



SUSTAINABLE DEVELOPMENT

THE PEOPLE'S
UNIVERSITY

School of Social Sciences
Indira Gandhi National Open University

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COURSE INTRODUCTION

Sustainable development is a widely debated word in theory and practice. Initially, the idea of sustainability came to be discussed and used in the context of environmental protection, but slowly it became holistic and comprehensive cutting across various developmental areas. It is a multidisciplinary concept, which talks about the balance in economic, social, political and environmental dimensions of sustainability. In 1987, the Report of the World Commission on Environment and Development entitled *Our Common Future*, systematically defined the term 'sustainable development' as development that 'meets the needs of the present without compromising the ability of future generations to meet their own needs'. This definition encompasses the interrelationship among the concepts of development, needs and sustainability.

Sustainable development refers to a process of societal advancement embodying a more equitable and environmentally aware pattern of development that requires a careful integration of economic, social and environmental objectives. Environmental sustainability, economic sustainability and social sustainability are the three pillars of sustainable development. The Covid 19 Pandemic with which we have been dealing since 2019 has brought the ugly consequences of unsustainable development process to limelight. This Course attempts to examine the challenges of striking a balance between development and environment. The Course is divided into 4 Blocks and 14 Units. Each Block deals with some major aspect of sustainable development or the other in detail.

Block 1 Concept of Sustainable Development

The first Block of the Course consists of 4 Units. The title of the first Unit is 'Meaning, Nature and Scope of Sustainable Development'. It discusses the conceptual aspects of sustainable development underlining various definitions of the concept. The scope of this concept is also analysed in terms of social, economic and environmental dimensions. The Unit also explains the principles and features of sustainable development.

Unit 2 is titled 'Major Components of Sustainable Development'. The pertinent components of sustainable development are the society, economy and environment. Effective interrelationship of these three components is quite important for understanding the concept of sustainability. This Unit explains these various components and their interrelationship in a detailed manner.

Unit 3 of the Block is 'Approaches to Sustainable Development'. The concept of sustainable development not only discusses the ecological perspective of sustainability, but also the social and economic viewpoints. Study of approaches to sustainable development is more important to understand the various components and factors involved in it. This Unit presents a snapshot of various approaches, such as Status Quo approach, Community Capacity Building approach, Industrial Sector approach, Integrated Systems approach, Human Development approach and Green Accounts approach in the context of sustainable development.

Unit 4 of the Course is called 'Goals of Sustainable Development'. In 2015, the United Nations (UN) set up the Agenda 2030, which enumerated 17 SDGs and

169 targets to which 193 Member Nations pledged their commitment, and these goals were implemented in 2016. The goals and targets are time-specific and considered as global report card for the fight against varied problems the world populations face. The Agenda intends to reach the set goals in the period from 2015 to 2030. This Unit also describes all the SDGs with special reference to India.

Block 2 Development, Sustainability and Climate Change

Unit 5 is on 'Concept of Global Commons and Climate Change'. This Unit discusses the two important concepts i.e., global commons and the impact of climate change on the global commons. Besides, it elaborates why climate change is often cited as a global problem of commons. It also discusses the concept of tragedy of commons and describes the heritage of mankind. In conclusion, it examines the relevance of global governance for climate change.

An International Convention is an agreement or treaty between different countries, which generally takes place in the name of United Nations (UN). Unit 6 is about 'International Conventions on Sustainable Development'. This Unit focuses on the important aspects of Earth Summit 1992, Agenda 21, UN Framework Convention on Climate Change and Convention on Biological Diversity. Further, it makes a critical appraisal of various International Conventions on sustainable development.

Unit 7 examines the 'Interrelationship among Development, Sustainability and Climate Change: Case for Differentiated Responsibilities'. This is also the title of the Unit. It explains the concepts of development and sustainability. It also makes us understand the meaning and impact of climate change. Further, it also discusses the interrelationship among development, sustainability and climate change.

Block 3 Health, Education and Food Security

The third Block of the Course discusses the various themes of health, education and food security in the context of sustainable development. In this Block, Unit 8 is on 'Relationship between Sustainable Development and Food Security'. It brings out the key dimensions of food security with respect to sustainability. Further it highlights the various factors that impact food security viz., green revolution, loss of biodiversity, depletion of livestock and fisheries, desertification and climate change.

Green technologies are the application part of environmental sciences, which try to conserve the natural resources and minimise the adverse impacts of human activity on environment. Green technologies have emerged as one of the significant means for achieving sustainability. Unit 9 of this Course is about the 'Role of Green and Converging Technologies towards Health, Sanitation and Food Security'. This Unit discusses the meaning and characteristics of green and converging technologies. Finally, emphasis in the Unit is on the role of green technologies in health, sanitation and food security.

Unit 10 highlights the 'Role of Education in Sustainable Development' which is the title of the Unit too. Education is the major tool for achieving social, economic, political and environmental sustainability. Basically, education is used to facilitate economic well-being, social equity and democratic values of people. This Unit

brings out the importance of education in achieving sustainability. Education for Sustainable Development (ESD) improves the quality of life of people without damaging the environment. The Unit also lays emphasis on the vision of education for achieving sustainable development.

Block 4 Sustainable Development: A Way Forward

Unit 11 is on the 'Role of Policy Innovations in Sustainable Development'. Growing inequalities and unsustainable production and consumption patterns are the major hindrances in achieving sustainable development. This Unit discusses the core concepts of sustainable development and its constituents. It underlines the ways in which policy innovations attempt to overcome these hindrances to sustainable development. It also captures the goals and features of policies for sustainable development. In this context, the Unit also discusses the various factors towards policy innovations for achieving sustainability.

Unit 12 of the Course is on 'Recognition of Ecological Limits of Equity and Justice'. This Unit explains the concept of justice in relation to environment and brings out the interrelationship between environmental justice and rights of tribals. Unit 13 is titled 'Alternative Ways of Resource Generation and Capacity Enhancement'. Consumption patterns and resource use have made a huge impact on environment and levels of sustainability. To achieve sustainability, we need to explore sustainable technology, and also make sustainable choices. In this context, this Unit discusses the relevance of making sustainable choices. Further, it brings out the benefits of alternative resource use to obtain environmental benefits.

Civil Society Organisations/ NGOs are able to raise international awareness, shape global policy agendas, educate governments, citizens and industries, and strengthen environmental governance at the domestic and international levels. Unit 14 is titled 'Role of Non-State Stakeholders in Sustainable Development'. It discusses the pertinent role of different stakeholders in sustainable development. This Unit elaborates the need for sustainable development and also explains the role of NGOs in sustainable development. It also examines the contributions of various stakeholders like trade unions, corporates and universities in sustainable development.



BLOCK 1

**CONCEPT OF SUSTAINABLE
DEVELOPMENT**

Pimpri Chinchwad Education Trust
THE PEOPLE'S
UNIVERSITY

UNIT 1 MEANING, NATURE AND SCOPE OF SUSTAINABLE DEVELOPMENT*

Structure

- 1.0 Objectives
- 1.1 Introduction
- 1.2 Meaning of Sustainable Development
- 1.3 Nature of Sustainable Development
- 1.4 Scope of Sustainable Development
- 1.5 Important Principles and Features of Sustainable Development
- 1.6 Conclusion
- 1.7 Glossary
- 1.8 References
- 1.9 Answers to Check Your Progress Exercises

1.0 OBJECTIVES

After reading this Unit, you should be able to:

- Discuss the meaning and nature of sustainable development;
- Describe the scope of sustainable development; and
- Explain the principles and features of sustainable development.

1.1 INTRODUCTION

Sustainable development has an important role and place in the discourse on development. Sustainable development is the centre of debates and discussions among the development experts, environmentalists and national leaders of both developed and developing countries. The United Nations and its agencies, as well as many international institutions, commissions and world leaders do recognise the significance of sustainable development.

They are of the decisive view that degrading the earth's resources to meet current needs is short-sighted and potentially disastrous for future generations. The coming generations, and not merely the present ones, need those resources and all that they may produce. Excessive cultivation, destruction of forests, filling up of wetlands, all has been propelled by population explosion. This could eventually impair the capacity of the so-called renewable resources to renew themselves. They cannot go on producing continuously. Beyond a certain level, extracting more in the present leaves less for the future. The fundamental questions that need to be addressed are: "Will future generations be worse off as a result of the environmental degradation that results from economic decisions made today; and will the increase in the scale of activity be sustainable in the face of increasing pressure on natural resources".

* Contributed by Dr. R.K. Sapru, Professor of Public Administration (Retired), Panjab University, Chandigarh

Sustainable development is very much about ensuring that our children and future generations inherit an earth that is, at the bare minimum, no worse off than the one we inherited. It is perhaps one of the noblest and highest aspirations that we can set for ourselves as humans. Looking at the changes taking place around the world, it is being widely felt that the kind of world we will bequeath to our children and grandchildren may not be a better one, as a result of environmental degradation that would result from political and economic decisions made today. It is a matter of grave concern that those who reap the fruits of economic development today may be making future generations worse off by excessively damaging and destroying the natural resources and polluting the earth's environment.

'Sustainable development' was a major focus of the United Nations Conference on Environment and Development (UNCED) held in Brazil in June 1992. The achievement of sustainable development globally is likely to prove as one of the greatest challenges to the world community in view of the ever-increasing population growth and rising levels of consumption per capita. As the World Commission on Environment and Development has observed, the efforts to achieve sustainable development are being carried out amidst the additional pressure of such global difficulties as climate change, ozone depletion, and species loss. The continued build-up in Greenhouse Gases, depletion of the ozone layer by Chlorofluorocarbons (CFCs), and the continuing extinction of species through habitat degradation affect developing nations no less than the developed and industrialised States of the West.

The ongoing excessive use of energy feeds a number of these difficulties as do the burgeoning global population increases. These problems are so pressing that the terms 'environmental refugee' has been coined to describe people literally deprived of a homeland because of environmental crises. Some of the more pessimistic observers of the situation warn that social dislocations from environmental degradation may be one of the most alarming developments in the first quarter of 21st century with estimates ranging to sixty million odd environmental refugees.

Proponents of sustainable development argue that it provides a context to improve overall sustainability, where cutting edge 'green development' is attainable. Inclusive green growth is the pathway to sustainable development. It is the only way to reconcile the rapid growth required to bring developing countries to the level of prosperity, which they aspire, meet the needs of more than one billion odd people still living in poverty, and fulfill the imperative requirement of a global environment.

1.2 MEANING OF SUSTAINABLE DEVELOPMENT

Much before the Brundtland Report's definition of sustainable development, in the early 1970s, the term sustainable development was coined by Barbara Ward (known as Lady Jackson), founder of the International Institute for Environment and Development in the early 1970s. Sustainable development for her was largely about people, their economic and social well-being and aspirations for equity in their relationships with each other, in a context where environment-society imbalances could threaten economic and social stability.

The legacy of the concept of sustainable development is however attributed to the Brundtland Report or the Report of the World Commission on Environment and Development entitled *Our Common Future*, which defines it as development that “meets the needs of the present without compromising the ability of future generations to meet their own needs.” Thus, it seeks to satisfy the compulsions of equity within the human generations and also between them.

‘Sustainable development thus, is development that meets the needs of present and future generations. Given the global and local effects of environmental decay, it is no surprise that sustainable development has become a catchword in development planning and resource management. However, interpretations of this concept are still ambiguous. According to the Brundtland Report, the idea of sustainable development reaches far beyond environmental protection, as it means a process of change in which exploitation of resources, direction of investments, orientation of technological development, and institutional changes are made consistent with future, as well as present needs. It is not a fixed state of harmony, but rather a balanced and adaptive process of change.

Sustainability takes for granted “the balance between economic development - all quantitative and qualitative changes in the economy that offer positive contributions to welfare - and ecological sustainability - all quantitative and qualitative environmental strategies that serve to improve the quality of an ecosystem and hence also have a positive impact on welfare.” Both economic and environmental systems, need a certain minimum threshold value to survive.

“In essence, sustainable development is a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change, are all in harmony and enhance both current and future potential to meet human needs and aspirations.” The Brundtland Commission’s definition of the term – “meeting the needs of the present generations without compromising the needs of future generations” – is strongly endorsed by the World Development Report 1992. Our next units of this Course would talk about the features of this definition in detail.

The concept of sustainable development rejects the traditional view that economic development is a necessity but environmental protection is a luxury. Dasgupta and Maler (1990) have observed: “environmental resources are of minor importance to poor countries... They play a significant role in the process of economic development... Such resources are luxury goods, and they loom large in public consciousness only when incomes are high... Environmental resources are only a rich country’s preoccupations... They are a mere diversion created by economists, not sensitive to the true needs of poor in poor countries...”

In the past decade, however, a shift has taken place from a partial environmental analysis to a focus on the global effects of environmental decay - reflected among other things in alarming phenomena such as flooding, acid rains, soil erosion, desertification, destruction of the ozone layer, ocean pollution, and resource extraction. Thus, resource conservation and pollution control, once thought of as luxuries, are now recognised as essential to protect life-supporting natural systems and improve the living standards. The policy makers are beginning to increasingly recognise that socio-economic development must be sustainable, that is, it should be capable of meeting not only the current needs of this generation, but those of future generations as well.

In this context, the questions are how to assess the well-being of present and future generations. What should we leave to our future generations to maximise the chances that they would be no worse off than ourselves. The issue becomes more complicated because our children do not just inherit our worn-out farmlands, eroded hillsides, polluted water, air parched grasslands, and depleted ozone layer, but also enjoy the fruits of our labour in the form of education, skills, and knowledge, as well as physical capital. They are entitled to benefit from investments in natural resources, improvement in soil fertility and reforestation.

Ashish Kothari (1993) has been of the view that sustainable development, as currently defined, "does not adequately address the perpetuation of intergenerational, inter-species inequity, and is, therefore, not acceptable from the point of view of the larger human goals of happiness, equality, justice and peace."

1.3 NATURE OF SUSTAINABLE DEVELOPMENT

Keeping in view what we leave or pass on to our children and grandchildren, we must think of the full range of physical and human capital, and natural resources that will determine their welfare. Adopting the principle of sustainable development would necessarily require a fundamental change in thinking. The data used for decision-making must reflect the true costs of resource depletion and pollution, as they affect future generations rather than just the short-term costs of profits of depleting income-producing resources. The data must take account of future needs on par with current needs, not 'discounted' in a way that carries decisions in favour of short-term effects.

Ciricacy-Wantrup (1952) has emphasised on the use of safe minimum standards for conservation by avoiding over-exploitation of critical zones of the environment by limiting human activities that make it uneconomical to halt or reverse environment degradation. Thus, the idea of sustainable development requires a careful consideration of sustainable threshold levels for both economic and environmental systems. For example, deforestation may be necessary for agriculture development in a regional economy like Brazil, but it could prove fatal and detrimental to global ecological stability. When a country experiences rapid population growth or dramatic urbanisation, increase in Gross National Product or GNP may hide or camouflage major development problems. The same difficulty arises when the world demand for the raw resources from a country or a region rises to meet increasing global needs. In sum, until we are prepared to define sustainability in ways that take stock of both the external threat from food policies in the North and the internal threat from demographic pressure in the South, it will remain illusory.

Similarly, to cope with the growing problems of land pressures in India, it is necessary to check and control the population growth rate, ensure balanced livestock development, and control land alienation. On the other hand, when the World Commission posits that: "sustainable development requires that the adverse impacts on the quality of air, water, and other natural elements are minimised, so as to sustain the ecosystem's overall integrity", it is no easy task to judge the success rate.

Recognising these difficulties, the World Commission has noted that measures of success in sustainable development must take account of the context and the

need to meet social challenges. The sustainability aspect requires that environmental administrators aim at:

- i) Maintaining ecosystem and related ecological processes, essential for the functioning of biosphere;
- ii) Sustaining biological diversity by ensuring the survival and promoting the conservation in their natural habitats of all species of flora and fauna;
- iii) Observing the principle of optimum sustainable yield in the exploitation of living natural resources and ecosystems;
- iv) Preventing or abating significant environmental pollution or harm;
- v) Establishing adequate environmental protection standards;
- vi) Undertaking or requiring prior assessments to ensure that major law, policies, projects, and technologies contribute to sustainable development; and
- vii) Making all relevant information public without delay in all cases of harmful or potentially harmful releases of pollutants, especially radioactive releases.

It was considered at the Rio Summit (1992) that the Brundtland Report (1989) lacked a clear definition of sustainability. The World Bank's Environment Department now has formulated a new definition. It is in two parts: i) Output Guide: Waste emissions should be within the assimilative capacity of the local environment without degradation, and ii) Input Guide: Harvest rates of renewable resources should be within the natural regenerative capacity; depletion rates of non-renewable resources should be equal to the rate at which renewable substitutes are developed.

