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Global Challenges for Government Transparency in Achieving SDG 15 (Life on Land): A Review of Trends (2016–2025)

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ABSTRACT

Sustainable development requires balancing economic growth with the protection of ecological systems that sustain human well-being. Within the 2030 Agenda, Sustainable Development Goal 15 (Life on Land) focuses on conserving terrestrial ecosystems, halting biodiversity loss, restoring degraded land, and promoting sustainable forest management. Despite global commitments, progress remains uneven, with continued deforestation, accelerating species extinction, and widespread land degradation. This study provides a critical analytical review of global trends related to SDG 15 during the period 2016–2025, with particular emphasis on the role of government transparency and governance effectiveness. The analysis is based on secondary data drawn primarily from United Nations Department of Economic and Social Affairs (UN DESA) Sustainable Development Goals Reports (2016–2025), supplemented by key global assessments from organizations such as IPBES, FAO, and WWF. Using a qualitative review approach, the paper examines patterns in forest loss, biodiversity status, key biodiversity area (KBA) protection, land degradation, and illegal wildlife trade. Findings indicate that while certain regions show progress in conservation and policy interventions, global trends remain insufficient to meet SDG 15 targets by 2030. Weak transparency mechanisms, data gaps, and fragmented governance structures continue to hinder effective implementation. The study highlights that improved accountability, open data systems, and coordinated multi-stakeholder governance are essential for accelerating progress. Strengthening institutional transparency is therefore not only a governance priority but a critical enabler for achieving sustainable terrestrial ecosystem management under SDG 15.

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1. Introduction

Natural resources form the foundation of life on Earth, sustaining ecological systems and supporting human development. The rapid advancement of modern civilization has been largely driven by the intensive utilization of these resources across sectors such as industry, infrastructure, healthcare, and urban development. However, such progress is sustainable only when economic growth and improvements in human well-being are achieved without undermining the integrity, resilience, and functioning of natural ecosystems. Increasing environmental degradation, biodiversity loss, and climate-related risks highlight the urgent need to rebalance development pathways toward sustainability. The global community currently faces a complex set of interrelated challenges, including poverty, food insecurity, public health concerns, inequality, inadequate access to clean water and energy, and environmental degradation. Recognizing the interconnected nature of these issues, the United Nations adopted the 2030 Agenda for Sustainable Development in 2015 as a comprehensive framework to guide global development efforts. This agenda outlines 17 Sustainable Development Goals (SDGs), which collectively aim to promote economic prosperity, social inclusion, and environmental sustainability by 2030.

Among these goals, SDG 15 (Life on Land) focuses specifically on the conservation, restoration, and sustainable use of terrestrial ecosystems. It addresses critical concerns such as deforestation, land degradation, biodiversity loss, and the protection of key biodiversity areas. Despite global commitments and policy initiatives, progress toward achieving SDG

15 remains uneven and insufficient. Ongoing forest loss, accelerating species extinction rates, and the degradation of land resources continue to pose significant challenges to ecological stability and human well-being.

A defining feature of the SDGs is their interconnected and integrated nature, which requires coordinated action across sectors, institutions, and governance levels. In this context, effective governance particularly transparency, accountability, and data accessibility plays a crucial role in translating commitments into measurable outcomes. Transparent governance systems enable evidence based decision making, strengthen public trust, and facilitate monitoring and evaluation processes. Conversely, weak institutional frameworks, limited data availability, and fragmented policy implementation can significantly hinder progress.

The inter-linkages and integrated nature of the Sustainable Development Goals are of key importance in achieving the purpose of goals. It needs a complete awareness across the full extent of the Agenda to improve profoundly and transform the world. Besides, transparent Governmental governance plays a crucial role in the effective implementation of SDGs, particularly SDG-15, by enhancing public accountability and enabling evidence based decision-making (Meijer and Bolívar, 2016).

