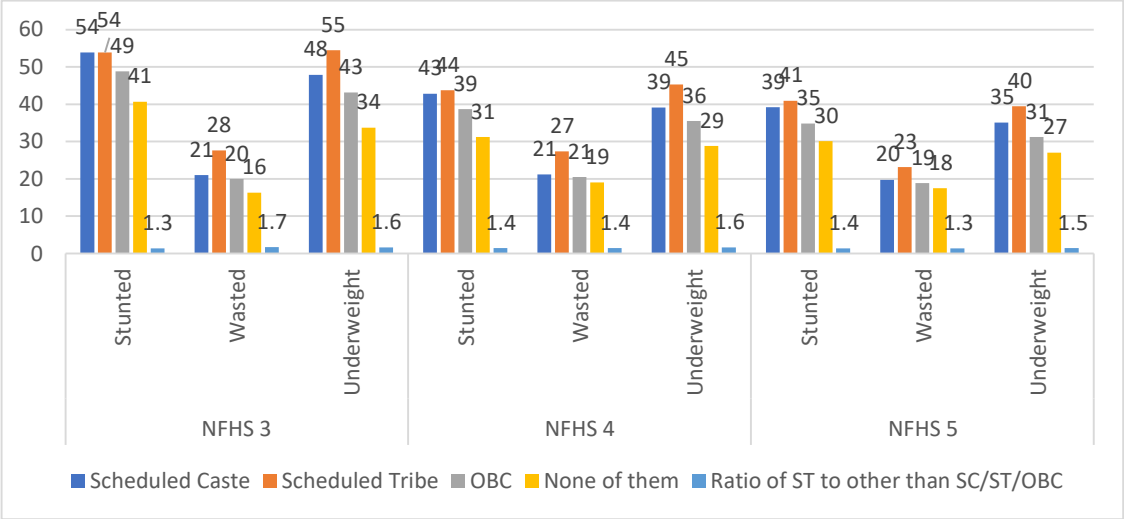

Fig. 13.7: Percentage of Children Stunted, Wasted and Underweight, by Social Category 2005-06, 2015-16 and 2019-21

Source: Calculated from NFHS 2005-06, 2015-16 and 2019-21.

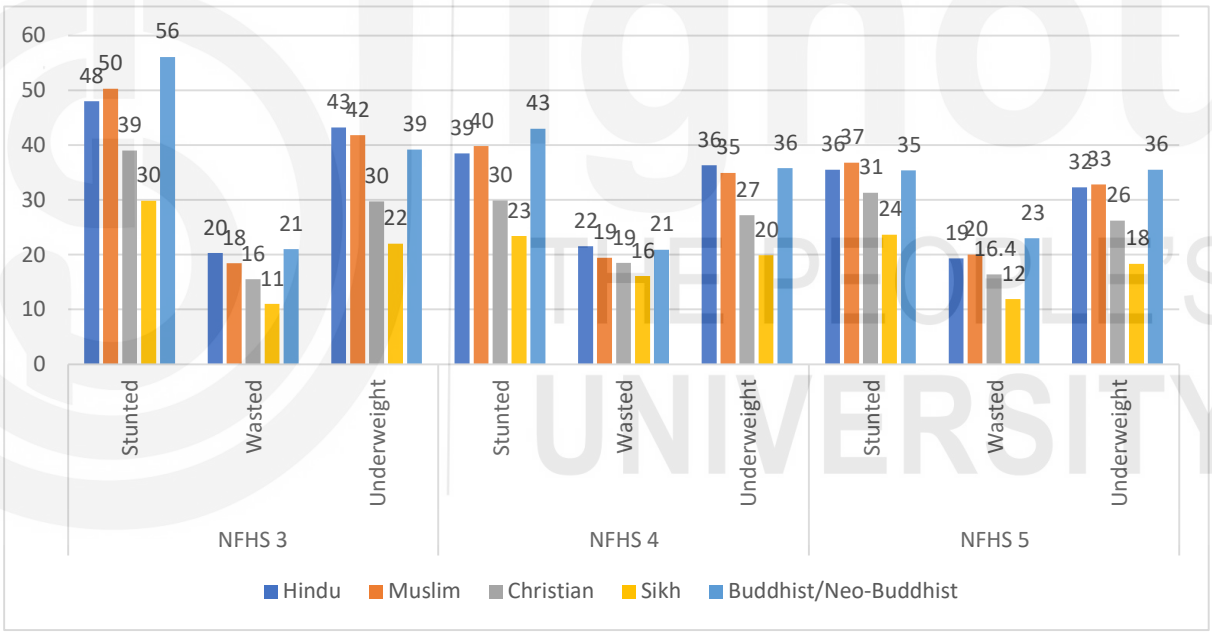

Figure 13.8: Percentage of Children Stunted, Wasted and Underweight, by Religious Category 2005-06, 2015-16 and 2019-21

Source: Calculated from NFHS 2005-06 and 2015-16.

As shown in Table 13.8, the stunting and underweight among children belonging to the Buddhist religion is the highest in 2015-16 whereas in the children belonging to the Hindu religion is the highest. In 2019-21, the highest proportion of stunted children is among Muslims whereas in terms of wasted and underweight, more Buddhist children are wasted and underweight. The religious category showing the lowest proportion of children stunted, wasted and underweight is Sikhs (23.7% stunted, 16% wasted and 20.2 % underweight). The lowest proportion of stunted, wasted and underweight is found among Sikh children at all three points of time.

Anaemia is a condition that is marked by low levels of haemoglobin in the blood. Iron is a key component of haemoglobin, and iron deficiency is estimated to be responsible for half of all anaemia globally (NFHS report 2019-21). Anaemia is a serious concern for children because it can impair cognitive development, stunt growth, and increase morbidity from infectious diseases.

As per NFHS data anaemia is a major concern and in 2015-16 the proportion of children anaemic is about 59 per cent which is reduced by 11 percentage points as compared to 2005-06. Whereas anaemia in 2019-21 is 68.3 per cent, it has reduced from 71.5 per cent in 2005-06 by 3.2 percentage point but it has increased in 2019-21 as compared to 2015-19. A large disparity was also visible by social, religious groups.

13.5.2 Malnutrition Type and Measurement among Women (15-49)

As discussed earlier the BMI is one of the indicators to measure the nutrition status of women. As per the WHO standard, the BMI is calculated for women in the age group of 15-49. The proportion of women thin declined from 36 per cent in 2005-06 to 23 per cent in 2015-16 and further to 18.7 per cent in 2019-21. The number of overweight children has increased from 9.8 per cent in 2005-06 to 15.6 per cent in 2015-16 and further to 17.6 per cent in 2019-21. The percentage of obese children has also increased from 2.8 per cent to 6.4 per cent in 2019-21.

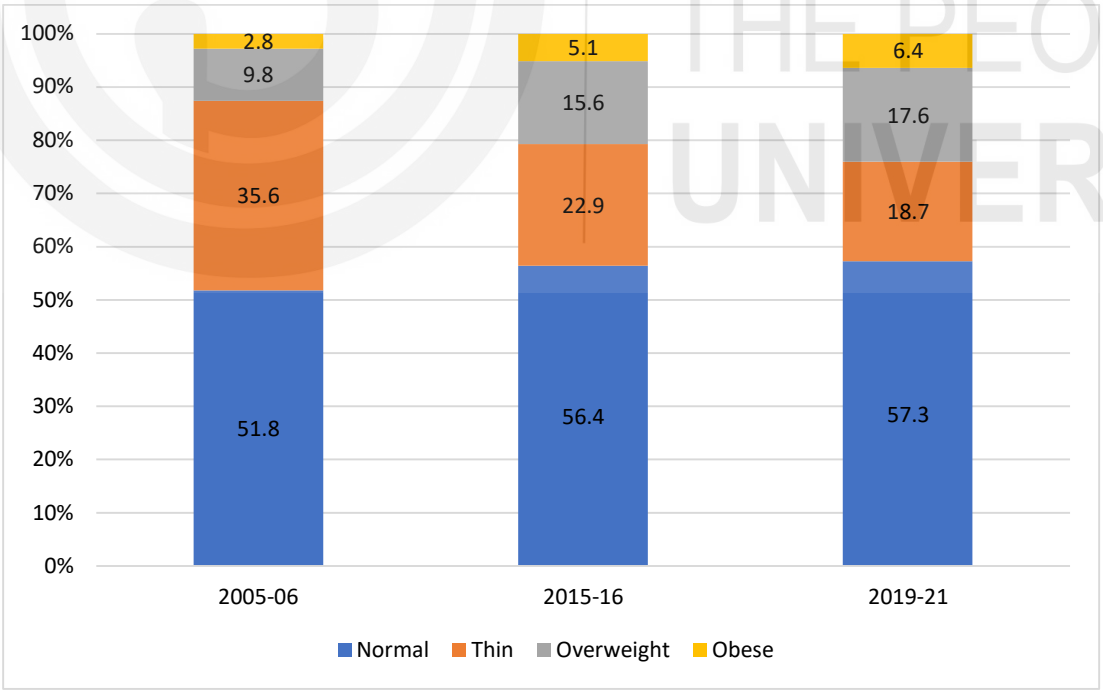

Fig. 13.9: Percentage of women aged 15-49 by body mass index (BMI) levels in India, 2005-06, 2015-16 and 2019-21

Source: Calculated from NFHS 2005-06, 2015-16 and 2019-21

It is interesting to find the thin women in the age group 15-19 is the highest compared to the age group 40-49 age. On the other hand, the proportion of overweight or obese women is highest in the age group 40-49 compared to women in the age group 15-19. As expected, the thin women by social category shows the STs and SCs bear the highest percentage and it is lowest among general caste population (other than SC/ST/ OBC).

13.6 MALNUTRITION AND POVERTY: A COMPARATIVE ANALYSIS

Hunger, malnutrition, hidden hunger and poverty all are closely related to each other. Poverty is considered to be the main cause of malnutrition and hunger, however, rich people are still found to be malnourished. In this section, we will analyse the interaction between income poverty and malnutrition.

A comparison between income poverty (measured by MPCE) and non-income poverty (measured by MPI) reveals a correlation of 0.588. The analysis indicates that Chhattisgarh, Jharkhand, and Odisha experience high levels of both income and non-income poverty. In contrast, states such as Uttar Pradesh, West Bengal, Bihar, Maharashtra, Assam, Rajasthan, and Gujarat exhibit a relatively lower proportion of income poverty but a higher proportion of non-income poverty (MPI). Meanwhile, Kerala, Karnataka, Tamil Nadu, Delhi, Himachal Pradesh, Punjab, and Telangana report low proportions of poverty in both income and non-income dimensions.

The states like Telangana, Punjab which showing the lowest income poverty has the states with a high anaemia proportion. On the other hand, states like Madhya Pradesh, Odisha, Jharkhand, Chhattisgarh show both high income poverty and anaemia rate.

The correlation between income poverty and stunted children is 0.423 which shows a low correlation between these two variables. Hence, we can conclude that the non-income poverty indicators are important to analyse poverty status of the state.

13.7 INCLUSIVE GROWTH

The traditional economists view that inequality is inherent in the process of growth. During the structural transformation of the growth process, certain sectors are highly benefitted from the process and certain sectors lagged. 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 more equitable growth. This process is visible in 'The Kuznet curve' where inequality first rises and then falls. However, this process was not found true in India as an increase in growth rate did not inevitably result decrease in inequality.

Inclusive growth emphasizes 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.

The progress towards inclusiveness is more difficult to assess, because inclusiveness is a multidimensional concept. Inclusive growth should result in lower incidence of poverty, broad-based and significant improvement in health outcomes, universal access for children to school, increased access to higher education and improved standards of education, including skill development. It should also be reflected in better opportunities for both wage employment and livelihood, and in improvement in provision of basic amenities like water, electricity, roads, sanitation and housing. Particular attention needs to be paid to the needs of the SC/ST and OBC population. Women and children constitute a group which accounts for 70% of the population and deserves special attention in terms of the reach of relevant schemes in many sectors. Minorities and other excluded groups also need special programmes to bring them into the mainstream. To achieve inclusiveness in all these dimensions requires multiple interventions, and success depends not only on introducing new policies and government programmes, but on institutional and attitudinal changes brought about, which take time. A comprehensive assessment of outcomes on all these fronts during the Eleventh Plan is not possible at this point, because the data for recent years is still not available. However, available evidence suggests that there have been significant gains on many of these fronts, even though there are shortfalls in some areas on which further work is needed.

Inclusive growth has been extensively reflected in different plan periods in India. Concept of inclusive growth got specific attention in Eleventh and Twelfth Five year plans. The objective of the Eleventh Plan was faster and inclusive growth and the initiatives taken in the Eleventh Plan period have resulted in substantial progress towards both objectives. Inevitably, there were some weaknesses that need to be addressed and new challenges that need to be faced. Some of the challenges themselves emanated from the economy's transition to a higher and more inclusive growth path, the structural changes that came with it and the expectations it generated.

The Eleventh Plan gave a special impetus to several programmes aimed at building rural and urban infrastructure and providing basic services with the objective of increasing inclusiveness and reducing poverty. Some of these programmes were new, while others augmented existing initiatives. Thirteen such flagship programmes are listed below:

i) Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)

ii) Indira Awas Yojana (IAY)

iii) National Social Assistance Programme (NSAP)

iv) Pradhan Mantri Gram Sadak Yojana (PMGSY)

v) National Rural Health Mission (NRHM)

vi) Integrated Child Development Services Scheme (ICDS)

vii) Mid Day Meal (MDM)

viii) Sarva Siksha Abhiyan (SSA)

ix) Jawaharlal Nehru National Urban Renewal Mission (JNNURM)

x) Accelerated Irrigation Benefit Programme (AIBP) and Other water resources programme

xi) Rajiv Gandhi Gramin Viduyati Karan Yojana (RGGVY)

xii) Rajiv Gandhi Drinking Water Mission (Rural Drinking water) – NRDWP and Total Sanitation Campaign (TSC)

xiii) Rashtriya Krishi Vikas Yojana

The Basic objective of Twelfth Five Year Plan was **"Faster, More Inclusive and Sustainable Growth".** It was said that the priority areas in the 12th Five-Year Plan would be the Betterment of Farmers, Small Industries, Cottage Industries etc. It is asserted by the Planning Commission that for growth to be more inclusive.

13.8 INCLUSIVE GROWTH – POLICY IMPLICATIONS

Agricultural Development

Agriculture development should be given priority. The recent trend shows that the contribution of the agricultural sector to total GDP has reduced from 56 % to 14.2 % from 1950-60 to 2024-25. The share of agriculture, livestock, forestry & fishing in nominal GVA was 18.0 % in 2024-25(SAE). On the other hand, the absorption of labour in the agricultural sector has not reduced much during the same period. In 2022-2023, approximately 45.76% of the Indian workforce was engaged in agriculture and allied sectors, according to the Periodic Labour Force Survey (PLFS). This emphasises shows that the pace of reduction of contribution of GDP to the agricultural sector is extremely high as compared to the pace of reduction of workforce in the 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. The development of agro-based industries in rural areas has not only expanded the scope of

employment but also reduced the heavy dependence on the agricultural sector.

Public Investment

High investment in infrastructure is important for inclusive growth. In many developing countries it is visible that public expenditure as a percentage 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. The effectiveness of these expenditures has to be improved. For example, expanded child and maternal immunization, antenatal care coverage, nutritional supplementation (including promotion of exclusive breastfeeding) and home-based neo-natal services (including treatment of pneumonia) are likely to bring about a significant reduction in both infant mortality and child malnutrition.

Development of Institutions

The development of institutions and strengthening of 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. Decentralization in terms of strengthening PRIs has to be improved 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 a 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. Currently, the programmes like Pradhan Mantri Garib Kalyan Yojana (free distribution of foodgrains to more than 80 crore people), Samagara Shiksha Abhiyaan, PM POSHAN, National Health Mission-NRHM & NRUM, Ayushmaan Bharat- PM JAY, PMJDY, PM MUDRA Yojana, PMJJBY, PMSBY, PMAY-Rural & Urban, and direct cash transfer through programmes like old age pension scheme, widow pension scheme, disability pension scheme, national family benefit schemes, etc. are being implemented in the country to ensure inclusive growth. Some other programmes are also incentive-based based, for example, incentives for institutional delivery, incentives for family planning, etc. For some of the educational development

programmes like scholarships, free distribution of books, cycles, dresses, midday meals etc are implemented.

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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13.9 LET US SUM UP

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

Poverty is measured by methods like headcount ratio, poverty gap index, and 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 is a common phenomenon in developing countries. How to tickle 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 income and expenditure and also in other non-income variables like IMR, underweight of child, literacy rate etc. Even geographical inequality also exists.

Malnutrition which is measured by the anthropometric indicator (child stunting, Child wasting, under nutrition) for children below 5 years and anaemia which is measured by the haemoglobin level are the important indicators to show the poverty level of a state. Again, in the analysis, it is found that a state with a low proportion of headcount poverty does not necessarily guarantee a low prevalence of malnutrition among children and women. Hence for any policy analysis, the malnutrition indicators should be taken into account.

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, equalizing opportunity and providing a safety net are the main pillars of inclusive growth.

13.10 KEYWORDS

Poverty Line: The 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.

$$\text{Poverty HCR} = \frac{\text{Number of people below the poverty line (Np)}}{\text{Total population (N)}} \times 100$$

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

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13.12 ANSWERS OR HINTS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress 1

1) The PG index helps work 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

4) See Section 11.4 (status of India on capability measure)

Check Your Progress

1) See Sub-section 11.6.2

2) See Section 11.7

3) See Section 11.7

Check Your Progress 3

1) See Section 11.8

2) See Section 11.9

13.14 TERM END 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.

5) What is multidimensional poverty and how is it calculated?

UNIT 14 INTERPERSONAL AND REGIONAL DISPARITIES

Structure

14.0 OBJECTIVES

After going through this unit, the learner will be able to:

- Define the concepts of interpersonal and regional disparities;
- Explain the causes and consequences of disparities in India;
- Understand the nature and severity of Interpersonal disparities;
- Analyze the factors contributing to interpersonal inequalities in India;
- Assess the reasons behind regional imbalances in terms of Historical Factors, Geographical Landscape, availability exploitation of resources, and Political and Governance Structure, Demographic and Social Issues etc.;
- List major government policies aimed at reducing interpersonal inequalities; and
- Identify key government programmes addressing regional imbalances.