Check Your Progress 1

- Note:** i) Use the space given below for your answers.
ii) Check your answers with those given at the end of the Unit.

1. Describe the term sustainable development.

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2. Discuss the nature of sustainable development.

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1.4 SCOPE OF SUSTAINABLE DEVELOPMENT

Much of the discussion on the scope of sustainable development has already been made in our sections on ‘Meaning’ and ‘Nature’ of sustainable development. It is pertinent that development is sustainable, as it saves wastage in the national budget, fulfills the needs of people, helps in coordination between the natural resources and people and conserves natural resources for future generations. We all know that the e-goal of sustainable development is to meet the needs of today, without compromising the needs of tomorrow. This means we cannot continue using the resources at the current rate, as this way not enough would remain for future generations.

Stabilising and reducing carbon emissions is the key to living within environmental limits. Sustainable development believes that operating within the right economic, social and environmental boundaries will create a truly sustainable health system, one that is fit for the future. The scope of sustainable development is very wide, as it deals with areas like social, economic, environmental, and institutional dimensions.

Social Dimension

The social dimension of sustainable development includes ensuring a strong, healthy and just society with emphasis on ‘zero hunger’, ‘good health and well-being’, ‘quality education’, ‘population control’ and ‘gender equality’.

Economic Dimension

The economic dimension of sustainable development includes economic well-being of the masses with emphasis on ‘no poverty’, ‘sustainable economy’, ‘employment opportunities’, especially for women, ‘decent work and economic growth’, ‘managing natural resources’, and ‘responsible consumption and production’.

Environmental Dimension

The environmental dimension of sustainable development includes promoting environment- friendly and biodegradable products with emphasis on ‘clean water and sanitation’, ‘affordable and clean energy’, ‘reducing emissions from industry, transport and energy’ (minimising the release of Greenhouse Gases, which contribute to global warming and air pollution), ‘encouraging use of renewable sources’ (such as solar, wind and water energies), ‘climate action’ and ‘preservation of natural resources’, while respecting and protecting natural habitats (life below water and life on land) of life forms.

Institutional Dimension

The institutional dimension of sustainable development includes ‘industry, innovation and infrastructure’, ‘sound financial resources’, ‘peace, justice and strong institutions’, ‘sustainable cities and communities’, ‘partnerships for the Sustainable Development Goals (SDGs)’, and ‘international cooperation’.

SDGs of the United Nations

The United Nations created a set of 17 distinct, but interrelated goals to guide global development between 2015 and 2030. Each goal has a set of targets – 169

altogether – with subsets of indicators – 232 in total. The SDGs also known as the global goals were adopted by all UN Member States in 2015 as a universal call to action to end poverty, protect the planet and ensure that people enjoy peace and prosperity by 2030.

The 17 SDGs are: i) No poverty, ii) Zero Hunger, iii) Good Health and Well-being, iv) Quality Education, v) Gender Equality, vi) Clean Water and Sanitation, vii) Affordable and Clean Energy, viii) Decent Work and Economic Growth, ix) Industry, Innovation and Infrastructure, x) Reducing Inequality, xi) Sustainable Cities and Communities, xii) Responsible Consumption and Production, xiii) Climate Action, xiv) Life Below Water, xv) Life on Land, xvi) Peace, Justice and Strong Institutions; and xvii) Partnerships for the Goals.

On July 6, 2017, UN Resolution was adopted by the General Assembly. The Resolution identifies the specific targets for each goal along with indicators that are being used to measure progress towards each target. Achieving the SDGs requires conducive partnership of government, private-sector, civil society and citizens; to make sure we leave a better planet for the future generations.

The SDGs pay attention to multiple cross – cutting issues, like gender equity education, and culture cut across all the SDGs. To achieve sustainable development, many sectors need to come together. The economic, social, political and environmental sectors are all needed for all critically important and interdependent development decisions. Progress will require multidisciplinary and transdisciplinary research across all these sectors. This proves to be difficult when the major governments fail to support it. According to the UN, the target is to reach out to the community as widely as possible. However, data or information must adjust for vulnerable groups such as children, elderly, persons with disabilities, indigenous people, migrants, and internally displaced persons. There were serious impacts and implications of Covid-19 Pandemic on all 17 goals in the year 2020. We will read about these goals in detail in our next Units.

1.5 IMPORTANT PRINCIPLES AND FEATURES OF SUSTAINABLE DEVELOPMENT

- **Principles**

A few components of sustainable development, which are important are as follows:

Conservation of Ecosystem

The main aim of sustainable development is to conserve the earth's resources. It is to make the ecological system steady. Preservation of ecosystem including aquatic ecosystem is necessary for this purpose and aim.

Sustainable Development of Society

Population growth increases the demand for goods and services. Sustainability of society depends on the availability of decent abode, balanced diet, adequate health services, employment and quality education. Access to health and education are important for the people in society.

Conservation of Biodiversity

It is important to ensure conservation of all the living species in the world. People should learn to conserve the natural resources in order to protect them. Both the Global Biodiversity Outlook in September 2020 and Living Planet Index (LPI) of World Wildlife Fund (WWF) in September 2020 call for drastic and urgent action to halt the biodiversity loss and restore ecosystem services before it is too late.

Population Control

Population growth increases the demand for goods and services, and if it remains unchanged, it would imply increased environmental damage. The world population is growing at about 1.7 per cent annually; almost an addition of a hundred million a year. This rapid population growth exacerbates the mutually reinforcing effects of poverty and environment decay. Yet, environmental degradation can also increase population growth. Dasgupta (*Op. cit.*) is of the view that children are produced not only for earning money, securing old age, but also for increasing workforce. So population control and management are essential for sustainable development.

Conservation of Human Resources

Human resource or HR is a big potential for sustainable development. Therefore, human resources are to be developed by providing education, healthcare and training. Human resources contribute immensely to sustainable development. Efficient HR means effective decision making on environmental protection.

Encouraging Citizens' Participation

The sustainable development process will acquire a fuller meaning if the citizens participate fully in the implementation of sustainable development programmes. Covid-19 Pandemic has highlighted just how environmental balance is important, especially as we endeavour to build more resilient economies and communities. The Covid-19 Pandemic has provided a stark and painful reminder of the criticality of the concept of sustainable development.

Promotion of International Coordination and Cooperation

More strategic international action is needed to protect biological diversity. Solution to international environment issues must be based upon common principles and rules of collaboration among independent nations backed up by persuasion and negotiations. Due to the common international concern for biological resources, there is a strong case for more international efforts to provide funding and technological assistance to developing countries. The Union Environment Minister (India) on 31 July 2020 called for sharing of best practices among BRICS (Brazil, Russia, India, China, and South Africa) Nations towards the sustainable development goals.

- **Features**

To fulfill the scope and objectives of sustainable development, these features need to be implemented while planning for economic development, some of these steps are:

- Minimising the release of Greenhouse Gases, which directly contribute towards global warming and air pollution;
- Emphasising on eco-friendly practices such as building green architecture;
- Focusing on and implementing projects using renewable energy sources like the sun, wind, water etc;
- Preservation of natural resources, while respecting and protecting natural habitats of life forms and organisms; and
- Containing the rate of consumption from surpassing the production of renewable sources.

Check Your Progress 2

Note: i) Use the space given below for your answers.

ii) Check your answers with those given at the end of the Unit.

1. Examine the scope of sustainable development.

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2. Explain the principles and features of sustainable development.

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1.6 CONCLUSION

Thus, we can say that traditional economic and industrial approaches are often incompatible with sustainable development. A basic question today therefore is not whether to choose between industrialisation and environment. The question now revolves around selecting patterns of development that improve the quality of environment. International economic cooperation is vital in this context. However, this desirable outcome will not be achieved unless nations recognise the crucial relationship between sound environmental management and international economic development. What is required is a more integrated approach towards evolving an international environment system, which responds adequately to the development needs of the third world countries in the context of growing environmental despoliation.

Growth and economic well-being are essential pre-requisites for prosperity and this in turn depends on the implementation of policies and programmes that envisage sustainable development (improved environment). We need to remember

what Mahatma Gandhi, observed nearly hundred years ago, that there is enough in nature to meet the human need but not human greed. It can be reiterated for all times to come. Sustainable development is indeed a significant force to meet human needs and aspirations in context of growing environmental crises.

1.7 GLOSSARY

Biodiversity: It means the vast variety of life on earth. It refers to everything including plants, bacteria, animals and humans.

Deforestation: Permanent removal of trees to make way for developmental activities.

Development: It is a process of improving the well-being of the people. It is about raising the standard of living of the people, improving their education and health, and also giving them new and equal opportunities for a richer and more varied life.

Sustainability: It means meeting the present needs without compromising the ability of future generations to meet their own needs.

Environment: It is the sum total of all social, biological, physical or chemical factors, which compose the surroundings of a human being.

1.8 REFERENCES

Baumol, W.J. & Benhabile, J. (1984). Chaos: Significance, Mechanism, and Economic applications. *Journal of Economic Perspective*. 3(1), 77-105.

Ciriacy-Wantrup. (1952). *Resource Conservation: Economics and Policies*. Berkeley and Los Angeles: University of California Press.

Dasgupta, P. & Maler, K.G. (1990). The Environment and Emerging Development Issues Proceedings of the World Bank, *Annual Conference on Development Economics*. Washington: World Bank.

Dasgupta, P. (1993). *An Enquiry into Wellbeing and Destitution*. Oxford: Clarendon Press.

Kothari, A. (1993). Is Sustainable Development Desirable and Possible? *The Indian Journal of Public Administration*. 39(3), 249-253.

Redclift, M. (1987). *Sustainable Development*. London: Methuen.

World Bank. (1992). *World Development Report 1992, Development and the Environment*. New York: Oxford University Press.

World Commission on Environment and Development (WCED). (1987). *Our Common Future. The Brundtland Report, World Commission for Environment and Development*. Delhi, India: Oxford University Press.

1.9 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress 1

1. Your answer should include the following points:

- The legacy of the term ‘sustainable development’ is attributed to the Report titled ‘Our Common Future’.
- It means development that meets the needs of the present without compromising the needs of the future.
- The idea of sustainable development goes far beyond environmental protection.
- It takes into view qualitative and quantitative changes in the economy.
- It focuses on environmental analysis and environmental decay.
- It addresses the questions of equity, justice and peace.

2. Your answer should include the following points:

- Adopting the principle of sustainable development would require a change of thinking.
- There is a need to avoid overexploitation of critical environment zones.
- There is a need to check the growth of population.
- There is a need to maintain the population balance of livestock.
- Need to control land alienation.
- Need to maintain ecosystem.
- Need to sustain biosphere diversity.

Check Your Progress 2

1. Your answer should include the following points:

- Social dimension.
- Economic dimension.
- Environmental dimension.
- Institutional dimension.

2. Your answer should include the following points:

- Conservation of Ecosystem.
- Sustainable development of society.
- Conservation of biodiversity.
- Population control.
- Preservation of human resources.
- Encouraging citizens’ participation.
- Promotion of international coordination.
- Minimising the release of Greenhouse Gases.
- Eco-friendly construction practices.
- Containing the rate of consumption.

UNIT 2 MAJOR COMPONENTS OF SUSTAINABLE DEVELOPMENT*

Structure

- 2.0 Objectives
- 2.1 Introduction
- 2.2 Components of Sustainable Development
- 2.3 Social Components of Sustainable Development
- 2.4 Economic Components of Sustainable Development
- 2.5 Environmental Components of Sustainable Development
- 2.6 Conclusion
- 2.7 Glossary
- 2.8 References
- 2.9 Answers to Check Your Progress Exercises

2.0 OBJECTIVES

After reading this Unit, you should be able to:

- Describe the social components of sustainable development;
- Discuss the economic components of sustainable development; and
- Examine the environmental components of sustainable development.

2.1 INTRODUCTION

Sustainable development came into operation when Development Administration failed to deliver as per the changing economic and social environment. Sustainable development would never have reached where it has now, if Development Administration had not happened and it can be considered as a facilitator of sustainable development. The word ‘sustainable use’ was first used by Hanns Carl VonCarlowitz in his publication “nachhaltendenutzung” on sustainable forestry. Subsequently, the concept of sustainable development was introduced in the Brundlandt Report by the United Nations Environment Commission, chaired by Gro Harlem Brundlandt, the then Prime Minister of Norway. The concept was conceived with environment as its basic premise. Sustainable development was defined as ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’. We know this by now that this Report came to be popularly known as the Brundlandt Report, that has *two* main concepts that are fundamentally tied to the process of sustainable management of the earth’s resources:

- 1) **The Basic Needs of Humanity:** The needs of food, clothing, shelter and jobs must be met. This involves, first of all, paying attention to the largely unmet needs of the world’s poor, which should be given overriding priority.

* Contributed by Dr. Anupama Puri Mahajan, Former Post-doctoral Fellow, Department of Public Administration, Himachal Pradesh University, Shimla

- 2) **Limits to Development:** The limits to development are not absolute, but are imposed by present states of technology and social organisation and by their impact upon environmental resources and the biosphere's ability to absorb the effects of human activities. The technological and social organisation can be both managed and improved to make way for a new era of economic growth.

The 1992, United Nations Conference on Environment and Development held in Rio de Janeiro, Brazil, attracted the attention of the governments, international agencies and non-governmental organisations around the world. The Agenda 21 adopted at the Conference represents a global consensus and political commitment at the highest level on the socio-economic development and environmental cooperation. The components of sustainable development are economic, social and environmental. The term, sustainability refers to the bridging of the gap between development and environment keeping in view these components. In this Unit, the three components of sustainable development will be discussed in detail.

2.2 COMPONENTS OF SUSTAINABLE DEVELOPMENT

The components of sustainable development are also called its *three* pillars, which must be considered together: the society, the economy and the environment. The basic idea is the interrelationship among the people, habitats and economic systems. We depend on the environment for our existence. It provides us with soil, food, water, oxygen, etc. Our populations would not know how to survive without these basics of life. A healthy biosphere builds a stable society without which there would be unrest, poverty and disease. The social well-being and economic well-being will feed off each other. The Agenda 21 is a 900 page document, which focuses on the following *four* domains to strengthen the three pillars of sustainable development:

- i) **Social and economic dimension:** Fighting poverty and promoting sustainable urban planning.
- ii) **Conservation and management of resources:** Safeguarding the oceans' fisheries and combating deforestation.
- iii) **Major groups:** Strengthening the role of major groups like women, local governments and NGOs; and
- iv) **Means of implementation:** Transferring environmentally-sound technology.

Sustainable development is hence a process of change rather than a means for the study and analysis of relationships, in order to identify solutions. It is a conceptual framework, a process and an end goal all at the same time.

2.3 SOCIAL COMPONENTS OF SUSTAINABLE DEVELOPMENT

In the first Unit, we have mentioned about the social, economic and environmental components or dimensions of sustainable development. In this Unit, we will study them in further detail. The social components include the social as well as the human elements needed to achieve sustainability. It aims at building socio-

cultural stability and preventing the social ills of alienation in our times. The common masses are frustrated cause of lack of job satisfaction and understanding of the nature of their work. There are no absolute values in an age of relativism and the unpredictability of the future due to diseases is writ large. The globe has seen a number of viruses like Ebola, Zika, SARS, MERS, swine flu and now COVID-19. Social sustainability comprises of issues like social equity, health equity, community development, human rights, social responsibility and labour rights. In a way, all domains of economy and environment are also social because they affect the society. Socially sustainable societies are equitable, diverse, connected, and democratic with an aim of providing a good quality of life.

Dimensions of Social Sustainable Development

Since the three pillars of sustainable development were defined, the world has come a long way. The United Nations formulated 17 Sustainable Development Goals (SDGs) in 2015, covering most of the relevant areas to which 193 member nations have pledged their support. The United Nations Research Institute for Social Development (UNRISD) developed a programme on social dimensions of sustainable development, which focuses on understanding, analysing and engaging with processes of policy change that could tackle unsustainable practices, climate change and inequalities. It entails attention to the intersectionality of social, environmental and economic issues at different levels in support of the 2030 Agenda for sustainable development.

