
UNIT 21 NATIONAL INCOME AND ECONOMIC WELFARE

Structure

- 21.0 Objectives
- 21.1 Introduction
- 21.2 Economic Welfare
- 21.3 Per Capita Income as an Index of Economic Welfare
- 21.4 Let Us Sum Up
- 21.5 Key Words
- 21.6 Some Useful Books
- 21.7 Answers or Hints to Check Your Progress Exercises

21.0 OBJECTIVES

After going through this unit, you will be able to:

- point out the limitations of national income as a measure of welfare;
- describe the concept of economic welfare; and
- distinguish between economic and social welfare.

21.1 INTRODUCTION

Just about 60 years ago, Gross National Product (GNP) and national income were obscure concepts known only to professional economists and their students. Today, they have become familiar parts of the vocabularies not only of economists but also of businessmen, politicians and journalists. Indeed, it is almost impossible to pick up the daily newspaper without coming across a reference to gross national product or some of its components. Economists have always known that national income is not a good measure of “welfare” in the wider sense of the word.

When price rise, our yardstick shrinks - a rupee equals fewer goods and services of every years in terms of the prices index. The technique of adjusting. Politicians and editorial writers often quote the latest GNP or national income statistics as evidence of consumers' economic welfare. How well do these statistics measure our well being ? Economists have always known that national income is not a good measure of "welfare " in the wider sense of the word. Further, during the last few years there has been increasing criticism of the conventional measurement of national income on the grounds that it is poor measure 'welfare' in some sense or other. The reasons for this increasing dissatisfaction with the GNP measure are not hard to find or understand. The more one considers the relationship of measuring GNP to society's welfare, the more complex it becomes. Is it appropriate to separate 'economic welfare' from 'political' or other 'social' considerations? Whose judgement of welfare is to be considered decisive when opinions differ ? If the pile of goods and

services produced each year does not have any relationship to economic welfare, just what does it signify ?

21.2 ECONOMIC WELFARE

What is economic welfare and how is it measured? The first point to make here is that GNP is not a measure of welfare at all. Welfare is concerned with well being or happiness. These subjective concepts are all influenced by many factors other than economic goods. The national output only tells us the total quantity of goods and services available to a community in a particular period of time. Even in this respect there are deficiencies and limitations which need to be borne in mind and which can conveniently be listed. The GNP is not a perfect device for measuring current production and income. Some items are excluded, even though they would be properly classed as 'current production'. Sometimes production results in harmful 'side effects' that are not fully accounted for. Comparison of GNP between two time periods raises additional problems. National income was never intended to be a measure of social welfare. It is simply an accounting measure of economic activity. In this unit we will focus on some of the shortcomings of GNP as measure of economic performance.

Price Changes: In comparing national output over period of years, we must allow for changes in prices if the comparison is to be meaningful. As such, money GNP must be adjusted for the change in prices. This is because we are working with a rubber yardstick. All our figures of output and income are expressed in rupees. But a rupee sometimes measure a large quantity of physical goods and sometimes a smaller quantity, depending on changes in prices. When price rise, our yardstick shrinks-a rupee equals fewer goods than before ; and if prices fall, the yardstick expands again. The usual method is to value all the goods and services of every year in terms of the prices ruling in one particular year prices index. Such an exercise is done with the help of a price index. The technique of adjusting for price changes by use of a price index is called deflation. Even after the price experts have done their best, we are far from being out of the woods. Here are a few issues to consider : (i) The deflation procedure assumes that we are dealing with unchanging products. But in practice product quality is always changing, usually for the better. (ii) Quality improvements, whether measurable or not, are certainly important. (iii) This difficulty becomes even more serious if some goods disappear completely from the shopping list and new articles take their place. What about products which do not replace anything, because nothing like them existed before ? Price indices and GNP totals are not well adapted to covering drastic changes in the items going into national output.

Composition of National Income or GNP: The kinds of goods produced by a economy are completely hidden from view by a GNP figure. For example, if an increase in GNP is entirely composed of weapons for war, then despite increase in national output personal welfare would go down. Thus, for judging increases in consumer welfare, it is important to look at the make up of GNP as well as its size. Nobody eats GNP. We must focus on that part of GNP which is destined for consumer use. And perhaps not all of that.

Output Distribution: It is difficult to determine the extent to which a nation is better off simply because its GNP has increased. The distribution of increased

output must be considered. If additional income is distributed to the wealthy but not to the poor, it may represent a deterioration in economic welfare rather than an improvement.

Population Changes: per Capita GNP and the Distribution of Output : We need to allow for changes in the population if some comparisons are to be helpful. National output, especially when divided by the total population to give a measure of output per capita, is often used as an indicator of economic welfare. However, this tells us nothing about the distribution of income amongst the population ; it only gives us an average. We also need to know how the output is divided among its citizens. Because an economy's GNP is typically distributed unequally among its citizens, it is necessary to study this distribution in more detail in order to get a more accurate assessment than that provided by per capita GNP.

Leisure and GNP: GNP measures output, not inputs. It says nothing about how much effort was needed to produce a certain output. GNP is deficient as a measure of economic welfare because it ignores increased leisure time. Leisure is valuable to each of us. The amount of effort going into the national product has been continuously declining which denotes an increase in economic welfare, even though it is not reflected by income measures. If we include the gain in leisure time, welfare has been rising faster than the output figures indicate.

GNP and Transport Costs: Some of the components of national output as measured in official figures represent costs rather than benefits. Consider some of the costs of transport. Many workers, especially in the big urban areas, incur very considerable costs motoring, bus, train in travelling regularly between home and work. In logic, what they pay for this transport might best be regarded as a cost of producing whatever goods and services these workers help to provide. However, in the national accounts the cost of such travel is treated as a consumption expenditure, which is assumed to constitute part of living standards. But does it add to satisfaction? On the contrary, it is a time-consuming nuisance. The more money one spends in this way, the worse of one is.

Professor Simon Kuznets of Harvard, a Nobel prize winner in economics and a leading authority on national income, argues that many things which we count as part of national output should be considered *costs rather than products*. The costs involved in sustaining enormous metropolitan areas-travel costs to and within the area, subway systems, police protection, and other overhead expenses-should be deducted from national output. Similarly, Kuznets maintains that national defence costs should not be counted as part of national product. Since these types of expenses have been increasing with disproportionate speed, we may not be getting better off as rapidly as the GNP totals suggest.

Non Market Production (the Household Economy): The GNP fails to count household production because it does not involve a market transaction. The household and child rearing services of housewives are excluded. The household economy consists of the whole of goods and services supplied by the household for its own use. The productive services of home-makers - cooking, laundering, house cleaning - are not included despite the fact that this constitutes a sizeable amount of productive activity. Important as do it yourself (DIY) production is in developed countries, it is much more important

in less developed countries. Thus, the comparison between income per head in a more developed country, and income per head in a typical less-developed country is apt to be biased and misleading. The more developed country standard of living is not as much higher than the less developed country standard of living as the national income figure would suggest. The omission of many non market productive activities makes comparisons overtime and between countries at various stages of market development less meaningful. Similarly, GNP comparisons overstate the output of developed countries in contrast to underdeveloped ones.

