

SDG15 – LIFE ON LAND

CONCISE GUIDES TO THE UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

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SDG15 – LIFE ON LAND

Towards Effective Biodiversity Management

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PREFACE

The current state of biological diversity, critical for the survival of life on Earth, is in great peril. According to the Sustainable Development Goals (SDG), urgent actions are needed to address loss of biodiversity across the globe. This task is central to the aim of Sustainable Development Goal 15 (SDG-15) to provide a better future by:

- Protecting biodiversity.
- Restoring natural ecosystems.
- Promoting the sustainable use of biodiversity.
- Sustainably managing forests.
- Combating desertification.
- Reversing land degradation.
- Attenuating biodiversity loss.

This book, the first of its kind, seeks the implementation of SDG15 through effective biodiversity management strategies, by mainstreaming biodiversity, and proposing solutions to achieve and consolidate the goals beyond 2020. It draws on experienced faculty scientists who are experts in natural resource governance issues in a wide variety of fields ranging from forestry, biodiversity conservation policy to climate change. Following a general account of the SDGs, ‘Towards effective biodiversity management’ sets the tone by providing

assessments of the monitoring mechanism of SDG15 targets and indicators. This is followed by assessment of the significance of the forest ecosystem as the foundation for sustainable development, drawing on examples from across the regions. From a global policy perspective, the book demonstrates in an integrative manner how the essentials of ‘Life on Land’ (SDG15) can contribute effectively towards achieving the SDG targets and presents SDG15 as an appropriate tool for mainstreaming biodiversity across the policy sectors of governance. The book will be of great interest to natural resource policy-makers, scholars and students of natural resources, development studies and sustainable development, as well as those engaged in international climate change discourse and Non-Governmental Organisation practitioners.

Authors

EXECUTIVE SUMMARY

Our understanding of biodiversity conservation and functional sustainability has been developing progressively over the past decades. Evidence abounds today to suggest that biodiversity is critical for ecosystem functions and services upon which life on land depends. Biodiversity is directly linked to the economic, social and environmental components of the sustainability equation. As a result of this, a nexus of scientific research, from the tripartite sustainability triangle has become paramount. This book, the development of life on land (SDG15), targets specific indicators and their integration with other Sustainable Development Goals (SDGs) for addressing effectively ecosystem management. With this, a number of research priorities allow for an integrated approach towards achieving the implementation of the 2030 Agenda and implementation of National Biodiversity Strategies and Action Plans (NBSAP) for biodiversity conservation.

These priorities include research that will improve our understanding of (1) ecosystem services and functions provided by biodiversity that benefit humans; (2) the connection between biodiversity and poverty reduction; (3) biodiversity and agriculture; (4) issues relating to indigenous knowledge of biodiversity; and (5) the development of indicators that allow for an integrative assessment of biodiversity conservation and sustainability objectives. The book concludes by devising an appropriate tool for mainstreaming biodiversity across the policy sectors of governments.

Chapter 1 sets the context and includes a description of the global SDGs with specific emphasis on SDG15 – Life on Land. This chapter highlights the importance of the SDGs’ five dimensions: people, prosperity, peace, partnership and planet, as the basis for sustainable development.

Chapter 2 describes the foundation concepts of SDG15, namely, earth, forest and biodiversity. This chapter also includes a description of environmental, wildlife and climate change, explaining that the Earth is the only planet hosting life as we know it. However, a depletion of natural resources caused by unsustainable use by human beings, poses a grave threat to the future of life.

Chapter 3 discussed the essentials of SDG15, that is, the targets and indicators and progress towards their achievement.

Chapter 4 elaborates on the key drivers of biodiversity loss and impacts upon life on land. The various drivers responsible for impacting nature include the direct and indirect drivers of biodiversity change. We present and analyse both direct drivers (fragmentation, land-use change, habitat degradation, pollution, overexploitation and climate change), and indirect drivers (governance regime, unsustainable economic growth and finances).