Amartya Sen has specified *four* dimensions of social sustainability:

- i) **Quality of Life:** It comprises of various elements like affordable housing, physical and mental medical support, education and training opportunities, employment opportunities, access to safety and security. Quality of life directly refers to the well-being of individuals in a society. Development is considered as freedom because the right to basic amenities of life leads one to freedom, whether it is freedom from poverty, sickness or illiteracy. Development is an integrated process of expansion of substantive social, political and economic freedoms that connect one another. Some *aspects of the quality of life* that must be considered are given below:
 - **Personal Heterogeneities (Differences):** Different individuals have specifically different characteristics like age, gender, illness or disability, which makes their needs unique. Some problems may not be addressed with equity as desired.
 - **Environmental Diversity:** The needs of individuals vary due to the environmental conditions that they are affected by, like cold weather, hot weather or rainfall. Pollution or adverse environmental conditions change the quality of life of people.
 - **Social Climate:** Crime, violence, educational facilities, community relationships and public facilities affect the level of social capital, which influences the quality of life.
 - **Relational Aspect:** Quality of life is influenced by the relationships prevalent in the community, which are based on culture, customs and norms. Clothing, behaviour, self-respect are some indicators, which determine how a person lives in a community.

- **Income Distribution:** The income distribution within a family affects the well-being or the freedom of the family members.

There are numerous factors that affect the quality of life in a society, but it is very important to constantly make efforts towards improving it so that human development is achieved. The issues that are faced in doing so are financial conservatism, that is, the will to provide funding for social benefits. Most of the government budgets facilitate military expenses instead of spending more on literacy or health.

- ii) **Equality and Diversity:** Sustainable development (SD) has raised the levels of indicators formulated to measure the sustainability of developmental process of each country region-wise by international agencies like the UN, but it has raised the levels of inequalities between the rich and the poor. The disadvantaged and the poor have increased in number all over the world. The Agenda 21 has made the developed countries give a 0.15 per cent of their Gross Domestic Product or GDP to the developing and underdeveloped (less developed economies). However, the maximum they have been giving is merely 0.7 per cent of their GDP. If the percentage of aid is increased, it is believed that it will considerably decrease poverty globally.

Equality dimension leads to the next social dimension of diversity because the disadvantaged sections of society belong to diverse groups of populations. Nations must determine solutions to reduce the imbalance among diverse groups to help the vulnerable. For example, India has a reservation quota system, which makes provision to educate the disadvantaged and provide employment to them.

- iii) **Social Cohesion:** Social cohesion in a society means that the society works towards the well-being of the people. Well-being can be achieved through easy access of people to the public institutions to avail benefits, so that they can also contribute to the society. For example, if people get registered on the employment exchange of the government, they can avail employment opportunities. Some of the important issues that need attention in order to have social cohesion within any group are:

- The sense of belonging of a group in the broader community;
- The level of participation of the group in social activities;
- The understanding of and access to public and civic institutions; and
- Contribution of the group to the society.

- iv) **Democracy and Governance:** Social sustainability can be better achieved in a nation that follows democratic governance. The programmes made by the government require appropriate budget and resources, which can easily be possible in a democratic society.

Amartya Sen was categorical about individuals having needs, but the fact cannot be ignored that they also have values. Generations that were mentioned in the definition of SD cannot be considered as having homogeneous tastes or preferences. Social issues, however, cannot be separated from economic or environmental concerns. The present world has become one of possessive individualism with agreements among countries for trade like the General

Agreement on Trade and Services and the Trade in Intellectual Property Rights. International organisations are working for development. but in the name of liberalisation of trade, communities are disintegrating; resulting in loss of capability and capacity. This concern has given rise to the emergence of concepts of collective rights over common resources of water distribution and vegetation.

Check Your Progress 1

Note: i) Use the space given below for your answers.

ii) Check your answers with those given at the end of the Unit.

1. Write a short note on the different components of sustainable development.

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2. Describe the dimensions of social sustainable development.

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2.4 ECONOMIC COMPONENTS OF SUSTAINABLE DEVELOPMENT

Development became a major concern of the developed nations after the second half of the twentieth century, when most of the nations had achieved freedom from the imperial forces like UK, Japan, Spain and Germany. Economic development was a popular policy agenda across the world and as an offshoot, development economics emerged as a new discipline. It broadly focussed on the social, economic and political issues encountered in the development process. Globally, most countries have made progress in Gross Domestic Product or GDP and Human Development Index (HDI). However, there has been some negative growth also in Africa. The problems lie in:

- The rising income inequalities and negative impact of development on environment; and
- The existing social structures.

Development has come at a very high cost, which involves environmental degradation, displaced people, loss of cultural and traditional heritage. The high environmental and social costs have negated the economic gains. Now, people are becoming aware of these adverse effects of development, which have resulted in numerous protests across the globe. The pressure on the industry and governments has led them to re-think policy and strategy that could lead to sustainable development. Let us try to understand the economic component of sustainable development through the following factors:

- **Exponential Era**

Climate change is not the only environmental concern of the 21st century. The next 30-40 years would have to face worse problems due to the massive and exponential increase in the population across the world. Water, food shortages and poverty would lead to crises of loss of world's ecosystems, species, and the state of the oceans. The 21st century is a world of rapid changes, especially in the financial sector. The slightest of events in one corner of the world sends the global economy either into a freefall or an unexpected boom. Frequent fluctuations in oil prices sends economies into turbulence.

This has an imminent effect on the society as well. The statistics of poor people who cannot afford even one square meal a day astounds us and all efforts to arrest the situation remain unfruitful. The shocking and growing inequality between the rich and the poor is worsening the case of poverty alleviation. Poverty affects the social and environmental components equally because the poor cannot find sustainable livelihoods. They rely on the natural resources like wood for fuel, and fish to survive etc., putting more burden and pressure on the planet. Additionally, the problems of terrorism, unprecedented street violence, Covid pandemic, AIDS, food security and nuclear proliferation have precipitated the problem exponentially.

- **Role of Industry**

Large private industries have the capacity in the areas of technology, know-how, finance, and politics and can be instrumental in achieving sustainable development. They have the ability to deploy human resources that can think of sustainable solutions to the production of goods and services. The more sustainable options the people get, the more they would become aware and opt for them. They can work out solutions to keep their organisations profitable and contribute to keep the ecosystems viable. Corporate Social Responsibility is one such solution.

- **Economic Sustainability**

An economically sustainable system must be able to produce goods and services on a continuing basis to maintain manageable levels of government and external debt, and to avoid extreme sectoral imbalances, which damage agricultural or industrial production. Broadly speaking, sustainability can be defined as the maximisation of welfare over time from an economic perspective. Human welfare includes adequate access to food, clothing,

housing, transportation, health and education services etc. This definition simplifies the concept of economic sustainability to a measurable single-dimensional indicator although it has many complexities from a reductionist (simplistic) point of view.

Sustainable development can be operationalised in terms of conservation of natural capital with respect to renewable and non-renewable resources given below:

i) Renewable Resources: Resource consumption can be limited to sustain the yield levels. The proceeds from non-renewable resource exploitation must be re-invested into renewable natural capital. This would help in maintaining a continuous reserve of natural capital. Another point of view is to trade-off economic development with the depletion of natural resources. This view does not talk about conservation but emphasises the fact that if the economic value of progress, for example, building factories by cutting forests, is more than the loss of losing forest land, then it is economically sustainable. However, this viewpoint does not hold well with the sustainable development that the planet requires. Hence, the application of a safe minimum standard can help in the protection of natural resources. The society can formulate regulations regarding the magnitude of the impact of natural resources beyond a limit of cost and irreversibility.

ii) Economy Theory and Policy: Government must consider the following *three* essentialities to achieve sustainability:

- Moral imperatives;
- Public decision-making; and
- The formation of social values.

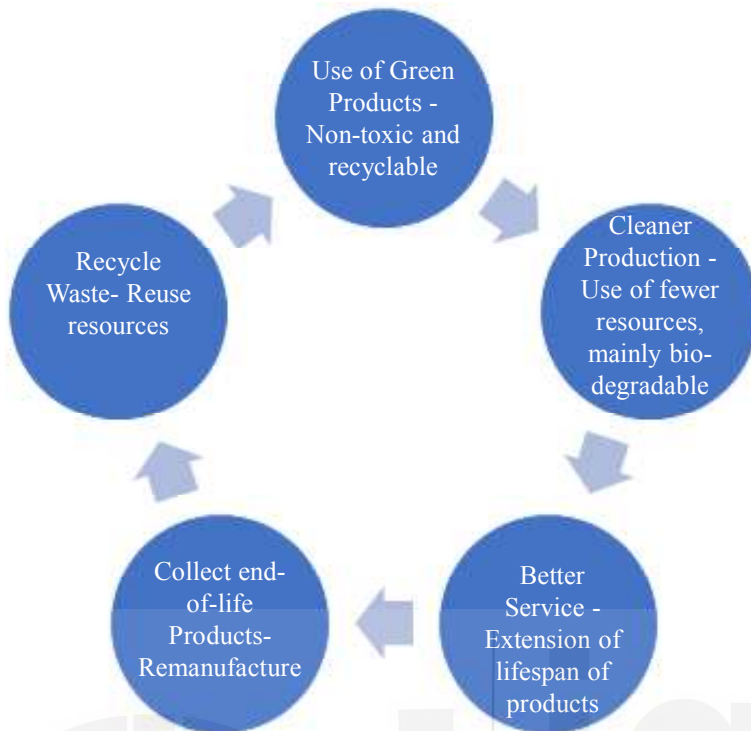
In an economic theory, market and pricing hold an important position, but the end goal can be planned by a social decision-making process. The present markets are seeing a surge in sustainable and circular economy.

iii) Circular Economy: In a circular economy, waste and pollution do not exist by design, products and materials. Natural materials are used in the production of goods, which are regenerated by natural systems. It uses green financing, which means that the governments use innovation; restructure critical sectors; and accelerate existing environmental plans; etc. Circular economy and sustainability differ in the fact that the former focusses on the environmental performance improvements rather than taking a holistic view of the three components: social, economic and environmental. Sustainability takes into account all the three aspects.

There are more than a hundred definitions of circular economy with different meanings for different stakeholders, but the common factor in all of them is the '3Rs'. Circular economy employs the three tenets of 'R', that are: reduce, reuse and recycle. These refer to reducing the use of plastic and other non-biodegradable substances, reusing products and recycling them. There are various examples of '3Rs' strategy like dropping your clothes into some designated places so that they can be recycled by washing and shredding process and shaped into new clothes. The same is the case with mobile phones, which can be refurbished by saving the workable parts and making new phones. It can be best explained in the figure given below:

CIRCULAR ECONOMY

Major Components of Sustainable Development



Source: Contributor's own compilation

The figure given here explains how economy can be environmentally responsible and positively affect societies. The three components are interrelated for the continued existence and well-being of the human race. Everybody wins because natural resources are preserved; the economy becomes resilient and social life improves because of maintenance of peace and human rights. When societies are economically viable, people understand other issues like environmental concerns and social well-being in a better way. Hence, economic sustainability decisions are made in the most equitable and fiscally sound way.

Core Principles of Sustainable Livelihood

A livelihood is sustainable when it can cope with and recover from the stresses and shocks or enhance its capabilities and assets both now and in the future, without undermining the natural resource base. It is important to develop effective local institutions that deliver goods and services, which include government agencies, civil society organisations and the private sector. Community capacity-building and institutional strengthening are two major efforts in creating sustainable livelihoods. It has been recommended under the programme of achievement of Sustainable Development Goals or SDGs that a Sustainable Livelihoods Framework must be conceptualised in a holistic way by every government.

The Department for International Development's Sustainable Livelihood approach has developed a poverty focused development framework, which is based on the following core principles:

People-centred: There must be an understanding of the issues that concern the people most, keeping in view the following points:

- i) Differences between various groups of people;
- ii) Alignment of the framework of sustainable livelihoods with the culture of people; and
- iii) The ability of the people to adapt.

Responsive and Participatory: The community must be determined to become participants in the exercise of prioritising livelihoods. The external agencies, which execute the framework of sustainable livelihoods should use established processes to be responsive to the poor.

Multi-level: Elimination or reduction of poverty is a gigantic task, which can only be carried out at micro as well as macro levels. Micro-level includes activities that will provide sustainable livelihoods, while the macro-level comprises of structures and processes that will enable people to build their capacities and abilities accordingly.

Partnership: Public sector cannot succeed in formulating plans for sustainable livelihoods on its own, but has to work in partnership with the private sector and non-governmental organisations.

Dynamic: This is an age of rapidly changing world and the government agencies must be dynamic to respond to such changes. They need to keep in mind the changing needs of the people, which require a continuous scrutiny and amendments in the framework and policies.

Sustainable: Since the issue under study is sustainable livelihoods, the focus must be on the term 'sustainable'. There are *four* key dimensions that make livelihoods sustainable, which are – economic, institutional, social and environmental.

These principles must be kept in mind while formulating the framework of sustainable livelihoods.

Sustainable Corporate Responsibility

The private sector can be a major player in working towards sustainable development by implementing sustainable policies as a part of their social corporate responsibility. Local communities can be engaged in programmes and activities that are concerned with the sustainability of the planet, for example cleaning drives of lakes and rivers in their areas or planting of trees. They can reap the benefits of good image or goodwill in place of publicity campaigns by displaying their banners sponsoring the event. The philanthropic aspect of the corporate social responsibility can be taken advantage of in making strategies regarding climate change and sustainability.

Regulations and Corruption

The governments make laws and regulations regarding environment but the less developed economies do not have the capacity for enforcement. Corruption also hinders the efforts towards environmental protection, as it helps the industrialists to have access to the permits and licenses. Corruption hinders the global sustainable supply chains resulting in fake data and disruption in the supply of the sustainable end-product. For example, in the health sector, medicines that

are supposed to be given for free to patients belonging to the poor sections of the society are sold in the black market, while the patients have to buy out of their own pockets, which they can seldom afford. Hence, health and well-being are at risk if corruption in public health institutions is not urgently addressed.

Without meaningful action against corruption, progress towards the achievement of other goals of sustainable development would become extremely limited, especially economic growth would suffer. Corruption thrives more in countries where transparency, accountability and institutions are weak. It undermines the legitimacy and trust of people in public institutions, while adversely impacting the delivery of public services and goods. These conditions are relevant to the achievement of economic sustainability. Many international agencies like the Asian Development Bank (ADB), Organisation for Economic Coordination and Development (OECD), Transparency International and the World Economic Forum have made anti-corruption strategies. They have developed the corruption perception index to rank countries on the level of corruption, so that they can be pushed to implement their anti-corruption policies and strategies.

2.5 ENVIRONMENTAL COMPONENTS OF SUSTAINABLE DEVELOPMENT

The *third* component of sustainable development is the environment, which is being damaged due to the adverse effects of economic growth and social inequalities. The three components overlap each other because they are closely interrelated. Cheap fossil energy (coal, petroleum and natural gas) has undoubtedly led to economic growth at a high speed, but as a result has damaged the environment by producing billions of tonnes of Greenhouse Gases (GHGs). This is one of the major causes of climate change in the present times. Originally, the **Johannesburg Plan of Implementation for Sustainable Development** emphasised on:

- The sustainable use of biomass and energy;
- Changing the unsustainable patterns of consumption and production, especially in developed countries;
- Moving towards cleaner production and eco-efficiency;
- Inclusion of private companies and authorities;
- Focal areas include transport, waste and chemicals;
- Protecting and managing the natural resource base of economic and social development;
- Improvement of health infrastructure to deal with the adverse impact of environmental damage;
- Integration of economies and societies in a globalising world;
- Assisting Small island (developing) states with technology, capacity-building; coastal biodiversity etc.
- Regional efforts in Africa and Latin America; and
- Means of implementation and institutional framework upgradation.

Growth and Environment

The Brundtland Report of the World Commission on Environment and Development (1987) drew our attention to the interconnection between sustainable development and poverty reduction; with latter being a condition for environmental protection and an input towards sustainable development. There is an integrated relationship between sustainable development and environment, which determines the ways to minimise the adverse effects of human activities on environment. Sustainable ecological perspective refers to eco-development, which will help in safeguarding the biosphere, that is, the biodiversity; improve the quality of life and protect the environment. There are *three* basic facts that guide eco-development :

- Human economic activity is carried out in a larger ecosystem, but the side-effects are pollution and natural resource depletion;
- The exponential growth in population is the second factor in the depletion of the natural causes and increase in the waste-volume; and
- Environmental changes are irreversible as a result of economic development.

Hence, sustainable development requires the integration of environmental concerns into socio-economic decision-making. Policy-making in the public sector is employing the indicators of the impact of environment, for example, in the construction of highways, the private stakeholder is asked to plant trees or flowers on the divider. This can be called a trade-off between development and environment.

Integration through Sustainable Development Goals (SDGs)

The 2030 Agenda for sustainable development strives to achieve sustainable development in its three dimensions – economic, social and environmental; in a balanced and integrated manner. The UN Economic and Social Commission for Asia and the Pacific (ESCAP) emphasises the need for *four* policy shifts to promote integration:

Fundamental Policy: The basic conditions of social justice and ecological sustainability must become fundamental policy objectives, rather than marginal objectives.