Against this backdrop, the present study provides a critical analytical review of global trends related to SDG 15 (Life on Land) during the period 2016–2025, with particular emphasis on the role of government transparency and governance effectiveness. Drawing upon major international assessments and Sustainable Development Goal reports, the study evaluates progress in forest conservation, biodiversity protection, land restoration, and wildlife protection, while identifying governance-related challenges that continue to hinder achievement of SDG 15 targets. The review further highlights the importance of transparency, accountability, and evidence-based environmental governance in accelerating progress toward sustainable terrestrial ecosystem management.

2. SDG Governance, Government trans-parency and Environmental sustainability governance

Governance is now established as a dominant paradigm in understanding national, sub-national and global politics. Governance, Politics and the State considers how societies are being, and can be, steered in a complex world where states must increasingly interact with and influence other actors and institutions to achieve results (Pierre and Peters, 1998). Despite the fact, governance constitutes a particularly important subject of theoretical and empirical analysis. Due to the multidimensional nature of the notion of governance, it can be conceptualized in various ways emphasizing its different perspectives with the main focus on its economic and political aspects (Bevir, 2011).

The Democratic Governance Theory (DGT) expounds the importance governance in all issues of public services delivery and accessibility to resources such as land. DGT is capable of bringing different actors together for one common goal with creating the conditions for ordered rule and collective action (Pierre and Peters, 1998).

SDG Governance refers to the frameworks, institutions, policies, and processes needed for effective implementation of the UN's Sustainable Development Goals (SDGs). It is focusing on integrated planning, multi-stakeholder collaboration (government, private sector, civil society), accountability, and coordination across sectors and levels to achieve the 17 interconnected goals by 2030.

Government policies and transparency in relation to Sustainable Development Goals (SDGs) involves different aspects like open data, accountability, and citizen participation, tracking progress, etc. Public budgets and accountability systems are usually aligned with departmental structures and have difficulty tracking outcomes that occur in multiple policy areas of government. Solid monitoring and evaluation and the strategic use of the information generates through the overall transparency of a policy-making process. Digital governance platforms such as PARIVESH and the Afforestation Project Online (APO) portal enhance transparency, streamline environmental clearances, and improve monitoring of afforestation activities (MoEFCC, 2022).

The passing of the SDGs has sparked enormous academic attention. Many consider the interrelation, synergies and trade-offs between the goals (Le Blanc, 2015; Nilsson et al., 2018; Weitz et al., 2018; Pradhan et al., 2017; Spaiser et al., 2017; Stafford-Smith et al., 2017) or the SDG indicators and measurement of the SDGs more broadly (Reyers et al., 2017; Hak et al., 2016; Allen et al., 2017). The role of gover-

nance for the SDGs has mainly been addressed from a normative point of view (Boas et al., 2016; Bowen et al., 2017; Kanie et al., 2014; Meuleman and Niestroy, 2015). The governance for the SDGs needs to foster an enabling environment for collective action, ensure that the actors involved are held accountable and deal with emerging complex trade-offs between the goals (Bowen et al., 2017). In this context, governance has been referred to as the "fourth pillar of sustainable development" (Kanie et al., 2014).

A common feature across the various definitions of governance is a distinction between government and governance, rejecting a view of the state as monolithic entity and the government as primary and unitary actor responsible for policy-making and implementation (Bevir, 2011; Pierre and Peters, 1998). Government can rather be understood as a central component of governance (Meadowcroft, 2007). Consequently, governance as a multi-dimensional concept covering different actors, processes, structures and institutions involved in political decision-making and implementation (Treib et al., 2007; Driessen et al., 2012).

Similarly, the concept of sustainable development has been considered to be only vaguely defined and highly normative (Newig et al., 2007; Meadowcroft, 2000). The term sustainable development came to prominence in 1987, when the World Commission on Environment and Development (WCED) issued its report. Here, the development was described as being sustainable when "it meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987). The 2030 Agenda and the SDGs, the international community has reached an agreement on the concept of sustainable development through its 17 goals, 169 targets and 232 indicators, triggering new research approaches which can be highly relevant to the political and societal implementation of the Agenda.