Production of 'bads' Production and consumption of some economic goods also have harmful side effects that detract from the total availability of goods. GNP does not count goods that were used up, destroyed, or diminished in value if there is not a market transaction. Junk, garbage, cancer created by consumption of cigarettes, deterioration of minds and bodies because of the consumption of harmful drugs and alcohol, air and water pollution-all of these "disproducts" associated with current consumption are excluded because they did not go through the market. These and other undesirable items are clear deductions from our total available goods and resources. Their total might be called the gross national 'disproducts'.

In order to balance the productive account properly, the in unaccounted for disproducts should be subtracted from the total product. NNP does make an allowance for the reduction in capital stock associated with this year's production. Current depletion of natural resources reduces our ability to produce future goods. But this is not considered in our national produce accounts- and neither is the reduction in the quality of air that we breathe nor the purity of our river waters.

Paradoxically, many of these "economic bads" will engender a higher GNP in the future. Cigarette smoking results in more cancer, thereby increasing GNP in the medical service sector; Crime results in the production of more police protection, household locks, legal services, and detention centre. All of these contribute to GNP. Air pollution results in increased purchases of air purifiers, house paint, and window washers. GNP rises even higher ! Water pollution results in greater cost of producing pure water. Automobile production and the move to suburban communities result in more congestion, which will eventually lead to the construction of more highways. GNP will leap forward again.

Production of many goods generated harmful side effects. Such production either reduces the availability of a current good (for example, clean air, good health, non-congested environment) or our ability to produce future goods (for example, depletion of natural resources). GNP does not count these negative side effects. Thus, it tends to overstate our "real output" of desired goods. Could we estimate gross national 'disproducts' / It would be difficult because there are no market prices to register the approximate value that we place on these "economic bads."

Thus, these days there is considerable disenchantment with mere material goods and services, and hence disenchantment with the GNP as a measure of economic welfare. Fortunately, modern economists can begin to adjust GNP numbers in order to get a more meaningful measure of economic growth in 'Net Economic Welfare' (NEW). Economics like Professors Nordhaus and Tobin tried to

calculate net economic welfare by adjusting GNP numbers for disamenities of modern urbanization (growing pollution, congestion etc) that escape costing and notice. This concept of NEW adds to GNP certain items (such as value of leisure and do it yourself services which included housewives services and subtracts from GNP unmet costs of pollution, other disamenities of modern urbanisation and costs incurred on meeting 'regrettable necessities'. The term 'regrettable necessities' refers to expenditure on maintaining law and order, defence, commuting from home to work etc. We should exclude from welfare-oriented measure of GNP the goods that we do not really need since they are just 'regrettable necessities'. The outcome of these calculations provides us with a measure of economic welfare, which is characterised as 'Net Economic Welfare' (NEW).

Net Economic Welfare =NNP-regrettable necessities + value of leisure time and non market activities.

This brings us to the final point that needs to be made about the relation between GNP and welfare. It has been argued above that GNP has never been regarded by economists as an indicator of welfare as a whole. Welfare obviously included innumerable factors, such as peace, tolerance, love or one's neighbour, family life, satisfaction in one's job or surroundings, justice and many other items that cannot be brought into relation with the measuring rod of money. GNP is far from being a perfect measure of economic welfare. But it does provide a total measure, up to a point, in a meaningful way, of very many of the items that do contribute to welfare and without which most people would consider themselves worse off. The concept of welfare is basically a subjective concept relating to how people feel, and this cannot be measurable in meaningful way. GNP provides an indicator of what society has available to promote certain aspects of welfare. It can choose to use it wisely or badly (Wilfred Beckerman). Because of the uses to which the GNP concept may be put there is no question of abandoning it in favour of some other concept that might be a better measure of welfare. The only serious issue is whether the conventional GNP concept can be supplemented by other measures, which might come closer to a measure economic welfare.

GNP estimates are more commonly employed as an indicator of economic welfare. An increased output of goods and services, it is believed, implies an increased availability of goods and services for consumption. Thus, enabling a wider choice and a better standard of living; these are the hallmarks of economic development.

However, this simple positive relationship between increase in GDP and increase in economic welfare is subject to certain qualifications. Among these, the following are noteworthy:

1) **Changes in the Size of GDP and Economic Welfare**

- i) If the GDP increases but the population of the country increases in a greater proportion, the total economic welfare will decline. As a result of increased population, the per capita income will decline, which means lesser purchasing power than before, lower standard of living, and consequently, lower economic welfare.
- ii) While analysing the relationship between the size of GDP and

economic welfare, the behaviour of the price movements must be thoroughly studied. GDP calculated at current prices is always deceptive and increase in its size will not promote economic welfare. Estimates of real GDP (i.e., GDP calculated at fixed base prices) can provide a better measure.

- iii) GDP consists of those goods and services which are transacted in the market and fetch money value. We know that a part of the total produce is kept by the producers for self-consumption. Now, suppose that this retained produce (which is not part of GDP) is offered for sale in the market, it will definitely fetch money value and as a result GDP will also increase. In fact, the total output is same, but since it has now come to the monetary sector, it becomes a part of the GDP and hence increases its value. Such an increase in GDP will not increase the economic welfare.
- iv) In case increase in the size of GDP is the result of prolonged working hours, increased employment of children in production, unhealthy and polluted atmosphere inside the factory premises, such an increase in GDP will not promote economic welfare.

2) **Changes in the Composition of GDP and Economic Welfare**

Composition of GDP refers to the kinds of goods and services produced in an economy. Changes in the composition of GDP may sometimes increase economic welfare and may at other times decrease it. Let us consider the following cases:

- i) If the total production has increased on account of more production of capital goods, it will not increase economic welfare. No doubt the money value of the total output has increased, but the volume of consumer goods, on which depends the real economic welfare, has not increased. It is only when the proportion of consumer goods increases in the total output the GDP can promote economic welfare.
- ii) If the GDP has increased on account of larger production of war-goods, the resultant increase will not increase economic welfare. This may no doubt head to increased fighting capacity of the country but it will do no good to economic welfare.

3) **Changes in the Distribution of GDP and Economic Welfare**

If the GDP increases and yet if it is not fairly distributed or it is concentrated in a fewer hands, it will not promote economic welfare. It is so because as the rich people get richer the additional money income does not provide them the same marginal utility as the preceding unit of money income. In other words, the law of diminishing marginal utility also applies to the additional money income so that the economic welfare instead of increasing will diminish.