Long-term Benefits: There must be a shift from a predominantly short-term policy horizon to one that seeks long-term benefits for all.

Replacement of GDP: A focus on Gross Domestic Product (GDP) as a measure of progress should be replaced by metrics that encompass the three dimensions of sustainable development.

Limited Resources: Public policy must recognise that the resources of the planet are not limitless and that resource constraints cannot always be addressed by technology.

These type of policy shifts will address the issues in public decision-making regarding the implementation policies for SDGs. If these shifts in policies are not taken into account, then negative externalities in form of pollution, emissions, waste and social clashes manifest themselves. However, this can be done only

by strengthening institutional frameworks and capacity-building in the government sector. Political commitment and an inclusive vision for the future can lead to sustainable development. The challenges that are being faced by governments are agenda setting; policy formulation; policy implementation; and policy monitoring and evaluation.

Input-output analysis has been used as a quantitative and analytical framework suitable for integrating the social, economic and environmental dimensions of investment, trade and related economic activity. The inputs are the natural resources and capital, while the output are the goods and services produced. The balance between the two will result in this type of integration to achieve the SDGs. Countries like New Zealand have been using the integrated approach, which includes multiple indicators.

Check Your Progress 2

Note: i) Use the space given below for your answers.

ii) Check your answers with those given at the end of the Unit.

1. Write a short note on the economic components of sustainable development.

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2. Examine the importance of circular economy in sustainable development.

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3. Describe the environmental components of sustainable development.

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2.6 CONCLUSION

Sustainable development can be achieved through the integration of its three components or dimensions namely economic, social and environmental. Many development agencies are adopting green economy models, which focus on

sustainable development so that human economy and society operate within defined ecological limits. Qualitative scenarios are a novel way to address the issue of sustainable development, as they are participatory, focused on alternatives and facilitative of inputs for quantitative analyses. For example, scenarios created to explore the future of food production and access to food may include technologically feasible assumptions about closing yield gaps and increased irrigation, water use efficiency, assumptions about demographic transition, human capital development (increased access to education and rates of economic growth in developing countries and assumptions about particular levels of global warming). The governance processes have started including the concept of sustainability in their policies and budgets. The Union Budget of India formulates its budget as per the guidelines established by 17 SDGs and the states also follow suit in their budget formulations. This Unit described some of these pertinent factors and issues.

2.7 GLOSSARY

Agenda 21: The Agenda 21 is a 900 page document, which focusses on certain domains to strengthen the three pillars of sustainable development: social and economic dimension; conservation and management of resources; major groups; and the means of implementation.

Exponential Era: This is an exponential era because the next 30-40 years will face worse problems due to the massive and exponential increase in the populations across the world. Water and food shortages; and poverty will lead to crises such as loss of world's ecosystems, and species.

General Agreement on Trade and Services: It is a Treaty of the World Trade Organisation (WTO), which was implemented in January 1995. The Treaty was created to extend the multilateral trading system to service sector.

Personal Heterogeneities (Differences): Different individuals have specifically different characteristics like age, gender, illness or disability, which makes their needs unique.

Quality of Life: It comprises of various elements like affordable housing, physical and mental medical support, education training opportunities, employment opportunities, access to support and safety and security. Quality of life directly refers to the well-being of individuals in a society.

Social Cohesion: Social cohesion in a society means that the society works towards the well-being of the people irrespective of their social status.

Sustainable Development: Sustainable development has been defined as 'development that meets the needs of the present, without compromising the ability of future generations to meet their own needs'. It is the most popular definition given by Brundtland Report.

Sustainable Development Goals: The United Nations has formulated 17 Sustainable Development Goals (SDGs) in 2015, covering most of the relevant areas to which 193 member nations pledged their signatures and support.

Sustainable Livelihoods: A livelihood is sustainable, when it can cope with and recover from the stresses and shocks of environment or enhance its capabilities

and assets, both now and in the future, without undermining the natural resource base.

Trade in Intellectual Property Rights: It establishes minimum standards for the availability, scope and use of seven forms of intellectual property, namely copyrights, trademarks, geographical indications, patents etc.

2.8 REFERENCES

Bawa, K.S. & Seidler, R. (2009). *Dimensions of Sustainable Development*. Oxford: EOLSS Publishers.

Corona, B., Shen, L., Reike, D., Carreon, J.R. & Worrel, E. (2019). Towards Sustainable Development through the Circular Economy – A review and critical assessment on current circularity metrics. Retrieved from <https://dspace.library.uu.nl/handle/1874/385098>

Duran, D.C., Gogan, L.M., Artene, A. & Duran, V. (2015). The Components of Sustainable Development – A Possible Approach. *Procedia Economics and Finance*. 26, 806-811.

Frankenberger, T.R. (n.d.). A Brief Overview of Sustainable Livelihoods Approaches. Retrieved from [http://www.fao.org/3/X9371e/x9371e22.htm#:~:text=Sustainable%20livelihood.,base%20\(Chambers%20%26%20Conway\)](http://www.fao.org/3/X9371e/x9371e22.htm#:~:text=Sustainable%20livelihood.,base%20(Chambers%20%26%20Conway))

Hardisty, E. P. (2010). *Environmental and Economic Sustainability*. CRC Press.

Higgins, L.K. (2015). *Economic Growth and Sustainability – Systems Thinking for a Complex World*. Elsevier Inc.

<https://www.sciencedirect.com/science/article/pii/S0921344919304045>

Labelle, H. (2009). Anti-Corruption and the Sustainable Development Platform. Retrieved from <https://www.oecd.org/site/adboecdanti-corruptioninitiative/meetingsandconferences/44442140.pdf>

Mahajan, A.P. (2019). *Development Administration*. New Delhi, India: Sage Publishers.

Meo, B. (2020). How can the Circular Economy Support Sustainable Development? Retrieved from <https://plana.earth/academy/how-can-the-circular-economy-support-sustainable-development/>

Rogers, P.P., Jalal, K.F. & Boyd, J.A. (2008). *An Introduction to Sustainable Development*. Glen Educational Foundation, Inc.

Rubio, D.F. & Andvig, E. (2019). Serious about Sustainability? Got serious about corruption. Retrieved from <https://www.weforum.org/agenda/2019/09/serious-about-sustainability-get-serious-about-corruption/>

Sen, A. (1999). *Development as Freedom*. Delhi, India: Oxford University Press.

UNESCAP. (2015). Integrating the Three Dimensions of Sustainable Development. A Framework and Tools. Retrieved from <https://www.unescap.org/>

2.9 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress 1

1. Your answer should include the following points:

- Sustainable development came into operation when Development Administration failed to deliver with regard to the changing economic and social environment.
- The Brundtland Report has two main concepts, which are fundamentally tied to the process of sustainable management of the earth's resources:
 - i) The Basic Needs of Humanity
 - ii) Limits to Development
- The term, "sustainability" refers to bridging the gap between development and environment.

2. Your answer should include the following points:

- The social component includes the social as well as the human element to achieve sustainability, with an aim to build socio-cultural stability and prevent the social ills of alienation in our times.
- Dimensions of Social Sustainable Development include:
 - i) Quality of Life
 - ii) Equality and Diversity
 - iii) Social Cohesion
 - iv) Democracy and Governance

Check Your Progress 2

1. Your answer should include the following points:

- The pressure on the industry and governments has led them to re-think about the policy and strategy that can lead to sustainable development.
- Climate change is not the only environmental concern in the 21st century. The next 30-40 years will face worse problems due to the massive exponential increase in the populations across the world. Water and food shortages; and poverty will lead to crises of loss of world's ecosystems and species.
- Large private industries have the capacity in the areas of technology, know-how, finance, and politics. They can be instrumental in achieving sustainable development. They have the ability to employ human resources who can think of sustainable solutions in the production of goods and services.
- An economically sustainable system must be able to produce goods and services on a continuous basis to maintain manageable levels of government and external debt, and avoid extreme sectoral imbalances, which damage agricultural or industrial production.

- The government must consider certain essentialities to achieve sustainability: moral imperatives, public decision-making, and the formation of social values.

2. Your answer should include the following points:

- In a circular economy, waste and pollution do not exist by design, products and materials. Natural materials are used in the production of goods, which are regenerated by natural systems. It uses green financing, which means that the governments use innovation; restructure critical sectors; accelerate existing environmental plans, etc.
- Circular economy employs the three tenets of 'R' - that are reduce, reuse, and recycle. It refers to reducing the use of plastic; reusing products and recycling them.

3. Your answer should include the following points:

- A major component of sustainable development is environmental protection, which is being damaged due to the adverse effects of economic growth and social inequalities.
- Emphasis of Johannesburg Plan of Implementation for sustainable development with regard to the environmental component.
- Growth and environment.
- Integration through Sustainable Development Goals.

UNIT 3 APPROACHES TO SUSTAINABLE DEVELOPMENT*

Structure

- 3.0 Objectives
- 3.1 Introduction
- 3.2 Status Quo Approach
- 3.3 Community Capacity Building Approach
- 3.4 Industrial Sector Approach
- 3.5 Integrated Systems Approach
- 3.6 Human Development Approach
- 3.7 Green Accounts Approach
- 3.8 Conclusion
- 3.9 Glossary
- 3.10 References
- 3.11 Answers to Check Your Progress Exercises

3.0 OBJECTIVES

After reading this Unit, you should be able to:

- Explain the Status Quo Approach;
- Discuss the Community Capacity Building Approach;
- Examine the Industrial Sector Approach;
- Describe the Integrated Systems Approach;
- Elucidate the Human Development Approach; and
- Bring out the relevance of Green Accounts Approach.

3.1 INTRODUCTION

Although Sustainable Development (SD) concept was conceived in the 1970s, it became the central point of development discourse with the World Commission on Environment and Development in 1987 (WCED or the Brundtland Commission), and its Report on *Our Common Future*, culminating in Sustainable Development Goals (SDGs) in 2015.

In 1992, SDGs were defined by the UN, but the nations were mostly unsuccessful in moving towards their achievement. The world leaders came together in 2012 and developed the framework to achieve Millennium Development Goals (MDGs), but they could not set an agenda for achieving any Sustainable Development Goals. We will deal with the SDGs in detail in our next Unit. The High-Level Panel on Global Sustainability developed a framework of universal principles of SD, which are given below:

* Contributed by Dr. Anupama Puri Mahajan, Former Post-doctoral Fellow, Department of Public Administration, Himachal Pradesh University, Shimla

- It should be universal in character, covering challenges faced by all countries rather than just developing nations.
- It should express a broadly agreed global strategy for sustainable development.
- It should incorporate a range of key areas that were not fully covered in the MDGs.
- It should be comprehensive, reflecting all the three dimensions of SD.
- It should incorporate near-term benchmarks while being long-term in scope, looking ahead to a deadline of perhaps 2030.
- It should engage all stakeholders in the implementation and mobilisation of resources.
- It should provide scope for the review of these goals in view of evolving scientific evidence (UN, 2013).

In 2015, The UN laid down 17 SDGs under which 169 indicators have been developed for the nations to follow. 193 member nations pledged to work under the umbrella of these SDGs, of which India is also a participating member. This Unit deals with the approaches to SD under which there are numerous approaches, but only the major ones will be dealt in this Unit.

3.2 STATUS QUO APPROACH

The supporters of the Status Quo approach believe that there is no need for making any fundamental changes, as there are no such problems that are impossible to solve. Although changes are required, which can be made by making adjustments, there is no imperative need to change the means of decision-making or power relations (Hopwood, *et al.*, 2005). This is based on the human tendency of sticking to what they know and their general resistance to change. Another factor that contributes to status quo is the lock-in mechanisms that the existing systems have for stabilisation. Selecting from alternatives becomes difficult because of the inertia generated by the growing benefits through an ongoing activity. The fundamentals in this approach are:

- More growth will lead to SD and support the decision of the governments to reduce the progressive nature of taxation.
- Business is the driver to sustainability.
- The best means to achieve SD are increased information; changing values; new technologies and innovations.
- Markets will use sustainable processes to produce goods and services by employing changes in taxation and subsidies by being well-informed.
- The reduced role of governments will lead to the emergence of green capitalists who will indulge in corporate citizenship and ethical business to achieve SD.
- Increase in good governance on the one hand, and reduction in corruption on the other will help in reaching closer to sustainability.

- Techniques like EIA (Environmental Impact Assessment); EMAS Eco-Management and Audit System); BATNEEC (Best Available Techniques not Entailing Excessive Costs); and Cost Benefit Analysis (CBA) can help in attaining SD.

The supporters of Status Quo approach have not been known as having strong commitment to environmental sustainability, as they think of technology as a replacement for nature. Although this approach has been acknowledged by the World Bank as an approach to reduce poverty, it does not talk about a strong shift in policy approach for SD.

3.3 COMMUNITY CAPACITY BUILDING APPROACH

The Community Capacity Building or the CCB approach proposes skill-development and increase in knowledge base in the populations living below the poverty line. They need to be enabled with skill and knowledge to become gainfully involved in a community so that they can contribute to the society. SD caters to the majority of rural population and the ABCD Model of the Ford Foundation aims at –Acquire, Develop, Improve or Transfer across generations – the building of assets. Given below are *three* main areas in the CCB approach, where the ABCD Model can be applied:

- i) **Resources:** The financial holdings; natural resources (forests, wildlife); and the livestock can provide sustainable livelihoods. They have cultural and environmental importance in cleansing, recycling and renewing air and water (UN, 2013).
- ii) **Social Bonds:** The social bonds and community relationships encourage investment of the community in providing support to the poor.
- iii) **Human Assets:** The human assets refers to the skills in the individuals, which can get them employment and wages in the rural areas.

Under this Model, many activities and programmes have been successfully launched in which sustainability drives have been carried out, for example to organise a cleaning drive by paying out of a small donation to the street people who bring empty cans and plastic bottles. This serves two purposes, that is of sustainability as well providing for the poor. This kind of participatory CCB approach has helped the rural poor around the world, while integrating the three dimensions of sustainable development -social, economic and environmental.

In the *New Agenda* published by the United Nations regarding the SDGs, it has been clearly stated that the most vulnerable must be empowered. Those whose needs are reflected in the Agenda include all children, youth, persons with disabilities (of whom 80 per cent live in poverty), people living with HIV/AIDS, older persons, indigenous peoples, refugees and internally displaced persons and migrants (UN, 2015). The implementation of the SDGs will require a global partnership by involving the governments, private sector, the UN system and the civil society. The *New Agenda* also stated that the UN will work with the local authorities and communities to renew and plan our cities and human settlements,

so as to foster community cohesion and personal security and to stimulate innovation and employment.

3.4 INDUSTRIAL SECTOR APPROACH

The Industrial Sector approach, commonly referred to as Industry approach implies that the Industry or Business has an important role in addressing the implementation and achievement of the SDGs. Industrial Sector Approach falls under the integrated systems approach in a way because the three components of SD have to be achieved simultaneously. Even if one component is neglected, it will have an adverse impact on the other two thereby negating the positive impact. The private sector has been highlighted as a partner with the potential to contribute in multiple ways to development objectives, which are:

- Stimulating economic growth and job creation;
- Providing investment and finance; and
- Sharing the resources and knowledge needed to shape innovative solutions to global challenges.

The SDGs provide a focus for the world's efforts to meet global challenges including climate change, water management and sanitation; and equitable education. The private sector has the capability to commercialise the sustainable solutions and help in the achievement of SDGs (Wynn and Jones, 2020). The UN agencies have urged the private industrial houses to formulate their strategic framework according to the SDGs.

Sustainable Industrial Development (SID) means that business and industry will have to adjust production structures and its product mix (European Commission, 1999) to which the industrial policy must assist in the process. An increased interrelationship among the environment, industrial policies and promotion of the role of industry is an important basic element in achieving SID. The industrial policies and the environment are two important components for SD resulting in an increased level of innovation and industrial competitiveness. This will further open up more opportunities for employment and help in socio-economic development.

The consumers have become aware of ethical and sustainable products and the more options they get, the more the companies will be able to make profits. There is immense scope in the development of efficient and innovative energy technologies, as well as reduction of Greenhouse Gas emissions and waste. Some other areas for meeting the goals of SD are health, education, sanitation, finance and communication products. Many theoretical frameworks that connect the nature/environment and society have been made as a roadmap to sustainability. The most important industry that can help is the finance industry by leading rather than reacting to the issues arising out of unsustainability or sustainability. Some industrial sectors that can be related to the SDGs are:

- Focus on retail industry with SDG 12 (sustainable consumption and production) by sourcing sustainable products from the manufacturers and supplying them to the consumers through their company. For example, Fab India sources its materials directly from the handloom workers and sells it through its chain of stores;

- Banking industry can provide for financial products which can cover many goals that need to be addressed.
- Use of energy efficient air conditioners, smart bulbs, renewable energy solutions like solar panels with SDG 7 in view; and
- Emphasis on education industry (schools, colleges, universities) with SDG 4.