In the context of sustainable development, governance is regarded as an essential and indispensable steering tool (Van Zeijl-Rozema et al., 2008). According to Meadowcroft (2007), sustainable Governance refers when policy-making and implementation involve complex state-society interactions that aim at achieving a more sustainable future. Scholars of environmental governance, essentially contributing to the broader sustainability governance discourse, equally underline its multidimensional nature (Driessen et al., 2012).

The United Nations Environment Programme's Annual Report 2023 highlights UNEP's activities related to climate action, biodiversity conservation, pollution control, environmental governance, and sustainable development (UNEP, 2023).

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3. 17 SDGs; an overview

3.1. Goal 1. No poverty

It calls for an end to poverty in all its manifestations over the next 15 years. All people in the world should enjoy a basic standard of living and social protection benefits. Appropriate social protection systems and measures are to be implemented with substantial coverage of the poor and the vulnerable by 2030. Extreme poverty presumed to be eradicated everywhere above the currently measured as people living on less than $1.25 a day (United Nations, MDG, 2015, p. 17).

3.2. Goal 2. Zero hunger

It emphasises to end hunger and all forms of malnutrition and to achieve sustainable food production by 2030. Everyone including children less than 5 years of age, and nutritional needs of adolescent girls, pregnant and lactating women and older person should have access to sufficient nutritious.

3.3. Goal 3. Good health and well-being

The goal aims to ensure health and well-being for all by improving reproductive, maternal and child health. Epidemics of major communicable, non-communicable and environmental diseases are to be reduced, ensuring affordable and effective medicines and vaccines for all by 2030.

3.4. Goal 4. Quality education

Acquisition of higher-order skills, greater and more equitable access to technical and vocational education training and higher education, and the knowledge, skills and values are the major prospective of this goal. It ensures that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes by 2030.

3.5. Goal 5. Gender equality

It aims to empower women and girls, eliminating all forms of discrimination and violence against them by 2030. It also ensures that they have every opportunity for sexual and reproductive health and reproductive rights. All women and girls have to receive due recognition for their unpaid work and enjoy equal participation with men in political, economic and public life.

3.6. Goal 6. Clean water and sanitation

It seeks to provide safe drinking water, ensuring sanitation and hygiene, and to address the quality and sustainability of water resources by 2030. It needs to expand international co-operation and garnering the support of local communities in improving water and sanitation management.

3.7. Goal 7. Affordable and clean energy for all

It promotes broader energy access and increased use of renewable energy. Universal access requires expanding access to electricity and clean cooking fuel. To achieve this Goal by 203, international cooperation and expanded infrastructure and technologies are to be enhanced for clean energy.

3.8.Goal 8. Decent work and economic growth

Sustainable economic growth is a prerequisite for global prosperity and opulence. The goal aims to provide opportunities for full and productive employment and decent work for all. It helps to eradicate forced labour, human trafficking and child labour. Full and productive employment and decent work for all women and men be achieved by 2030, and equal pay for work of equal value.

3.9.Goal 9. Industry, innovation and infrastructure

It focuses on the promotion of infrastructure development, industrialization and innovation. This can be accomplished through enhanced international and domestic financial, technological and technical support, research and innovation, and increased access to information and communication technology.

3.10. Goal 10. Reduced inequality within and among countries

It addresses for reducing inequalities in income, sex, age, disability, race, class, ethnicity, religion and opportunity within and among countries. It aims to achieve progressively and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average by 2023.

3.11. Goal 11. Sustainable cities and communities

It ensures to renew and plan cities and other human settlements in a way that fosters community cohesion and personal security. By 2030, it entrusts access for all to adequate, safe and affordable housing and basic services.