Chapter 5 discusses key solutions for implementing ‘SDG15 – Life on Land’ for an effective management of biodiversity loss. Various policy instruments, regulatory mechanisms, acts and legislation address biodiversity loss and help implement SDG15. Policy instruments include social, financial, economic and environmental tools. The Biodiversity Finance Initiative (BIOFIN) project of UNDP is the key project in helping to achieve SDG15 through a set of financial solutions, including payment for ecosystem services, corporate social responsibility, access and benefit sharing, biodiversity offsets, debt instruments, etc. Another solution proposed here is convergence with other SDGs.

The major solution in implementing SDG15 is the mainstreaming of biodiversity conservation in the various policy and governance sectors of the government. The concept of mainstreaming is recognised at a global level by the Convention on Biological Diversity (CBD). Under the CBD, at the national level, most NBSAPs recognise the linkages between biodiversity and development and include targets for mainstreaming. Similarly, the National Development Plans, National Sustainable Development Plans and green growth strategies of some countries include, to a greater or lesser extent, consideration of biodiversity. Continuing challenges in the design and implementation of biodiversity mainstreaming measures include effective horizontal and vertical institutional coordination; adequate human resources and capacity, particularly within sector line ministries; the collection and dissemination of policy-relevant data for mainstreaming; and tracking and mobilising financial resources for biodiversity in the context of national budgets and beyond. The CBD and governments are fully cognisant of the importance and critical role of mainstreaming and mobilising financial resources for biodiversity, but in practice have made little progress and struggle to find ways forward.

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INTRODUCTION TO SUSTAINABLE DEVELOPMENT GOALS (SDGs) AND 'SDG15 – LIFE ON LAND'

The world is facing various pressures and challenges to the survival of humankind and the existence of wildlife in all three dimensions of sustainable development: the economic, social and environmental. Hence, global action is required to deliver the legitimate aspiration for economic and social progress to ensure human well-being and to strengthen environmental protection to save the planet. The 2019 coronavirus (Covid-19) pandemic challenges people to rethink their relationship with nature, and to consider its profound consequences on human well-being and the survival of the planet.

In response to the issues and challenges of sustainable development in all three dimensions, the global community came together and agreed on 17 Global Sustainable Development Goals (SDG) at the United Nations (UN) Conference on Sustainable Development in Rio de Janeiro in 2012, with the objective of meeting the urgent environmental, political and economic challenges facing the world. One of the

most important outcomes of the Rio +20 UN Conference on Sustainable Development was the decision by governments to develop and adopt a set of SDGs as a framework for pursuing focussed and coherent actions on sustainable development by building on existing commitments.

The SDGs are the blueprint for achieving a better and more sustainable future for all. They address the global challenges we face, including poverty, inequality, climate change, environmental degradation, peace and justice. The SDGs are a bold universal agreement to sustainably develop the world, for people, planet and prosperity through peace and partnership by 2030. The SDGs have been developed through an unprecedented consultative process that brought national governments and millions of citizens from across the globe together to negotiate and adopt the ambitious agenda. The 17 SDGs and 169 targets are a part of *Transforming our world: The 2030 Agenda for Sustainable Development*, adopted by 193 Member States at the historic UN General Assembly Summit in September 2015, and came into effect on 1 January 2016. The SDGs aimed at promoting prosperity by the end of the year 2030 for everyone and a more sustainable path for our planet and economy. The SDGs are integrated and indivisible; they balance the three dimensions of sustainable development: the economic, social and environmental. The goals recognise that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequalities and spur economic growth, all while tackling climate change and working to preserve the ecological integrity of ecosystems (SDG History, 2015).

Sustainable development is grounded in five dimensions: people, planet, prosperity, peace and partnership, which provide new guidance for any intervention of an achievement of appropriate development, while overcoming societal challenges, across the world. For a development intervention

to be sustainable, decision-makers need to consider to what extent it is to be developed, owned and carried forward (Sow, 2016). The five dimensions are explained briefly in the following headings (Fig. 1.1):

People: End poverty and hunger in all its forms; ensure that all human beings can fulfil their potential in dignity and equality and live in healthy environments.