The above-mentioned examples depict how SDGs can be achieved through systematic interlinkages.

Ways to achieve SDGs in the Industrial Sector Approach

The *two* main ways through which SDGs can be achieved are responsible entrepreneurship and eco-efficiency. They are briefly explained below:

- Responsible Entrepreneurship:** According to the UN, companies can manage their operations so that economic growth and competitiveness can be strengthened, while keeping focus on environmental protection and social responsibility. This can be seen in the strategies and operations of various companies around the world, which have progressed from acting under government regulatory pressure to voluntary changes because of consumer awareness. This goal can be achieved only through responsible entrepreneurship using new approaches of eco-efficiency by integrating environmental concerns into their management strategies and planning.

Technologies like eco-efficiency, life cycle thinking and sustainable product design help in the implementation of SDGs. The companies conduct the Cost Benefit Analysis to appraise the costs and benefits of environmental action and to make presentations to their shareholders through environmental accounting and environmental reporting. International best practices have helped in formulating indicators for performance assessment and benchmarks to be achieved.

- Eco-efficiency:** Responsible entrepreneurship comprises of eco-efficiency as a business strategy, as it is a combination of economic and environmental aspects. The eco-efficiency strategy, aims at reducing the non-renewable resources, waste, etc., thereby resulting in an increase in the service intensity of goods and services. The governments also follows the strategy of eco-efficiency and has made it an important element of SD policy strategy.

Principles for Environment Management for the Industry

The principles for environmental management have been formulated by the International Chamber of Commerce (Woolard, 1992) to be used as a basis for pursuing improvements and supporting the cause of SD. They are given below in brief:

- Corporate Priority:** The corporate sector must ensure that policies, programmes, and practices for their operations must be aligned with environmental management.
- Integrated Management:** These policies, programmes, and practices must be an integral part of management functions.

- iii) Process of Improvement:** The businesses must continuously make efforts to improve their processes, across the globe, concerning environmental performance by using the following:
- Technological developments;
 - Scientific understanding;
 - Consumer needs; and
 - Community expectations.
- iv) Employee Education:** The employees must be educated, trained and kept motivated, so that they are able to operate in an environmentally responsible manner.
- v) Prior Assessment:** The manufacturing and consumption of products and services must be assessed prior to their final supply to the end-user so that environmental and sustainability concerns are addressed.
- vi) Customer Advice:** The customers must be advised on the safe use, transportation, storage and disposal of products.
- vii) Facilities and Operations:** There must be efficient use of energy and materials; sustainable use of renewable resources; and reduction of adverse environmental impact. Effective waste management also must be done.
- viii) Precautionary Approach:** Care must be taken to avoid irreversible environmental damage by the companies in the manufacturing, marketing, and the use of products or the conduct of activities as per the latest technology and scientific temper.
- ix) Research:** The companies must carry out research on the effects of industrial operations involving the raw materials, products, emissions and wastes on the environment. If any adverse effect is found, it must be corrected and the approach must be readjusted.
- x) Transfer of Technology:** The companies who have the environment-friendly technology must transfer technology to those who do not have access to it.

The UN has stated that promoting inclusive and sustainable industrialisation is the key to SD. It has stressed on critical importance of industrial development for developing countries, as a major source of economic growth, economic diversification, and value addition. It has also focussed on promoting inclusive and sustainable industrial development to effectively address the major challenges such as growth and jobs, resources and energy efficiency, pollution and climate change, knowledge-sharing, innovation and social inclusion.

In this regard, relevant cooperation within the United Nations system, including the United Nations Industrial Development Organisation (UNIDO), which would help in advancing the linkages between infrastructure development, inclusive and sustainable industrialisation and innovation.

Check Your Progress 1

Note: i) Use the space given below for your answers.

ii) Check your answers with those given at the end of the Unit.

1. Write a short note on the universal principles of sustainable development.

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2. Discuss in detail the Status Quo approach to sustainable development.

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3. Explain the dimensions of the Community Capacity Building approach to sustainable development.

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4. Describe the Industrial Sector approach to sustainable development.

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3.5 INTEGRATED SYSTEMS APPROACH

The Integrated Systems approach refers to the designing and adopting of the SD strategies and plans, which integrate environmental, social and economic dimensions and recognise their linkages. The UN Department of Economic and Social Affairs (UN-DESA) stated in its published Report that there was a lack of integration, inclusion and coherence because nations mostly focussed on economic growth and poverty reduction. The planning approaches work in silos instead of

addressing complex problems of the societies regarding environmental and sustainable development issues. The governments need to consider the interlinkages between the systems and their sub-systems, for example, water, energy and eco-systems and their impacts like climate change in the future. It also said that the traditional sector-based approaches and tools are not fit for this purpose, as the challenges are more complex and systemic in nature. This is the basis for the importance of an Integrated Systems approach (ISA) in SD planning and strategy formulation (UN, 2015).

Some scholars and strategists have given a Transition approach as a separate approach, but in fact transition is a part of the ISA. Unless there is a transition from the traditional methods, it will be difficult to reach any closer to the SDG Agenda 2030. The areas for transition, laid down by the UN, are given below:

- Supportive political system;
- Effective planning agencies;
- Access to information;
- Strong UN system;
- Consistent coordination;
- Capacity-building for media and civil society;
- Membership in multi-lateral agencies; and
- Education in schools.

Issues in Transition: Transition is never an easy process and faces many challenges. Some major factors impeding transition towards SD are:

- Deficient participation of stakeholders;
- Corruption;
- Shocks and insecurity;
- Lack of finance and debts;
- Instability and internal/external conflict;
- Gaps in knowledge;
- Resistance to change;
- Lack of transparency;
- Recognition of civil society;
- Lack of database; and
- Youth employment.

The above-mentioned factors hindering the transition towards SD must be considered by the international agencies and the nations before formulating policies and implementing them regarding SDGs. A Systems approach is essential because of the resulting negative feedback from working in silos, that is, in isolation, for example, boosting economic growth without the social and environmental consideration.

Importance of ISA

The ISA is the best solution to implement SD because of the following reasons:

- i) **Holistic:** The earth life-support system comprises of land, climate and water in which the human habitat is a part of the whole. There is a need to look at the eco-chain holistically as climate change is wrecking havoc, both socially and economically. For example, floods or droughts lead to famines and diseases, adversely affecting the society as a whole. The poor become poorer and the rich become richer leading to social injustice.
- ii) **Local Consideration:** The geographical position of a country or a region has its own peculiar problems and one single policy cannot effectively implement the SDGs. It is important to have data about the place on count of geography, timespan, cultural norms, etc. However, global impact cannot be materialised by local individual efforts.
- iii) **Combined Efforts via Synergism:** Synergism means the combined efforts of two or more than two agencies who work for more than one SDG for better results in the ISA. There can be cost-savings if more than one SDG are targeted for achievement simultaneously. The European Union estimated in a study that integrated climate legislation could save 50 billion a year in health costs and direct costs related to environmental degradation (Future Earth,2019).

Implementation of ISA

The Future Earth Group is an international agency that works in determining designs and solutions for the acceleration of global sustainability. It proposed a seven-point scale to help the governments to assess the effects of potential SDG policies. Given below are the seven points/indicators for the assessment of the SDGs interactions:

A Scale to Score SDG Interactions

Interactions	Name	Explanation
+3	Indivisible	Inextricably linked to the achievement of another goal.
+2	Reinforcing	Aids the achievement of another goal.
+1	Enabling	Creates conditions that further another goal.
0	Consistent	No significant positive or negative interactions.
-1	Constraining	Limits options on another goal.
-2	Counteracting	Clashes with another goal.
-3	Cancelling	Makes it impossible to reach another goal.

Source: (Nilsson, M., *et al.*, 2016)

The example given by the Future Earth is appropriate to explain the seven-point scale of reducing air pollution. The Systems approach does not propose to concentrate exclusively on the SDGs, but to acknowledge the macro-level characteristics of a system like socio-ecological resilience. Dynamic links across sectors, actors and countries must be developed. For example, in the finance

sector, tax breaks could be established for private companies in high income countries that make very long-term investments (i.e., returns measured over decades rather than quarterly) in lower income countries, to create locally sustainable products and services, with partnerships that enable their economies to grow. Improving such connections across sectors, actors and countries can reveal a variety of creative means to improve systematic SDG implementation (Stafford-Smith, M. *et al.*).

The SDGs are fruitless if not implemented successfully and the best way that has emerged till now has been an Integrated Systems approach. The 2020 Agenda in Para 6 stated that it is indivisible, in a sense that it must be implemented.

3.6 HUMAN DEVELOPMENT APPROACH

Human development refers to well-being of humans, which is an integral goal for any society or a government to achieve. Human well-being is called Subjective Well-Being (SWB) because individuals have their own perception of happiness and well-being throughout the world according to a World Gallup Survey which covers 98 per cent of population. The World Happiness Report is made by the United Nations Sustainable Solutions Network. Human development is a process and, at the same time, a result, focusing on the results of wider possibilities to choose. It can be defined in the easiest way as a process of expanding options: every day, a human being makes a series of economic, social, political and cultural choices. The ultimate goal of human development is not to create greater wealth or achieve greater economic growth, but the expansion of choices for every human being (Human Development Report, 2001).

The World Happiness Report (WHR) 2020, that is the eighth report focuses especially on the social, urban and natural aspects of environment. The purpose of the WHR is to review the science of measuring and understanding SWB and to use survey measures of life satisfaction to track the quality of lives in more than 150 countries. Their main goal is to evaluate social environment for happiness.

Main Areas of Focus in the WHR

Given below, are the major areas that WHR focuses on:

- i) **Social Environment for Happiness:** The Report uses *six* factors to explain happiness and the measurement of different aspects of the social environment. They are:
 - Having someone to count on;
 - Having a sense of freedom to make key life decisions;
 - Generosity;
 - Trust;
 - Effects of inequality on average happiness; and
 - How a good social environment operates to reduce inequality.
- ii) **Urban Happiness:** The happiness of city life has been compared among the cities in the same country. The WHR found that city rankings and country rankings were essentially identical and city dwellers were happier than those

living outside the cities although the urban happiness advantage was sometimes negative.

- iii) **Sustainable Natural Environment:** People are becoming more aware and conscious about their natural environment and want to protect it. The WHR noted from its survey that the various pollutants have negative effects on life evaluations. Although forests have positive effects on life evaluation, they have none on emotions. According to their survey conducted in London, on the linkage of natural environments and happiness amongst people, it was found that people reported being happy mostly when they were close to a river, canal, public parks or doing some activities like birdwatching, walking in public parks, etc., in comparison to being sedentary at home.
- iv) **Sustainable Development and Human Well-Being:** The WHR has given information on the relationship between SD and well-being. The SWB, as mentioned before, is a measure of well-being and the survey responses may differ from emotional measures of well-being in comparison to the economic measures such as income and development. The evaluation of SDGs in relation to well-being, other indicators were added like the Human Development Index, Index of Economic Freedoms, Global Peace Index, Global Competitiveness Index, Environmental Protection Index (EPI) and Gross Domestic Product (GDP) per capita. The Human Development Index (HDI) measures the level of welfare within a country by looking at *three* indicators:
- Life Expectancy Indicators – refers to life expectancy at birth;
 - Educational Attainment Indicators – refers to the adult literacy rate and gross enrolment ratio; and
 - Standard of Living – measured by GDP per capita.

The results of the survey showed that the SDG Index remains significant alongside the EPI and GDP per capita. Hence, the Human Development Approach helps in making progress in terms of the SD and in benefiting the people and the planet. This approach helps in determining which SDGs must be focussed upon more, considering restricted budgets, although all SDGs are important.

3.7 GREEN ACCOUNTS APPROACH

All nations are making an effort to build a “Green Economy”, which signifies human well-being and social equity together with reducing environmental risks and ecological scarcity. In developing countries, the issue of SD and green economy has gained attention. The Green Accounts approach refers to the national accounts that incorporate environmental externalities. They help us understand the impact of our social, political and economic actions on environment. The concept of green accounting considers the environmental damage that is caused by the activities of the humankind, but is not included in the traditional accounting system. The conventional national accounting system does not cater to the SD issues. This issue was resolved by Paul P. Craig and Harold Glasser by proposing a Transfer Model approach to integrate the Green Accounts approach in the pursuit of SD although there have been numerous studies and models on the topic.

The approach emphasises on stocks and flows along with bio-geophysical aspects to give meaning and context to green accounts. Sustainable utilisation refers to spending the interest while keeping the capital. Certain baseline conditions must be guaranteed in bio-geophysical terms that comprise of stocks and flows, for example, habitat, healthy food, clean water, etc., to sustain the species.

Principles of SD

Herman Daly, an economist, gave *two* principles to guide SD, which are:

- i) Harvest rate must be equal to or lower than regenerative rates (sustained yield); and
- ii) The waste emission rates must be equal to or lower than the natural assimilative capacities of the ecosystems into which they are emitted.

These principles are distinct from the traditional economic indicators because of their bio-geophysical factors. Green accounting cannot relate to only renewable resources. The Transfer Model approach suggests the incorporation of multiple world views and uncertainty (Craig, 1994).

Check Your Progress 2

- Note:** i) Use the space given below for your answers.
ii) Check your answers with those given at the end of the Unit.

1. Explain the Integrated approach to sustainable development.

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2. Describe the Human Development approach to sustainable livelihoods.

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3. Discuss the Green Accounts approach to sustainable development.

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- 4. Examine India’s response to the implementation of Sustainable Development Goals.

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3.8 CONCLUSION

Sustainable Development Goals have been extensively formulated covering all aspects that concern the environment, social, and economic needs of the present generation, without harming the future of the next generations. Hence, it is an international effort that spans an intergenerational and intercultural scope. The 2030 Agenda of SD can be achieved through multiple approaches, however, the best approach is the Integrated approach, which incorporates the three components into its strategy for simultaneous efforts to take shape. The basic purpose of making an agenda to achieve SD is to have an international system for ranking the countries trying to achieve the 17 goals and 169 targets. India has also aligned itself with the SDGs by following a Holistic approach, that is, the Integrated approach, also called Triple Bottom Line approach, towards them.

Through consistent growth and social inclusion initiatives, India has been able to reduce poverty, improve education levels, aggressively expand basic infrastructure capacities, conserve our rich biodiversity and build partnerships for sustainable development. Poverty – monetary and multidimensional, has fallen to some extent in recent years. Health insurance coverage programmes covering over 500 million people have been successfully rolled out. Over 100 million household toilets have been built since October 2014. All our villages and over 99 per cent of our households are electrified. Our forest cover, between assessments in 2017 and 2019, has increased. India’s technical assistance programmes reach 160 countries across the world. We have jumped 79 places in the World Bank’s Ease of Doing Business ranking of countries in the past five years, moving from 142 in 2014 to 63 in 2019. Jointly with France, India has facilitated the formation of the International Solar Alliance, bringing together countries that are well-positioned to invest aggressively in solar energy. These are just a few examples of the progress made (NITI Aayog, 2021). This Unit discussed the major approaches to sustainable development in detail.

3.9 GLOSSARY

BATNEEC: This means Best Available Techniques not Entailing Excessive Costs. Commonly referred to BEST Available Technology, it was introduced in 1984. It means meeting the output standards for a particular process such as pollution abatement. The technique is used in formulation of environmental policies.

Bio-geophysics: It is a sub-discipline of geophysics concerned with how plants, microbial activity and other organisms alter geological materials and affect geophysical signatures.

Community Capacity Building or CCB Approach: The CCB approach proposes skill-development and increase in knowledge base in the populations living below the poverty line. They need to be enabled with skill and knowledge to become gainfully involved in a community so that they can contribute to the society.

Eco-efficiency: The eco-efficiency strategy aims at reducing the non-renewable resources, waste, etc., thereby resulting in an increase in the service intensity of goods and services.

Holistic Approach: The earth life-support system comprises of land, climate and water in which the human habitat is a part of the whole.

Responsible Entrepreneurship: According to the UN, companies can manage their operations so that economic growth and competitiveness can be strengthened, while keeping focus on environmental protection and social responsibility.

3.10 REFERENCES

Craig, P.P. & Glasser, H. (1994), *Assigning Economic Value to Natural Resources*. The Academies Press, USA.

European Commission. (1999). *Sustainable Industrial Development*. Retrieved from https://ec.europa.eu/environment/archives/action-programme/pdf/sec991729_en.pdf.