When the distribution of GDP changes in favour of the poor, they start getting more commodities and services than before, as a result the economic welfare increases. Any transfer of income from the rich to the poor, generally, promotes economic welfare. In fact, there is a unique relationship between one's economic welfare and that part of his income

which he spends on consumption and consequently smaller is his economic welfare compared to this total income. The poor people who spend a major proportion of their total income on consumption, as a matter of fact, will get more utility from the transferred income as compared to the rich people.

Transfer of income from the rich to the poor, however, does not increase economic welfare always, especially if additional income in the hands of the poor gets frittered away on such things as simply reduce his welfare.

Check Your Progress 1

- 1) What do you understand by economic welfare? Why is GDP a poor measure of economic welfare?

.....
.....
.....
.....

- 2) In what way do the composition of GDP and the distribution of GDP affect welfare?

.....
.....
.....
.....

21.3 PER CAPITA INCOME AS AN INDEX OF ECONOMIC WELFARE

Ordinarily speaking, per capita income is considered as an indicator of the standard of living in a country; any improvement in it is taken as a proxy for improvement in the standard of living.

True, but there are certain limitations beyond which we cannot rely on this single average.

One, per capita income is a simple average which is derived by dividing the income of all the nationals of a country. It shows only the size of slice from the national cake that should by going to each individual. It cannot tell us anything about the actual distribution. In other words, per capita income estimates are silent about the distribution of income. To that extent, per capita income estimates may not be very useful, especially if there is a highly skewed income distribution favouring the rich in an economy.

Two, per capita income estimates are also silent about the composition of output - the nature of goods and services produced in the economy.

Three, standard of living is also affected by the type of expenditure incurred by the government authorities. If the government meets the collective wants of education, public health, public transportation, safe drinking water, etc., the

people may enjoy a higher standard of living, even with modest per capita income.

Four, for the purpose of international comparison, per capita income estimates are framed in a common monetary denominator, usually the American Dollar. This common denominator cannot take account of purchasing power differences in different countries.

Economists have been trying to identify alternative measures of economic development which should reflect in a true manner the changes in the standard of living.

Poverty Weighted Index of Social Welfare

The use of GNP as a method of comparing welfare or as a method of comparing the development performance of different countries can be misleading. This is especially so when different countries have varied distributions of income.

This can be illustrated with the help of Table 12.2

Table 12.2: Typical Distribution of Personal Incomes in a Developing Country by Income Shares - Quintiles and Deciles

Individuals	Personal Income (Money Units)	Percentage Share in Total Income	
		Quintiles	Deciles
1	0.8		1.8
2	1.0		
3	1.4		3.2
4	1.8	5	
5	1.9		3.9
6	2.0		
7	2.4		5.1
8	2.7	9	
9	2.8		5.8
10	3.0		
11	3.4		7.2
12	3.8	13	
13	4.2		9.0
14	4.8		
15	5.9		13.0
16	7.1	22	
17	10.5		22.5
18	12.0		
19	13.5		28.5
20	15.0	51	
TOTAL (National Income)	100.0	100	100.00

In Table 12.2, 20 individuals represent the entire population of a country and are arranged in ascending order of annual personal income, ranging from the lowest of 0.8 units to the highest 15.0 units.

The population is grouped into quintiles of four individuals each. The first quintile represents the bottom 20% of the population on the income scale. This group of individuals receives only 5 per cent of the national income; the second quintile receives 9 per cent, and so on.

The rate of income growth in each quintile is a measure of economic welfare growth of that class. The total welfare of society is measured as the simple weighted sum of the growth of income in each class and is expressed as under:

$$G = w_1g_1 + w_2g_2 + w_3g_3 + w_4g_4 + w_5g_5 \quad \dots(1)$$

Where,

G = weighted index growth of social welfare

g_i = ($i = 1, 2, 3, 4, 5$) is growth rate of the i th quintile

w_i = ($i = 1, 2, 3, 4, 5$) is the welfare weight of the i th quintile

On the basis of the given weights, equation (1) can be used to measure weighted index of social welfare as under:

$$G = 0.05g_1 + 0.09g_2 + 0.15g_3 + 0.22g_4 + 0.51g_5 \quad \dots(2)$$

Now, suppose that income growth rate of bottom 60 per cent of population is zero (i.e., $g_1 = g_2 = g_3 = 0$) while that of top 40% is 10% (i.e., $g_4 + g_5 = 0.10$). The equation (2) can be written as

$$\begin{aligned} G &= 0.05(0) + 0.09(0) + 0.13(0) + 0.22(0.10) + 0.51(0.10) \\ &= 0 + 0 + 0 + 0.022 + 0.051 = 0.075 \quad \dots(3) \end{aligned}$$

It means that the GNP would rise by 7.3% even if there is zero change in the incomes of the 60 per cent population at the bottom of the income ladder.

To remove this anomaly and to make GNP estimates a better representative of the society's welfare, an alternative measure based on equal weights or poverty-weighted index has been evolved.

- 1) **Equal-Weights Index** assigns equal weights to growth of income in each income class. All people are treated equally. We can illustrate the working of this index with the help of data presented in Table 12.2 above.

The economy has been divided into quintiles; equal-weight index would give a weight of 0.2 to the growth in income in each quintile using equal-weight index in our example of 10% income growth of the top two quintiles with bottom three quintiles showing no change, we would have

$$G = 0.20g_1 + 0.20g_2 + 0.20g_3 + 0.20g_4 + 0.20g_5 \quad \dots(4)$$

Substituting the values of g_i in equation (4), we get

$$\begin{aligned} G &= 0.20(0) + 0.20(0) + 0.20(0) + 0.20(0.10) + 0.20(0.10) \\ &= 0 + 0 + 0 + 0.20 + 0.20 = 0.04 \quad \dots(5) \end{aligned}$$

The equal-weight index shows that social welfare has increased by 4% as compared to 7.3% increase shown earlier.

- 2) **Poverty-Weight Index** involves the use of 'subjective' social values in income growth rates of only the bottom 40%. In other words, we might arbitrarily place a welfare weight on w_1 of 0.60 and on w_2 of 0.40 while giving zero weights to w_3 , w_4 and w_5 .

In this situation, the social welfare index for the country can be calculated as follows:

$$\begin{aligned} G &= w_1g_1 + w_2g_2 + w_3g_3 + w_4g_4 + w_5g_5 \\ &= 0.60g_1 + 0.40g_2 + 0g_3 + 0g_4 + 0g_5 \\ &= (0.60)(0) + (0.40)(0) + (0)(0) + (0)(0.10) + (0)(0.10) \\ &= 0 \end{aligned}$$

The use of poverty-weighted index shows that there is no improvement in the social well-being of the bottom 40% of the population. The GNP growth records 7.3% improvement in the social welfare.

In short, a useful summary of the degree to which economic growth is based towards relative improvement of high-income or low-income groups is the positive or negative divergence between a weighted social welfare index and the actual growth rate of GNP.