14.1 INTRODUCTION TO INTERPERSONAL AND REGIONAL DISPARITIES IN INDIA

India is the seventh largest country in world with population of more than 1.4 billion. Further, India is not the only largest populated nation, but also full of

diversities in terms of its culture, languages, politics, etc. India experiences significant interpersonal and regional disparities. **Interpersonal disparities** refer to the inequalities among individuals or groups in terms of income, education, health, housing, water supply and sanitation and access to resources. These inequalities are attributable to differences in socio-economic backgrounds, opportunities and systematic barriers such as rural-urban divides, gender divide, caste and class based discriminations , and so on. On the other hand, **regional disparities** refer to inequality in the distribution of resources, infrastructure, and economic development across India i.e., some cities or States are developing, while some cities or States are backward in terms of availability socio-economic amenities, and standard of living. For example, Maharashtra, Gujarat, Karnataka, Delhi, Chandigarh, Kerala, Tamil Nadu, etc. have recorded fast industrialization, urbanization, better infrastructure, etc. while so called BIMARU States (Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh) along with Odisha, Jharkhand, Chhattisgarh, and NE states. are struggling with the problem of severe resource crunch, poverty-inequality-illiteracy-malnutrition-unemployment, inadequate infrastructure, and lower per capita income. The main reasons behind these disparities are historical, geographical, social, political, and poor policy framing and or implementation. Colonial exploitation, post-independence planning biases, and the uneven distribution of natural resources have resulted in advancement of some states, particularly the coastal states-Gujarat, Maharashtra, Goa, Karnataka, Tamil Nadu and Punjab and Haryana at faster pace as compared to others. Places like Delhi, Mumbai, Noida, Ahmedabad, Gurugram, Bengaluru have attracted massive investments, leading to increased employment opportunities, whereas rural and backward areas lag behind due to inadequate infrastructure, lack of skilled workforce, and low capital investments. The economic reforms of 1991 are proven initiatives for India's growth , however, their downside is that they intensified interpersonal and regional inequalities also. While liberalization boosted economic growth, benefitting metropolitan and industrialized states, it also widened the gap between the rich and the poor. The rural economy, heavily dependent on agriculture, could not compete with the dynamic service and manufacturing sectors, leading to rising unemployment and distress migration to urban centers. Additionally, digital and technological disparities have increased in recent years, with urban populations having greater access to internet connectivity, education, and healthcare facilities than their rural counterparts. Addressing these disparities requires comprehensive policy measures and targeted interventions. Additionally, investments in education, healthcare, skill development, and infrastructure in underdeveloped areas are essential to achieving balanced economic growth. Inclusive financial systems, women empowerment programmes, and digital inclusion initiatives can also help mitigate interpersonal disparities. In this regard, various government schemes such as the Mahatma Gandhi National Rural Employment Guarantee Act (popularly known as MGNREGA), Make in India, One District One Product (ODOP), Pradhan Mantri Ujjawala Yojana, Pradhan Mantri Jan Dhan Yojana, Skill

India, Mudra Yojana, etc. have been launched to fill such interpersonal and regional gaps and create opportunities. However, interpersonal and regional disparities in India remain a major challenge to achieving equitable and sustainable development. While the country has made significant progress in various economic and social indicators, persistent inequalities hinder the overall growth potential. A holistic approach that combines economic reforms with social welfare policies is crucial to ensure that growth benefits reach all sections of society and all regions of the country, ultimately fostering a more inclusive and just society. Let us understand the above said disparities in more details.

14.2 INTERPERSONAL DISPARITIES IN INDIA

As discussed in introduction section that interpersonal disparities refer to the inequalities that exist among individuals or groups because of their income, wealth, education, healthcare, employment, and access to basic necessities. These disparities arise due to various socio-economic, historical, and policy-related factors, leading to unequal opportunities and living standards among the population. Despite being one of the fastest-growing economies, India struggles with significant income inequality, social exclusion, and unequal access to resources, making it a critical concern for policymakers. The gap between the rich and the poor continues to widen, with a small percentage of the population controlling a major share of the country's wealth while a large section remains in poverty. Several factors contribute to these interpersonal disparities, including income inequality, education gaps, caste and social structure, gender discrimination, rural-urban divide, and employment opportunities.

1) Income Inequality

One of the primary reasons of interpersonal disparity in India is income inequality. The distribution of wealth and earnings in the country is highly skewed, with a vast proportion of the population earning significantly less than a small elite class. The State of Inequality in India Report was released in 2022 by Dr. Bibek Debroy (the then Chairman, Economic Advisory Council to the Prime Minister). He says the following words:

> "inequality is an emotive issue. It is also an empirical issue, since definition and measurement are both contingent on the metric used and data available, including its timeline."… "to reduce poverty and enhance employment, since May 2014, Union Government has introduced a variety of measures interpreting inclusion as the provision of basic necessities, measures that have enabled India to withstand the shock of the Covid-19 Pandemic better."

Source: https://pib.gov.in/PressReleasePage.aspx?PRID=1826325

This imbalance is due to unequal access to resources, differences in job opportunities, and disparities in wages across various sectors. High-income

individuals have better access to quality education, healthcare, and financial investments, allowing them to accumulate more wealth, while low-income individuals struggle to meet their basic needs. The absence of strong redistributive policies and inadequate social security measures further deepen this divide, making it difficult for lower-income groups to improve their economic status.

2) Education Gaps and Literacy Disparities

Education plays a crucial role in economic mobility, yet there exists a significant disparity in literacy rates and access to quality education in India. While urban and wealthy families can afford private schools and higher education, rural and economically disadvantaged groups struggle with poorly funded government schools and lack of access to higher studies. The gross enrolment ratio (GER) in higher education is much lower for marginalized communities compared to the general population. Inter-state and intrastate disparities in GER exist among states/UTs. Although, the digital or online education is very helpful in this regard, however, it has its own challenges and limitations. Like the access to the stable internet and smart devices is one of the greatest challenges of online education. Children from underprivileged backgrounds lack access to online learning resources. Limited educational opportunities restrict soft skills, career growth, keeping people trapped in low-paying jobs causing wider income inequalities. Commercialization and privatization of education have increased the disparities in education.

3) Gender Divide

Gender-based disparities significantly contribute to interpersonal inequalities in India. Women, despite making up nearly half of the population, face lower labor force participation rates, unequal pay, and limited opportunities for career advancement. The gender pay-gap remains a persistent problem, with women earning significantly less than men for the same work. In addition, societal norms often restrict women from pursuing higher education and professional careers, particularly in rural areas where early marriage and household responsibilities take precedence. As more women join India's workforce, the country stands on the brink of a transformative economic shift that embodies the spirit of inclusivity and opportunity. As women step into roles across sectors — be it technology, healthcare, education, or manufacturing — they bring fresh ideas, skills, and dedication that fuel economic growth and enhance workplace dynamics. Women also face barriers in asset ownership and financial independence. Despite policy measures such as Beti Bachao Beti Padhao, Women's Reservation Act, 2023 and various self-employment schemes, gender inequality continues to be a major factor contributing to interpersonal disparities.

4) Rural-Urban Divide

The rural-urban divide is another major contributor to interpersonal disparities in India. Urban areas have better infrastructure, employment

opportunities, healthcare, and educational institutions, while rural regions suffer from poor connectivity, lack of industries, inadequate healthcare, and lower wages. This disparity forces rural populations to migrate to cities in search of better opportunities, leading to overcrowding in urban centers and distress migration. The difference in income levels between rural and urban workers is stark, with urban people earning much more than the average income of rural workers. Additionally, rural populations depend largely on agriculture, which is often subject to climate uncertainties, poor irrigation facilities, and lack of modernization, keeping farmers in a cycle of poverty. Despite government schemes like MGNREGA and rural electrification programmes, economic opportunities in villages remain limited, deepening interpersonal disparities.

5) Employment and Labour Market Inequality

Disparities in employment opportunities further increase interpersonal inequalities. India's unorganized labor market, which employs nearly 82.18 per cent of the workforce as per Economic Survey of India 2021-22, offers low wages, job insecurity, and no social security benefits. Apart, there are lots of cases of violations of labour laws even in organised sector. Daily wage laborers, domestic workers, and gig economy workers lack access to healthcare, retirement benefits, and financial security, making them vulnerable to economic shocks such as job losses during the COVID-19 pandemic. Furthermore, skilled jobs in industries such as IT, finance, management, and engineering remain concentrated in metropolitan cities, making it difficult for people from smaller towns or underprivileged backgrounds to access high-paying jobs. The automation of jobs and increasing reliance on technology further widens employment inequalities because those with digital skills and technical education gain better employment opportunities, while traditional laborers face job losses or bound to do low pay jobs even at the cost of labour laws violations.

14.2.1 Measurement of Interpersonal Disparities

Some International institutions and individual economists and sociologists have tried to quantify interpersonal disparities across the world. Certain Indexes have been developed in this regard. Such as:

1) **Physical Quality of Life Index (PQLI):** The Physical Quality of Life Index (PQLI) was one of the earliest attempts to measure national and international well-being using non-economic social indicators. It was developed in the mid-1970s by economist Morris David Morris (1979, Morris & McAlpin, 1982, Morris, 1996) and his colleagues at the US Overseas Development Council. Expectancy of life at birth, infant mortality rate and literacy rate are the sub- indices of the PQLI.

2) **Human Development Index (HDI):** The Human Development Index (HDI) developed by the UNDP is a summary measure of average achievement in key dimensions of human development: a long and

healthy life, being knowledgeable and having a decent standard of living. The HDI is the geometric mean of normalized indices for each of the three dimensions.

The health dimension is assessed by life expectancy at birth, the education dimension is measured by mean of years of schooling for adults aged 25 years and more and expected years of schooling for children of school entering age. The standard of living dimension is measured by gross national income per capita.

3) **Multidimensional Poverty Index (MPI):** The global MPI was developed by Oxford Poverty & Human Development Initiative (OPHI with the UN Development Programme (UNDP) for inclusion in UNDP's flagship Human Development Report in 2010. It complements traditional monetary poverty measures by capturing the acute deprivations in health, education, and living standards that a person faces simultaneously.

   The MPI assesses poverty at the individual level. If a person is deprived in a third or more of ten (weighted) indicators, the global MPI identifies them as 'MPI poor'. The extent – or intensity – of their poverty is also measured through the percentage of deprivations they are experiencing.

   The concept of Global MPI has now been adopted by the NITI Aayog, with slight modifications, to assess the multidimensional poverty in India across the states and the union territories.

4) Other social /health indicators; Infant Mortality Rate (IMR), Maternal Mortality Ratio (MMR), Under-5 Mortality Rate, Child stunting, Child wasting, under nutrition, Gross Enrolment Ratios-elementary, higher secondary and tertiary level- are some of the other indicators provide valuable information about the level of poverty and deprivation in a society.

Check Your Progress 1

1) What do you mean by interpersonal disparity?

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2) What are various reasons behind interpersonal disparity in India?

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14.3 REGIONAL DISPARTIES IN INDIA

Regional disparities in India refer to the uneven distribution of national income, national wealth, economic resources, infrastructure, and social development across different states and regions. Inter-state and intra-state disparities in economic growth and economic development are wide spread. Coastal states and some of the states with highly fertile land resources are developed states not only in terms of GSDP but also in terms of per capita GSDP. Other states are still laggard. There are many factors to such disparities and some of these are as follows:

1) Historical Factors

During British rule, colonial policies were designed to serve British economic interests rather than promote balanced regional development. This led to economic concentration in select regions, while others remained neglected. The British established industries primarily in port cities like Mumbai, Ahmedabad, Surat, Kolkata, and Chennai to facilitate trade and export of raw materials. These cities became industrial and commercial hubs, while interior and rural regions remained largely agrarian. Regions like Bihar, Odisha, and Madhya Pradesh had abundant natural resources but were exploited primarily for raw materials without local industrial development. The British gave prominence to cash crops (tea, coffee, indigo, cotton) over food crops in states like Assam, West Bengal, and Tamil Nadu. This led to monoculture economies that were vulnerable to price fluctuations, while regions dependent on food crops remained backward. Railways were developed mainly to transport raw materials from the hinterlands to ports, neglecting internal connectivity. Eastern India, despite being rich in minerals, did not see substantial industrial growth as infrastructure development was focused on trade routes beneficial to the British. The British introduced exploitative land revenue systems, which varied across regions, creating disparities in agricultural development. Apart, Western and Southern states saw early adoption of modern education, leading to a skilled workforce. Western and Southern states saw early adoption of modern education, leading to a skilled workforce. Northern and Eastern states remained educationally backward due to lower investment in schooling and restrictive social structures (e.g., feudal influences). This created long-term disparities in human capital development, which continue to affect economic opportunities even today. After independence in 1947, although, economic policies aimed at reduced regional disparities, but they benefited already developed regions because of the external effect. Moreover, the 1991 reforms accelerated growth of industrialized regions. For example, IT and service sector growth benefitted Bangalore, Hyderabad, Chennai, Pune, but rural states like Bihar, UP (especially eastern UP), Jharkhand, Rajasthan, and MP struggled to attract investment.

2) Geographical Landscape of India

India's diverse geographical landscape is also responsible for regional disparities. Places with fertile agricultural land, access to trade routes, and industrial hubs (such as Maharashtra, Tamil Nadu, Gujarat, Delhi, Karnataka, etc.) have witnessed rapid economic development, whereas resource-deficient and remote regions (such as BIMARU (Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh), along with Chhattisgarh, Jharkhand, Odisha, West Bengal and the Northeastern states) lag behind. Hilly and forested areas, where tribal communities reside, suffer from poor connectivity, lack of infrastructure, lack of quality educational institutions, and limited employment opportunities. Coastal regions benefit more from trade and commerce, whereas landlocked states (e.g., Madhya Pradesh) have fewer economic advantages. Frequent natural disasters in some regions (such as floods in Assam, Bihar and Odisha or droughts in Rajasthan, parts of Maharashtra and Telangana) further worsen economic inequalities by destroying livelihoods and infrastructure.

3) Political and Governance Structure

Political policies and governance structures also play a crucial role in shaping interpersonal disparities in India. India is not only culturally diversified, but politically too. According to Election Commission of India (2024) there are 6 national level parties, 58 state level parties, and 2,763 unrecognized parties. Each party has its own political ideology and their targeted vote share which affects the style of their governance. With such diversity, policies may be prone to political motives rather than genuine welfare. Such diversity gives shape to the distribution of the limited resources, welfare schemes, industrialization, education, and employment. Further, corruption, scams of various nature, bureaucratic inefficiencies, and poor implementation of social welfare programs often prevent economic benefits from reaching the most disadvantaged groups. Weak enforcement of labor laws, lack of financial inclusion for marginalized groups, delay in judiciary process, and limited access to credit for small businesses further widen regional disparities. Although, various steps are being taken in this regard by various governments including the center (e.g., direct benefit transfer, Mudra Yojana, e-shram portal, etc.), yet there is a long way to cover in this regard.

4) Demographic and Social Issues

Demographic and social factors play a crucial role in shaping regional disparities in India. While some regions have witnessed rapid socio-economic progress, others continue to struggle with high poverty, illiteracy, and social backwardness, leading to slow development. These disparities arise due to historical, cultural, and social reasons. Some places in India are more prone to social disturbances and anarchy compared to other places due to many reasons. Cases have been recorded where the buildings including government properties or other facilities of renowned businesses have been damaged. Consequently, many business firms could not sustain well at such places and

they shifted to other states. According to data from the National Family Health Survey (NFHS-5), several southern states now have TFRs significantly below the replacement level. Only three states — Bihar, Uttar Pradesh, and Jharkhand — still record TFRs above the 2.1 threshold, while the southern states are experiencing the opposite demographic trend.

5) Disparity in Educational Facilities

Educational disparity is one of the primary reasons for regional disparities in India because it directly affects economic growth, employment opportunities, social mobility, and overall human development. India, being a diverse country with vast geographical and socio-economic differences, faces significant gaps in educational access, quality, and outcomes across states and regions. These disparities contribute to uneven development, affecting productivity, income levels, and the standard of living across different regions of the country. One of the major reasons for regional educational disparity is the uneven distribution of educational institutions and infrastructure. While metropolitan cities have quality universities (public and private both), research institutions, and professional colleges, but many rural and underdeveloped regions, particularly in states like Bihar, Jharkhand, Odisha, and parts of Uttar Pradesh, suffer from inadequate schooling facilities, lack of qualified and trained teachers, and poor infrastructure. The absence of quality educational institutions in these regions forces students to either migrate to other states for higher education or remain deprived of opportunities, thereby limiting their employment prospects.

Furthermore, public expenditure on education is not uniform across regions. States with higher per capita income allocate more funds to education, ensuring better facilities and teaching standards. In contrast, economically backward states struggle to provide adequate resources for schools and colleges, leading to higher dropout rates and lower literacy levels. The disparity in educational investment is reflected in the Human Development Index (HDI), where states with better educational facilities also perform better in terms of economic growth and social indicators.

Socio-cultural factors further deepen educational disparities. In many rural and semi-urban areas, especially in northern and central India, conservative societal norms, gender biases, and caste-based discrimination hinder access to education, particularly for girls and marginalized communities. This leads to lower female literacy rates and restricted participation in economic activities, thereby reinforcing the cycle of poverty and underdevelopment in these regions. In contrast, southern and western states have made significant progress in promoting inclusive education, leading to higher literacy rates, better employment opportunities, and improved living standards. Another critical aspect is the difference in curriculum and skill-based education. While urban centers and developed regions have access to modern education, including technical and vocational training, many underdeveloped areas still rely on outdated curricula that do not align with industry requirements. The

lack of skill-based education limits employment opportunities in these regions, pushing people towards low-paying, informal sector jobs or forcing them to migrate in search of better prospects. This migration often leads to an imbalance, where developed states face population pressure while backward states continue to lag in development.