Future Earth. (n.d.). A Systems Approach: Imperative to Achieve the Sustainable Development Goals. Retrieved from https://futureearth.org/wp-content/uploads/2019/06/SDG-systems_issue-brief.pdf

Hopwood, B., Mellor, M. O'Brien, G. (2005). Sustainable Development: Mapping Different Approaches. *Sustainable Development*. 13(1), 38-52.

Montaldo, C.R.B. (2013). *Sustainable Development Approaches for Rural Development and Poverty Alleviation & Community Capacity Building for Rural Development and Poverty Alleviation*. Retrieved from <https://sustainabledevelopment.un.org/content/documents/877LR%20Sustainable%20Development%20v2.pdf>

NITI Aayog. (2020). *Decade of Action Taking SDGs from Global to Local*. Retrieved from https://sustainabledevelopment.un.org/content/documents/26279VNR_2020_India_Report.pdf

ShyamRoy, M. (2017). Green Accounting for Sustainable Development: Case Study of Industry Sector in West Bengal. *The Journal of Industrial Statistics*. 6 (1), 57-71.

Stafford-Smith, M. *et al.* (2017). Integration: The Key to Implementing the Sustainable Development Goals. *Sustainability Science*. 12, 911-919.

UN. (2015). Report of the Capacity Building Workshop and Expert Group Meeting on Integrated Approaches to Sustainable Development Planning and Implementation. Retrieved from <https://sustainabledevelopment.un.org/content/documents/8506IASD%20Workshop%20Report%2020150703.pdf>

UN. (2015). Transforming our World: The 2030 Agenda for Sustainable Development. Retrieved from <https://sdgs.un.org/publications/transforming-our-world-2030-agenda-sustainable-development-17981>

United Nations Development Programme. (2001). *Human Development Report 2001, Making New Technologies Work for Human Development*. Retrieved from http://hdr.undp.org/sites/default/files/reports/262/hdr_2001_en.pdf

Woolard, E.S. (1992). An Industry Approach to Sustainable Development. *Issues in Science and Technology*. 8(3), 29-33.

Wynn, M. & Jones, P. (2020). *The Sustainable Development Goals: Industry Sector Approaches*. Routledge Publishers, USA.

3.11 ANSWERS TO SELF-CHECK EXERCISES

Check Your Progress 1

1. Your answer should include the following points:

- The principles should be universal in character, covering challenges faced by all countries, rather than just developing nations.
- It should express a broadly agreed global strategy for sustainable development.
- It should incorporate a range of key areas that were not fully covered in the MDGs.
- It should be comprehensive, reflecting three dimensions of SD.
- It should incorporate near-term benchmarks, while being long-term in scope, looking ahead to a deadline of perhaps 2030.
- It should engage all stakeholders in the implementation and mobilisation of resources.
- It should provide scope for the review of these goals in view of evolving scientific evidence.

2. Your answer should include the following points:

- More growth will lead to SD and support the decision of the governments to reduce the progressive nature of taxation.
- Business is the driver to sustainability.
- The best means to achieve SD are increased information; changing values; new technologies and innovations.
- Markets will use sustainable processes to produce goods and services by employing changes in taxation and subsidies and by being well-informed.
- The reduced role of governments will lead to the emergence of green capitalists who will indulge in corporate citizenship and ethical business to achieve SD.
- Increase in good governance on the one hand and reduction in corruption on the other will help in reaching closer to sustainability.
- Techniques like EIA (Environmental Impact Assessment); and EMAS (Eco-management and Audit System).

3. Your answer should include the following points:

ABCD Model in CCB can be applied to:

- **Resources:** The financial holdings; natural resources (forests, wildlife); and the livestock can provide sustainable livelihoods. They have cultural and environmental importance in cleansing, recycling and renewing air and water.
- **Social Bonds:** The social bonds and community relationships encourage investment of the community in providing support to the poor.
- **Human Assets:** The human assets refers to the skills in the individuals, which can get them employment and wages in the rural areas.

4. Your answer should include the following points:

- The private sector has been highlighted as a partner with the potential to contribute in multiple ways to development objectives.
- Sustainable Industrial Development (SID) means that business and industry will have to adjust production structures and its product mix.
- Ways to achieve SDGs in the Industrial Sector approach are responsible entrepreneurship and eco-efficiency.
- Principles for Environment Management for the Industry:
 - i) Corporate Priority
 - ii) Integrated Management
 - iii) Process of Improvement
 - iv) Employee Education
 - v) Prior Assessment
 - vi) Customer Advice
 - vii) Facilities and Operations
 - viii) Precautionary Approach
 - ix) Research
 - x) Transfer of Technology

Check Your Progress 2

1. Your answer should include the following points:

- The Integrated Systems approach refers to the designing and adopting of the SD strategies and plans, which integrate environmental, social and economic dimensions and recognise their linkages.
- The UN has given areas for transition.
- Issues in transition.
- Importance of Integrated Systems approach.
- Implementation of Integrated Systems approach.

2. Your answer should include the following points:

- Human development refers to the human well-being, which is an integral goal for any society or a government to achieve.

- The World Happiness Report (WHR) is made by the United Nations Sustainable Solutions Network. Human development is a process and, at the same time, a result, focusing on the results of wider possibilities to choose.
- It can be defined in the easiest way as a process of expanding options: every day, a human being makes a series of economic, social, political and cultural choices. The ultimate goal of human development is not to create greater wealth or achieve greater economic growth, but the expansion of choices for every human being.
- Main areas of focus in the WHR.

3. Your answer should include the following points:

- All nations are making an effort to build a “Green Economy” which signifies human well-being and social equity together with reducing environmental risks and ecological scarcity.
- The concept of green accounting considers the environmental damage that is caused by the activities of the humankind but is not included in the traditional accounting system.
- Herman Daly, an economist, gave two principles to guide SD, which are :
 - Harvest rate must be equal to or lower than regenerative rates (sustained yield).
 - The waste emission rates must be equal to or lower than the natural assimilative capacities of the ecosystems into which they are emitted.

4. Your answer should include the following points:

- India has also aligned itself with the SDGs by following a holistic approach, that is, the integrated approach, also called Triple Bottom Line approach, towards them.
- Through consistent growth and social inclusion initiatives, India has been able to reduce poverty, improve education levels, aggressively expand basic infrastructure capacities, conserve our rich biodiversity and build partnerships for sustainable development. Poverty – monetary and multidimensional, has fallen considerably in recent years.
- Health insurance coverage programmes covering over 500 million people have been successfully rolled out.
- Over 100 million household toilets have been built since October 2014. All our villages and over 99 per cent of our households are electrified.
- Our forest cover, between assessments in 2017 and 2019, has increased.
- India’s technical assistance programmes reach 160 countries across the world.
- We have jumped 79 places in the World Bank’s Ease of Doing Business ranking of countries in the past five years, moving from 142 in 2014 to 63 in 2019. Jointly with France, India has facilitated the formation of the International Solar Alliance, bringing together countries that are well-positioned to invest aggressively in solar energy.

UNIT 4 GOALS OF SUSTAINABLE DEVELOPMENT*

Structure

- 4.0 Objectives
- 4.1 Introduction
- 4.2 From Millennium Development Goals to Sustainable Development Goals
- 4.3 Nature of Sustainable Development Goals
- 4.4 Conclusion
- 4.5 Glossary
- 4.6 References
- 4.7 Answers to Check Your Progress Exercises

4.0 OBJECTIVES

After reading this Unit, you should be able to:

- Describe the Millennium Development Goals;
- Discuss the nature of Sustainable Development Goals; and
- Examine the performance of Sustainable Development Goals in India.

4.1 INTRODUCTION

The United Nations (UN) Millennium Development Goals (MDGs) are *eight* goals that UN Member States agreed to achieve by 2015. The UN Millennium Declaration was signed in September 2000 in which the world leaders committed to fight against poverty, hunger, disease, illiteracy, environmental degradation and discrimination against women. The reference value for evaluating the success of MDGs was 1980 levels (WHO, 2018). The MDGs have been considered as a historic landmark in global mobilisation of resources towards the betterment of the societies worldwide. The goals and targets were time-bound and considered as a global report card for the fight against the varied problems the world populations faced from 2000 to 2015.

The UN adopted a fresh set of goals at the expiry of the time period in 2015, which were called the Sustainable Development Goals (SDGs). 192 Member Nations of the UN pledged to the agreement of achieving the Agenda 2030. There are 17 SDGs that will be discussed in this Unit. These goals have 169 targets in total. They were adopted due to the reason that sustainable development had gained importance all around the globe because of the problems being faced due to climate change. The ongoing COVID-19 pandemic has made it imperative that we, as humans, work towards a sustainable environment and development. The SDGs must be achieved through integrated solution, so that the three components-economic, social and environment, are simultaneously achieved since they are all interrelated and interdependent. Let us now understand the nature of MDGs and SDGs.

* Contributed by Dr Anupama Puri Mahajan, Former Post-doctoral fellow, Department of Public Administration, Himachal Pradesh University, Shimla

4.2 FROM MILLENNIUM DEVELOPMENT GOALS TO SUSTAINABLE DEVELOPMENT GOALS

The Global Development Agenda defined by the UN include *eight* MDGs, which are:

- 1) Eradicate poverty and hunger;
- 2) Achieve universal primary education;
- 3) Promote gender equality and empower women;
- 4) Reduce child mortality;
- 5) Improve maternal health;
- 6) Combat HIV/AIDS, malaria and other diseases;
- 7) Ensure environmental sustainability; and
- 8) Develop a global partnership for development.

In 2015, since the time period for the MDGs got over, a new agenda was formulated for global development called *Agenda 2030* and the goals were called Sustainable Development Goals (SDGs). There are some differences between the MDGs and SDGs, which are briefly given below:

- **Zero Goals:** The target in the MDGs was to reach half-way, but the SDGs have been designed for completing the job. The goals are supposed to achieve zero level, for example, zero hunger or zero preventable child deaths.
- **Universal Goals:** When the MDGs were decided upon, the strategy employed was more of “rich donors aiding recipients”, but the world has come a long way from then. The UN realised that the problems existed in the developed nations also and the integral problem is of rising inequalities within instead of between rich and poor countries. The SDGs cover the targets for all nations.
- **Comprehensive:** The SDGs are more comprehensive than MDGs, as they are inclusive of more focal areas.
- **Hunger:** The concerns of empowering women, mobilising everyone and partnerships with local governments are considered, as the three pillars for ending hunger. The SDGs have better coverage than the MDGs with respect to gender and people’s participation at all levels.
- **Inclusivity:** The MDGs had been formulated via a top-down process, while the SDGs have been prepared through consultations with more than 100 countries and millions of online citizen inputs.
- **Hunger and Poverty:** ‘Poverty’ and ‘Food and Nutrition Security’ are two separate goals in SDGs, whereas they had been clubbed together in MDGs.
- **Funding:** The MDGs did not have the concept of sustainability of funds and depended on the aid from the donors from the rich developed countries. SDGs focus on sustainability, inclusive economic development and strengthening the countries’ revenue generation capabilities, so that they can deal with their social challenges.

- **Peace Building:**Peace is an essential element in a society in order for it to prosper and grow socially as well as economically. The countries that have been governed well have economically prospered in peaceful conditions. The SDGs have peace as a goal, whereas MDGs have not focused on it.
- **Data Revolution:** Monitoring, evaluation and accountability are essential for sustainable development. Another target of SDGs is to ‘increase significantly the availability of high-quality, timely and reliable data disaggregated by income, age, race, ethnicity and migratory status, disability, geographic location and other characteristics relevant in national contexts’.
- **Quality Education:** A major goal of MDGs was to achieve universal primary education, but they did not concern itself with the quality of education. The SDGs, on the other hand, have progressed to focus on the quality of education and have developed indicators to assess it.

From the above analysis of MDGs and SDGs, it is clear that SDGs are better formulated, but this does not imply that the job is done. On the contrary, it has just begun and till 2030, the goals have to be achieved, which is a difficult task. The world economy was facing a recession before it was hit by the pandemic COVID-19 and now rigorous efforts will have to be made to get back on track. No one in the present generation has seen any pandemic and there are no precedents for them to administer safeguards against it. In 1919, Spanish Flu spread like a pandemic across the globe. It took innumerable lives and damaged the economy beyond repair. After 100 years, a new pandemic in Covid-19 has surfaced and the countries have had to amend their disaster management laws to cope with it. Most countries are now dealing with the revival of economies so that SDGs can be focussed upon.

Check Your Progress 1

Note: i) Use the space given below for your answer

ii) Check your answer with that given at the end of the Unit.

1. Examine the transition from Millennium Development Goals to Sustainable Development goals.

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4.3 NATURE OF SUSTAINABLE DEVELOPMENT GOALS

This is the *Anthropocene Age*, that is, the human-driven age of the planet. The human activity is pushing the capacity of global ecosystem functions, which might result in disasters. This era is distinct because there are extreme pressures on earth systems like the carbon, nitrogen, and water cycles. There are numerous environmental crises, which are adversely impacting the earth and population.

There are mass migrations and displacements of people due to disasters like submerging of islands, floods or famines. These challenges have made international agencies to realise that the planet needs sustenance and can be saved only with setting up of an agenda.

In 2015, the UN set up the Agenda 2030, which enumerated 17 SDGs and 169 targets to which 193 Member Nations pledged their support. They were implemented in 2016. This Section will deal with the SDGs, with special reference to India, according to the Voluntary National Review (VNR) Report that has been prepared by the NITI Aayog for the UN. It is important to understand how India is trying to achieve these goals, as it is home to one-sixth (17 per cent) of all humanity.

India uses the approach of ‘whole of society’, which comprises of engagement of the Union Government with all 37 sub-national governments, local governments (over 700 districts), civil society organisations, communities and private sector for the implementation and evaluation of the SDGs. Since the world has entered the last decade before the end-date of 2030 regarding SDGs, it has been called the “Decade for Action”. India is the first nation to formulate an ‘SDG India Index’, and has developed a robust ‘SDG Localisation Model’ (NITI Aayog, 2020).

Given below are the SDGs from the perspective of localising SDGs:

SDG 1: No Poverty - End poverty in all its forms everywhere

The *first* goal, seems impossible and daunting. It is a very tough task to end poverty in all forms everywhere by 2030. India has been successful in designing effective strategies in an environment of diminished opportunities for livelihoods. It has focussed on steadily increasing its Gross Domestic Product (GDP) rate at 8 per cent between 2018-2023, but the pandemic COVID-19 has been a major setback. The Government has followed a multi-pronged strategy with targeted programmes at vulnerable sections of the society by:

- Developing infrastructure and support services;
- Creating productive assets;
- Developing skills;
- Supporting entrepreneurship; and
- Promoting social protection measures aimed at reducing risks from natural and other disasters.

Given below are the measures that India is taking to gradually reduce poverty with an aim to end it by 2030:

- **Social Protection and Safety Nets:** National Social Assistance Programme covers the vulnerable sections (elderly, disabled, children, women and widows) through its flagship schemes like the Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA), which allows for 100 days of work in a year per family. It increased the employment rate to about 12 per cent in the fiscal year 2019-2020. An additional INR 400 billion was allocated for the benefit of workers in the aftermath of COVID-19.

- **Access to Basic Services:** India included other parameters in the pursuit of elimination of poverty like well-being; access to nutrition, healthcare facilities, drinking water and sanitation; affordable housing; electricity; clean cooking; roads and utilities. Another area that is focussed upon is financial inclusion of the populations with no contacts with banks in order to give them access to banking, credit, insurance and pension under schemes like *Pradhan Mantri Jan-Dhan Yojana*; and *Pradhan Mantri Gareeb Kalyan Yojana*.
- **Strengthening Livelihood Opportunities and Skilling Ecosystem:** Agriculture is instrumental in providing livelihood to around 59 per cent of the Indian population and is instrumental in boosting growth, creating jobs and reducing poverty. The Government of India has pledged to work for doubling the farmers' income by 2022 although it seems a huge task with consequences of pandemic to cope with in the backdrop. Some schemes helping in this field are the *Pradhan Mantri Fasal Bima Yojana* (*Prime Minister Crop Insurance Scheme*) and *Pradhan Mantri Krishi Sinchayee Yojana* (*Prime Minister Irrigation Scheme*). Ecosystem is being developed for skilling to achieve more productive employment. Some initiatives taken are:
 - Reorienting the skilling curriculum according to the demands of the industry;
 - Creating infrastructure to promote entrepreneurship; and
 - Encouraging rural business models for start-ups etc.
- **Monitoring Progress:** India monitors and evaluates its schemes and outcomes through the SDG India Index.

The challenges in the future are regional variance, rapid urbanisation, gender equality, education, employment and human resource development.