UNRISD's Core Indicators of Development

One of the early studies on the first group of composite indicators was carried out by the United Nations Research Institute on Social Development (UNRISD) in 1970. The study was concerned with the selection of the most appropriate indicators of development and an analysis of the relationship between these indicators at different levels of development. The result was the construction of a composite social development index. Originally, 73 indicators were examined. However, only 16 indicators (9 social indicators and 7 economic indicators) were ultimately chosen of **Socio-economic Development Provided by the United Nations Research Institute of Social Development (UNRISD)**

Expectations of Life at Birth
Percentage of Population in location of 20,000 and over
Consumption of animal protein, per capita, per day
Combined primary and secondary enrolment
Vocational enrolment ratio
Average number of persons per room
Newspaper circulation per 1000 population
Percentage of economically active population with electricity, gas, water, etc.
Agricultural production per male agricultural worker
Percentage of adult male labour in agriculture
Electricity consumption, kilowatt per capita
Steel consumption, kg per capita
Energy consumption, kg of coal equivalent per capita
Percentage GDP derived from manufacturing
Foreign trade per capita, in 1960 U.S. Dollars
Percentage of salaried and wage earners to total economically active population

These indicators were selected on the basis of their high inter-correlation to form a development index using weights derived from the various degrees of correlation. The development index was found to correlate more highly with individual social and economic indicators than per capita GNP correlated with the same indicators. Rankings of some countries under the development index differed from per capita GNP rankings. It was also found that the development index was more highly correlated with per capita GNP for developed countries than for the developing countries. The study concluded that social development occurred at a more rapid pace than economic development up to a level of \$ 500 per capita income (1960 prices)

Another study that sought to measure development in terms of a pattern of interaction among social, economic and political factor was conducted by Irma Adelman and Cynthia Morris, who classified 74 countries according to 40 different variables relating to these aspects. Factor analysis was used to examine the interdependence between social and political variables and the level of economic development to arrive at a measuring yardstick. The researchers found numerous correlations between key variables and economic development.

This approach of factor analysis is based on an underlying normative assumption that there is a unique path of development. The performance of the developing countries is, therefore, sought to be judged in terms of the path traced by the developed countries. There seems to be no logical or historical justification for this assumption. Furthermore, there is usually an emphasis on measuring inputs, such as the number of doctors or hospital beds per 1000 population or enrolment rates in primary schools to measure health and education, when outputs, such as life expectancy and literacy, and the actual objectives of development. This would not be a fallacy if the underlying "production function" transforms all 'inputs' into 'outputs'.

Check Your Progress 2

- 1) What are the limitations that make the per-capita income only a measure of the standard of living of a country's people and not of their economic welfare?

.....
.....
.....
.....

- 2) Briefly explain the concept of poverty-weighted index of social welfare.

.....
.....
.....
.....

21.4 LET US SUM UP

In this unit, we have taken a look at the relationship between economic welfare and national income accounts. Throughout this course, you have read that the national income of a nation is a measure of the total value added that is generated

in a year in that country. We would expect that the creation of value, which increases the GDP of the country, would contribute to the welfare of the inhabitants of the country. But is it always the case? An increase in GDP implies economic growth, but is economic growth synonymous with economic welfare?

The unit discussed in detail the relationship of GDP and economic welfare. We initially looked at the concept of economic welfare and then saw how well GDP captures this concept. We understood that not only does the GDP have its limitations as a measure of welfare, but also that apart from the magnitude of the GDP we have to look at the composition of the GDP as also its distribution. A very skewed distribution of the GDP does not promote welfare; nor does a situation where a large part of the GDP is composed of inessential items or items that do not promote the well being of the people, like defence equipment. The unit next looked at the per capita income as a measure of economic welfare. Per capita income denotes the average level of income per person in the country, and hence one would expect it to be a better indicator of welfare than the GDP itself. However, even the per capita income has its limitations and is only a reasonably good indicator of the standard of living of a country. The unit then looked at weighted measures of per capita income, like poverty weighted measures of per capita measures. Finally, the unit described some core indicators of development developed by the United Nations Research Institute of Social Development.

21.5 KEY WORDS

Bads	: Goods that give disutility, like pollution. The more of such goods are consumed, the greater the disutility. Some goods can become bads after a point, like medicines.
Welfare	: A measure of the well-being of a people.
Per Capita Income	: Total GDP or GNP of a country divided by the population of that country.

21.6 SOME USEFUL BOOKS

Beckerman, Wilfred (1968) : *An Introduction to National Income Analysis* Weidenfield and Nicolson, London.

Samuetson, Paul A and Nordhans (1999), *Economics*, McGraw-Hill, Singapore.

21.7 ANSWERS OR HINTS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress 1

- 1) See section 21.2
- 2) See section 21.2

Check Your Progress 2

- 1) See section 21.3
- 2) See section 21.3

UNIT 22 ALTERNATIVE RECENT INDICATORS OF SOCIAL DEVELOPMENT

Structure

- 22.0 Objectives
- 22.1 Introduction
- 22.2 Concept of Social Development
 - 22.2.1 Meaning of Social Development
 - 22.2.2 Need for Alternative Indicators of Social Development
 - 22.2.3 Alternative Indicators of Social Development
- 22.3 Net Economic Welfare (NEW)
 - 22.3.1 Concept of NEW
 - 22.3.2 Results
- 22.4 Physical Quality of Life Index (PQLI)
 - 22.4.1 Concept and Construction of PQLI
 - 22.4.2 Results
 - 22.4.3 Evaluation
- 22.5 Human Development Index (HDI)
 - 22.5.1 Concept of HDI
 - 22.5.2 Significance of HDI
 - 22.5.3 Method and Construction of HDI
 - 22.5.4 HDI Rankings for Different Countries
 - 22.5.5 Usefulness and Limitations of the Concept
- 22.6 Gender Related Development Index (GDI)
 - 22.6.1 Concept and Construction of GDI
 - 22.6.2 Results
- 22.7 Gender Empowerment Measure (GEM)
 - 22.7.1 Construction of GEM
 - 22.7.2 Results
- 22.8 Capability Poverty Measure (CPM)
- 22.9 Human Poverty Index (HPI)
 - 22.9.1 Concepts and Components
 - 22.9.2 HPI – II
- 22.10 Other Indicators of Social Development
 - 22.10.1 Social Development Index (SDI)
 - 22.10.2 International Human Suffering Index (IHSI)
 - 22.10.3 Quintile Income and Quintile Growth
 - 22.10.4 Genuine Progress Indicators (GPI)
 - 22.10.5 Green Index
- 22.11 Let us Sum Up
- 22.12 Key Words
- 22.13 Some Useful Books
- 22.14 Answers or Hints to Check Your Progress Exercises

ignou
THE PEOPLE'S
UNIVERSITY

22.0 OBJECTIVES

After going through this unit, you will be able to:

- define the concept of social welfare;
- explain the need for alternative indicators of social welfare;
- describe the ideas behind New Economic Welfare and Physical Quality of Life Index measures;
- discuss the concept and meaning of human development and the evolution and measurement of the Human Development Index; and
- explain some recently developed indices about human welfare such as the Gender Development Index, the Gender Empowerment Measure and the Capability Poverty Measure.