Planet: Protect the planet from degradation, promote sustainable consumption and production and sustainable management of natural resources, while taking urgent action on climate change.

Prosperity: Ensure that all human beings can enjoy prosperous and fulfilling lives and that economic, social and technological progress occurs in harmony with nature.

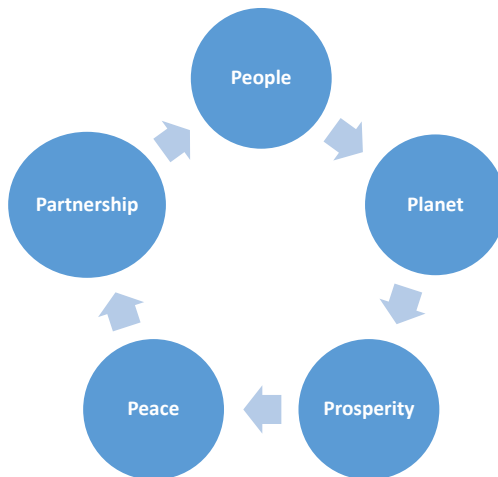


Fig. 1.1. Five Dimensions of Sustainable Development.

Source: www.unic.org.in.

Peace: Foster peaceful, just and inclusive societies which are free from fear and violence. There can be no sustainable development without peace, and no peace without sustainable development.

Partnership: Mobilise the means to implement this Agenda through a revitalised Global Partnership for Sustainable Development, based on a spirit of strengthened global solidarity, focussed on the needs of the poorest and most vulnerable and with the participation of all countries, all stakeholders and all people.

The 17 SDGs to transform our world are:

Goal 1: No Poverty.

Goal 2: Zero Hunger.

Goal 3: Good Health and Well-being.

Goal 4: Quality Education.

Goal 5: Gender Equality.

Goal 6: Clean Water and Sanitation.

Goal 7: Affordable and Clean Energy.

Goal 8: Decent Work and Economic Growth.

Goal 9: Industry, Innovation and Infrastructure.

Goal 10: Reduced Inequality.

Goal 11: Sustainable Cities and Communities.

Goal 12: Responsible Consumption and Production.

Goal 13: Climate Action.

Goal 14: Life Below Water.

Goal 15: Life on Land.

Goal 16: Peace, Justice and Strong Institutions.

Goal 17: Partnerships to achieve the Goal.

Biodiversity loss and a depletion of natural resources have been on the global development agenda for many decades, from the United National Conference on Environment and Development (UNCED) in 1972, to the United Nations Convention on Biological Diversity (UNCBD) in 1992 and the Millennium Development Goals of 2000. Emanating from previous commitments, SDG15 – Life on Land, provides new insights to protect and restore life on land through sustainable forest management (SFM) and by combating desertification, preventing and restore land degradation and halting biodiversity loss. To achieve the key goal of SDG15, conservation provisions and actions should ideally be implemented as soon as possible, ensuring that the most affected communities are engaged in protecting biodiversity.

‘SDG15 – Life on Land’ aims to sustainably manage forests, combat desertification, halt and reverse land degradation and halt biodiversity loss. A flourishing life on land is the foundation for our life on this planet. We are all part of the planet’s ecosystem and we have caused severe damage to it through deforestation, loss of natural habitats and land degradation (Global Goals, n.d.). Promoting sustainable use of our ecosystems and preserving biodiversity is not a cause but is the key to our survival. The five subjects are integrated with each other and form the foundations of SDG15, the Environment, Forest, Biodiversity and Climate Change (Fig. 1.2).

These initial chapters provide an introduction to the SDGs, the foundation concepts of SDG15 and the root-cause analysis of biodiversity loss. The final chapters recommend possible solutions for implementation of SDG15 through various policy instruments and establishing synergies with other global SDGs.