SDG 2: Zero Hunger – End hunger, achieve food security, improve nutrition and promote sustainable agriculture

Food security is integral to removing poverty. SDG 1 also comprises the provision of nutritious food. 40 per cent of child-deaths occur due to under-nutrition in India. Food security depends upon various factors like:

- Domestic food production;
- Capacity to import food; and
- Access to food, which is dependent upon the household's purchasing capacity.

Given below are the measures that India is taking to achieve the goal of zero hunger:

- **Food Security:** India has the largest Food Security Programme in the world as a legal entitlement under the National Food Security Act (NFSA), 2013. The approach shifted from welfare to rights-based one with the passing of the said Act. It covers two-thirds of India's population with the senior female member of the household's name on the ration cards. *Antyodaya Anna Yojana (AAY)* facilitates eradication of hunger.
- **Nutrition Security:** Children in India face the issue of undernutrition

resulting in stunted growth under the age of five due to problems like sanitation, genetics, environment and food intake. Some schemes helping in this area are *Pradhan Mantri Matru Vandana Yojana* and *the Scheme for Adolescent Girls*.

- **Agricultural Productivity:** Food security depends on various factors and the efforts to increase agricultural productivity, which will move towards the path of doubling the farmers' income. The growth factors are:
 - Improved crop productivity;
 - Increased livestock productivity;
 - Cost-effective production processes;
 - Increased cropping intensity;
 - Crop diversification;
 - Better prices; and
 - Non-farm occupations.
- **Monitoring:** The distance to cover targets so far in India has reached 35 on a scale of 0 to 100 on the SDG India Index.

The future challenges are the nutritional requirements of women; stunted growth and anaemia; adaptive climate and sustainable agriculture.

SDG 3: Good Health and Well-being – Ensure healthy lives and promote well-being for all at all ages

India has made good progress in providing healthcare under the National Health Policy, 2017. Being the largest supplier of vaccines and drugs in the world, its vaccination programmes against diseases has been acclaimed worldwide. Special initiatives have been launched to achieve the SDG 3. Some of them are:

- **Universal and Affordable Healthcare:** *Ayushman Bharat* is a programme that provides inclusive health care to at-risk communities and primary healthcare without cost. *Pradhan Mantri Jan Aarogya Yojana* provides for healthcare to 100 million vulnerable families up to INR 5 lakhs per family per year. It has 10 million beneficiaries for cashless treatment.
- **Affordable Healthcare:** The Government provides medicines at affordable prices, which has considerably reduced the out of pocket expenditure of patients.
- **Medical Infrastructure:** The benchmark for this type of infrastructure for doctor-patient ratio is 1:1000, whereas India has a ratio of 1:1456. To remedy this situation, since 2014, 141 new medical colleges have been sanctioned.
- **Reducing Maternal Mortality Ratio (MMR):** India was successful in reducing the MMR from 130 in 2014-2016 to 122 in 2015-17, which is 6.15 per cent. It has to reach the target of 70 by 2030.
- **Reducing Neo-natal and Under-five Mortality:** The infant mortality rate and neo-natal has considerably declined by more than 13 per cent and 8 per cent respectively.

- **Eliminating Communicable and Non-Communicable Diseases:** India has seen a decline in all communicable and non-communicable diseases like polio (zero patients), Malaria, Tuberculosis or TB and Lymphatic Filariasis.

India ranked at 61 in the progress of SDG 3 on its SDG India Index on a scale of 0-100. It still has many challenges in all the areas like:

- i) Affordability and the cost of healthcare;
- ii) Health worker density; and
- iii) Lack of health awareness.

The health system has now geared up with exemplary resilience to manage COVID-19 pandemic with effective containment, treatment, surveillance and tracking systems.

SDG 4: Quality Education – Ensure inclusive equitable quality education and promote lifelong learning opportunities for all

‘Leaving no one behind’ is the clarion call in today’s agenda of sustainable development. It requires human capital so that all children are able to get secondary education. The goal is to impart affordable education of quality without any discrimination based on caste, gender or colour. There has been an increase in the number of schools, enrolment and retention of children in schools. Given below are some major areas regarding the quality of education in terms of educational outcomes, especially, in the public education sector:

- **Early Years:** The National Early Childhood Care and Education Policy 2013 emphasises on the survival, growth and development of children, so that they can receive pre-primary education, which is integral for school education. Services like immunisation, growth monitoring, supplementary nutrition, health check-ups, and referral services are provided through *Anganwadi Centres* and the Integrated Child Development Services Scheme.
- **Elementary and Secondary Education:** Education was made a Fundamental Right under The Right of Children to Free and Compulsory Education (RTE) Act, 2009 for children up to 14 years. The percentage of dropouts has been steadily decreasing, while enrolment numbers have increased but Net Enrolment Ratio is very low at 51.77 per cent for higher secondary and higher education levels. The government has been working tirelessly at improving the numbers, while bringing gender parity and providing for basic services like toilets and clean drinking water in schools.
- **Improved Educational Outcomes at Primary and Secondary Levels:** The modernisation of education focuses on functional literacy; numeracy; critical and cognitive thinking skills. The number of trained teachers and proficiency levels in language and mathematics in children has increased.
- **Higher Education:** The number of university level institutions has grown by 37 per cent and the number of colleges by 9 per cent over the last five years. Gender Parity Index also increased from 92 in 2014-15 to 100 in 2018-19, which implies that women’s access to learning opportunities has improved.

- **Skill Development and Vocational Education:** A strong network of Industrial Training Institutes provide long-term skill development training to youth. The government scheme *Pradhan Mantri Kaushal Vikas Yojana* ensures that the youth are given skill training to inculcate industry relevant skills to secure a better livelihood.
- **Gender and Disability Sensitive Educational Facilities:** India has been working towards making educational facilities sensitive to the needs of children with disabilities like making ramps; special hygiene rooms; requisite teaching materials; so that there is an inclusive learning environment.

SDG 4 ranks 58 on the SDG India Index, which means that there is a long way to go. India has to work on improving the quality of education to enter the ranks of major global university rankings.

SDG 5: Gender Equality – Achieve gender equality and empower all women and girls

The Constitution of India talks of equality of gender as one of its principles. India has worked at a fast pace to reduce the gender gap for the past five years. Given below are the efforts that have been made to achieve SDG 5:

- **Social Protection and Livelihoods:** Women's economic participation is integral to social protection and livelihood. It is being powered through new technologies and skill development with schemes like MNREGA, which states that women must comprise of 33 per cent of the beneficiaries of gainful employment. *The Deen Dayal Antyodaya Yojana* (National Rural Livelihoods Mission) aims to mobilise and organise women, build their skills, make credit easily accessible and make them aware of Self-Help Groups (SHGs). India has 10 million bank-linked SHGs with 87.66 per cent women being a part of it.
- **Skilling and Financial Inclusion:** The *Pradhan Mantri Jan-Dhan Yojana* has been instrumental in strengthening financial inclusion as 54 per cent of the bank accounts opened have been of women. 97 per cent of women have been enrolled in long-term skill development courses.
- **Political and Economic Participation:** Representation is steadily increasing although it is low. It increased from 11.4 per cent in 2014 to 14.4 per cent in 2019. More women are participating in the voting process and it has increased to 68 per cent, more than men.
- **Social Empowerment:** The Girl Child Ratio has been dropping, which is matter of worry. Awareness campaigns are going on to reverse this trend like *The Beti Bachao Beti Padhao* (Save and Educate the Girl Child).

The SDG 5 ranks 42 on the SDG India Index. India needs to gear up and do better in the areas given below:

- i) Strengthening gender-based data systems;
- ii) Access to resources with respect to rural and urban women;
- iii) Promoting women's entrepreneurship; and
- iv) Improving economic participation of women.

SDG 6: Clean Water and Sanitation – Ensure availability and sustainable management of water and sanitation for all

India has 4 per cent of the world's fresh water resources, whereas it has 17 per cent of its population. The demand for water will be doubled by 2030. While sanitation battle is being fought since many years, many children under 5 years of age have died due to water-borne diseases. India has been declared open defecation free, but it is a continuous struggle. Given below are measures being taken regarding SDG 6:

- **Safe and Affordable Drinking Water for all:** A new and unified Ministry of Jal Shakti has been constituted to ascertain governance of water and its challenges. About 96 per cent of households have access to safe drinking water. *Jal Shakti Abhiyan* (campaign) is working for water conservation, rain water harvesting and renovation of water bodies.
- **Water Quality:** Ground and surface water issues are being tackled by a multi-pronged strategy by the Central Water Commission. The rivers are being cleaned because of contamination.
- **Sanitation and Hygiene for all:** The flagship initiative of the *Swachh Bharat Mission* has focussed on constructing 109 million household and community toilets. The numbers of toilets have increased from 88.8 per cent to 97.22 from 2017 to 2019.

India stands at 88 rank for SDG 6 on the SDG India Index. India has to deal with challenges like localised data systems on water; maintenance of gendered access to toilets; re-skilling of sanitation workers and their targeted improvement; and sustaining the sanitation behaviour changes against open defecation.

SDG 7: Affordable and Clean Energy – Ensure access to affordable, reliable, sustainable and modern energy for all

The SDG 7 aims at universal access to electricity and clean cooking fuel. It aims at enhancing energy efficiency. India's energy mix is being diversified by widening the renewable choices like solar, wind, hydro and waste-to-energy conversion. Under the *Pradhan Mantri Sahaj Bijli Har Ghar Yojana – Saubhagya* (Each house gets electricity), nearly all households in India's 603,175 villages have been electrified. Given below are the measures that India has been taking to achieve SDG 7:

- **Universal Access to Electricity:** Reliable, affordable and continuous electricity supply is being aimed at via structural reforms in which supply codes and performance standards; regulation and financial restructuring of power distribution companies are being enforced. India has jumped ranks from 137 in 2014 to 22 in 2019 on the Ease-of-Doing-Business on the parameter of 'getting electricity'.
- **Renewable Energy:** The renewable energy installed capacity has increased by about 75 per cent from 2014 to 2020 and India has pledged to a 40 per cent of its energy to be renewable at the Climate Action Summit hosted by the UN Secretary General in 2019.
- **Clean Energy-Cooking Energy:** The percentage of clean cooking energy in households has increased from 63 per cent in 2015 to 96 per cent in 2018. Several programmes have been implemented to facilitate it.

- **Energy Efficiency:** The government has enforced standards and labelling to target household appliances that reduce household power consumption. The wide supply of LPG cylinders to low-income households has considerably helped in the reduction of carbon dioxide emissions.
- **Strengthening International Cooperation:** India is leading the search for renewable energy solutions, for example, signing an agreement with Germany on technical cooperation. India has spearheaded the establishment of International Solar Alliance with France to work on innovative policies, financial instruments and capacity building measures in enhancing solar energy programmes.

India has ranked 70 on the SDG India Index for SDG 7. Its challenges are to achieve low-carbon energy security; domestic technology development and manufacturing capacity augmentation in order to make energy more affordable.

SDG 8: Decent Work and Economic Growth – Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

India has the third largest entrepreneurship ecosystem in the world as a key pillar of the economic prosperity strategy. Economic growth is one of the key components of sustainable development and India's economy has been growing at 7 per cent since 2014, However, the pandemic has put a halt to that, as it has to the entire global economic growth. Given below are the steps being taken regarding the achievement of the SDG 8:

- **Funding Small Enterprises:** Start-up India is a flagship scheme of the Government of India to drive economic growth and generate large-scale employment opportunities. Procedure simplification and funding support have eased opening up of companies. The Micro Units Development and Refinance Scheme (MUDRA) scheme provides financial support to small and micro enterprise sector.
- **Structural Reforms:** Many structural reforms have been taken to reach closer to the goal of 'decent work' like:
 - i) The enactment of The Insolvency and Bankruptcy Code, 2016, which simplifies procedures related to debt default and boost credit availability;
 - ii) Corporate tax has been reduced; and
 - iii) Goods and Services Tax Act, 2016 has been enacted to reduce the manufacturing cost and subsume a number of indirect taxes resulting in lower consumer prices.
- **Ease of Doing Business:** India launched its Make-in-India Programme not to attract foreign investors but to manufacture in India in 2014. It has helped in boosting jobs and economy. It was initiated by making regulatory process simple and eliminating obsolete laws. India ranks 63 on the Ease of Doing Business Index (2019).
- **Decent Work and Labour Welfare:** 40 Central Acts and multiple State Level Acts promote labour rights, and make sure that the workplaces are safe and secure for workers.

- **Skilling Ecosystem:** Approximately 33 per cent of India's population is young (15-24 years), hence India launched the 'Skill India' programme in 2015, which focuses on short-term vocational education. This has led to an increase in the monthly wages.

India ranks 64 on the SDG India Index for SDG 8, which implies that it has to work hard to overcome challenges regarding SDG 8. Some of the major challenges of this SDG are:

- i) Increasing agricultural productivity;
- ii) Creating alternate channels of employment;
- iii) Improving the existing 77.7 per cent literacy rate;
- iv) Bettering health indicators like mortality rate, life-expectancy, etc.
- v) Formalising the labour system, so that there is more coverage of labour protection under laws.

SDG 9: Industry, Innovation and Infrastructure – Build resilient infrastructure, promote inclusive and sustainable industrialisation; and foster innovation

India considers industrialisation as an effective means through which higher prosperity is achieved with minimum impact on the environment. It is possible with innovation and modern infrastructure, which ensure sustainable development. Given below are the main initiatives being taken to achieve SDG 9 in India:

- **Ease of Doing Reforms:** More than 7000 reforms have been taken to simplify government processes to save time and costs and ease the burden on businesses; thereby improving India's Ease-of-Doing-Business rank from 79 places to 63 in 2019.
- **Design and Innovation Ecosystem:** The share of expenditure on research and development (R&D) has increased by 11 per cent in 2017-18 from 3.52 in 2015-16. The number of designs to be patented has increased by a large number. India is engaged in active R&D cooperation with 44 countries.
- **Start-up Ecosystem:** Start-ups conduct innovative and untested business activities, which become extremely lucrative and useful in time. They need support to identify, nurture and accelerate new start-ups.
- **Infrastructure Development:** Infrastructure development is essential for the economy to grow. India launched the *Bharatmala Programme* to build roads through corridors, feeder routes, corridor efficiency improvement and international connectivity. There has been an increase of 17 kms per day road construction in 2014-15 to 29.7 kms per day in 2018-19. Also, the cargo handling capacity of the 13 major ports is an 89 per cent increase.
- **Telecommunications:** Communication technologies have to be of first grade regarding connectivity and internet speed. India has managed to launch 5G and increase its network of cables for internet and telephone links.

The pandemic has put breaks on the rapid economic growth that India had been making. India ranks 65 on the SDG India Index and has to improve to reach the targets of SDG 9 like:

- i) Growth of industrial production to meet sustainable industrial development targets; and
- ii) Addressing industrial waste water management.

SDG 10: Reduced Inequities – reduce inequality within and among countries

SDG 10 aims at equality in all dimensions in areas of income, gender, social, political and economic. It drives countries to have enhanced representation and voice for developing countries in decision-making in international institutions. India has a strong legal framework to check any inequities, but the reality is somewhat away from the target. Many initiatives and steps are being taken to deal with the issues to achieve SDG 10, which are given below in brief:

- **Promoting Income Growth:** Income generation among the vulnerable sections of the society will bring them closer to the mainstream economy. MNREGA helps in giving assured employment, while there are many other schemes under which beneficiaries are getting cash deposits in their bank accounts through the direct benefit transfer system based on AADHAR (Unique Identification Number).
- **Promoting Equality of Opportunities and Outcomes:** There has been a decrease in dropout rates in schools and gender disparity has impacted the Gender Disparity Index. Education for all is important for creating equal opportunities for everyone regardless of caste or gender.
- **Designing Specialised Development Programmes:** Many programmes have been launched to target groups of vulnerable sections of the society to reduce inequities like *Beti Bachao, Beti Padhao*; Support to Training and Employment Programme for Women (STEP) and *Deendayal Disabled Rehabilitation Scheme* for persons with disabilities.
- **Social Protection Measures:** Social protection including health and education, in the form of pensions to vulnerable sections is being given through many schemes.
- **Financial Inclusion:** The number of Self-Help Groups (SHGs) has been increasing in India with the mobilisation of 6.1 million rural women into entrepreneurship-based SHGs.
- **Promoting Sustainable Migration and a Migrant-friendly Support System:** There is a gap between the quantitative and qualitative aspects of labour supply and demand. Migrant workers face many problems because of market uncertainties and now specifically with the COVID-19 pandemic.

The SDG India Index ranks SDG 10 at 64 implying a lot of work that needs to be done to reduce inequities in the society. The areas that need attention to achieve SDG 10 are:

- i) Better data sets disaggregated by gender, social category, income levels, religion and region.
- ii) The elderly, which is 8.6 per cent of the India's population, need social protection and measures.