3.12. Goal 12. Ensure sustainable consumption and production patterns

It intends to promote sustainable consumption and production patterns through specific policies and international agreements. It also ensures to implement the 10-year framework of programmes on sustainable consumption and production.

3.13. Goal 13. Climate action

Climate change presents the single biggest threat to development. Urgent action is needed not only to combat climate change and its impacts, but also to build resilience in responding to climate-related hazards. It aims to strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries and to integrate climate change measures into national policies, strategies and planning.

3.14. Goal 14. Life below water

Marine resources are particularly important for people living in coastal communities, who represented 37 per cent of the world's population in 2010 (UN DESA, 2016–2025, p. 57 (2016)). This Goal seeks to pro-mote the conservation and sustainable use of marine and coastal ecosystems. It also aims to prevent marine pollution and increase the economic benefits to SIDSs (Small Island Developing States) and LDCs (Landlocked Developing Countries).

3.15. Goal 15. Life on land

It focuses on managing forests sustainably, restoring degraded lands and successfully combating desertification, reducing degraded natural habitats and ending biodiversity loss. Urgent and significant action is to be taken to halt the loss of both geological and biodiversities.

3.16. Goal 16. Peace, justice and strong institutions:

It seeks to promote peaceful and inclusive societies based on human rights, good governance, and transparent, effective and accountable institutions. Many countries still face protracted violence and armed conflicts. Persistent threats to human security across the globe disrupt peace and sustainable development worldwide, which are due to weak institutions and lack access to justice, information and other fundamental freedoms.

3.17. Goal 17. Partnerships for the Goals:

To reach the target by 2030, the 2030 Agenda requires a revitalized and enhanced global partnership from Governments, civil society, the private sector, the United Nations system and other actors. Increasing support to developing countries, in particular LDCs, (Landlocked Developing Countries) and SIDSs (Small Island developing States) is fundamental to equitable progress for all.

4. Goal 15: Life on land

The Goal 15 of SDGs programme focuses specifically on managing forests resources, halting and reversing land and natural habitat degradation, successfully combating desertification and stopping biodiversity loss. All these efforts combined aim to restore the ecosystems, and sustainable livelihoods for the future generations.

4.1. Forest loss

Forests are the repositories of most of the world's biodiversity, which cover 4.1 billion hectares of land. Though net forest loss has decreased by more than half since the 1990s, but the loss of forests continues. Between 1990 and 2015, the world's forest area diminished from 31.7 per cent of the world's total land mass to 30.7 per cent. This represents a net loss of almost 100 million hectares, primarily due to agricultural expansion. The global net loss in forest area declined from 7.3 million hectares per year in the 1990s to 3.3 million hectares per year during the period 2010-2015 (UN DESA, 2016–2025, p. 57 (2016)).

The 2020 data show that the proportion of forests in protected areas and certified forest area increased or remained stable at the global level. Out of 4.1 billion hectares of forest, more than half are subject to management plans (UN DESA, 2016–2025, p. 55 (2020)). The proportion of forest area globally declined from 31.9 per cent in 2000 to 31.2 per cent in 2020 (UN DESA, 2016–2025, p. 57 (2021)). More than 700 million hectares of forest (18 per cent) were in legally established protected areas in 2020. While nearly all forests in Central Asia, Europe and Western Asia fall under a management plan, and the managed proportion remains low in Latin America and the Caribbean, Oceania and sub-Saharan Africa (UN DESA, 2016–2025, p. 56 (2022)).

Agricultural expansion drove almost highest amount of global deforestation, where cropland ac-counted for 49.6 per cent and livestock grazing for 38.5 per cent. Globally, small-scale farming caused 68 per cent of agriculture-driven deforestation, while large-scale farming contributed to 32 per cent. In Africa, small-scale farming was responsible for 97 per cent of agriculture-driven deforestation. Forest losses due to large-scale farming were highest in South America at 48 per cent (mainly linked to livestock grazing), followed by Asia at 38 per cent (primarily due to large-scale crop production, particularly for oil palm plantations (UN DESA, 2016–2025, p. 38 (2024)).