6) Health Care

India, with its vast geographical and demographic diversity, faces significant regional disparities in health facilities, which contribute to broader socio-economic disparities. Access to quality healthcare is essential for human development, and disparities in health infrastructure, availability of medical professionals, affordability, and awareness deepen the gap between different regions. The uneven distribution of health services between urban and rural areas, as well as among states, significantly impacts economic productivity, human capital formation, and overall well-being, thereby reinforcing regional disparities. One of the primary causes of health facility disparity is the concentration of healthcare infrastructure in urban areas. Metropolitan cities and state capitals have well-equipped hospitals, specialized doctors, advanced medical technology, and better health insurance coverage. In contrast, rural areas, which house nearly a very significant portion of the population of India, struggle with inadequate healthcare facilities. Primary Health Services and Community Health Centers in many rural regions lack essential medical supplies, trained professionals, and proper infrastructure. The shortage of doctors, particularly specialists, further aggravates the problem, forcing rural populations to travel long distances to urban centers for medical treatment. This not only increases the financial burden on economically weaker sections but also delays timely medical intervention, leading to higher mortality and morbidity rates. Further, inter-state disparities in healthcare facilities are another critical issue. States like Kerala, Tamil Nadu, Delhi, Chandigarh, Maharashtra have relatively well-developed health systems with relatively better doctor-to-patient ratios, higher immunization rates, and improved maternal and child health services. On the other hand, states like Bihar, Uttar Pradesh, Jharkhand, and Madhya Pradesh face severe shortages of healthcare professionals and medical infrastructure. These disparities are largely due to variations in public expenditure on health, efficiency in policy implementation, and socio-economic conditions. Economic disparities are closely related to health disparities. Poor health conditions in underdeveloped regions reduce productivity and limit employment opportunities, leading to a vicious cycle of poverty and ill-health. Malnourishment, high disease burden, and lack of preventive healthcare in less-developed states contribute to lower life expectancy and higher dependency ratios. This discourages investment and economic growth in these regions, further widening regional inequalities. Additionally, the high cost of healthcare in private hospitals, coupled with the lack of insurance coverage in poorer states, exacerbates financial distress, pushing many families into poverty. The government has made efforts to address these disparities through initiatives like the National Health Mission

(NHM), Ayushman Bharat, and increased budget allocations for health. However, effective implementation remains a challenge due to bureaucratic inefficiencies, lack of accountability, and poor infrastructure in remote areas. Strengthening the public healthcare system, improving last-mile connectivity, incentivizing doctors to work in rural areas, and increasing investment in telemedicine and mobile health units can help bridge this gap.

7) Population Pressure

High population growth in states like UP, Bihar, and MP has led to resource strain and slow per capita income growth. Migration to cities (Delhi, Mumbai, Bangalore) creates slums and informal settlements, leading to new forms of urban poverty. Apart, high population density leads to land fragmentation, reducing agricultural productivity. Over-extraction of groundwater for drinking and irrigation leads to water scarcity in states like Punjab and Rajasthan which in turn cause the people to settle to developed regions.

14.3.1 Measurement of Regional Disparities in India

Although, indicators like per capita availability cultivable land, ratio of irrigated cropped area, net cropped area, number of industrial units per square kilometer, per square kilometer road- rail length, per capita consumption of electricity, bank branches per one lakh population, Gross Enrolment Ratios in primary/secondary/tertiary levels of education, tele-density, etc. give a vivid picture of disparities across the states/UTs, even than these indicators are incapable of providing a comprehensive measure of regional disparities.

SDG India Index 2024: SDG India Index has been developed by the NITI Aayog. It not only provides the performance of the country in achieving the United Nations Sustainable Goals, but also provide valuable information about the development in various states. The launch of the SDG India Index in 2018 provided the impetus for the localisation push, reaffirming States and UTs as key stakeholders in this transformative journey. The SDG India Index has been consistently improved over the years to provide a comprehensive and comparative analysis of progress on the goals. SDG India Index 2023-24 measures and tracks national progress of all States and UTs on 113 indicators aligned to the Ministry of Statistics and Programme Implementation's (MoSPI) National Indicator Framework (NIF). The SDG India Index computes goal-wise scores on the 16 SDGs for each State and UT. Overall State and UT scores or Composite Scores are generated from goal-wise scores to measure the aggregate performance of the sub-national unit based on its performance across the 16 SDGs. These scores range between 0–100, and if a State/UT achieves a score of 100, it signifies it has achieved the targets. The higher the score of a State/UT, the greater the distance covered to the target.

Key achievements in NITI Aayog's SDG Index 2024

Significant progress in goals on eliminating poverty, providing decent work, economic growth, climate action and life on land.

Targeted interventions by the Government such as Pradhan Mantri Awas Yojana, Ujjwala, Swachh Bharat, Jan Dhan, Ayushman Bharat-PMJAY, Ayushman Arogya Mandir, PM-Mudra Yojana, Saubhgaya, Start-up India etc. had impact and led to rapid improvement.

All States have shown an improvement in overall score.

Overall SDG score for the country is 71 for 2023-24, significant improvement from 66 in 2020-21 and 57 in 2018 (Baseline report).

Scores for States range from 57 to 79 in 2023-24, marking a substantial improvement from the year 2018 range of 42 to 69.

Significant progress in Goals 1 (No Poverty), 8 (Decent Work and Economic Growth), 13 (Climate Action) and 15 (Life on Land)

Goal 13 (Climate Action) records highest increase in score from 54 in 2020-21 to 67 in 2023-24 followed by Goal 1 (No Poverty) from 60 to 72

32 States and UTs in the front-runner category with 10 new entrants - Arunachal Pradesh, Assam, Chhattisgarh, Madhya Pradesh, Manipur, Odisha, Rajasthan, Uttar Pradesh, West Bengal, and Dadra and Nagar Haveli and Daman and Diu.

Between 2018 and 2023-24, fastest moving States are Uttar Pradesh (increase in score by 25), followed by J&K (21), Uttarakhand (19), Sikkim (18), Haryana (17), Assam, Tripura and Punjab (16 each), Madhya Pradesh and Odisha (15 each.

Check Your Progress 2

1) What do you mean by regional disparity?

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2) What are the factors causing regional disparity in India?

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14.4 GOVERNMENT INITIATIVES TO REDUCE INTERPERSONAL DISPARITIES IN INDIA

The governments at central and state levels have implemented several policies and programmes to bridge these gaps and promote inclusive development. Below are six major initiatives which have been taken to curb interpersonal disparities.

1) Poverty Alleviation Programmes

Poverty is one of the biggest causes of interpersonal disparities in India. To address this, the government has launched various schemes aimed at improving income levels, providing food security, and offering employment opportunities to the poor. The main initiatives, in this regard, are as follows:

- **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA):** Introduced in 2005, MGNREGA guarantees 100 days of wage employment to rural households. This programme not only provides income support but also helps in creating durable assets such as roads, wells, and irrigation facilities, improving rural infrastructure.
- **Pradhan Mantri Garib Kalyan Yojana (PMGKY):** This scheme was launched to provide free food grains, cash transfers, and other support measures to poor families, especially during crises like the COVID-19 pandemic.
- **Deendayal Antyodaya Yojana – National Rural Livelihood Mission (DAY-NRLM):** This initiative aims to empower women and self-help groups (SHGs) by providing financial support and skill development programmes to enhance livelihoods.

  These poverty alleviation measures ensure that the economically weaker sections of society have access to income-generating opportunities, reducing the gap between the rich and the poor.

2) Education and Skill Development

Education plays a crucial role in reducing interpersonal disparities by providing individuals with the knowledge and skills needed for economic and social mobility. The government has taken several steps to improve access to education and skill development. The following initiatives are noteworthy.

- **Right to Education (RTE) Act, 2009:** This act makes education a fundamental right for children aged 6 to 14 and mandates free and compulsory education in government schools. It also ensures that private schools reserve seats for economically weaker sections.
- **Samagra Shiksha Abhiyan:** This initiative integrates school education from preschool to higher secondary level, focusing on improving learning outcomes, teacher training, and digital education.

- **Pradhan Mantri Kaushal Vikas Yojana (PMKVY):** This skill development programme provides free vocational training to youth, enabling them to gain employment and entrepreneurial opportunities.

  By ensuring access to quality education and vocational training, the government is empowering individuals to break out of poverty and contribute to economic growth, thereby reducing disparities.

3) Social Welfare and Financial Inclusion

A major contributor to interpersonal disparities is the lack of financial access and social security. Many individuals, especially in rural areas, do not have access to banking services, insurance, or pension schemes. To bridge this gap, the government has launched several initiatives to promote financial inclusion and social welfare. Some of the schemes are given below:

- **Pradhan Mantri Jan Dhan Yojana (PMJDY):** Launched in 2014, this scheme provides every household with a bank account, ensuring financial access and direct benefit transfers (DBTs) to beneficiaries.
- **Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY) & Pradhan Mantri Suraksha Bima Yojana (PMSBY):** These affordable insurance schemes provide life and accident insurance to the underprivileged.
- **Atal Pension Yojana (APY):** This scheme provides pension benefits to workers in the unorganized sector, ensuring financial security in old age.

  By promoting financial inclusion and providing social security benefits, the government is reducing economic disparities and ensuring that individuals from all sections of society have access to financial resources.

4) Healthcare and Nutrition Programmes

Health disparities are a major component of interpersonal inequalities in India. Lack of access to quality healthcare and nutrition leads to poor health outcomes for marginalized sections of society, affecting their productivity and well-being. The government has implemented various programmes to improve healthcare access and nutrition for all. Some of the schemes, in this regard, are given below:

- **Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana (PMJAY):** This scheme provides health insurance coverage of up to ₹ 5 lakh per family per year for economically weaker sections, ensuring access to quality medical treatment.
- **National Health Mission (NHM):** This mission focuses on strengthening healthcare infrastructure in rural and urban areas, especially targeting maternal and child health.

- **Mid-Day Meal Scheme/PM POSHAN:** This initiative provides free meals to school children, improving their nutritional status and encouraging school attendance.
- **Poshan Abhiyan:** This programme aims to reduce malnutrition and stunting among children by providing nutritional support to pregnant women, lactating mothers, and children.

By improving healthcare access and nutritional support, the government is ensuring that disadvantaged individuals can lead healthier lives, reducing the disparity between different socio-economic groups.

5) Women Empowerment and Gender Equality

Gender inequality is a significant form of interpersonal disparity in India. Women often face discrimination in education, employment, wages, and social rights. The government has implemented several measures to promote gender equality and empower women. Some of the initiatives, in this regard, are as follows:

- **Beti Bachao Beti Padhao (BBBP):** This campaign aims to improve the status of girls by addressing issues like female foeticide, gender-based discrimination, and promoting education for girls.
- **Pradhan Mantri Matru Vandana Yojana (PMMVY):** This maternity benefit programme provides financial assistance to pregnant women and lactating mothers to support their health and nutrition.
- **Women Self-Help Groups (SHGs) and Mahila E-Haat:** These initiatives promote entrepreneurship and financial independence among women.
- **Reservation for Women in Local Governance:** The government has mandated 1/3 of all the seats for woman in the Lok Sabha and State Legislations.

By promoting gender equality and women's empowerment, the government is working towards reducing interpersonal disparities and ensuring equal opportunities for all.

6) Housing and Urban Development

Access to housing and basic amenities like clean water, sanitation, and electricity is crucial for reducing interpersonal disparities. The government has taken several steps to provide affordable housing and improve urban and rural infrastructure. Some of the schemes, in this regard, are as follows:

- **Pradhan Mantri Awas Yojana (PMAY):** This initiative aims to provide affordable housing to urban and rural poor, ensuring that every citizen has a roof over their head.

- **Smart Cities Mission:** This project focuses on urban development, improving infrastructure, and making cities more habitable and inclusive.
- **Swachh Bharat Abhiyan (SBA):** Launched in 2014, this campaign aims to improve sanitation and eliminate open defecation, leading to better hygiene and health outcomes.
- **Jal Jeevan Mission:** This scheme ensures piped water supply to rural households, reducing water-related diseases and improving quality of life.

Check Your Progress 3

1) What steps have been taken to reduce the interpersonal disparities in India?

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2) How can Beti Bachao Beti Padhao be a way to tackle the problem of interpersonal disparities in India?

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14.5 GOVERNMENT INITIATIVES TO REDUCE REGIONAL DISPARITIES IN INDIA

To address the problem of regional disparities, both the central and state governments have implemented various policies and programmes aimed at promoting balanced regional development. The government's efforts focus on infrastructure development, financial assistance to backward regions, industrial promotion, improved governance, and inclusive social policies. Below are six major ways in which the Indian government is working to reduce regional disparities:

1) Infrastructure Development for Regional Connectivity

Infrastructure plays a crucial role in economic growth and regional development. Many underdeveloped regions in India suffer from poor road networks, lack of railway connectivity, inadequate power supply, and limited access to water resources. The government has taken several initiatives to improve infrastructure in backward regions:

- **Golden Quadrilateral/National Highways Development Programme**: The National Highways Development Project (NHDP), initiated in 2004, is a major initiative towards qualitative and quantitative enhancement of National Highways, involving development and 4/6 laning of about 13,150 km of road at a cost of over Rs. 54,000 crore (at 1998-99 prices). In the words of Hon'ble Prime Minister, "The Project envisages a **Golden Quadrilateral** linking the Delhi-Kolkata-Chennai-Mumbai-Delhi circuit, a North-South Corridor connecting Kashmir to Kanyakumari and a similar East-West Corridor connecting Silchar to Saurashtra. It is indeed the largest and the most ambitious infrastructure project undertaken in independent India – a highway to prosperity. The project will not only further integrate our great land through a network of world-class highways, it will also place India on the fast lane to socio-economic development."

- **Bharatmala Pariyojna**: This ambitious road development program aims to improve connectivity in remote and underdeveloped regions by building highways, expressways, and bridges. By connecting isolated areas to economic hubs, Bharatmala facilitates trade, transportation, and investment.

- **Sagarmala Project:** This initiative focuses on modernizing port infrastructure and promoting coastal development. It aims to reduce logistics costs and boost industrialization in coastal and port-based cities.

- **Parvatmala:** National Ropeways Development Programme – "Parvatmala" announced in Union Budget 2022-23, aims to provide a preferred ecologically sustainable alternative in place of conventional roads in difficult hilly areas, The idea is to improve connectivity and convenience for commuters, besides promoting tourism. This may also cover congested urban areas, where conventional mass transit system is not feasible. The scheme is being presently started in regions like Uttar Pradesh, Uttarakhand, Himachal Pradesh, Manipur, Jammu & Kashmir and the other North Eastern states.

- **Rural Electrification:** The Saubhagya Scheme and Deendayal Upadhyaya Gram Jyoti Yojana have helped electrify villages, ensuring that remote areas have access to reliable electricity for household use, industries, and agriculture.

- **Rail and Metro Expansion:** The government is expanding railway networks under projects like Dedicated Freight Corridors (DFCs), which enhance goods movement across regions. Metro rail projects in second-tier cities aim to promote urban development beyond metro cities.

- **Atal Mission for Rejuvenation and Urban Transformation (AMURT):** These programmes focus on developing urban infrastructure

in smaller cities to reduce migration pressure on megacities and promote regional urban centres.

Improved connectivity reduces travel time, lowers transportation costs, and encourages businesses to invest in backward regions, thus bridging economic gaps.

2) Financial Assistance to Backward Regions

The government has introduced various financial assistance programmes and special economic packages to uplift underdeveloped states and districts:

- **Special Category Status (SCS):** There are 11 states which have got special status. These states are Assam, Nagaland, Himachal Pradesh, Manipur, Meghalaya, Sikkim, Tripura, Arunachal Pradesh, Mizoram, Uttarakhand, and Telangana. Such states are given special preference while distributing central funds, central schemes.
- **Backward Region Grant Fund (BRGF):** This initiative was designed to support backward districts by providing financial resources for local development projects in areas like healthcare, education, and rural infrastructure.
- **Aspirational Districts Programme (ADP):** Launched by NITI Aayog, ADP focuses on improving 112 backward districts based on indicators such as health, education, agriculture, and governance. This program employs a competitive ranking system, encouraging district administrations to perform better.
- **Revenue Deficit Grants:** States facing financial stress receive additional financial support from the central government to meet their development needs and prevent further widening of regional disparities.

Through such financial measures, the government ensures that weaker regions receive targeted support to catch up with more developed states.

3) Promotion of Industrialization in Backward Areas

Industrial development is essential for reducing regional disparities, as it creates jobs, boosts local economies, and improves living standards. The government has introduced various schemes to promote industries in lagging regions:

- **Make in India:** This initiative encourages domestic manufacturing and foreign investment in less-developed states by offering incentives and simplifying regulations.
- **Production-Linked Incentive (PLI) Scheme:** This program provides subsidies to companies setting up industries in strategic sectors such as

electronics, pharmaceuticals, and textiles, particularly in backward states.

- **Industrial Corridors:** The government is developing industrial corridors like the Delhi-Mumbai Industrial Corridor (DMIC) and Chennai-Bengaluru Industrial Corridor, which include dedicated industrial zones to boost regional economies.
- **North East Industrial Development Scheme (NEIDS):** This scheme promotes industrial growth in northeastern states by providing tax breaks, capital investment subsidies, and transport incentives.
- **MSME Support:** The government has launched several initiatives to boost Micro, Small, and Medium Enterprises (MSMEs), which are crucial for employment generation in backward regions. The Credit Linked Capital Subsidy Scheme (CLCSS) and Prime Minister's Employment Generation Programme (PMEGP) provide financial aid to MSMEs in lagging states.

  By promoting industrialization in backward regions, the government creates local job opportunities and reduces migration to metropolitan areas, ensuring a more balanced economic development.

4) Social Development and Welfare Schemes

Regional disparities are not just economic; they also reflect gaps in social indicators such as literacy rates, healthcare access, and employment opportunities. The government has launched several welfare schemes to uplift disadvantaged regions:

- **Pradhan Mantri Awas Yojana (PMAY):** This programme provides affordable housing to rural and urban poor, especially in backward regions.
- **National Health Mission (NHM):** This scheme aims to improve healthcare services in rural areas by expanding primary healthcare centers and providing mobile medical units.
- **Ayushman Bharat:** India's largest health insurance scheme offers free medical treatment to economically weaker sections, ensuring access to quality healthcare in remote regions.
- **Samagra Shiksha Abhiyan:** This education initiative improves school infrastructure, teacher training, and digital learning, particularly in states with lower literacy rates.
- **Skill India and MGNREGA:** The Skill India initiative provides vocational training to youth in backward regions, while the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) ensures job security for rural workers, reducing distress migration.

These welfare programmes improve the quality of life in less-developed states, fostering long-term regional development.

5) Strengthening Rural Economy and Agricultural Reforms

Agriculture remains the backbone of India's rural economy, and disparities in agricultural productivity contribute to regional imbalances. The government has undertaken several initiatives to strengthen the rural economy:

- **PM-KISAN Yojana:** This direct income support scheme provides financial aid to small and marginal farmers, ensuring economic stability in agrarian regions.
- **E-NAM (National Agriculture Market):** A digital platform that connects farmers with national markets, reducing the dependence on local middlemen and improving farmers' incomes.
- **Fertilizer and Irrigation Subsidies:** Schemes like Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) aim to improve irrigation facilities in drought-prone regions.
- **Rural Development Projects:** The government funds self-help groups (SHGs) and cooperatives under schemes like Deendayal Antyodaya Yojana- National Rural Livelihoods Mission (NRLM) to empower women and small entrepreneurs in villages.

  By improving agricultural productivity and farmers' incomes, the government ensures inclusive growth and reduces economic disparities.

6) Governance and Decentralization

Effective governance and decentralization play a key role in reducing regional disparities by empowering local authorities to take development initiatives:

- **Panchayati Raj System:** Strengthened through the 73rd Constitutional Amendment, local governments are now responsible for planning and executing rural development projects.
- **State-Specific Development Programs:** The central government allows states to create customized development programs based on their unique needs.
- **Direct Benefit Transfer (DBT):** This system ensures that government subsidies and welfare payments reach beneficiaries directly, reducing leakages and corruption in underdeveloped areas.