- iii) Public service delivery of goods and services need better governance and implementation.
- iv) Better managed urban basic services systems, development of diverse and remunerative livelihood systems.

SDG 11: Sustainable Cities and Communities – Make cities and human settlements inclusive, safe, resilient and sustainable

The Government of India through its various schemes, missions, programmes and initiatives that are in tune with SDG 11 promotes inclusive and sustainable urbanisation, as well as aims to develop capacities for participatory, integrated and sustainable human settlement planning and management. The initiatives being taken by the Government of India for SDG 11 are:

- **Housing for all:** *Pradhan Mantri Awaas Yojana* (urban housing) ensures in-situ slum redevelopment, credit linked subsidy scheme and partnership with private sector. By the end of Financial Year 2019-20, out of the demand of 11.2 million housing, 3.2 million houses have been completed.
- **Sustainable Urbanisation and Mobility:** The National Urban Transport policy focuses on environment-friendly sustainable transport along with non-motorised transport innovations. The Sustainable Urban Transport Project is also being implemented in select cities for the promotion of sustainable transport. Disaster risk resilient cities and energy conservation building codes are being followed.

SDG 11 ranks at 53 on the SDG India Index. The challenges that need special focus to achieve the targets of this goal are:

- i) Weak capacity of urban local bodies – their financial autonomy, taxation powers and fund generation capabilities;
- ii) Air pollution;
- iii) Large cities have larger ecological footprints; and
- iv) Congestion and interlinked problems.

SDG 12: Responsible Consumption and Production – Ensure sustainable consumption and production patterns

Resource use efficiency, green employment, equitable access to basic services and better quality of life are integral to sustainable consumption and production. India has supported the ten-year framework of Programme on Sustainable Consumption and Production (10YFP). Given below are some initiatives that are being taken to achieve SDG 12:

- **Sustainable Food Systems:** Agriculture productivity has been focussed upon under programmes like Soil Health Cards and the National Mission on Sustainable Agriculture. Climate smart agriculture is a part of the solution while, surface and rainwater harvesting are being developed and promoted.
- **Resource Efficiency:** India, the second largest consumer of materials, is focussing upon augmenting resource efficiency and increasing the use of secondary raw materials to decouple growth from environmental impacts. The National Resource Efficiency Policy includes *four* important elements:

- i) Sustainable consumption of virgin resources;
 - ii) High material productivity with efficient circular approaches;
 - iii) Minimisation of waste; and
 - iv) Creation of employment opportunities.
- **Sustainable Construction and Buildings:** Green building and construction principles is the trend now and India ranks third (2018) on the global listing of LEED (Leadership in Energy and Environmental Design). The government has established the Green Rating for Habitat Assessment (GRIHA), and the Energy Conservation Building Code (ECBC).
 - **Public Procurement:** Public organisations have employed environmental energy efficiency criteria in their procurement decisions.
 - **Sustainable Tourism:** In 2019, tourism accounted for 8.1 per cent of all employment. However, 2020-21 years can be written off as the pandemic years. India has still operationalised the Comprehensive Sustainable Tourism Criteria for tour operators, accommodation and beaches; and backwaters, lakes and rivers.
 - **Waste Management:** India has adopted a sustainable development framework based on 'precaution' and 'polluter pays' principles.

SDG 12 ranks 55 on the SDG India Index. The challenges and way forward include the following:

- i) Sustainable supply chain;
- ii) Sustainable waste management because of population growth; and
- iii) Stop waste of food produced (40 per cent of food goes waste according to the Food and Agricultural Organisation)

SDG 13: Climate Action – Take urgent action to combat climate change and its impacts

India is ranked among the top 10 countries in the Climate Change Performance Index 2020 on account of low levels of per capita emissions and energy use, as well as 'well-below-2°C' renewable energy targets. India is taking the following measures:

- i) Climate action in Policies, Strategies and Planning;
- ii) Fulfilling global responsibilities;
- iii) Generating clean energy;
- iv) Reducing emission intensity; and
- v) Improving disaster risk reduction and preparedness.

SDG 13 ranks 60 on the SDG India Index. India must address the issues of:

- i) Disaster resilience;
- ii) Green technologies; and
- iii) Meeting energy needs.

SDG 14–Life below Water – Conserve and sustainably use the oceans, seas and marine resources for sustainable development

India regularly monitors possible pollution by oil, sea cargo, sewage and garbage, as well as air pollution by ships. Given below are the efforts being made regarding SDG 14:

- i) Containing marine pollution;
- ii) Conserving mangroves and coral reefs;
- iii) Protecting marine and coastal ecosystems; and
- iv) Promoting sustainable marine fishing.

SDG 14 ranks between 23 and 65 on the SDG India Index for its nine coastal states. The challenges and the way forward include the following major points:

- i) Improving sustainability across the shoreline for maintenance of fish catchments;
- ii) Scaling up of sustainability practices in fishing around the Indian coast;
- iii) Finding markets at international level in fish operations by upgrading certification, auditing and labelling;
- iv) Enhancing and facilitating timely finances; and
- v) Addressing the problem of indebtedness of fishermen due to adoption of mechanised boats.

SDG 15: Life on Land

The SDG 15 focuses to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation and biodiversity loss. The government has primarily adopted *three* strategies for conservation, development and management of forests – afforestation through natural and artificial regeneration, protection and management. The government is upscaling its efforts in:

- i) Managing forests;
- ii) Conserving wetlands and water bodies;
- iii) Protecting wildlife;
- iv) Combating desertification; and
- v) Conserving biodiversity.

SDG 15 ranks at 66 on the SDG India Index. India needs to focus on areas like green industrialisation choices; skill development for geo-ecological zones; and long-term programmes for saving of endangered faunal species.

SDG 16: Peace, Justice and Strong Institutions

SDG 16 focuses on the promotion of peaceful and inclusive societies for sustainable development, provision of access to justice for all and building effective, accountable and inclusive institutions at all levels. India is working in the areas of:

- i) Reducing violence;
- ii) Access to justice;
- iii) Accountable and transparent institutions;

- iv) Ethics in governance; and
- v) Legal identity for all.

SDG 16 ranks at 72 on the SDG India Index. The government must take more proactive steps in areas of upgrading data concerning offences and violence; digitisation of the society in all areas; and data privacy and security.

SDG 17: Partnerships for the Goals

India is working towards strengthening the means of implementation and revitalisation of global partnership for sustainable development. The areas of focus are:

- i) Augmenting domestic resource mobilisation;
- ii) Improving public expenditure;
- iii) Promoting entrepreneurship and private sector;
- iv) Strengthening the south-south cooperation;
- v) Coalition-based approach; and
- vi) Improving data, monitoring and accountability.

Check Your Progress 2

- Note:** i) Use the space given below for your answers.
ii) Check your answers with those given at the end of the Unit.

1. What are Sustainable Development Goals? Discuss the features of SDG 1 to SDG 5 and explain the efforts that India is making to achieve them.

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2. Write a short note on SDG 6: Clean Water and Sanitation.

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3. Describe SDGs 7, 8, 9 and 10 with special reference to India.

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4. Briefly discuss SDGs 11 to 17 in context of India.

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4.4 CONCLUSION

SDGs in a pandemic hit world assume even more importance to combat the problems of health and economy. International cooperation among countries is essential to move together globally towards 2030 although each country has to face specific individual challenges. Technology and science are making new leaps everyday, which necessitate building institutional capacities of governments for proper governance of frontier technologies. India’s philosophy of *Vasudhaiva Katumbhkam*, meaning that ‘the world is one’ is depicted in the SDGs. The approaches and interventions to ‘leave no one behind’ are crucial to India’s implementation of SDGs. Recognising this, the country has consciously adopted a paradigm shift from a ‘whole of government’ to ‘a whole of society’ approach by engaging all key stakeholders. This Unit discussed all the Sustainable Development Goals in detail.

4.5 GLOSSARY

Anthropocene Age: This is the *Anthropocene Age*, that is, the human-driven age of the planet. The human activity is pushing the capacity of global ecosystem functions, which could result in disasters.

Decade for Action: Since the world has entered the last decade before the end-date of 2030 regarding SDGs, it has been called the “Decade for Action”.

Deendayal Disabled Rehabilitation Scheme: The umbrella Central Sector Scheme of this Ministry called the “Scheme to Promote Voluntary Action for Persons with Disabilities” was revised w.e.f. 01.04.2003 and was renamed as the “Deendayal Disabled Rehabilitation Scheme (DDRS)”. However, while revision of the Scheme took place in 2003, the cost norms of 1999 had remained unchanged. The revision of the cost norms has become imperative to compensate for the price rise. The Consumer Price Index (CPI) for Industrial workers has risen by 38 per cent from 1999 to 2007. It has been decided to revise the cost norms for honoraria, recurring items and nonrecurring items of expenditure. The Scheme has also been revised to the extent that there has been widening of the scope of the model projects.

Objectives of this Scheme are as follows:

- Create an enabling environment to ensure equal opportunities, equity, social justice and empowerment of persons with disabilities.
- Encourage voluntary action for ensuring effective implementation of the People with Disabilities (Equal Opportunities and Protection of Rights) Act of 1995.

ICDS: The Integrated Child Development Services (ICDS) Scheme was launched with the objectives to: i) improve the nutritional and health status of children in the age-group 0-6 years; ii) lay the foundation for proper psychological, physical and social development of the child; iii) reduce the incidence of mortality, morbidity, malnutrition and school dropout; iv) achieve effective co-ordination of policy and implementation amongst the various departments to promote child development; and v) enhance the capability of the mother to look after the normal health and nutritional needs of the child through proper nutrition and health education.

In order to achieve these objectives, a package of six services namely: i) Supplementary Nutrition (SNP), ii) immunisation, iii) health check-up, iv) referral services, v) pre-school non-formal education and vi) nutrition & health education were initiated.

MGNREGA: It was initiated with the objective of “enhancing livelihood security in rural areas by providing at least 100 days of guaranteed wage employment in a financial year, to every household whose adult members volunteer to do unskilled manual work”. Another aim of MGNREGA is to create durable assets (such as roads, canals, ponds, wells). Employment is to be provided within 5 km of an applicant’s residence, and minimum wages are to be paid. If work is not provided within 15 days of applying, applicants are entitled to an unemployment allowance. Thus, employment under MGNREGA is a legal entitlement.

National Food Security Act 2013: It aims to ensure food security in India, chiefly by providing cereals at subsidised prices through the Targeted Public Distribution System (TPDS) for about two-thirds of households.

Pradhan Mantri Jan Dhan Yojana (PMJDY): The government came out with this PMJDY scheme to install a framework of *financial inclusion* that incentivises people to move into the formal credit system. Provision of Zero Balance Account and facilities such as RuPay Cards have been quite a popular boost for the lower-strata of people. Objectives of PM Jan-Dhan Yojana are to:

- Cover all households in the country with banking facilities, and opening a bank account for each household.
- Provide an integrated framework of formal credit to the citizens.
- Ensure the transfer of subsidies through the Direct Benefit Transfer (DBT) mode in a single place.
- Offer various kinds of banking services like the basic savings bank account, remittances facility, insurance, and pension to the unbanked population.
- Expand the net of financial security for the population.
- Promote financial inclusion within the nation.
- Provide micro-insurance facilities to the people.
- Create a Credit Guarantee Fund to cover the defaults in overdraft accounts.
- Establish a direct connection between the government and the unbanked population, thus eliminating the need for money-lenders and middle-men.
- Promote the habit of saving among individuals.

- Embark on a journey of financial literacy programme to let people know about the financial services being offered by the country's banking system.
- Provide banking services and banking outlets within 5 KM distance of every village.
- Ensure the accessibility of financial products at an affordable cost.
- Inculcate financial technology into the banking system by roping in e-KYC, IMPS etc.

Pradhan Mantri Fasal Bima Yojana (PMFBY) : The new Crop Insurance Scheme is in line with One Nation – One Scheme theme. It incorporates the best features of all previous schemes and at the same time, all previous shortcomings / weaknesses have been removed. The PMFBY will replace the existing two schemes National Agricultural Insurance Scheme as well as the Modified National Agricultural Insurance Scheme. The objectives of Pradhan Mantri Fasal Bima Yojana are to:

- Provide insurance coverage and financial support to the farmers in the event of failure of any of the notified crop as a result of natural calamities, pests and diseases.
- Stabilise the income of farmers to ensure their continuance in farming.
- Encourage farmers to adopt innovative and modern agricultural practices.
- Ensure flow of credit to the agriculture sector.

Pradhan Mantri Garib Kalyan Yojana: It was launched in the year 2016 by Prime Minister Narendra Modi along with the other provisions of the Taxation Laws (Second Amendment) Act, 2016. It came into effect from 17th December 2016 under the Ministry of Finance.

Pradhan Mantri Krishi Sinchai Yojana: The overarching vision of this Yojana is to ensure access to some means of protective irrigation to all agricultural farms in the country, to produce 'per drop more crop', thus bringing much desired rural prosperity. The objectives of the scheme are:

- Achieve convergence of investments in irrigation at the field level (preparation of district level and, if required, sub-district level water use plans).
- Enhance the physical access of water on the farm and expand cultivable area under assured irrigation (Har Khet ko Pani).
- Integration of water source, distribution and its efficient use, to make best use of water through appropriate technologies and practices.
- Improve on - farm water use efficiency to reduce wastage and increase availability both in duration and extent.
- Enhance the adoption of precision - irrigation and other water saving technologies (More Crop per Drop).
- Enhance recharge of aquifers and introduce sustainable water conservation practices.
- Ensure the integrated development of rainfed areas using the watershed approach towards soil and water conservation, regeneration of ground water, arresting run off, providing livelihood options and other activities.

- Promote extension activities relating to water harvesting, water management and crop alignment for farmers and grass root level field functionaries.
- Explore the feasibility of reusing treated municipal waste water for peri - urban agriculture.
- Attract greater private investments in irrigation.

Pradhan Mantri Matru Vandana Yojana : It is a Maternity Benefit Programme that is implemented in all the districts of the country in accordance with the provision of the National Food Security Act, 2013 with the following objectives :

- Providing partial compensation for the wage loss in terms of cash incentives so that the woman can take adequate rest before and after delivery of the first living child.
- The cash incentive provided would lead to improved health seeking behaviour amongst the Pregnant Women and Lactating Mothers.

4.6 REFERENCES

WHO. (2019). *Millennium Development Goals*. Retrieved from https://www.who.int/topics/millennium_development_goals/en/

NITI Aayog. (2020). *India VNR, Decade of Action – Taking SDGs from Global to Local*. New Delhi, India: NITI Aayog.

The Hunger Project. (2015). Open Working Group on Sustainable Development Goals. Retrieved from https://www.who.int/topics/millennium_development_goals/en/

4.7 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress 1

1. Your answer should include the following points:

- Zero goals
- Universal goals
- Comprehensive
- Hunger
- Inclusivity
- Hunger and poverty
- Funding
- Peace building
- Data revolution
- Quality education

Check Your Progress 2

1. Your answer should include the following points:

- SDG 1: No Poverty - End poverty in all its forms everywhere

- SDG Localisation Model
- Voluntary National Review
- SDG 2: Zero Hunger – End hunger, achieve food security, improve nutrition and promote sustainable agriculture
- SDG 3: Good Health and Well-being – Ensure healthy lives and promote well-being for all at all ages.
- SDG 4: Quality Education – Ensure inclusive equitable quality education and promote lifelong learning opportunities for all.
- SDG 5: Gender Equality – Achieve gender equality and empower all women and girls

2. Your answer should include the following points:

- SDG 6: Clean Water and Sanitation – Ensure availability and sustainable management of water and sanitation for all:
 - Safe and Affordable Drinking Water
 - Water Quality
 - Sanitation and Hygiene

3. Your answer should include the following points:

- Efforts made by India to achieve the SDGs
- SDG 7: Affordable and Clean Energy – Ensure access to affordable, reliable, sustainable and modern energy for all.
- SDG 8: Decent Work and Economic Growth – Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.
- SDG 9: Industry, Innovation and Infrastructure – Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation.
- SDG 10: Reduced Inequalities – reduce inequality within and among countries.

4. Your answer should include the following points:

- SDG 11: Sustainable Cities and Communities – Make cities and human settlements inclusive, safe, resilient and sustainable.
- SDG 12: Responsible Consumption and Production – Ensure sustainable consumption and production patterns.
- SDG 13: Climate Action – Take urgent action to combat climate change and its impacts.
- SDG 14 – Life below water – Conserve and sustainably use the oceans, seas and marine resources for sustainable development.
- SDG 15: Life on Land.
- SDG 16: Peace, Justice and Strong Institutions.
- SDG 17: Partnerships for the Goals.