22.1 INTRODUCTION

Economists have for long used, and continue to use, real gross domestic product (or its derivative national income) as an indicator of economic welfare. An increase in GDP implies availability of more goods and services of value, and to that extent the material welfare of the economy increases. Social development is something more than the material or economic welfare. GDP estimates fail to capture these and hence there is a need for alternative indicators of social development. This unit describes various measures of economic social and human development indicators that have been evolved in recent years in response to the perceived limitations of national income accounts in capturing the welfare of the people.

The unit carefully explains the concept of social development and how it is related to the concept of economic development. We see that social development and social welfare are related to the broader area of human development. The unit then goes on to discuss, one by one, several indices of welfare and development usually in terms of the time in which they were proposed.

22.2 CONCEPT OF SOCIAL DEVELOPMENT

What is social development? What is its relation to economic welfare? Why indicators of economic welfare are not sufficient indicators of social development? These and a few other questions come to our mind. Let us try to answer them.

22.2.1 Meaning of Social Development

Social development can more easily be defined as a process whereby society matures and advances from one stage to another. As a society matures, standard of living of its people, specially those at the bottom-end of the ladder, shows distinct sign of improvement, reflected in increasing consumption of more and new products. The weaker sections of the society, especially the women, gain empowerment, i.e., they gain access to services and facilities that they have been hitherto denied.: education, health, safe drinking water, sanitation, sewerage, job opportunities etc.

In the process of maturity and advancement, availability of more goods and services, i.e. increase in GDP, is an essential condition. Without an increase in availability of more goods and services, no society can lay claim to advancement. But an increase in GDP may be only a necessary condition; it may not be sufficient condition. Social development requires much more than that: trickle down of income to lower segments, spread of literacy, health services, job opportunities, better environment conditions etc.

22.2.2 Need for Alternative Indicators of Social Development

Need for alternative indicators of social development arises basically because GDP estimates fail to take into account different aspects of social life other than the economic aspect. These suffer from the following limitations:

- 1) GDP estimates are based only on the output of goods and services.
- 2) These are not concerned with the quality of goods and services produced.
- 3) GDP estimates are not affected by how the produced goods and services, and income generated thereby, get distributed among different sections of the society.
- 4) These do not reckon with distribution of factor and non-factor inputs among varied end users.
- 5) These fail to take into account the non-material costs inflicted on society during the process of production of material goods.

Because of the above limitations, the economists, and other social scientists have been making efforts to develop some alternative indicators of social development.

22.2.3 Alternative Indicators of Social Development

Over the last few years, as a result of sustained efforts by the economists and social scientists a few alternative indicators of social development have been evolved.

The process of evolution is an on-going activity. Some of the important indicators are as follows:

- 1) Net Economic Welfare;
- 2) Physical Quality of Life Index;
- 3) Human Development Index;
- 4) Gender-related Development Index;
- 5) Gender Empowerment Measure;
- 6) Capability Poverty Measure;
- 7) Human Poverty Index, etc.

Check Your Progress 1

- 1) Explain the concept of social development.

.....
.....

2) Trace the relationship between growth in GDP and social development.

.....
.....
.....
.....

3) Mention five limitations of GDP as an indicator of social development.

.....
.....
.....
.....

22.3 NET ECONOMIC WELFARE (NEW)

Paul A. Samuelson and William D. Nordhaus formulated an alternative measure of social development and called it Net Economic Welfare (NEW)

22.3.1 Concept of NEW

NEW is based upon GNP but makes two major changes:

- 1) GNP includes many components that make no obvious contribution to individual well being. NEW excludes them.
- 2) Some key satisfaction producing consumption items are omitted from GNP. NEW includes them.

Thus a few components are included in GNP and a few exclude, to compute NEW.

- 1) **Items to be Added to GNP:** The Important items to be added to GNP are as follows:
 - i) **Value of Leisure Time:** If at a higher level of income, a person begins to put lesser hours to work, and begins enjoy to more leisure, the value of the Psychic satisfaction of leisure generated thereby need to be added to the GNP.
 - ii) **Do-it-yourself activities:** The value of the satisfaction generated by the performance of such activities need to be added to the GNP.
 - iii) **The Underground Economy:** Underground activities are of two kinds (a) activities that are illegal (such as smuggling, extortion, etc.) and (b) activities that are legal but unrecorded for tax purposes. Illegal activities, by definition, are not included in national accounts. Legal activities, since they are not reported and no records are maintained, also escape the net of national output statisticians.

For the computation of NEW, the imputed values of such activities need be added to GNP.

2) Items to be

- i) In the production of goods and services that add up to the national output, a large amount of intermediate goods supplied by the government are consumed up; these are not accounted for on the cost side. The value of such intermediate goods need be subtracted from the GNP.
- ii) Adjustments for congestion of urban life. These take away some pleasure and happiness from urban living; These values need be deducted from the value of the GNP to arrive at NEW.

22.3.2 Results

Economists have made calculations of NEW and NNP (which is considered the most appropriate measure from the national income accounts) for a long period of time, from 1930 to 1990. These comparisons bring out that NEW grows more slowly than does NNP. This difference may be inevitable in a world that is becoming more congested and relies ever more heavily on large scale power plants and sophisticated organic chemicals.

22.4 PHYSICAL QUALITY OF LIFE INDEX (PQLI)

The Physical Quality of Life Index has been formulated by Morris D. Morris. It was published for the first time in 1979 as an alternative indicator of social development and has generated much interest since then.

22.4.1 Concept and Construction of PQLI

PQLI is a composite index of three indicators, viz., (i) life expectancy at age one; (ii) infant mortality; and (iii) literacy.

For each indicator, the performance of individual countries is rated on a scale of 1 to 100, where 1 represents the “worst” performance by any country and 100 the “best” performance.

For life expectancy, the upper limit of 100 was assigned to 77 years (achieved by Sweden in 1973) and the lower limit of 1 was assigned to 28 years (the life expectancy of Guinea-Bissau in 1950). Within these limits, each country’s life expectancy figure is ranked from 1 to 100.

Similarly, for infant mortality, the upper limit was set at 9 per 1,000 (achieved by Sweden in 1973) and the lower limit at 229 per 1000 (Gabon 1950).

Literacy rates being measured as percentages of from 1 to 100, provide their own direct scale.

Once a country performance in life expectancy, infant mortality, and literacy has been rated on the scale of 1 to 100, the composite index (PQLI) for the country is calculated by averaging the three ratings, giving equal weight to each.