  Decentralization enhances governance efficiency, ensures better utilization of funds, and enables local participation in decision-making, promoting balanced regional growth.

Check Your Progress 4

1) What steps have been taken to reduce the regional disparities in India?

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2) How can direct benefit transfer be a way to reduce regional disparities in India?

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14.6 LET US SUM UP

India, with its vast diversity, faces significant **interpersonal and regional disparities** in terms of income, education, healthcare, infrastructure, and employment opportunities. These disparities arise due to historical, geographical, socio-economic, and political factors.

Interpersonal Disparities

Interpersonal disparities refer to inequalities among individuals based on income, wealth, education, employment, and access to resources. Income inequality is a major issue, with wealth being concentrated among a small elite while a large section of the population remains poor. Education gaps, particularly between urban and rural areas, limit upward mobility. Gender disparities persist in labour force participation, wages, and financial independence. The rural-urban divide leads to better infrastructure and opportunities in cities, forcing rural migration. Employment inequalities are evident as the unorganized sector employs a majority of the workforce with low wages and no social security.

Regional Disparities

Regional disparities highlight the uneven economic development across states. Some states like Maharashtra, Gujarat, Karnataka, and Delhi are relatively well developed, whereas Bihar, Odisha, Jharkhand, and the Northeast lag behind due to various factors. The education and healthcare divide also plays a crucial role in widening regional gaps, as underdeveloped states struggle with poor schooling facilities and inadequate medical infrastructure.

Government Initiatives to Reduce Disparities

The Indian government has launched various programmes to address these disparities:

1) **Poverty Alleviation Programs** – MGNREGA, PM Garib Kalyan Yojana, and DAY-NRLM provide income and employment opportunities.

2) **Education & Skill Development** – RTE Act, Samagra Shiksha Abhiyan, and PM Kaushal Vikas Yojana aim to enhance educational access.

3) **Financial Inclusion** – PM Jan Dhan Yojana, Atal Pension Yojana, and social security schemes ensure economic inclusion.

4) **Healthcare Programs** – Ayushman Bharat, NHM, and Poshan Abhiyan improve medical access and nutrition.

5) **Regional Development** – Bharatmala, Sagarmala, industrial corridors, and Aspirational Districts Programme focus on infrastructure and industrialization.

14.7 KEY WORDS

Financial Inclusion : Providing access to banking, credit, and insurance services to all sections of society, especially marginalized groups.

Income Inequality : The unequal distribution of wealth and earnings among different social and economic groups.

Interpersonal Disparities : Inequalities among individuals or groups based on income, education, healthcare, employment opportunities, etc.

Regional Disparities : Economic and infrastructural differences across states and regions, leading to uneven development.

Rural-Urban Divide : The gap between rural and urban areas in terms of infrastructure, education, healthcare, and employment opportunities.

14.8 SOME USEFUL BOOKS/REFERENCES

- https://morth.nic.in/sites/default/files/officers/BharatMala%20Pariyojna%20Ebook-2076088661.pdf
- https://sagarmala.gov.in/about-sagarmala/introduction

- https://dfccil.com/
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- https://pib.gov.in/PressReleasePage.aspx?PRID=1783879
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- https://samagra.education.gov.in/

14.9 ANSWERS/HINTS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress 1

1) What do you mean by interpersonal disparity? **Hint:** Interpersonal disparity refers to inequalities among individuals based on income, education, healthcare, and access to opportunities.

2) What are various reasons for interpersonal disparity in India? **Hint:** Factors include income inequality, education gaps, caste and gender discrimination, rural-urban divide, and employment disparities.

Check Your Progress 2

1) What do you mean by regional disparity? **Hint:** Regional disparities refer to the uneven economic development, infrastructure, and resource distribution across different states and regions.

2) What are the factors causing regional disparity in India? **Hint:** Historical exploitation, geographical challenges, governance inefficiencies, demographic pressures, and industrial concentration contribute to regional disparities.

Check Your Progress 3

1) What steps have been taken to reduce interpersonal disparities in India? **Hint:** The government has implemented programs like MGNREGA, Jan Dhan Yojana, Skill India, Ayushman Bharat, and Beti Bachao Beti Padhao.

2) How can Beti Bachao Beti Padhao be a way to tackle the problem of interpersonal disparities in India? **Hint:** By promoting education and empowerment of girls, the scheme reduces gender-based disparities in education, employment, and financial independence.

Check Your Progress 4

1) What steps have been taken to reduce regional disparities in India? **Hint:** Initiatives like Bharatmala, Sagarmala, industrial corridors, Aspirational Districts Programme, and rural electrification aim to promote balanced regional development.

2) How can Direct Benefit Transfer (DBT) be a way to reduce regional disparities in India? **Hint:** DBT ensures direct financial assistance to beneficiaries, reducing leakages, improving governance, and providing equal access to welfare schemes across regions.

UNIT 15 CLIMATE CHANGE

Structure

15.0 OBJECTIVES

After reading this unit, you will be able to:

- Define climate change and distinguish it from misconceptions;
- Identify and explain the key terminologies of climate change;
- Analyse key indicators use to measure and monitor the climate change;
- Describe the economic aspects of climate change, causes, consequences, and potential policy responses; and
- Identify economic policy instruments that can be used to reduce greenhouse gas emissions.

15.1 INTRODUCTION

Environmental degradation poses a significant global challenge and the measures that countries are taking to conserve and protect environment. One of the far-reaching consequences of environmental degradation is Climate

change. In this unit, we will discuss the phenomenon of Climate Change, its causes, impact and policy measures in details.

Climate change, a complex and multifaceted issue, has emerged as a significant global challenge with far-reaching economic, environmental, and social consequences. According to the Intergovernmental Panel on Climate Change (IPCC), "climate change is projected to cause substantial economic damage globally, with the potential for significant losses in agriculture, infrastructure, and human health" (IPCC, 2021). The economic costs associated with climate change are substantial and far-reaching. These include physical damage to infrastructure, decline in agricultural productivity, and adverse health effects. For instance, recent extreme weather events such as wildfires, floods, and hurricanes have caused significant economic losses and disruptions to global supply chains. For example, the devastating wildfires in Australia in 2019-2020 caused billions of dollars in damages and led to significant disruptions in tourism and agriculture. In 2023, India experienced severe flooding in several states, particularly in the north and northeast, which resulted in widespread damage to infrastructure, displacement of millions of people, and significant economic losses. Recently, California wildfires (total 8,024 wildfires) in 2024 were said to be result of hotter-than-normal June and unusually wet winter and spring seasons.

Climate change encompasses both slow-onset and rapid-onset events, each with profound implications for the environment, ecosystems, and human populations worldwide.

- **Slow-onset events** include gradual changes such as sea-level rise, ocean acidification, and desertification.
- **Rapid-onset events** include extreme weather events such as heatwaves, droughts, floods, and storms.

Over the past fifty years (1970 to 2019), weather-related disasters have caused approximately two million deaths and incurred economic losses of $4.3 trillion, with 90% of fatalities occurring in developing countries, according to new data presented in this WMO Atlas of Mortality and Economic Losses from Weather, Climate and Water Extremes. Furthermore, the World Health Organization (WHO) projects that climate change will result in around 250,000 additional deaths annually between 2030 and 2050. The World Economic Forum anticipates that the climate crisis could lead to 14.5 million deaths by 2050.

The scientific consensus is clear: human activities, such as -the burning of fossil fuels, mining and construction activities etc. are the primary drivers of global warming and the subsequent alterations to the Earth's climate system. The impacts of this warming trend are already evident worldwide, characterized by rising sea levels, an increase in the frequency and intensity of extreme weather events, and disruptions to both ecosystems and human

societies. Addressing this challenge requires immediate and concerted action from governments, businesses, and individuals worldwide. By transitioning to low-carbon economies, investing in climate adaptation measures, and promoting sustainable practices, we can mitigate the impacts of climate change and build a more resilient future.

Climate Change can be summarized in below points:

1) **Climate change is real and scientifically accepted.** The vast majority of climate scientists agree that global warming is real and primarily human-caused.

2) **The definition of climate change is statistical.** It's not something we can simply feel or observe; it requires decades of data and statistical analysis to identify significant changes or trends.

3) **Climate change can affect a wide range of variables,** including temperature, precipitation, wind patterns, and extreme weather events. It can also occur at various geographic scales, from local to global.

4) **While human activities are the primary driver of current climate change,** natural factors can also influence climate patterns. For example, volcanic eruptions and changes in solar radiation can induce climate variability.

5) **The consequences of climate change are predominantly negative,** including rising sea levels, extreme weather events, and disruptions to ecosystems and societies.

6) **While the challenge is significant, climate change can be controlled to a significant extent.** By transitioning to low-carbon economies, investing in climate adaptation, and promoting sustainable practices, we can mitigate its impacts and build a more resilient future.

Check Your Progress 1

1) What you understand by climate change? How it is defined internationally?

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2) How do slow-onset and rapid-onset climate events differ, and what are some examples of each?

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15.2 CLIMATE CHANGE: CONCEPTUAL UNDERSTANDING

15.2.1 Climate Change Terminology

The evolving landscape of climate change has necessitated the development of a specialized vocabulary to accurately describe and analyze its multifaceted nature. As people become increasingly aware of climatic events, the language used to describe them is also evolving. Common terms include climate variability, climate change, weather, global temperature, global warming, climate extremes, carbon neutrality, carbon footprint, environmental justice, climate hazard, climate crisis, climate shock, climate risk, climate change adaptation, climate change mitigation, disaster, and disaster risk reduction. Often, these terms are used interchangeably and can be confusing. This section aims to clarify common terms often used interchangeably in discussions of climate change.

Weather and Climate

- **Weather** refers to local conditions on the scale of minutes, hours, days and even months to years: for example, late arrival of winter, warmer winter as compared to another year, etc.
- **Climate** is the long-term average weather pattern of a particular region. It is characterized by statistical measures of temperature, precipitation, and wind patterns over extended periods.

Climate Variability and Climate Change

- **Climate variability** refers to natural fluctuations in climate patterns over various timescales, from seasonal to decadal. These fluctuations can be influenced by factors like oceanic and atmospheric circulation patterns, volcanic eruptions, and solar radiation.
- **Climate change** is a long-term shift in global or regional weather conditions as compared to the average weather conditions, or, more rigorously, as the statistical description in terms of the mean and variability of relevant quantities over a period ranging from months to thousands or millions of years. The IPCC (2007, p. 78) defined climate change as a 'change in the state of the climate that can be identified by changes in the mean and/or variability of its properties that persists for an extended period, typically decades or longer'.

Climate Extremes and Related Terms

- ***Climate extreme*** is defined as the occurrence of a weather or climate variable above (or below) a threshold value near the upper (or lower) ends of the range of observed values of the variable (IPCC 2012, p. 257).

- **Climate crisis** and **climate emergency** are more urgent terms that highlight the severity of climate change and the need for immediate action.

- **Climate risk** refers to the potential for adverse impacts from climate change, including physical risks (e.g., extreme weather events) and transitional risks (e.g., policy changes, technological shifts).

- **Global warming** refers to the overall increase in worldwide temperatures caused by rising greenhouse gas emissions.

Climate solutions

- **Adaptation** deals with the effects and impacts of climate change. 'An adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderate harm or exploit beneficial opportunities' (IPCC, 2001). Some examples include water-saving measures such as rain-water harvesting, monitoring and controlling the spread of diseases like malaria and dengue fever, agroforestry i.e. integrating tress into farming system to improve soil health and biodiversity.

- **Mitigation** deals with causes of climate change. an anthropogenic intervention to reduce the emission sources or enhance the sinks of greenhouse gases' (IPCC, 2011). Some examples include installing solar panels at homes and businesses to generate electricity from sun light, switching to electric vehicles to reduce emissions from transportation, planting trees to absorb carbon dioxide from the atmosphere.

  By understanding above terms and concepts, we can better comprehend the complexities of climate change and its implications for society and the environment.

15.2.2 Climate Change Indicators

World Metrological Organization (WMO) uses seven climate indicators to measure or monitor the state of the climate.

Major category	Indicators	Description
Temperature and Energy	Surface Temperature	Measures the temperature of the Earth's surface, including land and ocean. This indicator is used to track long-term warming trends and assess the impact of climate change on various systems.
	Ocean Heat Content	Measures the amount of heat stored in the ocean. This indicator is important for understanding the

		Earth's energy balance and the role of the ocean in climate change
Atmospheric Composition	Atmospheric CO_2	Measures the concentration of carbon dioxide in the atmosphere. Carbon dioxide is a major greenhouse gas that contributes to global warming.
Ocean and Water	Ocean Acidification	Measures the decrease in pH of the ocean, caused by the absorption of carbon dioxide from the atmosphere. This process affects marine ecosystems and organisms with calcium carbonate shells.
	Sea Level	Measures the average height of the ocean's surface. Sea level rise is caused by thermal expansion of seawater and the melting of glaciers and ice sheets.
Cryosphere	Glaciers	Measures the extent and mass of glaciers. Glaciers are important indicators of climate change, as they are sensitive to changes in temperature and precipitation.
	Arctic and Antarctic Sea Ice Extent	Measures the area of the ocean covered by sea ice in the Arctic and Antarctic. Sea ice plays a crucial role in regulating the Earth's climate system.

These indicators are interconnected and reflect the complex interactions between atmospheric composition, energy balance, and the responses of land, ocean, and ice systems. Continued monitoring and updates on these indicators are crucial for informed decision-making and climate action.

Check Your Progress 2

1) What is the difference between weather and climate, and how does this relate to climate change?

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2) What is the key difference between climate change and climate variation?

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3) What are the primary strategies for addressing climate change, and how do adaptation and mitigation differ?

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4) Please select the appropriate response in below (multiple responses possible).

1.1 Which of the following is an example of weather?

a) The average temperature in new Delhi in February

b) Yesterday's rainfall at the airport

c) The warming of the planet over the 20th century

1.2 Which of the following is an example of climate?

a) Today's high temperature in Jaipur city

b) The average winter temperature in Siberia

c) Last week's snowfall in the Kashmir

1.3 The statement "The average temperature in India has increased by about 0.7°C over the past century" describes:

a) short-term weather event

b) A long-term climate trend

c) A localized weather anomaly

d) A sudden climate shift

1.4 If a researcher is studying the long-term changes in rainfall patterns in a specific region, they are studying:

a) Weather

b) Climate

c) Both weather and climate

1.5 Based on the image, which statement is true about climate variability?

a) It refers to short-term changes in weather patterns.

b) It refers to long-term changes in climate.

c) It refers to the natural fluctuations in climate within a certain range.

1.6 Which of the following is NOT a factor that influences climate?

a) Ocean currents

b) Solar radiation

c) Daily weather patterns

1.7 Which of the following statements accurately describes the difference between global warming and climate change?

a) Global warming is a long-term trend, while climate change refers to short-term weather patterns.

b) Climate change is a broader term that encompasses global warming and its effects on the earth's climate system.

c) Global warming is caused by human activities, while climate change is a natural process.

d) Climate change is a specific type of global warming that affects only certain regions.

15.3 ECONOMIC CONCERNS OF CLIMATE CHANGE

Climate change represents a significant market failure because the market does not account for the environmental costs of greenhouse gas emissions, leading to overproduction and consumption of fossil fuels. This economic failure arises from the discrepancy between private and social costs associated with greenhouse gas emissions. This failure is compounded by externalities, where the actions of one country or entity affect others without these effects being reflected in market prices. The social costs of climate change include the economic damages from climate impacts, which are not borne by the emitters but by society at large. These issues necessitate a revaluation of traditional economic theories and the development of new frameworks to address the unique challenges posed by climate change.

Market Failure and Externalities

The market mechanism often fails to account for the full social costs of greenhouse gas emissions, such as environmental degradation, health

impacts, and economic losses. This leads to overconsumption of fossil fuels and underinvestment in clean energy technologies (Coase, 1960). In essence, the market prices of fossil fuels do not reflect their true environmental and social costs.

Climate change involves significant externalities, as the costs and benefits of emissions are not confined to the emitting country or entity. This results in a disconnect between a country's contribution to global warming and the economic impacts it experiences. For instance, the garbage discarded by an industry on one side of a river will eventually flow downstream, polluting other areas and harming ecosystems and communities.

The Social Cost of Carbon (SCC)

To address the issues related to market failure, economists have developed the concept of the Social Cost of Carbon (SCC). The social costs of climate change include economic losses from extreme weather events, sea-level rise, and other climate impacts, which are not accounted for in market transactions. The SCC estimates the economic damages caused by emitting one additional ton of carbon dioxide into the atmosphere. By quantifying these damages, policymakers can make informed decisions about the economic benefits of reducing greenhouse gas emissions and the costs of implementing climate policies.

15.4 CLIMATE CHANGE: CAUSES AND ECONOMIC IMPACT

Understanding the causes of climate change is essential for developing effective policies and strategies to address its far-reaching economic consequences or impact, which can include damage to infrastructure, increased healthcare costs due to climate-related illnesses, and shifts in agricultural productivity that threaten food security.

15.4.1 Causes of Climate Change

Human-caused climate change is primarily the result of over a century of cumulative greenhouse gas (GHG) emissions arising from various sectors, including energy use, land-use changes, lifestyle choices, consumption patterns, and production activities. Despite notable advancements in reducing carbon dioxide (CO_2) emissions from fossil fuels and industrial processes — attributable to improvements in the energy intensity of gross domestic product (GDP) and the carbon intensity of energy — these reductions have been insufficient to offset the emissions increases resulting from escalating global activity levels across several key sectors.

Even simple everyday activities like cooking with gas stoves or driving cars contribute to greenhouse gas emissions. These activities, while seemingly insignificant individually, collectively contribute to the overall environmental impact.

In 2019, the energy sector emerged as the largest contributor to global GHG emissions, accounting for 34% of the total. This was followed by industrial activities, which contributed 24%, and the Agriculture, Forestry, and Other Land Use (AFOLU) sector, responsible for 22%. Forestry and land use comprises: forest conversion (38%), peat degradation (11%), and biomass fires (1%). Livestock, especially cattle, produce methane (CH_4) as part of their digestion process, known as "enteric fermentation." Another non-CO_2 greenhouse gas (GHG) is nitrous oxide (N_2O). The transport sector accounted for 15% of emissions, while buildings contributed 6%. These statistics highlight the complex and multifaceted nature of climate change, emphasizing the necessity for comprehensive strategies that tackle emissions across all contributing sectors to effectively mitigate its impacts.