Deforestation is slowing, with the rate falling from 16 million hectares (1990–2000) to 10 million hectares (2015–2020) (Fig. 1). Indonesia reduced deforestation by 14 per cent in 2021–2022 compared to 2020–2021. Brazil cut deforestation in the Legal Amazon by 50 per cent in 2023 compared to 2022 due to President Lula's stricter environmental policies. This marking the lowest levels in years and signalling progress toward the government's zero deforestation

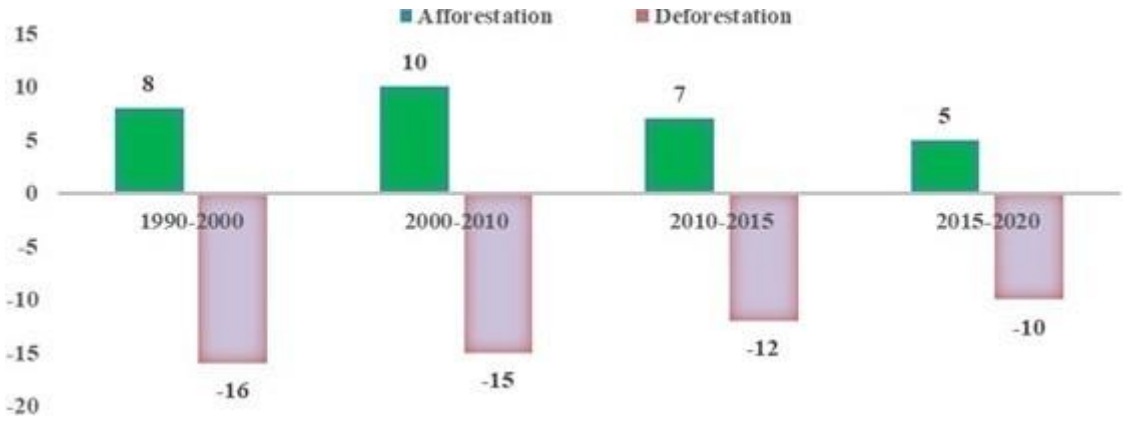

Fig. 1. Annual rate of afforestation and deforestation in million hectares (1990–2020). Source: UN DESA (2016–2025), p. 38. (2025)

goal by 2030. There are also signs that deforestation is slowing across the African continent (UN DESA, 2016–2025, p. 38 (2025)). Independent satellite-based monitoring platforms such as Global Forest Watch (GFW, 2024) (Hansen et al., 2013) indicate similar trends, confirming that agricultural expansion remains the dominant driver of forest loss.

Forests face mounting climate pressures, with intensifying wildfires and invasive species. Wildfires emitted an estimated 6,687 metric megatons of CO_2 globally in 2023, more than double the emissions from fossil fuels by the European Union. Meanwhile, global wood production has reached a record high of 4 billion cubic metres annually, while nearly 6 billion people depend on non-timber forest products. Global roundwood demand could rise by 49 per cent by 2050 (UN DESA, 2016–2025, p. 38 (2025)).

Indonesia's palm oil expansion, driven by biofuel policies and export demand, continues to contribute significantly to deforestation and land-use change (World Bank, 2023; Food and Agriculture Organization (FAO), 2022). Based on data from the government, Indonesia has total plantation areas of 16.8 million hectares. In 2023, its palm oil exports reached US $25.61 billion, making it as the backbone of national economy. It was reported that the government is likely to push the expansion of oil palm plantations, which is seen necessary to compensate for the potential decrease in exports resulting from the implementation of the mandatory B40 and B50 biodiesel programmes during the next two years (Okarda et al., 2024).