22.4.2 Results

Morris's study brought to light the following facts:

- 1) More generally, but not always, countries with low per capita GNPs, tended to have low PQLIs, and countries with high per capita GNPs, tend to have high PQLIs.
- 2) The correlations between GNP and PQLI were not substantially close. Some countries with high per capita GNPs had very low PQLI s
 - even below the average of the poorest countries.

Conversely, some countries with very low per capita GNP, had PQLIs, that were higher than the average for the upper-middle-income countries.

Table 22.1 below provides a sample of developing countries ranked both by per capita incomes and PQLIs in the early 1980s.

Table 22.1: A Comparison of Per Capita GNP and the PQLI for Selected Developing Countries

Country	Per Capita GDP (\$)	PQLI
Gambia	348	20
Angola	790	21
Sudan	380	34
Pakistan	349	40
Saudi Arabia	12720	40
India	253	42
Iraq	3,000	48
Qatar	27,790	56
Tanzania	299	58
Zimbabwe	815	63
Brazil	2,214	72
China	304	75
Sri Lanka	302	82
Singapore	5,220	86
Taiwan	2,503	87
Costa Rica	1,476	89

The data seem to indicate that significant improvements in the basic quality of life can be achieved before there is any great rise in per capita GNP, or conversely that a higher level of per capita GNP is not a guarantee of a better quality of life.

22.4.3 Evaluation

PQLI appears to be free of the major problems associated with usng GNP as a measure of development.

- i) It aims directly at incorporating welfare considerations through measuring the ends of development in terms of the quality of human life.
- ii) PQLI also incorporates distributional considerations by using three indicators that reflect distributional characteristics in the sense that countries cannot achieve high national averages of life expectancy, infant mortality, and literacy unless the majorities of their population are receiving the benefits of progress in each of these areas.
- iii) There is general agreement that improvements in these areas are an important part of development progress.
- iv) Like GNP, the PQLI can be used to make inter-country comparison. It has the major advantage of being a simple measure with data being easily available.

However, the PQLI has also invited criticism:

- i) It is limited a measure; It fails to incorporate many other social and psychological characteristics suggested by the term “quality of life”—security, justice, human rights and so on.
- ii) A much more serious criticism is the lack of a rationale for giving equal weight to each of the indicators used in forming the index and the possibility that measures such as life expectancy and infant mortality are both reflecting similar phenomena.

Nevertheless, despite the limitations, the PQLI appears to be a useful indicator of development.

Check Your Progress 2

- 1) In what ways is NEW different than GNP?

.....
.....
.....
.....

- 2) Briefly state the concept of PQLI?

.....
.....
.....
.....

- 3) What type of relationship is found between GNP and PQLI?

.....
.....
.....
.....

4) In what ways is the PQLI considered a better indicator than GNP?

.....
.....
.....
.....

22.5 HUMAN DEVELOPMENT INDEX (HDI)

Human Development Index was presented for the first time in the Human Development Report published by the United Nations Development Programme (UNDP) in 1990.

22.5.1 Concept of HDI

The HDI attempts to capture as many aspects of human development as possible in one simple, composite index and to produce a ranking at human development achievements. The concept of human development is much deeper and richer than what can be captured in any composite index or even by a detailed set of statistical indicators. HDI attempts to simplify this complex reality.

The HDI is a composite index of achievements in basic human capabilities in three fundamental dimensions – a long and healthy life, knowledge and decent standard of living. Three variables have been chosen to represent these three dimensions: (i) life expectancy; (ii) educational attainment; and (iii) income.

22.5.2 Significance of HDI

The HDI value for each country indicates how far the country has to go to attain certain defined goals: an average life span of 85 years, access to education for all and a decent standard of living. The HDI reduces all three basic indicators to a common measuring rod by measuring achievements in each as the relative distance from the desirable goal. The maximum and minimum values for each variable are reduced to a scale between 0 and 1, with each country at some point on this scale.

The HDI shows the distance a country has to travel to reach the maximum possible of 1 and also allows inter-country comparisons. The difference between the maximum value of the HDI and the HDI value achieved by a country shows the country's shortfall in HDI. A challenge for every country is to find ways to reduce this shortfall.

22.5.3 Method of Construction of HDI

The HDI is based on three-indicators, (i) longevity as measured by life expectancy at birth; (ii) educational attainment, as measured by a combination of adult literacy (two-third weight) and combined primary secondary and tertiary enrolment ratios (one-third weight); and (iii) standard of living as measured by real GDP per capita PPP (\$).

For the construction of the index, fixed minimum and maximum values have been established for each of these indicators:

- Life expectancy at birth: 25 years and 85 years.
- Adult literacy: 0% and 100%.
- Combined gross enrolment ratio: 0% and 100%.
- Real GDP per capita (PPP \$): \$ 100 and \$ 40,000 (PPP \$)

For any component of the HDI individual indices can be computed according to general formula:

$$\text{Index} = \frac{\text{Actual Value} - \text{Minimum Value}}{\text{Maximum Value} - \text{Minimum Value}}$$

If, for example, the life expectancy at birth in a country is 65 years, then the index of life expectancy for this country would be

$$\frac{65 - 25}{85 - 25} = \frac{40}{60} = 0.667$$

The HDI is a simple average of the life expectancy index, educational attainment index and adjusted real GDP per capita (PPP \$) index and so is derived by dividing the sum of these three indices by 3, that is

$$\text{HDI} = \frac{\text{Life Expectancy Index} + \text{Education Attainment Index} + \text{Adjusted Real GDP Per Capita}}{3}$$

Illustration

The construction of the HDI is illustrated with the help of data from India

Life Expectancy (Years)	Adult Literacy Rate (%)	Combined Enrolment Ratio (%)	Real GDP Per Capita (PPP \$)
61.3	51.2	56	1,348

1) Life Expectancy Index = $\frac{61.3 - 25}{85 - 25} = 0.60$

2) Education Index = $\frac{\text{Adult Literacy Index} + \text{Combined Primary, Secondary and Territory Enrolment Index}}{3}$

Adult Literacy Index = $\frac{51.2 - 0}{100 - 0} = \frac{51.2}{100} = 0.512$

Combined Primary Secondary, and Tertiary Index = $\frac{56 - 0}{100 - 0} = \frac{56}{100} = 0.56$

$$\text{Educational Index} = \frac{0.512 + 0.56}{3} = 0.53$$

$$3) \text{ Adjusted Real GDP Per Capita Index} = \frac{1348 - 100}{6154 - 100} = \frac{1338}{6054} = 0.221$$

$$\therefore \text{HDI} = \frac{0.60 + 0.51 + 0.221}{3} = 0.446$$

22.5.4 HDI Rankings for Different Countries

TOP TEN

1	Canada
2	France
3	Norway
4	USA
5	Iceland
6	Netherlands
7	Japan
8	Finland
9	New Zealand
10	Sudan

BOTTOM TEN

166	Mozambique
167	Guinea
168	Eritrea
169	Burundi
170	Ethiopia
171	Mali
172	Burkina Faso
173	Niger
174	Rwanda
175	Sierra Leone

India: HDI: 0.446 Rank 138.