15.4.2 Economic Impact and Cost of Climate Change

Economic Impact of Climate Change

Climate change poses a significant threat to global economic stability, with far-reaching consequences for various sectors. The economic impacts are multifaceted and can be categorized into several key areas:

1) **Agriculture and Food Security:** Climate change can lead to decreased crop yields, reduced livestock productivity, and fisheries declines due to factors like altered temperature and precipitation patterns, increased pest and disease outbreaks, and more frequent extreme weather events. For instance, erratic rainfall patterns can disrupt planting and harvesting schedules, while rising temperatures may render some crops unsuitable for cultivation. These changes can lead to reduced crop yields, threatening not only farmers' livelihoods but also food security. Extreme weather events can damage infrastructure, disrupt transportation networks, and lead to food shortages, price volatility, and increased food insecurity. Reduced agricultural output can result in significant economic losses for farmers, businesses, and governments.

2) **Industrial Output:** Climate change can have a significant impact on industrial output. Extreme weather events can disrupt production processes, damage factories, and disrupt supply chains. Additionally, rising temperatures can reduce worker productivity and increase energy costs. For example, the heat stress-induced productivity decline could lead to significant job losses globally, with India potentially contributing to 34 million out of 80 million job losses by 2030. Moreover, climate change-related regulations, such as carbon pricing and emissions standards, can increase the cost of production and reduce competitiveness.

3) **Health:** Climate change poses significant risks to both human and animal health. Rising temperatures, altered precipitation patterns, and extreme weather events can exacerbate existing health issues and create new challenges. Increased heat stress, respiratory illnesses, and the

spread of vector-borne diseases, such as malaria and dengue fever, are among the human health risks associated with climate change. Additionally, water-borne diseases, like cholera and typhoid, can become more prevalent due to increased flooding and water contamination. Vulnerable populations, including the elderly, children, and individuals with underlying health conditions, are particularly susceptible to these health risks.

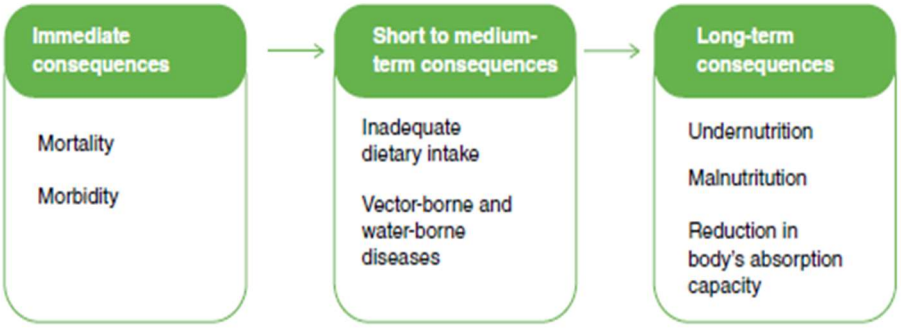

Fig. 15.1: Impact of climate change on health and nutrition

Source: Mehar and Prasad (2022)

Climate change also impacts animal health. Changes in temperature and precipitation patterns can disrupt ecosystems, affecting the distribution and abundance of wildlife. Extreme weather events, such as droughts and floods, can lead to food and water shortages for animals, increasing their vulnerability to disease and malnutrition.

4) **Infrastructure:** Climate change poses a significant threat to infrastructure, particularly in vulnerable regions. Extreme weather events, such as floods, storms, and heatwaves, can damage critical infrastructure, including roads, bridges, railways, ports, airports, power plants, water supply systems, and buildings. For example, India has incurred substantial economic losses due to climate-related disasters, with floods alone costing the country USD 3 billion in the last decade. The impacts of infrastructure damage are far-reaching. Disrupted transportation networks can hinder economic activity and trade. Damaged power plants and water supply systems can lead to power outages and water shortages. Additionally, climate change-induced sea-level rise and coastal erosion threaten coastal infrastructure, particularly in low-lying areas.

5) **Financial Sector:** The financial sector is increasingly exposed to climate-related risks. Extreme weather events can damage property, disrupt supply chains, and impact businesses' profitability, potentially leading to loan defaults and credit losses. For instance, the insurance industry faces significant risks from climate-related disasters, such as hurricanes, floods, and wildfires. Moreover, climate change can affect the long-term value of assets, such as real estate and infrastructure. As the frequency and intensity of climate-related events increase, the value

of assets in vulnerable areas may decline. This can have significant implications for banks and other financial institutions that hold these assets as collateral. For example, in 2017, Hurricane Harvey caused significant damage to the Houston economy, leading to billions of dollars in insurance claims and economic losses. This event highlighted the vulnerability of the financial sector to extreme weather events.

6) **Inequality, conflict and migration**: Climate change disproportionately impacts marginalized populations, particularly in developing countries. Those dependent on climate-sensitive sectors like agriculture and fishing face heightened livelihood risks due to shifting environmental conditions. Migration, often forced, also known as displacement, due to extreme weather events and rising sea levels, leads to loss of homes and communities, exacerbating social and economic instability. For instance, sea-level rise in the Sundarbans region of West Bengal has led to the displacement of approximately 20% of the population. Additionally, competition for scarce resources, such as water and arable land, exacerbated by climate change, can lead to human conflict and social unrest. For example, the ongoing conflict in Darfur, Sudan, is linked to climate-induced desertification and water scarcity.

Economic Cost of Climate Change Policies

Climate change policies are essential in addressing the risks posed to the environment, but they have high direct and indirect costs to the economy, especially on developing countries such as India. Although global accords such as the Kyoto Protocol (1997) and the Paris Agreement (2015) facilitate global action on climate change, the cost of shifting to a low-carbon economy is too high for emerging economies. In contrast to developed countries, which have already enjoyed carbon-heavy industrialization, developing countries need to balance poverty reduction, economic growth, and climate resilience against the enormous fiscal burden of climate policies. The Intergovernmental Panel on Climate Change (IPCC) has reported that developing nations will require $127 billion per year by 2030 and $295 billion per year by 2050 to adapt to climate change. However, adaptation funds remain critically low, with tracked climate finance reaching just $23 billion to $46 billion in 2017-2018, accounting for only 4% to 8% of total climate finance. Inadequate funding threatens to worsen socio-economic inequalities, leaving vulnerable nations struggling to cope with climate impacts.

1) Direct Costs of Climate Change

Direct costs are the immediate and measurable expenses caused by climate change-related events. These include damage to infrastructure, losses in agriculture, higher healthcare costs, and increased insurance claims. Such disasters place a heavy financial burden on developing countries, impacting government budgets, businesses, and individuals.

Extreme weather events, such as floods, storms, and heatwaves, lead to the destruction of roads, power grids, and public infrastructure, requiring billions of dollars for repairs. These reconstruction efforts often divert funds away from essential services like education and healthcare. Agriculture is particularly vulnerable in developing countries, as unpredictable rainfall, extreme heat, and floods damage crops and reduce livestock populations. This results in food shortages and financial hardship for farmers and rural communities.

Additionally, rising temperatures contribute to health problems, increasing the spread of vector-borne diseases like malaria and dengue and leading to more cases of heat-related illnesses. As a result, healthcare costs rise, putting further pressure on already strained public health systems in developing nations.

Box 1: Evidence of Direct Costs of Climate Change

a) Global GDP Impact: Climate change damage is projected to cost between $1.7 trillion and $3.1 trillion per year by 2050. This includes damages to infrastructure, property, agriculture, and human health.

b) Infrastructure and Property Damage:

- Hurricane Sandy (2012, U.S.): Caused $65 billion in damages, severely affecting public transit and power infrastructure.
- Amazon Rainforest Fires (2019–2023, Brazil & Bolivia): Destroyed over 9 million hectares, leading to economic losses exceeding $3.5 billion, impacting agriculture, tourism, and air quality.
- Australian Wildfires (2019): Burned 18.6 million hectares of farmland, resulting in $4.4 billion in economic losses and the destruction of over 3,500 homes.

c) Healthcare Costs & Human Losses:

- Heat-Related Deaths: Between 2000–2019, an estimated 489,000 heat-related deaths occurred annually, with 45% in Asia and 36% in Europe.
- Healthcare Expenses: Direct climate-related health damage costs (excluding indirect factors like agriculture and water supply) are estimated at $2–4 billion per year by 2030.

d) Fire Suppression & Disaster Response Costs: California Wildfires (2020, U.S.) cost the government $3.6 billion in fire control and suppression alone.

e) Insurance Payouts & Market Impacts: Global Climate Disasters (2022) led to $120 billion in insurance claims, making coverage unaffordable in many vulnerable areas.

2) Indirect Costs of Climate Change and Long-Term Economic Ripple Effects

Global warming is pushing millions of individuals to move as sea levels rise, flooding becomes common, and extreme weather conditions make their habitats uninhabitable and unsafe. This causes housing deficits, congestion, and increased unemployment in cities as people are displaced and search for employment. Numerous coastal towns and island nations risk losing entire communities as they flood and are eroded, posing long-term economic and social problems.

Furthermore, natural catastrophes devastate supply networks, destroying highways, ports, and factories. This becomes more difficult to send vital goods, increasing the costs of food, fuel, and household items. When companies can't acquire inputs and supplies, production decreases, causing workers to lose their jobs and earn less money, particularly in sectors based on international commerce.

The insurance sector is also suffering, with frequent natural disasters driving up the cost of insuring homes, farms, and businesses. Some insurers have drastically increased premiums in high-risk locations or have entirely dropped coverage, leaving families and companies with no financial security when catastrophes hit.

Box 2: Evidence of Indirect Costs of Climate Change

1) Labor Productivity Decline: The International Labour Organization (ILO) estimates that heat stress could result in 80 million job losses by 2030, significantly impacting economies reliant on outdoor labour.
2) Climate Migration: Rising sea levels threaten 187 million people worldwide, with Bangladesh alone expecting 19.9 million climate refugees by 2050.
3) Supply Chain Disruptions: The 2021 European floods caused $30 billion in damages, halting key industries and disrupting global trade.
4) Insurance Market Strain: In the Caribbean, climate vulnerability has led insurers to withdraw policies, leaving coastal populations unprotected.
5) Real Estate Devaluation: A 10% drop in property values was observed in Florida due to increased flood risks, lowering economic stability.
6) Tourism Industry Decline: The Great Barrier Reef's coral bleaching crisis will reduce tourism revenue in Australia by $1 billion annually and 10,000 jobs per year from reduced tourism.

3) High Mitigation Costs and the Economic Challenges of Transitioning to Green Energy

Mitigation — reducing emissions and transitioning to clean energy sources — requires significant financial investment, posing challenges for developing economies. Economists estimate that mitigation efforts will cost between 1% and 2% of global GDP annually, making it difficult for nations with limited resources to meet emissions targets without slowing economic growth.

India's goal to achieve net-zero emissions by 2070 will require $10 trillion in investments for renewable energy expansion, electric mobility, and industrial decarbonization, while current capital sources can only meet $6.6 trillion of that. Meanwhile, millions of jobs in coal mining and fossil fuel industries are at risk, with inadequate government funding for worker retraining. Many industries also struggle with higher production costs due to carbon pricing and stricter environmental regulations, making it harder for businesses to compete globally.

4) The Climate Justice Dilemma and the Need for Financial Support

Developing nations argue that wealthier countries bear historical responsibility for climate change and should contribute more to climate finance, technology transfers, and capacity-building initiatives. However, financial assistance has been insufficient, and many industrialized nations have failed to fulfil their obligations under international agreements. The U.S. withdrawal from the Paris Agreement in 2017 significantly reduced available climate finance, delaying adaptation and mitigation projects in vulnerable nations.

Without sufficient international funding and technological access, climate policies risk increasing economic inequality. As developing nations struggle with extreme weather events, employment disruptions, and declining productivity, there is an urgent need for equitable climate policies that support adaptation and resilience-building efforts.

15.4.3 Interconnected Climate Change Risks

Climate change is a multifaceted complex issue, as it led to multiple or cascading effects across various sectors and regions. Figure 15.2. shows an example used by latest IPCC report (IPCC 2023, p. 100). This is example shows that when heat wave and a drought event occur simultaneously in an agricultural region shows how multiple risks are interconnected and lead to cascading biophysical, economic, and societal impacts even in distant regions, with vulnerable groups such as marginal and small farmers, children and pregnant women particularly are affected disproportionately.

At the core of this risk lies the combination of extreme heat and drought. This dual threat directly results in decreasing soil moisture, which affects plant health and reduce fertility. Consequently, crop yields and quality declines, leading to food security concerns. On other side, it will be tough for workers to work for longer hour as well as efficiently, impacting on total

production. Simultaneously, the extreme heat can reduce labour capacity, as workers struggle to endure prolonged exposure to high temperatures, further impacting agricultural production.

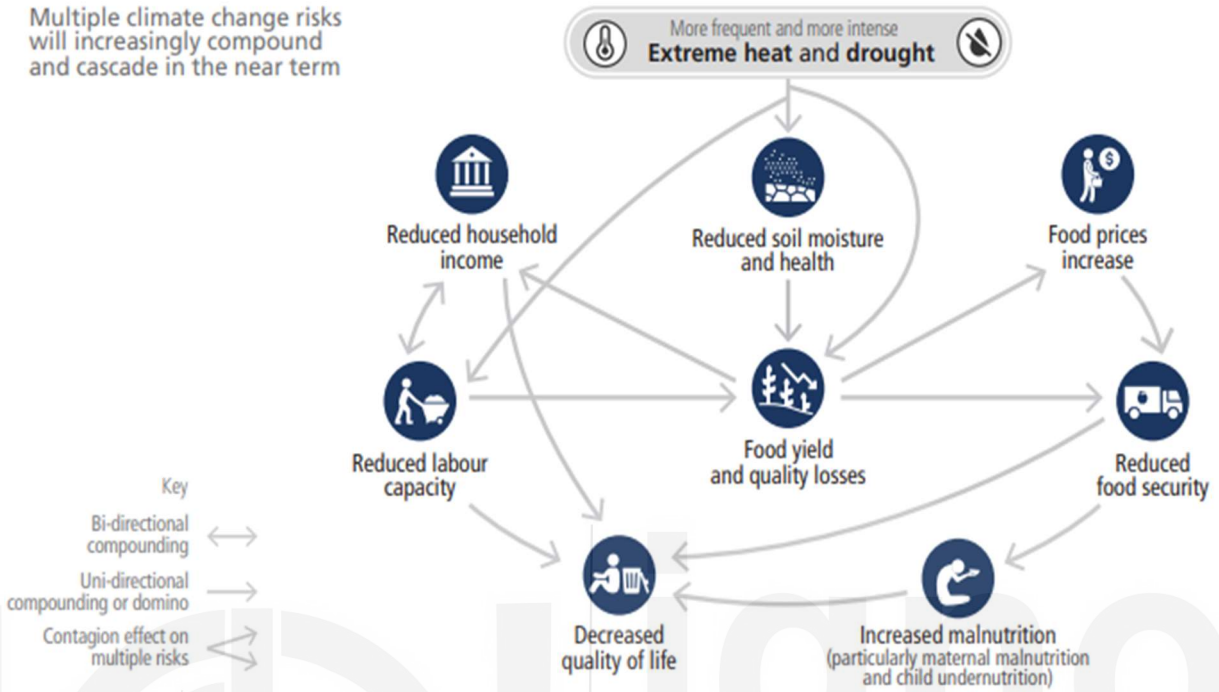

Fig. 15.2: How climate change risks compound and cascade

Source: IPCC (2023, pg. 100)

The decrease in agricultural production and reduced labour capacity result in reduced income for farmers and rural communities. This economic downturn, coupled with increased food prices due to reduced supply, exacerbates food insecurity, particularly for vulnerable populations. The reduced availability and affordability of food, combined with increased health risks associated with malnutrition, further impacts the well-being of children and pregnant women.

This example illustrates the intricate nature of climate-related risks. It showcases how seemingly isolated events can trigger a cascade of interconnected impacts, affecting various sectors and regions. Some risks, such as reduced labour capacity and decreased food quality, can mutually influence each other, creating a feedback loop. Others, like reduced household income leading to reduced food security, exhibit a more linear, domino-like effect. Additionally, certain risks, such as increased food prices, can have far-reaching consequences, affecting multiple other risks, including food security and quality of life.

Understanding these complex interactions is crucial for developing effective strategies to mitigate and adapt to the impacts of climate change. By recognizing the interconnectedness of risks, policymakers and decision-makers can implement comprehensive measures to address the multifaceted challenges posed by climate change.

Check Your Progress 3

1) How can individuals contribute to mitigating climate change in their daily lives?

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2) Why are developing countries particularly vulnerable to the impacts of climate change?

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3) How might climate change impact specific industries or sectors, such as agriculture or tourism?

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4) What are the main human activities that contribute to climate change? Provide specific examples of these activities and their impact on the environment.

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15.5 ECONOMIC POLICY INSTRUMENTS TO ADDRESS CLIMATE CHANGE

There are several national and international efforts to address climate change. We have discussed specific policies already in Unit 11. In this section, you will learn about few economic policy instruments with supportive examples from India for your understanding.

1) **Market-based instruments:** Use economic incentives to influence behaviour and achieve environmental goals. These tools aim to make it

more costly to pollute and more beneficial to adopt cleaner technologies. These includes :

a) **Carbon Pricing**: These taxes are imposed as a fee on carbon emissions or set a cap on total emission and distribution permits to emit, making pollution more expensive and incentivizing businesses to reduce their carbon footprint. India has implemented a carbon tax on coal (i.e. Rs. 400 per ton of coal in 2010, which is equivalent to a carbon tax of about US $ 1 per ton), aiming to discourage the use of coal-fired power plants and promote renewable energy sources to achieve carbon emissions by 50% by 2030.

b) **Environmental tax**: Such as ban or charges on plastic-based product to encourage the use of biodegradable or reusable alternatives. Landfill Taxes, i.e., fees on waste disposal to incentivize recycling and reduce waste generation.

c) **Subsidies and Tax Incentives for Clean Energy**: These are financial support provided by government to promote in energy-efficient technologies, such as solar panels, electric vehicles, and energy-efficient appliances. For example, In India Pradhan Mantri Kisan Urja Suraksha Evam Utthaan Mahabhiyan (PM-KUSUM) scheme was launched in March 2019 to help farmers to install solar power plants and solar pumps. Recently, similar initiative in process if of the creation of Solar Park.