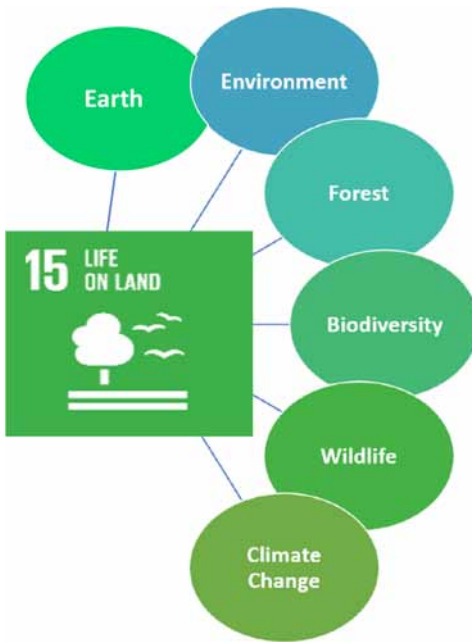


Fig. 1.2. Foundations of SDG15 – Life on Land.

Nevertheless, over the years, there has been progressive pressure on the environment and the natural resources, the alarming consequences of which are becoming evident in increasing proportions. These consequences detract from the gains of development and worsen the standard of living of the poor who are directly dependent on natural resources. It is in this context that we need to give a new thrust towards conservation and sustainable development. To this end, we must ensure that the demand on the environment from which we derive our sustenance, does not exceed its carrying capacity for the present as well as future generations.

2

FOUNDATIONS OF 'SDG15 – LIFE ON LAND': EARTH, FORESTS AND BIODIVERSITY

2.1 THE IMPORTANCE OF THE EARTH

The Earth is the only planet in the universe that, as far as we know, can support life. The Earth's ecosystems provide environmental services and fulfil the necessities of life for all living beings, including humans, free of charge, continuously, voluntarily and generously (Agus, 2018). Every living organism on Earth needs oxygen to breathe, water to drink and organic food to eat. If the oxygen supply is cut off by a few minutes, water by a few days or food by a few weeks, higher organisms will die, cannot be revived, and will become extinct from the face of this Earth (Agus, Azmi, et al., 2019).

Terrestrial ecosystems provide a range of goods, raw materials for construction, energy, food and ecosystem services. They provide carbon capture services, the maintenance of soil quality, the provision of habitat for biodiversity, water quality maintenance and water regulation. Maintaining these ecosystems helps mitigate natural disasters (such as floods

and landslides), maintain the productivity of agricultural systems, and adapt to climate change (UNEP, 2020a). As the dominant species on this Earth, human beings have damaged its ecosystems, which provide oxygen, water, food, fertiliser, feed, medicine, temperature and other sources of life (Agus, 2013).

We are an inseparable part of this Earth, so we must take good care of it for the sake of our lives (Agus, 2018). Excessive exploitation of the Earth has had global consequences (Agus, Azmi, et al., 2019; Agus, Hendry, et al., 2019; Agus, Primananda, Faridah, Wulandari, & Lestari, 2019). Efforts to improve the quality of the environment need to become a significant part of our daily lives. Real awareness and a contribution by all parties to the common interest are needed to build a more dignified and sustainable environment and life.

Our Earth, which is 4.5 billion years old, is now inhabited by around 7.3 billion people and this will increase to 9.5 billion in the twenty-second century. The lack of food, water and energy supplies have sparked new conflicts that are spreading around the world (Agus, 2013). We can prevent more severe damage to the Earth through our own genuine efforts, starting with us, right now in this place and in the simplest way. Awareness and the contribution of all parties to the common interest are required to construct a more dignified and sustainable environment and life (Agus, Azmi, et al., 2019).

The United States Space Agency (NASA) discovered Earth 2.0 as a planet that resembles our current Earth (released Thursday, 23 July 2015). The planet, called Kepler-452b, is 60% larger than the Earth, with an orbital period of 385 days, $2 \times$ gravity, thick atmosphere, cloudy skies and an active volcano; it is 1,400 light-years from Earth. The simulation results show that temperature, water availability and sunlight appear, like on our Earth, to be sources of life.