Results

The rankings of countries by their HDI value leads to the following conclusions:

- 1) Of the 175 countries for which the HDI has been calculated for the Human Development Report 1998, 64 are in the high human development category, 66 in the medium category and 45 in the low category. Thus, of the world's 5.6 billion people, 1.3 billion (22%) are in the high human category; 2.6 billion (45%) in the medium category and 1.8 billion (32%) in the low category.
- 2) The HDI ranking of different countries differs significantly from their ranking by real GDP per capita. It means that the countries can have similar income but different human development achievements – or similar HDIs but very different incomes.

22.5.5 Usefulness and Limitations of the Concept

- i) The HDI provides an alternative to GNP, for assessing a country's standing in basic human development or its progress in human development over time. It does not displace economic measures but can serve as a simple composite complement to other measures like GNP.
- ii) The HDI has been used in many countries to rank districts or region as a guide to identifying those most severely disadvantaged in terms of human development. Several countries have used the HDI as a planning tool.

- iii) The HDI has been used especially when a researcher wants a composite measure of development. For such user, other indicators have sometimes been added to the HDI.

Limitations

The HDI has also invited serious criticism; these point out the limitations of HDI as an effective indicator of social development. Some of the questions raised can be briefly reviewed as follows:

- i) Why only three indicators? Are these too many or too few?
- ii) Are the variables (indicators) chosen to measure the development adequate? And for each dimension, are the associated variables too many or too few?
- iii) Are the measures subject to measurement errors, and, if so, do such errors invalidate the results? A subsidiary question is how up to date are the data used to construct the index?
- iv) Is the choice of the minimum and the maximum justifiable, or is it arbitrary? In any case, how robust is the measure to alternative maximum and minimum values?
- v) Why choose equal weights? How sensitive is the measure to other weighting schemes?

It would be seen that most of the questions raised relate to the methodology of HDI. The UNDP is continuously engaged in the task of refinement of this methodology.

Check Your Progress 3

- 1) Explain in brief the concept of Human Development Index.
.....
.....
.....
.....
- 2) State a few important uses of Human Development Index.
.....
.....
.....
.....
- 3) State a few limitations of Human Development Index.
.....
.....
.....
.....

22.6 GENDER RELATED DEVELOPMENT INDEX (GDI)

The Gender – Related Development Index (GDI) has also been introduced by the Human Development Report, published annually by the United Nations Development Programme. It was published for the first time in the year 1995.

22.6.1 Concept and Construction of GDI

The GDI measures achievements in the same dimensions and variables as the HDI does, but takes account of inequality in achievement between women and men. The greater the gender disparity in basic human development, the lower a country's GDI compared with its HDI. The GDI is simply the HDI discounted, or adjusted downwards, for general inequality.

The GDI uses the same variables as the HDI. The difference is that the GDI adjusts the average achievements of each country in life expectancy, educational attainment and income in accordance with the disparity in achievement between women and men

The GDI adjusts the maximum and minimum values for life expectancy to account for the fact that women tend to live longer, than men. For women the maximum value is 87.5 years and the minimum value is 27.5 years ; for men the corresponding values are 82.5 and 22.5 years.

Similarly, before income is indexed, the average adjusted real GDP per capita of each country is discounted on the basis of the disparity in the female and male shares of earned income in proportion to the female and male population shares.

The indices for life expectancy, educational attainment and income are added together with equal weight to derive the final GDI value.

GDI in Some Selected Countries

TOP TEN		BOTTOM TEN	
1	Canada	137	Chad
2	Norway	138	Gambia
3	Sweden	139	Mozambique
4	Iceland	140	Guinea
5	USA	141	Burundi
6	France	142	Ethiopia
7	Finland	143	Mali
8	New Zealand	144	Burkina Faso
9	Australia	145	Niger
10	Denmark	146	Sierra Leone

India: GDI: 0.419 Rank :118

22.6.2 Results

Several conclusions can be drawn from the GDI rankings.

First, no society treats its women as well as its men. This is evident from the fact that the GDI value for every country is lower than its HDI value.

Second, gender inequality is strongly associated with human poverty. The four countries ranking lowest in the GDI also rank lowest in the human poverty index.(HPI).

Third, gender inequality is not always associated with income poverty.

Fourth, gender equality can be achieved across a range of culture and political ideologies.

22.7 GENDER EMPOWERMENT MEASURE (GEM)

The gender empowerment measure indicates whether women are able to actively participate in economic and political life. It focuses on participation, measuring gender inequality in key areas of economic and political participation and decision- making. It thus differs from the GDI, an indicator of gender inequality in basic capabilities.

22.7.1 Construction of GEM

The GEM is computed on the basis of three indices relating to:

- 1) Economic participation and decision-making;
- 2) Political participation and decision-making;
- 3) Power over economic resources.

To reflect economic participation and decision-making two variables are chosen: (a) women's and men's percentage shares of administrative and managerial positions, and (b) their percentage shares of professional and technical jobs. These are broad, loosely defined occupational categories. Because the relevant populations for each is different, a separate index for each is calculated and then the two are added together.

Women's and men's percentage shares of parliamentary seats is chosen to reflect political participation and decision making power.

An income variable is used to reflect power over economic resources. It is calculated in the same manner as for the GDI except that unadjusted rather than adjusted real GDP per capita is used. The maximum value for income is thus PPP \$ 40,000 and the minimum PPP \$ 100.

The three indices are added together to derive the real GEM value.

GEM in Selected Countries

TOP TEN	BOTTOM TEN
1 Norway	85 Papua New Guinea
2 Sweden	86 India

3	Denmark	87	Sudan
4	Finland	88	Congo
5	New Zealand	89	Zaire
6	Canada	90	Central African Republic
7	USA	91	Solomon Islands
8	Austria	92	Pakistan
9	Germany	93	Togo
10	Netherlands	94	Mauritania

India: GEM 0.228. Rank 86.

22.7.2 Results

Several conclusions can be drawn from the GEM rankings:

- 1) Countries in the top order in GEM rankings are not only good at strengthening the basic capabilities of women, they have also opened many opportunities for them to participate in economic and political fields.
- 2) Some developing countries outperform much richer industrial countries in gender equality in polit.

22.8 CAPABILITY POVERTY MEASURE (CPM)

The UNDP in its Human Development Report 1996 introduced a new measure of social development and called it the Capability Poverty Measure (CPM).

The CPM focuses on human capabilities. It considers the lack of three basic capabilities. The *first* is the capability to be well-nourished and health—represented by the proportion of children under five years of age who are underweight. The *second* is the capability for healthy reproduction – proxied by the proportion of births unattended by trained health personnel. The *third* is the capability to be educated and knowledgeable – represented by female literacy.