2) **Regulatory Instruments:** Regulatory instruments involve setting legal standards or rules that directly limit or guide behaviours. Unlike market-based instruments, they are more rigid.

a) **Emissions Standards:** Governments can set strict limits on emissions from industries, vehicles, or other sources. For example, laws that limit CO_2 emissions from power plants or require fuel efficiency standards for cars encourage industries to adopt cleaner technologies.

b) **Energy Efficiency Standards**: Mandating minimum efficiency standards for buildings, appliances, and vehicles ensure that products use less energy and produce fewer emissions. These standards push industries to innovate and adopt cleaner, more efficient technologies.

c) **Bans and Restrictions:** Governments may also implement bans on the most polluting practices or products. For example, restrictions on new coal power plants or bans on certain harmful chemicals push industries toward greener alternatives. For example, a ban on polluting practices in India is the ban on single-use plastic items that came into effect on July 1, 2022. This includes ban over a range of plastic items, including earbuds with plastic sticks, plastic flags, ice-cream sticks, cigarette packets etc.

3) **Financial Instruments:** Financial instruments can mobilize capital for climate-friendly investments.

   a) **Green bonds** are a form of debt used to raise funds for projects that have positive environmental outcomes, such as renewable energy projects or energy-efficient infrastructure. Investors buy these bonds with the knowledge that the funds will be used for sustainable purposes.

   b) **Risk Financing Programme:** For example, in agriculture, this is done through two ways the Crop Insurance scheme which supports the insurance of farmers against climate risks and the Credit Support Mechanism facilitates through the easy extension of credit to farmers, especially in instances such as crop failure due to climate variability or change.

4) **Behavioural and informational instruments:** These instruments aim to change public attitudes and behaviours by providing information or influencing consumer choices.

   a) **Carbon Labelling and Eco-labelling:** Carbon labelling involves providing information about the carbon emissions associated with a product. This allows consumers to make informed choices about their environmental impact. Similarly, eco-labelling certifies products that meet certain environmental standards, encouraging companies to adopt greener practices.

   b) **Public Awareness Campaigns:** Governments and organizations often run campaigns to educate people about the importance of reducing emissions, saving energy, and adopting more sustainable lifestyles. These campaigns help shift public attitudes toward climate-friendly behaviour.

   c) **Eco-taxes Taxes** on environmentally harmful products or behaviours (like plastic bags or excessive packaging) can nudge consumers toward more sustainable alternatives.

5) **International Cooperation and trade policies**

   a) **Climate Agreements:** Global agreements, such as the Paris Agreement, set international targets for reducing emissions and provide frameworks for countries to cooperate. These agreements can include financial commitments from wealthier countries to support climate action in developing countries.

   b) **Border Carbon Adjustments:** A border carbon adjustment is a tariff or fee placed on imported goods based on their carbon content. This helps prevent "carbon leakage," where companies

move production to countries with weaker climate policies, and encourages other countries to adopt stronger climate measures.

c) **Climate Finance or Aid:** Developed countries often provide financial support to developing countries to help them mitigate and adapt to climate change. This support can include direct funding, technology transfer, and capacity-building efforts.

Climate change is a global challenge that necessitates international cooperation for effective solutions. India has actively participated in international climate negotiations, such as the Paris Agreement, and has committed to reducing its carbon intensity and increasing its renewable energy capacity. We have discussed Paris agreement in Unit 11. India pledged to reduce its carbon emissions intensity by 33-35% by 2030 from 2005 levels and to achieve 40% of its power capacity from non-fossil fuel sources by 2030. This commitment highlights India's proactive approach towards international climate cooperation and its role in global climate governance (United Nations Framework Convention on Climate Change, 2015).

15.6 MAJOR CLIMATE CONVENTIONS AND AGREEMENTS

Climate conventions and agreements represent global efforts to tackle climate change through cooperation, policy frameworks, and legally binding commitments. These initiatives bring nations together to address environmental challenges, set emission reduction targets, and promote sustainable practices. The foundation for global climate action was laid with the United Nations Framework Convention on Climate Change (UNFCCC) in 1992, which established a framework for international cooperation. We have discussed major international efforts towards environmental protection in details in Unit 11. Let us look at major climate Conventions and agreements.

Table 15.1 Major Climate Conventions and Agreements: Timeline, Focus, and Contributions

Year	Convention/Agreement (Region)	Focus	Major Contribution
1972	United Nations Conference on the Human Environment (UNCHE), Stockholm	Recognizing environmental issues as a global concern.	Led to the Stockholm Declaration with 26 principles, marking the first international effort to link economic growth with environmental

			protection.
1985	Vienna Convention for the Protection of the Ozone Layer, Vienna	Protection of the ozone layer from human activities.	Created a framework for global cooperation on monitoring and reducing ozone-depleting substances (ODS).
1987	Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal	Phasing out substances that deplete the ozone layer.	Successfully reduced chlorofluorocarbons (CFCs) and other harmful substances, aiding in ozone layer recovery.
1989	Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Basel	Controlling transboundary movements of hazardous wastes.	Prevents developed nations from dumping hazardous waste in developing countries.
1992	United Nations Conference on Environment & Development (UNCED), Rio de Janeiro	Sustainable development and environmental governance.	Introduced Agenda 21, the Rio Declaration, and conventions on climate change and biodiversity.
1995	First Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC), Berlin	Established a global platform for countries to discuss and collaborate on climate change solutions	Initiated a negotiation process for legally binding emission reduction targets for developed nations, laying the foundation for the Kyoto Protocol.
1997	Kyoto Protocol to the UNFCCC, Kyoto	Legally binding emission reduction commitments for developed countries.	Established mechanisms like carbon trading, the Clean Development Mechanism (CDM), and emission reduction targets.

2002	World Summit on Sustainable Development (WSSD), Johannesburg	Economic development, social development and sustainable development.	Strengthened the connection between poverty reduction and environmental sustainability.
2009	Copenhagen Climate Change Conference (COP15), Copenhagen	Strengthening global response to climate change.	Stated that countries "ought" to limit global warming to 2C, but does not bind them to do so
2015	Paris Agreement (COP21), Paris	Limiting global warming to well below 2°C, preferably 1.5°C.	Established Intended Nationally Determined Contributions (INDCs) for all countries, promoting climate finance and adaptation.
2015	Sustainable Development Goals (SDGs), New York	Integrating climate action into global development goals.	Goal 13 (Climate Action) emphasizes sustainability, mitigation, and adaptation strategies.
2017	United Nations Framework Convention on Climate Change (UNFCCC) (COP23), Bonn	Strengthening climate action plans.	A roadmap was adopted to enhance national climate contributions and implementation strategies.
2018	United Nations Framework Convention on Climate Change (UNFCCC) (COP24), Katowice	Implementation of the Paris Agreement.	Introduced Paris Implementation Guidelines, covering adaptation communication, finance, technology, and compliance. INDCs were integrated into broader transparency and action frameworks.

2019	United Nations Framework Convention on Climate Change (UNFCCC) (COP25), Santiago	Strengthening adaptation and resilience.	Parties agreed on an enhanced framework to integrate long-term adaptation strategies with mitigation efforts.
2019	Intended Nationally Determined Contributions (INDC) Partnership, Global	Enhancing climate commitments.	Strengthened alignment of INDCs with the Sustainable Development Goals (SDG) 2030 Agenda, emphasizing national contributions to climate action.
2021	United Nations Framework Convention on Climate Change (UNFCCC) (COP26), Glasgow	Expanding climate commitments and finance.	New pledges were made to accelerate emission reductions, enhance climate finance, and phase out fossil fuel subsidies.
2024	United Nations Framework Convention on Climate Change (UNFCCC) (COP29), Baku	Strongly focused on increasing funding and creating effective carbon market mechanisms.	The first ever "Finance COP," agreeing to mobilize $300 billion of climate finance, falling short of the trillion-dollar figure demanded by developing countries.

Check Your Progress 4

1) What is the main purpose of banning single-use plastic items? How can we reduce plastic waste in our daily lives?

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2) What are the potential benefits and drawbacks of carbon pricing?

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3) What are some economic tools or instruments that can be used to reduce greenhouse gas emissions?

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15.7 LET US SUM UP

We conclude that climate change, is a complex global issue and is primarily caused by human activities. Some of these activities include burning of fossil fuels, deforestation, industrial processes, and agricultural practices release greenhouse gases into the atmosphere, trapping heat and leading to a warming planet. This warming has far-reaching consequences, including rising sea levels, more frequent and intense extreme weather events, and disruptions to ecosystems and human societies.

As the concern is evolving, there are several terminologies which needs to be understood and used properly. The climate related risks have caused major losses of revenue to different sectors including agriculture, industry with variation across origin (region, country), segment of society (marginalized, gender, age). The immediate effects are seen in borrowing or mortality, the long-term effects are more severe. Several national and international forums put efforts to reduce emissions. The examples from India illustrate India's comprehensive approach to tackling climate change through economic measures that promote sustainability and resilience.

In conclusion, the impacts of climate change on agriculture, health, infrastructure, energy, and the vulnerability of people and livelihoods are interconnected and necessitate comprehensive policy responses. By prioritizing sustainability and resilience, societies can mitigate these impacts and work toward a more secure future for all.

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15.9 ANSWERS/HINTS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress 1

1) Climate change, a complex and multifaceted issue, has emerged as a significant global challenge with far-reaching economic, environmental, and social consequences. According to the Intergovernmental Panel on Climate Change (IPCC), “climate change is projected to cause substantial economic damage globally, with the potential for significant losses in agriculture, infrastructure, and human health” (IPCC, 2021).

2) **Slow-onset events** include gradual changes such as sea-level rise, ocean acidification, and desertification. **Rapid-onset events** include extreme weather events such as heatwaves, droughts, floods, and storms.

Check Your Progress 2

Q. 1, 2 & 3 not given

4) The correct answers are below:

4.1 Answer: yesterday’s rainfall at the airport

4.2 Answer: the average winter temperature in Siberia

4.3 Answer: a long-term climate trend

4.4 Answer: Climate

4.5 Answer: c) It refers to the natural fluctuations in climate within a certain range.

4.6 Answer: c) Daily Weather patterns

4.7 Answer: Climate change is a broader term that encompasses global warming and its effects on the Earth's climate system.

Check Your Progress 3

1) Your answer must include:

- Reduce, Reuse, recycle: Minimize waste, opt for reusable products, and recycle materials to conserve resources.
- Conserve Energy: Turn off lights and appliances when not in use, use energy-efficient devices, and choose renewable energy sources.
- Sustainable Transportation: Walk, bike, carpool, or use public transportation to reduce carbon emissions.

2) Your answer can build from below points:

- Limited Resources: Developing countries often lack the resources and infrastructure to adapt to climate change impacts, such as extreme weather events and rising sea levels.
- Dependence on Climate-Sensitive Sectors: Many developing countries rely heavily on agriculture and other climate-sensitive sectors, which are vulnerable to climate variability.

3) Your answer can build from below points:

- Agriculture: Climate change can lead to altered rainfall patterns, increased pests and diseases, and more frequent extreme weather events, affecting crop yields and food security.
- Tourism: Climate change can impact coastal destinations due to rising sea levels and erosion, and alter tourist seasons and experiences in mountain regions.

4) Your answer can build from below points:

- Burning Fossil Fuels: The combustion of fossil fuels like coal, oil, and natural gas releases greenhouse gases, primarily carbon dioxide, into the atmosphere, leading to global warming.

– Deforestation: Clearing forests for agriculture, logging, and other purposes reduces the planet's ability to absorb carbon dioxide, exacerbating climate change.

– Industrial Agriculture: Intensive farming practices, including the use of synthetic fertilizers and the clearing of land for agriculture, contribute to greenhouse gas emissions and soil degradation.

15.10 TERMINAL QUESTIONS

Note: a) Write your answer in about 150-200 words. b) Check your progress with possible answers given at the end of the unit.

1) What are the economic costs of climate change-related disasters, such as hurricanes, floods, and droughts?

2) What are the most cost-effective strategies for mitigating greenhouse gas emissions?

3) How does climate change exacerbate social inequality and poverty?

4) What are the most effective regulatory approaches to reduce greenhouse gas emissions from specific sectors?

5) Why is climate change a 21st century crisis?

Hints to Unit-end question

5) Your answers can be built from below information:

Climate change is a 21st - century crisis due to its far-reaching and multifaceted impacts on global ecosystems, economies, and human health. Scientific research indicates that climate change is intensifying extreme weather events, leading to more frequent and severe natural disasters, which in turn threaten food security and water resources. These changes have significant socio-economic implications, particularly for vulnerable populations who face increased risks of displacement and health issues, further straining public health systems.

The urgency of addressing climate change is underscored by the need for immediate action to mitigate its effects. Current trends suggest that without substantial intervention, the consequences of climate change will become increasingly severe and irreversible. To combat these challenges, the integration of sustainable practices and policies is essential. This highlights the critical role of innovation and collaboration in fostering resilience against climate impacts. Therefore, climate change represents a complex crisis that necessitates comprehensive and coordinated global responses.

UNIT 16 GENDER MAINSTREAMING

Structure

16.0 OBJECTIVES

After reading this unit, you will be able to:

- Examine gender inequalities and identify gaps to examine gender mainstreaming;
- Differentiate gender mainstreaming from concepts like women's empowerment and gender (in/) equality;
- Identify the key principles of gender mainstreaming, such as inclusivity, accountability, and adapting to local contexts;
- Recognize the barriers to gender mainstreaming in different sectors, including pragmatic, conceptual, and political barriers;

- Evaluate the role of various stakeholders, including government agencies, NGOs, and communities, in promoting gender mainstreaming in areas like agriculture, health, energy, education and finance; and
- With the help of a case study, analyse how practical applications of gender mainstreaming contribute to women's empowerment.

16.1 INTRODUCTION

Gender Mainstreaming is an increasingly recognized approach aimed at integrating gender perspectives into all stages of policy making, implementation, and evaluation to promote equity and inclusivity across sectors. It serves as a mechanism to break down systemic barriers that keep gender disparities in place and prevent sustainable development. By embedding gender-sensitive frameworks within economic, educational, and healthcare initiatives, gender mainstreaming enhances policy effectiveness and ensures equitable outcomes for all demographic groups.

The significance of gender mainstreaming is emphasized within the framework of the **United Nations Sustainable Development Goals (SDGs)**, particularly **Goal 5: Achieve Gender Equality and Empower All Women and Girls**. This global agenda prioritizes the elimination of discriminatory practices, ensuring equitable access to resources and opportunities, and fostering women's leadership in economic and political spheres. Gender disparities persist in multiple domains, including education, labour force participation, healthcare, and governance, often exacerbated by entrenched socio-cultural norms. Addressing these issues necessitates a comprehensive approach involving **evidence-based policies, strategic interventions, and robust monitoring mechanisms** to foster an inclusive and just society.

As students of social sciences, it is important to understand the implications of gender mainstreaming within various contexts, including economic development, education, and health. Through gender mainstreaming, one can better examine how gender dynamics influence societal structures and individual experiences, ultimately contributing to a more equitable and just society. This understanding is crucial, as it uncovers the root causes of persistent gender inequalities that appear in different forms across societies.

In this unit, we discuss the need for Gender mainstreaming and various barriers to it. We also present Gender mainstreaming in various areas like agriculture, education, health and financial inclusion. With the help of case study, we discuss the case of women empowerment.

16.2 GENDER INEQUALITY AND GENDER MAINSTREAMING

16.2.1 Gender Inequality and the Need for Mainstreaming

Gender inequality refers to the unequal treatment or perceptions of individuals based on their gender, leading to disparities in access to opportunities, resources, and rights. It impacts many areas of life, including

education, employment, healthcare, and leadership. These inequalities are often reinforced by societal norms and traditions that limit roles and opportunities, particularly for women. For example, in some cultures, girls may be discouraged from pursuing higher education due to beliefs that prioritize boys' learning. In the workforce, women frequently encounter obstacles such as wage gaps and underrepresentation in leadership, driven by gender stereotypes. These systemic issues highlight the pervasive nature of gender inequality and highlight the urgent need for gender mainstreaming to break down such barriers and ensure equal access for all genders across sectors. Box 16.1 provides an overview of key dimensions of gender inequality, highlighting critical gaps in education, employment, leadership, and unpaid care work that underscore the need for gender mainstreaming.

Box 16.1: Understanding gender inequalities

Work opportunities and wage gap: Globally, women earn approximately 20% less than men for the same work (International Labour Organization, ILO). In India, the gender pay gap is even wider, with women earning 34% less than their male counterparts in similar roles.

Representation in leadership positions: On average, women hold 26.5% of seats in parliament globally and 22% of ministerial-level positions. In India women's representation in Lok Sabha is only 13.6 % in 2024. The share of women MPs in Rajya Sabha was 12.24 %in 2021. Share of women MLAs in state Assemblies hovers between 0 and 14 per cent, The 72-member council of ministers in the third Narendra Modi government (2024) has seven women, including two with cabinet rank. This is four less than the outgoing council of ministers.

Literacy gap: 129 million girls globally are out of school, including 32 million of primary school age (United Nations Educational, Scientific and Cultural Organization, UNESCO). In India, while the female literacy rate has risen to 70.3%, it remains significantly below the male literacy rate of 84.7%, reflecting entrenched barriers such as early marriage, household responsibilities, and inadequate school infrastructure.

Gender-based discriminatory practices: Lower wages paid to women for work of equal value; undervaluation of women's work in highly feminised occupations and enterprises, and motherhood pay gap — lower wages for mothers compared to non-mothers.

Harmful practices and gender-based violence: In India, over 428,000 crimes against women were reported in 2021 (National Crime Reporting Board).

Unpaid work burden including child and elder care and housework: Women perform 2.6 times the unpaid care and domestic work compared to men (UN Women, 2018).

A critical examination of gender mainstreaming requires an understanding of the multidimensional nature of gender inequalities. These inequalities reflect the unequal access to opportunities, resources, and rights based on gender, reinforced through social, economic, and political structures.

Some characteristics about Gender inequality:

1) **Gender inequality is widespread and interconnected:** It affects education, employment, healthcare, and political representation, with barriers in one area often leading to challenges in others.

2) **It limits opportunities and potential:** Girls face barriers like early marriage and lack of facilities in schools, while women earn less than men and are underrepresented in leadership roles, restricting their contributions to society.

3) **Healthcare and political gaps remain significant:** Women struggle with unequal access to medical care, and their limited representation in government reduces their influence on policies that affect their lives.

4) **Achieving SDG 5 is essential:** The United Nations' Sustainable Development Goal 5 calls for eliminating gender disparities and empowering all women and girls, highlighting the global priority of gender equality.

5) **Gender mainstreaming is the way forward:** By integrating gender perspectives into policies and programmes, societies can address inequalities and create fairer outcomes.

6) **Equality benefits everyone:** Increasing women's workforce participation and leadership opportunities not only boosts GDP but also fosters innovation and inclusive societal progress.

16.2.2 What is Gender Mainstreaming?

Gender mainstreaming emerged as a strategic approach to address the systemic neglect of gender relations in development programs, emphasizing the need for gender equality as a fundamental aspect of societal progress. Gender mainstreaming was formally introduced at the Third UN World Conference on Women in Nairobi in 1985, and later solidified at the Beijing Platform for Action in 1995, which called for the integration of gender perspectives in policy-making. At this conference in Beijing, it was noted;

"In addressing unequal access to and inadequate educational opportunities, Governments and other actors should promote an active and visible policy of mainstreaming a gender perspective into all policies and programmes, so that, before decisions are taken, an analysis is made of the effects on women and men, respectively" (Beijing declaration, 1995).

The concept gained significant traction following the Fourth World Conference on Women in 1995, where it was recognized as a crucial strategy for integrating gender perspectives into all policies and programmes. This

approach was further supported by influential figures like Amartya Sen, who highlighted the importance of women's participation in development as a form of freedom.

Gender mainstreaming arose out of a concern that gender relations were an integral consideration that was being ignored when implementing development programmes. Amartya Sen observed in 1999 that the full participation of women was "a crucial aspect of development as freedom" (Sen, 1999: 203).

Since then, various organizations and institutions have developed strategies and frameworks to promote gender mainstreaming. These efforts aim to address gender inequalities by systematically integrating a gender perspective throughout the entire policy process, from design and implementation to monitoring and evaluation. Notably, international organizations such as the WHO and UN agencies have taken significant steps to institutionalize gender mainstreaming across their various departments and initiatives.

16.2.3 Gender Mainstreaming — Definition

Gender mainstreaming, as defined by the 1997 agreed conclusions of ECOSOC, is "the process of assessing the implications for women and men of any planned action, including legislation, policies or programmes, in all areas and at all levels. It is a strategy for making women's as well as men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programmes in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated. The ultimate goal is to achieve gender equality."

Essentially, gender mainstreaming is a strategic approach and institutional process that strives for gender equality by systematically integrating a gender perspective into all policies and programmes. This involves considering the implications for all genders throughout the entire policy process, from design and implementation to monitoring and evaluation.

Gender mainstreaming aims at to transforming discriminatory social institutions, laws, cultural norms, and community practices that perpetuate gender inequality. For example, it tries to change practices that prevent women from owning property or going out in public freely.

Importantly, gender mainstreaming is not an end goal but rather a means to achieve gender equality. It is an ongoing process that requires continuous assessment and adaptation to ensure that the needs and experiences of all genders are considered in all spheres of life.

Box 16.2: Why is it important to "mainstream" gender?

1) **Economic Growth**: Gender mainstreaming enhances economic growth by increasing participation and productivity. For example, a 2015 study by the World Economic Forum found that countries with high gender gaps had lower GDP growth rates. The International Monetary Fund estimates that India's gross domestic product (GDP) could expand by 27 per cent if the number of female workers increases to the same level as that of male workers. In sub-Saharan Africa, women's increased participation in agriculture — through access to resources and training — has boosted crop yields by 20-30%.

2) **Social Progress:** When women and girls have equal opportunities, they are more likely to be healthy, educated, and empowered. This leads to stronger families, communities, and societies. According to UNESCO, each additional year of schooling for girls reduces child mortality by 5-10%. Microfinance initiatives that target women, such as Grameen Bank in Bangladesh, have shown significant improvements in household income and local economies.

3) **Combating Violence:** Gender mainstreaming addresses systemic issues like gender-based violence, which affects 1 in 3 women globally, according to the UN.

4) **Political Representation:** Research from UN Women indicates that countries with higher numbers of women in parliament adopt more comprehensive policies on health, education, and climate change. For example, Rwanda, with 61% female parliamentary representation, has enacted robust family and gender-related policies. A 2019 Credit Suisse study found that companies with at least one female board member had a 21% return on equity (ROE) than companies with all-male board members.

Check Your Progress 1

1) Why is understanding of gender mainstreaming important in addressing gender inequality?

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2) What are some of the structural and cultural factors that reinforce gender inequality in India?

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3) Describe meaning of Gender mainstreaming briefly.

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16.2.4 Principles Guiding Gender Mainstreaming

Gender mainstreaming is guided by several foundational principles that ensure its effective implementation:

1) **Incorporating Gender Perspectives:** This principle emphasizes the importance of recognizing the different needs, roles, and experiences of women and men during the design, implementation, and evaluation of policies. For instance, in disaster response planning, it is critical to consider that women often face mobility constraints due to caregiving responsibilities, restrictive social norms, or lack of access to transportation. Additionally, in many communities, fewer women are taught survival skills such as swimming. Ignoring these factors can result in emergency plans that are less effective in protecting women during floods or similar disasters. Incorporating gender perspectives ensures that preparedness and response strategies — such as gender-sensitive evacuation procedures, targeted awareness campaigns and inclusive shelter designs — are more effective and equitable.

2) **Accountability and Transparency:** For gender mainstreaming to be effective, organizations and governments need to set clear gender-related goals, monitor progress, and communicate results openly with the public. This includes using gender-sensitive data to assess whether initiatives are reducing inequalities. Accountability ensures that promises made toward gender equality are kept, while transparency builds trust and allows others to monitor and support the process. For example, a school system aiming to increase girls' enrolment should provide clear data on how many girls have joined and whether additional barriers, such as school infrastructure, are being addressed.

3) **Inclusivity and Participation:** Gender mainstreaming works best when both men and women are actively involved in creating and implementing policies. This ensures that decisions are informed by real-life experiences and challenges. Women, in particular, bring valuable insights into areas where policies may unintentionally fail to address their needs. For example, including women in discussions about healthcare policies can help highlight issues like access to maternal health services or the lack of female doctors, which men might overlook.

4) **Addressing Overlapping Disadvantages:** Gender inequalities often combine with other challenges, such as poverty, lack of education, or disabilities. For example, a woman from a low-income background may face more significant barriers to employment than her male counterparts

or women from wealthier families. Recognizing these overlapping disadvantages ensures that policies are designed to support those facing multiple challenges. By addressing these combined factors, policies can create more meaningful and equitable outcomes for women who are most in need.

5) **Building Awareness and Skills:** Gender mainstreaming requires those involved in policy-making to understand the specific needs of men and women. Training programmes and workshops can help individuals in leadership or implementation roles to recognize inequalities and develop solutions that are inclusive. For example, providing training for government officials on gender-sensitive budgeting helps them allocate resources more effectively to benefit both men and women. Building awareness ensures that gender concerns are considered not as an afterthought but as an integral part of the process.

6) **Adapting to Local Contexts:** Different communities have unique social and cultural norms that shape how gender roles are perceived. Effective gender mainstreaming requires an understanding of these local realities to create solutions that fit the community's specific needs. For example, in some areas, women may spend significant time fetching water for their families. A policy aimed at improving access to water closer to homes can free up their time for education or employment. Adapting strategies to the local context ensures that interventions are relevant and well-received.

7) **Commitment to Long-Term Change:** Gender mainstreaming is an ongoing process that requires sustained effort and regular updates to remain effective. Societies and their challenges evolve, and policies must adapt to keep pace. For instance, while initial policies may focus on increasing women's access to education, long-term efforts may shift toward promoting their inclusion in leadership roles or addressing barriers to workplace participation. Continuous monitoring and adaptation ensure that gender equality remains a priority and progress is not lost over time.

16.2.5 Barriers to Gender Mainstreaming

Despite its recognized importance, gender mainstreaming encounters several impediments that hinder its successful execution. Payne (2011) categorizes these barriers into three overarching domains: pragmatic (reflecting practical difficulties), conceptual (reflecting problems associated with the meaning attached to gender mainstreaming), and political (reflecting constraints that emerge from gender relations of power).

i) Pragmatic barriers

Pragmatic barriers come from institutional and structural issues that make it difficult to put gender-sensitive policies into practice. These challenges include a lack of knowledge about gender among policymakers, missing sex-disaggregated data, not enough funding or staff for gender-related work, and

weak commitment from organizations to follow through on gender policies. As a result, such policies are often poorly implemented or fail to address the specific needs of different genders.

For instance, a study by Trivedi (2022) highlights "significant gaps in the existence of Sex-Disaggregated Data (SDD) within our statistical system [which] impair policymakers' ability to effectively navigate towards improved gender outcomes." The absence of such data often results to generalized approaches in public service delivery-particularly in health — where the distinct needs of men and women may go unaddressed.

In addition, the design and implementation of surveys can unintentionally reinforce gender biases. The **National Family Health Survey (NFHS)** in India, despite its comprehensive scope, often reflects a male-centric perspective. This tendency is influenced by prevailing patriarchal norms in many households, where men are typically the primary respondents. Consequently, women's voices and lived experiences are underrepresented, limiting the ability of such data to inform truly gender-responsive policies.

While these practical challenges are frequently cited as major obstacles to gender mainstreaming, it is essential to understand how they intersect with conceptual and political barriers. Addressing these overlapping dimensions is crucial for developing a comprehensive and effective approach to advancing gender equity through policy.

ii) Conceptual barriers

Conceptual barriers pertain to the misinterpretation and oversimplification of gender equality objectives, often leading to ineffective or superficial policy interventions. These barriers are deeply rooted in patriarchal norms and sociocultural beliefs that distort the understanding of gender and empowerment. For instance, women's participation in the workforce is frequently seen as a marker of empowerment. However, meaningful gender empowerment involves not just participation, but also the ability to make decisions and exert influence. This limited view often results in programmes that overlook structural inequalities such as wage gaps, unpaid care responsibilities, and lack of support systems like childcare.

In the Indian context, Self-Help Groups (SHGs) have been established and promoted as a tool for empowering women, particularly from marginalized sections of the society castes. While these groups provide access to financial resources and foster social networks, they often fail to address underlying patriarchal structures — such as women's restricted access to land and property rights — that continue to limit their autonomy. This demonstrates the need for a broader understanding of empowerment that goes beyond economic participation.

Similarly, although legal provisions under the Panchayati Raj system and urban local bodies (reserving one third seats for women through 73rd and 74th Amendments in the Constitution of India) ensure women's representation in local governance, traditional gender norms frequently hinder their

meaningful involvement. Women elected to local bodies often face resistance from male colleagues and community members, which undermines their authority and limits their ability to influence decision-making. These examples underscore the importance of addressing conceptual barriers through a more comprehensive and context-sensitive approach to gender equality — one that includes both participation and power.

iii) Political barriers

Nevertheless, there are signs of progress. The World Economic Forum's Global Gender Gap Report (2024), shows India's scores for women's representation at the federal level, in ministerial positions (6.9%) and in parliament (17.2%), remain relatively low. These developments indicate slow advancement and also highlight the complex nature of political barriers. While progress is evident, significant challenges remain in translating gender policies into concrete action and ensuring women's full and equal participation in governance.

Political barriers to gender mainstreaming stem from systemic challenges within government institutions that hinder the effective implementation and monitoring of gender-related policies. These include a lack of political will, insufficient allocation of resources, and inadequate training on gender mainstreaming for officials and decision-makers. As Clisby (2005) notes, such efforts often fail due to limited understanding of the structural barriers women face and a lack of institutional support for their meaningful participation at all levels of decision-making. In some cases, this absence of support contributes to the exclusion of women from grassroots political activism and community leadership.

In the Indian context, despite several policy reforms and constitutional amendments aimed at enhancing women's political inclusion, a persistent gap exists between policy formulation and its implementation (Bansal, 2024). This implementation gap continues to restrict women's full participation in political processes and undermines the broader goals of gender equality.

Check Your Progress 2

1) What are the principles that guide the idea of Gender mainstreaming?

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2) Describe various barriers to Gender mainstreaming.

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3) Which of the following is an example of gender mainstreaming? (Multiple responses possible):

   a) Creating a policy for women's employment in one sector without addressing broader gender roles.

   b) Integrating gender perspectives into all stages of policymaking across sectors.

   c) Adding women's issues to existing policies without systemic change.

   d) Designing policies that actively challenge and transform gender-based discrimination.

4) Select the correct principle of gender mainstreaming from the options below:

   Gender mainstreaming emphasises:

   a) Focusing only on women's empowerment in isolation.

   b) Addressing power dynamics and integrating gender considerations into all policies.

   c) Applying the same development strategies globally without contextual adaptation.

   d) Prioritising short-term solutions to gender inequalities.

16.3 GENDER MAINSTREAMING IN PRACTICE

Gendering development programmes in India entails designing and implementing initiatives that explicitly address the diverse needs, roles, and contributions of all genders — especially women — while aiming to reduce structural inequalities. This approach is particularly vital in sectors such as agriculture, education, energy, health, and finance, where entrenched gender norms have historically limited women's access to resources, services, and decision-making power. By integrating gender considerations throughout the policy cycle — from design to evaluation — programmes can foster more inclusive and equitable outcomes.

Over the past two decades, gender mainstreaming has been progressively integrated into the framework of various government schemes and policies in India. However, the depth of implementation and impact differs significantly across sectors. A thematic evaluation conducted by the Development Monitoring and Evaluation Office (DMEO) of NITI Aayog reveals both notable achievements and persistent challenges in embedding gender perspectives at the institutional and sectoral levels.

16.3.1 Gender Mainstreaming in Agriculture

Gender mainstreaming in Indian agriculture is a critical step toward achieving equity and sustainable development in a sector where women's contributions are often overlooked. Women constitute a significant portion of the agricultural workforce, especially in rural areas, yet their labour is frequently rendered invisible — viewed as supplementary to men's work or as informal support to their households. These perceptions are deeply rooted in patriarchal norms and result in women having limited access to land ownership, institutional credit, training opportunities, and decision-making spaces. Despite their growing involvement — especially with the increasing feminization of agriculture — women continue to face systemic barriers that limit their economic empowerment and recognition as farmers in their own right. Thematic evaluations by NITI Aayog's Development Monitoring and Evaluation Office (DMEO, 2022) reveal that only 17 of 31 centrally sponsored agricultural schemes (55%) integrate gender concerns, with just 14 practicing gender budgeting, and less than 20% including dedicated capacity-building components for women.

To address these gaps, several programmes have been launched to empower women farmers by improving their access to knowledge, resources, and institutional support. One notable initiative is the ***Mahila Kisan Sashaktikaran Pariyojana (MKSP)*****,** under the National Rural Livelihoods Mission, which forms women's collectives, promotes sustainable practices like organic farming, and connects them to government services. Another initiative is the *Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)*, while not gender-targeted, provides financial support to small and marginal farmers, with efforts through MKSP ensuring that women farmers also benefit. However, significant challenges persist. Many women remain excluded from household and institutional decision-making, and the absence of gender-disaggregated data hampers effective monitoring and policy refinement. To ensure women farmers are truly supported and recognized, interventions must focus on improving their ownership of land and assets, expanding their access to credit and training, and enabling their participation in governance. These actions are essential not only for advancing gender equality (SDG 5), but also for enhancing agricultural productivity, food security, and inclusive rural development.

16.3.2 Gender Mainstreaming in Education

Despite significant progress in girls' education, gender mainstreaming in the Indian education sector still faces considerable challenges that require a multi-faceted approach. While policies and programs have successfully increased enrollment and retention rates for girls, deep-rooted societal norms and practical barriers continue to hinder their access to quality education. Initiatives like **Beti Bachao Beti Padhao (Save the Daughter, Educate the Daughter)** have played a crucial role in raising awareness and shifting attitudes towards girls' education along with providing crucial financial

support through scholarships and fee reductions. However, addressing the remaining challenges requires a comprehensive strategy that tackles both systemic and practical barriers.

However, significant challenges remain. In many parts of the country, families still prioritize boys' education over girls', often seeing it as a more worthwhile investment. Girls are often expected to focus on household chores or prepare for marriage instead of continuing their studies. Safety concerns are another major issue, particularly in rural areas, where long distances to schools or unsafe transportation options discourage parents from sending their daughters to school. Additionally, the lack of basic facilities, such as separate toilets for girls, continues to be a significant barrier, especially for older girls.

To overcome these challenges, a comprehensive approach is required. Engaging with families and communities is essential to change attitudes and encourage parents to view education as equally important for both boys and girls. Schools must be equipped with proper infrastructure, including safe transportation options, clean and separate sanitation facilities for girls, and secure learning environments to help address safety concerns and create a welcoming atmosphere for all students.

Beyond addressing access, there is a need to provide additional support for girls to ensure they can complete their education and succeed. This includes programmes that offer extra tutoring, mentorship, and guidance on career opportunities, helping girls to see a future where education leads to greater opportunities. Efforts must also focus on preventing early marriages, which remain a significant reason for girls dropping out of school, by enforcing legal protections and offering incentives to families that support their daughters' education.

While progress has been made, much work remains to ensure that girls have equal access to quality education. By addressing these barriers and creating supportive environments, India can ensure that all children, regardless of gender, have the opportunity to learn and thrive.

16.3.3 Gender Mainstreaming in Health

Gender mainstreaming in healthcare is crucial for addressing the unique health needs and challenges faced by women in India, who often bear a disproportionate burden of caregiving responsibilities. Women often act as primary caregivers, limiting their time and resources for their own health. This creates challenges in accessing timely and quality healthcare. These imbalances can lead to delayed diagnosis, inadequate treatment, and poorer health outcomes for women compared to men.

Programmes such as **Janani Suraksha Yojana (JSY)** and **Pradhan Mantri Matru Vandana Yojana (PMMVY)** have made significant strides in improving maternal health outcomes. Janani Suraksha Yojana provides

financial assistance to promote institutional deliveries, reducing risks during childbirth and improving access to skilled medical care for pregnant women. Similarly, PMMVY offers cash benefits to expecting mothers to support their nutritional needs and encourage regular prenatal check-ups. Universal immunization programme (Intensified Mission Indradhanush (IMI)) against 12 major killing diseases saved lives of thousands of girls-particularly of marginalised sections of the society. These initiatives have played a key role in addressing maternal and child health challenges, especially in rural and economically disadvantaged areas.

Adolescent girls' health has also been a focus of programmes such as the **Menstrual Hygiene Scheme** under the Rashtriya Kishor Swasthya Karyakram (RKSK). This initiative aims to increase awareness about menstrual health, provide access to affordable hygiene products, and reduce stigma associated with menstruation. By addressing these specific needs, the programme helps girls remain in school and participate more fully in daily activities.

Despite these advancements, challenges remain. Healthcare infrastructure in many remote areas is still insufficient, making it difficult for women to access essential services. Additionally, there is limited involvement of men in family health responsibilities, reinforcing the idea that caregiving and health management are solely women's roles. This lack of shared responsibility further burdens women and restricts their ability to seek care for themselves.

To address these gaps, health programmes need to focus on expanding infrastructure, especially in underserved areas, to ensure that services are accessible to all. Education and outreach campaigns can help raise awareness about the importance of health services, particularly among marginalized communities. Efforts to involve men in family health discussions and caregiving responsibilities are also crucial. This can help reduce the burden on women and create a more balanced approach to health management within families.