The three measures are added together and divided by three to give a simple arithmetic mean. The lower this mean, the less the capability poverty.

In most of the countries in South Asia, capability poverty is more widespread than income poverty, for example, the HRD 1996 estimates 25.4 percent of the total population in India as poor by the income poverty index, whereas by CPM this has been estimated at 61.5 percent.

The lesson is simple: poverty cannot be eradicated merely by boosting income. It will also take a broad expansion of basic human capabilities and the productive use of these capabilities.

22.9 HUMAN POVERTY INDEX (HPI)

The UNDP further build upon the CPM and in its annual Human Development Report 1997 formulated the Human Poverty Index (HPI).

22.9.1 Concepts and Components

The HPI measures deprivation in basic human development in the same dimensions as the HDI – longevity, knowledge and a decent living standard.

The first deprivation relates to survival – the vulnerability of death at a relatively early age – and is represented in the HPI by the percentage of people expected to die before age 40.

The second dimension relates to knowledge—being excluded from the world of reading and communication—and is measured by the percentage of adults who are illiterate.

The third aspect relates to a decent standard of living, in particular, overall economic provisioning. This is represented by a composite of three variables—the percentage of people with access to health services and to safe water and the percentage of malnourished children under five.

A composite HPI is computed by taking a simple average of the three measures discussed above.

22.9.2 HPI-II

Introduced in the HRD 1998, the HPI II measures human poverty in industrial countries. Because human deprivation varies with the social and economic conditions of a community, this separate index has been devised for industrial countries, drawing on the greater availability of data. It focuses on deprivation in the same three dimensions as HPI-I and one additional one, social exclusion. The variables are the percentage of people likely to die before the age of 60, the percentage of people whose ability to read and write is far from adequate, proportion of people with disposable income of less than 50% of the median and the proportion of long-term unemployed (12 months or more).

22.10 OTHER INDICATORS OF SOCIAL DEVELOPMENT

22.10.1 Social Development Index (SDI)

The SDI was constructed by the United Nations Research Institute on Social Development (UNRISD) In 1970. The SDI incorporates 16 core indicators. These indicators were selected on the basis of their high intercorrelation to form a development index using weights derived from their various degrees of correlation.

The SDI was found to correlate more highly with individual social and economic indicators than per capita GNP correlated with the same indicators.

22.10.2 International Human Suffering Index (IHSI)

This index was formulated by the Washington-based Population Crisis Committee and was published in 1987. The index was created to measure, in a single figure, differences in living condition among countries. Each country index was compiled by adding 10 measures of human welfare related to economics, demography, health and governance.

22.10.3 Quintile Income and Quintile Growth

In a background paper for UNDP’s Human Development Report, 1996, Kaushik Basu has argued that in evaluating human well being one should look at the per capita income of the poorest 20 percent (quintile income); and that one should assess progress by looking at the growth rate of per capita income of the poorest 20 percent (quintile growth). This move away from per capita income and growth to quintile income and quintile growth changes the ranking of societies drastically. In 1993 Switzerland with a per capita income of \$ 35,760 was the richest country, followed by Japan with \$ 31,490; then came Denmark, Norway and U.S. Once we turn to quintile income, Japan with \$13,698 ranks first by an enormous margin. No other country exceeds \$ 10,000; the U.S. drops to 12th position.

22.10.4 Genuine Progress Indicators (GPI)

A San Francisco based group called *Redefining Progress* has evolved the concept of “Genuine Progress Indicators”. It takes into account various social and ecological factors. According to this criteria the U.S. economy shows a steady decline since the seventies. Similarly, in U.K., Germany and Austria also, although GDP per capita has gone up, GPI per capita has fallen. In other words, as material wealth has gone up, relational wealth has gone down. People in fact are worse off.

22.10.5 Green Index

The World Bank’s environmentally Sustainable Division has developed what has come to be known as “Green Index”. Green Index measures a nation’s *wealth* by using a new system of measurement, as contrasted to the prevalent system which measures wealth according to the GNP per capita. The new system attaches a dollar value to each of the three components, viz (i) produced assets, (ii) natural resources, and (iii) human resources. It puts a price tag on produced assets, the sum of all machinery, factories, roads and other infrastructure. It assigns an economic value to land, water, timber, minerals and all other natural resources. It looks at the human resources available, the education level, and the range of skills. It then calculates the true estimates of a country’s wealth, taking into account all such resources which do not always show up on traditional economic indicators.

Check Your Progress 4

- 1) How is GDI different from HDI?

.....
.....
.....
.....

- 2) What conclusion can we derive from the country rankings on GEM?

.....
.....
.....
.....

3) Explain in brief the concept of Human Poverty Index?

.....
.....
.....
.....

22.11 LET US SUM UP

The problems associated with using per capita GNP as a measure of development are well known. Among the major objectives of this measure are the failure to indicate non-marketed (and, therefore, non-priced) subsistence production, and to incorporate welfare and income distribution considerations. As a result there have been numerous efforts both to remedy its defects and to create other composite indicators that could serve as complements or alternatives to this traditional measure. Some of these indicators measure development in terms of the quality of life, whereas the others seek to measure development in terms of interaction among social, economic and political factors.

22.12 KEY WORDS

- Social Development** : A process whereby a society matures and advances from one stage to another.
- Human Development** : A process of widening people's choices and the level of well-being they achieve.
- Human Development Index** : Measures the average achievements in a country in three basic dimensions of human development-longevity, knowledge and standard of living.
- Human Poverty Index** : Measures deprivation in basic human development in the same dimensions as the HDI.
- Gender-Related Development Index** : Measures achievements in the same dimensions and variables as the HDI does, but takes account of inequality in the achievements between women and men.
- Gender Empowerment Measure** : Indicates whether women are able to actively participate in economic and political life.
- Quintile Income** : Per capita income of the poorest twenty per cent.
- Quintile Growth** : Growth rate of the per capita income of the present income of the poorest twenty per cent.

22.13 SOME USEFUL BOOKS

UNDP: (2005) Human Development Report (Annual) Oxford University Press.

I. C. Dhingra, (2005) : *Indian Economic Environment*, Sultan Chand & Sons, New Delhi.

Paul A. Samuelson and William D. Nordhaus : *Economics (Sixteenth Edition)*.

22.14 ANSWERS OR HINTS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress 1

- 1) See section 22.2 and explain the meaning of social development
- 2) See section 22.2.2
- 3) See section 22.2.3

Check Your Progress 2

- 1) See sub-section 22.3.1
- 2) See section 22.4
- 3) See sub-section 22.4.2
- 4) See sub-section 22.4.3

Check Your Progress 3

- 1) See sub-section 22.5.1
- 2) See sub-section 22.5.5
- 3) See sub-section 22.5.5

Check Your Progress 4

- 1) See section 22.6
- 2) See section 22.7
- 3) See section 22.9