16.3.4 Gender Mainstreaming in Financial Inclusion

Financial inclusion plays a vital role in promoting equality and creating opportunities for women. In India, several programs have been launched to improve women's access to financial services and support their economic participation. For example, the **Pradhan Mantri Jan Dhan Yojana (PMJDY)** has made formal banking more accessible by enabling millions of women to open bank accounts, many for the first time. Nearly 57% of account holders under the Pradhan Mantri Jan Dhan Yojana are women, indicating greater financial empowerment of women. These accounts provide a secure way to save money and access government benefits directly. However, while this program has increased women's access to banking services, many still face challenges such as limited financial literacy and dependence on male family members to manage finances.

Other initiatives, like the **MUDRA Yojana**, address the specific needs of women entrepreneurs by offering collateral-free loans to help them start or expand small businesses. 68% loans have been granted to women under MUDRA Yojana. Similarly, the **Stand-Up India** scheme focuses on supporting women and individuals from marginalized groups by providing loans and entrepreneurial guidance. These programmes aim to enable women to participate in the economy independently and contribute to their families' financial well-being.

Despite these efforts, significant barriers remain. Cultural norms often discourage women from handling financial matters, reinforcing their reliance on male family members for decision-making. Additionally, women frequently lack access to essential resources such as mentorship, training, and networking opportunities, which are crucial for managing businesses or financial investments. Mobility constraints in rural areas and limited digital literacy further restrict their ability to take full advantage of financial services.

To address these challenges, financial inclusion programmes must go beyond providing access to bank accounts or loans. There is a need to prioritize financial literacy campaigns that teach women how to save, invest, and use digital financial platforms confidently. Training programmes and mentorship opportunities can help women gain the knowledge and skills necessary to manage finances independently. Encouraging family and community support for women's financial participation is equally important to dismantle cultural barriers.

Additionally, programmes should work to remove practical barriers, such as the requirement for collateral when applying for loans, which often excludes women who do not own property or other assets. Building partnerships with local organizations can improve outreach and ensure that financial services are designed to meet women's specific needs, particularly in rural and underserved areas.

16.3.5 Gender Mainstreaming in Energy

Gender mainstreaming in financial inclusion is not just about increasing access — it is about creating an environment where women can manage their finances independently and make decisions that positively impact their lives and communities. By addressing societal norms, offering targeted support, and ensuring programmes are inclusive and accessible, financial inclusion efforts can help women achieve greater economic independence and equality.

Gender mainstreaming in the energy sector is crucial for ensuring equitable access to energy resources and promoting women's empowerment. In India, policies are being developed with an increased awareness of the need to address gender disparities in energy access. It is recognized that women are

disproportionately affected by limited access to clean cooking energy, such as Liquified Petroleum Gas (LPG), which hinders their empowerment and well-being.

To address this challenge, India launched the **Pradhan Mantri Ujjwala Yojana (PMUY**), a flagship programme aimed at providing free LPG connections to poor households. This initiative has significantly benefited women by reducing their reliance on traditional biomass fuels, which are harmful to their health and the environment. By providing access to clean cooking energy, PMUY empowers women, improves their health, and enhances their overall quality of life.

However, challenges persist in ensuring that the benefits of energy policies reach all segments of the population, particularly women in rural and marginalized communities. Efforts must continue to expand access to clean energy, promote women's participation in the energy sector, and address the socio-economic barriers that hinder their full engagement in this critical domain.

Check Your Progress 3

1) What are some of the key challenges faced in implementing gender-sensitive programmes in India's agricultural sector?

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2) Describe one lesson learned and one challenge faced in gender mainstreaming efforts in the education or health sector in India.

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3) Why is it important to include women in decision-making processes related to energy policies, such as those concerning access to clean cooking fuel?

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16.4 A CASE STUDY— THE SELF-EMPLOYED WOMEN'S ASSOCIATION (SEWA)

Background

India has made significant strides in addressing gender inequality, especially through grassroots initiatives. One of the most notable examples is the Self-Employed Women's Association (SEWA), which was established in 1972 in Gujarat. SEWA is a pioneering organization that focuses on improving the lives of women in the informal sector. Through its efforts, SEWA has not only enhanced women's economic well-being but also helped transform societal attitudes and policies related to gender equality across India.

About SEWA

SEWA (https://www.sewa.org/) is a trade union that brings together self-employed women working in unregulated sectors such as agriculture, handicrafts, and domestic work. By integrating gender perspectives into its programmes, SEWA focuses on addressing the economic, social, and health-related challenges faced by women in these sectors. The organization's approach combines economic support, social security, and advocacy to create long-lasting change.

Key Strategies

- **Economic Empowerment:** SEWA provides women with access to credit, training, and markets, enabling them to improve their economic situation. One of its key initiatives is the SEWA Bank, established in 1974, which offers microfinance services tailored to the needs of women workers. Over 1.5 million women have accessed microloans through SEWA Bank as of 2022, helping them expand their businesses and achieve greater financial independence.

- **Skill Development and Education:** SEWA's vocational training programmes equip women with practical skills such as weaving, tailoring, and digital literacy. These programs have trained over 100,000 women, with many reporting a 30-50% increase in income after completing the training. These skill-building initiatives enable women to transition to more stable and better-paying work.

- **Social Security and Health Services:** To address health and childcare needs, SEWA has integrated social security provisions into its programmes. For instance, the **SEWA Health Insurance Scheme** covers over 200,000 women and their families, reducing out-of-pocket health expenses by more than 25%. This allows families to allocate resources to other needs, such as education and business investments.

- **Advocacy and Policy Influence:** SEWA has played an important role in advocating for the rights of informal workers. Its efforts contributed to

key provisions in the **National Rural Employment Guarantee Act (NREGA)**, such as equal wages for women and childcare facilities at worksites. As of 2020, women made up 55% of participants in NREGA projects, ensuring greater income stability for millions of households.

Impact of SEWA's Gender Mainstreaming Approach

- **Economic Growth:** Women in SEWA's network contribute significantly to the economy, with an estimated collective annual income of over INR ₹ 300 billion. Empowering women in India's informal sector could boost the national GDP by 1-2% annually, according to the International Labour Organization (ILO).
- **Social Transformation:** Women reported greater decision-making power within households and communities, challenging traditional gender roles. SEWA's campaigns on gender-based violence and reproductive rights have led to increased awareness and community action.
- **Enhanced Policy Frameworks:** SEWA's efforts have influenced state and national-level gender-sensitive programmes, including the introduction of gender audits in public policies.
- **Improved Livelihoods:** Surveys show that 76% of SEWA members transitioned from irregular, subsistence-level jobs to stable and better-paying work after joining the organization.

Continuing challenges

SEWA faces several ongoing challenges in its efforts to improve the lives of women in the informal sector. These challenges stem from systemic, cultural, financial, and logistical barriers, which often hinder the scale and impact of its programmes.

Cultural and Social Norms: Patriarchal attitudes and traditional gender roles remain significant obstacles. Many women encounter resistance from male family members and communities, who discourage their participation in SEWA's programmes. Studies indicate that in rural areas, women are often expected to prioritize household responsibilities over economic activities, which limits their ability to attend training sessions or assume leadership positions within SEWA. Additionally, cultural norms often dictate that men handle financial matters, reducing women's opportunities to manage resources independently.

Financial Limitations: Funding remains a critical challenge for SEWA, as the organization depends heavily on donations, grants, and self-sustaining initiatives like microfinance. The uneven flow of external funding creates difficulties in planning and expanding operations. Furthermore, a large proportion of SEWA's members lack formal documentation such as proof of identity or property ownership, which financial institutions often require for

accessing loans. Without a formal credit history, many women face challenges in securing microloans even from SEWA Bank.

Operational Complexity: SEWA's extensive network, comprising over two million members spread across rural and urban India, creates significant logistical challenges. Managing programmes that address the varied needs of members from different regions requires substantial organizational resources. India's geographic diversity, coupled with poor infrastructure in remote areas, makes it difficult to ensure uniform access to services and training programmes.

Education and Skill Barriers: Limited literacy and education levels among SEWA members, particularly in rural areas, affect their ability to participate fully in programs. Many women find it challenging to access and utilize financial services, training opportunities, or employment prospects due to a lack of foundational skills. Additionally, limited digital literacy prevents women from using technology to enhance their businesses or connect with broader markets, which has become increasingly important in today's economy.

Climate and Economic Vulnerabilities: Many SEWA members work in agriculture or other resource-dependent sectors, making them highly vulnerable to climate-related risks such as droughts, floods, and erratic weather patterns. These disruptions threaten their livelihoods and incomes. For example, during the COVID-19 pandemic, millions of SEWA members lost their jobs and struggled to recover financially. The pandemic exposed the fragile economic security of informal sector workers and underscored the need for robust social safety nets and adaptable programmes.

Check Your Progress 4:

1) How does SEWA's approach to gender mainstreaming address the intersection of economic and social challenges faced by women in India's informal sector?

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2) What role does advocacy play in bridging the gap between grassroots movements and national policymaking?

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3) How can the challenges faced by SEWA be overcome to expand its impact across India?

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16.5 FUTURE PERSPECTIVE

The concept and practice of gender mainstreaming have significantly evolved over the decades, yet the question remains whether it is sufficient to address the increasingly complex realities of gender inequality. As our understanding of gender expands beyond binary definitions, and as social, economic, and political landscapes continue to shift, it is crucial to evaluate the relevance and adaptability of gender mainstreaming. In India, these challenges are particularly pronounced due to the country's diverse cultural, regional, and social contexts, which require nuanced and inclusive approaches.

16.5.1 The Evolving Definition of Gender

The traditional focus of gender mainstreaming has predominantly been on addressing inequalities between men and women, often within a binary framework. However, evolving definitions of gender emphasise its fluidity and the need to account for diverse identities, including transgender, non-binary, and intersex individuals. In India, this expanded understanding of gender is gaining traction, particularly after the landmark *Nalsa vs. Union of India* (2014) judgement that recognized transgender individuals as a "third gender." Policies such as the *Transgender Persons (Protection of Rights) Act, 2019* signify progress but also highlight gaps in addressing the unique challenges faced by non-binary individuals, such as access to education, employment, and healthcare.

For gender mainstreaming to remain effective, it must incorporate these diverse identities and address intersectional forms of discrimination. For instance, transgender individuals in India often face compounded challenges due to caste, class, or regional inequalities. Addressing these issues requires moving beyond a universalist approach to gender and designing policies that reflect the complexities of identity and lived experiences. This expanded perspective not only enriches gender mainstreaming but also ensures that it remains relevant in addressing the needs of all genders.

16.5.2 Is Gender Mainstreaming Enough?

While gender mainstreaming has been a transformative tool for integrating gender perspectives into policies and programmes, it is not without its limitations. In India, many gender mainstreaming efforts have been critiqued for being superficial or tokenistic, often failing to address deep-rooted

structural inequalities. For example, while initiatives like gender budgeting have increased resource allocation for women-centric programs, challenges in implementation and a lack of accountability mechanisms often limit their impact. Moreover, patriarchal norms, systemic biases, and societal resistance frequently undermine gender-responsive policies, especially in rural and marginalised communities.

To address these gaps, gender mainstreaming must evolve into a more transformative approach. This involves not only integrating gender perspectives but also actively dismantling the structures and norms that perpetuate inequality. In India, this means addressing systemic issues such as unequal land ownership, wage gaps, and underrepresentation of women and marginalised genders in leadership roles. It also requires creating enabling environments through legal reforms, capacity building, and community engagement.

Furthermore, gender mainstreaming must be complemented by other approaches that prioritise grassroots empowerment and cultural change. For instance, programmes that engage men and boys as allies in promoting gender equality have proven effective in challenging harmful stereotypes and fostering more equitable relationships. Similarly, intersectional strategies that address the specific needs of women from Dalit, tribal, and other marginalised communities can help bridge persistent disparities.

16.6 LET US SUM UP

In this unit, we explored what gender mainstreaming means and why it is important for addressing the inequalities faced by women. We started by looking at how gender inequality affects different areas like education, work, healthcare, and decision-making. In India, these inequalities are often made worse by cultural norms, traditions, and social structures that limit opportunities for women.

Gender mainstreaming was introduced as a way to include the needs and experiences of both men and women in policies and programs so that everyone benefits equally. Key principles such as fairness, accountability, and adapting strategies to local needs were discussed as ways to make gender mainstreaming effective.

We saw how gender mainstreaming is applied in areas like agriculture, education, health, and finance through real-life examples. However, the module also highlighted challenges. Cultural resistance, limited resources, lack of education, and difficulties in reaching rural areas continue to slow progress. The case study of SEWA demonstrated the significant role grassroots organizations play in empowering women and promoting gender equality, even while facing challenges such as cultural norms.

Gender mainstreaming is not a one-time fix but a continuous process that requires the active participation and collaboration of all stakeholders,

including government agencies, civil society organizations, communities, and individuals. By working together to challenge gender norms, implement gender-sensitive policies, and create an inclusive environment for all, India can move closer to achieving true gender equality.

16.7 KEY WORDS

Empowerment : It refers to people living according to their own values and being able to express preferences, make choices and influence – both individually and collectively – the decisions that affect their lives. Empowerment of women or men includes: developing self-reliance; gaining skills or having their own skills and knowledge recognized; increasing their power to make decisions and make their voices heard; and negotiating and challenging societal norms and customs (IFAD 2003).

Gender : Gender goes beyond biological differences between men and women. It refers to the socially constructed culturally based expectations of the roles and behaviours of women and men (IFAD 2003).

Gender division of labour : The allocation of different tasks and responsibilities between men and women based on socially constructed roles, often resulting in unequal distributions of unpaid domestic work and paid economic opportunities (UN Women, 2016).

Gender equality : It means that women and men have equal opportunities, access, and control over socially valued goods, services, and resources. It ensures the ability to pursue a life of their choosing and eliminates disparities in outcomes (UN Women, 2016).

Gender equity : It means fair treatment for both women and men, according to their respective needs. This may include equal treatment or treatment that is

different but that is considered equivalent in terms of rights, benefits, obligations and opportunities (IFAD 2003).

Gender Mainstreaming : The process by which reducing the gaps in development opportunities between women and men, and working towards equality between them become an integral part of an organization's strategy, policies and operations (IFAD 2003).

Informal Sector : The segment of the economy not monitored, regulated, or taxed by the government, often characterized by unregistered businesses and lack of labour protections (ILO, 2002).

16.8 SOME USEFUL BOOKS AND REFERENCES

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16.9 ANSWERS/HINTS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress 1

1) Refer to Sub-Section 16.2.1

2) Cultural and social factors include traditional gender roles that assign caregiving responsibilities to women while prioritizing men for decision-making and financial contributions. Societal norms often discourage women from pursuing higher education or employment, leading to economic dependence. Practices like early marriage, dowry, and restrictions on mobility also contribute to perpetuating gender inequality.

3) Gender mainstreaming is a process that integrates the perspectives, needs, and experiences of both men and women into policies, programmes, and actions to ensure fairness and address inequalities.

Check Your Progress 2

1) Refer to Sub-Section 16.2.4

2) Pragmatic barriers, Conceptual barriers, Political barriers

3) Correct answers:

   b) Integrating gender perspectives into all stages of policymaking across sectors.

   d) Designing policies that actively challenge and transform gender-based discrimination.

4) Correct answer:

   b) Addressing power dynamics and integrating gender considerations into all policies.

Check Your Progress 3

1) Challenges include limited land ownership rights for women, lack of access to credit and training, and exclusion from decision-making processes. Deep-rooted cultural norms often prevent women from being recognized as farmers despite their significant contributions.

2) **Lesson:** Programmes like Beti Bachao Beti Padhao show that community awareness and financial support can improve girls' education.

   Challenge: Safety concerns and inadequate school infrastructure, such as separate toilets, hinder girls' retention in schools. In health, insufficient male involvement in caregiving continues to burden women disproportionately.

3) Women are the primary users of household energy and are disproportionately affected by lack of access to clean cooking fuels. Their inclusion in decision-making ensures that policies address their needs and priorities, leading to more effective and equitable solutions.

Check Your Progress 4

1) SEWA integrates economic support through microfinance, vocational training, and health insurance with social advocacy to address challenges like patriarchal norms and lack of recognition for informal workers. This holistic approach empowers women to achieve financial stability and greater decision-making power.

2) Advocacy ensures that the voices and needs of marginalized communities are represented in policymaking. SEWA's efforts, such as influencing NREGA provisions, demonstrate how grassroots initiatives can shape inclusive national policies.

3) Challenges like funding constraints, literacy gaps, and operational complexity can be addressed by securing sustainable funding, expanding digital literacy programs, and strengthening partnerships with government and local organizations.

16.10 TERMINAL QUESTIONS

Note: a) Write your answer in about 150-200 words.

b) Check your progress with possible answers given at the end.

1) What is gender mainstreaming, and how does it help in addressing systemic gender inequalities?

2) What are the three main types of barriers to gender mainstreaming, and how do they manifest in the Indian context? Provide specific examples for each type of barrier.

3) Select one sector (agriculture, education, health, energy or finance) and explain how gender mainstreaming can help address the specific gender inequalities prevalent in that sector?

4) How does the Self-Employed Women's Association (SEWA) exemplify the principles of gender mainstreaming in its approach to empowering women in the informal sector?

5) Gender mainstreaming is often described as a continuous process. Why is this so? What are some of the ongoing challenges that need to be addressed to achieve sustainable gender equality?

HINTS FOR UNIT-END QUESTIONS

1) What is gender mainstreaming, and how does it help in addressing systemic gender inequalities?

   - **Hint:** Refer to the definition and principles of gender mainstreaming in 16.2.1 and 16.2.3. Mention how it integrates gender perspectives into policies to address systemic biases.

2) What are the three main types of barriers to gender mainstreaming, and how do they manifest in the Indian context? Provide specific examples for each type of barrier.

   Hint: for refer 16.1.1.

3) Select one sector (agriculture, education, health, energy or finance) and explain how gender mainstreaming can help address the specific gender inequalities prevalent in that sector?

   - **Hint:** Use examples from 16.3.1, 16.3.3, and 16.3.4. Highlight specific programs like MKSP, PMMVY, and MUDRA Yojana, explaining how they address sector-specific barriers.

4) How does the Self-Employed Women's Association (SEWA) exemplify the principles of gender mainstreaming in its approach to empowering women in the informal sector?

   - **Hint:** Refer to SEWA's challenges in 16.4, such as resistance to change, financial constraints, and operational issues. Include examples like limited access to formal credit or lack of education and skill-building opportunities.

5) Gender mainstreaming is often described as a continuous process. Why is this so? What are some of the ongoing challenges that need to be addressed to achieve sustainable gender equality?