India's CAMPA (Compensatory Afforestation Fund Management and Planning Authority) programme supports ecosystem restoration and biodiversity conservation through funds collected from developmental projects (MoEFCC, 2023; Government of India, 2016). The Global Forest Resources Assessment (GFRA), provides a comprehensive overview of global forests, highlighting key trends showing the rate of deforestation has slowed, but the world's forest area continues to decrease (FAO, 2025).

4.2. Key biodiversity areas (KBAs)

The Key biodiversity Areas (KBAs) around the globe in terrestrial, inland freshwater and mountain ecosystems is critically important for maintaining genetic, species, and ecosystem diversity. The average worldwide coverage of terrestrial, freshwater and mountain KBAs by protected areas from 2000 to 2017 increased from 35 per cent to 47 per cent, from 32 per cent to 43 per cent, and from 39 per cent to 49 per cent, respectively (UN DESA, 2016–2025, p. 51 (2017)). About one fifth of the Earth's land surface covered by vegetation showed persistent and declining trends in productivity from 1999 to 2013. Up to 24 million square kilometers of land were affected, including 19 per cent of cropland, 16 per cent of for-est land, 19 per cent of grassland and 28 per cent of rangeland (UN DESA, 2016–2025, p. 13 (2018)). However, from 2010 to 2018, the coverage only increased by two to three percentage points. At the current rate, by 2030, less than 50 per cent of each KBA will be covered by protected areas at the global level (UN DESA, 2016–2025, p. 53 (2019)). The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services Global assessment (IPBES, 2019) warns that nearly one million species may face extinction, corroborating UN DESA estimates.

KBAs have been identified in biodiversity hotspots for 21 per cent of all globally threatened species on the Red List of the International Union for

Conservation of Nature (IUCN). On average, only 44 per cent of each terrestrial and 41 per cent of each freshwater KBA was within a protected area. However, since 2010, the increase in coverage of KBAs by protected areas has slowed considerably compared with the previous decade (UN DESA, 2016–2025, p. 55 (2020)).

Globally, the mean percentage coverage of KBAs by protected areas increased from over one quarter in 2000 to nearly one half in 2021. Despite this encouraging trend, the growth of coverage has slowed in recent years. Four regions – Northern Africa and Western Asia, Central and Southern Asia, Eastern and South-Eastern Asia, and Oceania – still have mean coverage of less than 35 per cent across marine, terrestrial, freshwater and mountain KBAs (UN DESA, 2016–2025, p. 55 (2022)). There are more than 16,000 KBAs globally, and since 2000, the average coverage of KBAs by protected areas has nearly doubled. The Europe and Northern America region has more than half of its KBAs covered by protected areas, while Central Asia, Southern Asia, Western Asia, Northern Africa, and Oceania all have relatively low coverage (UN DESA, 2016–2025, p. 43 (2023)).

Various targeted policy interventions can protect KBAs and the communities that depend on them. In Cameroon, in August 2020, the Government cancelled a logging operation in the Ebo Forest, which makes up half of the Yabassi KBA. Ebo is a large intact forest system that is home to 12 species of plants found nowhere else on Earth. Animal inhabitants include gorillas, chimpanzees, forest elephants, Preuss's red colobus monkeys and many others. Ebo Forest is also the ancestral land of more than 40 communities whose livelihoods are intertwined with the area's abundant and diverse natural resources (UN DESA, 2016–2025, p. 56 (2020)).

Since 2000, significant progress has been made in biodiversity conservation through protected and conserved areas. The Kunming-Montreal Global Biodiversity Framework now calls for 30 per cent coverage by 2030 (UN DESA, 2016–2025, p. 36 (2024)). Some of the real-world efforts and possible successes offer hopes to meet global targets Agenda 2030. Mozambique's Chimanimani National Park, designated in 2020, safeguards many threatened amphibian and plant species. Redonda Island (Antigua and Barbuda) has been restored and has 30,000 hectares protected following the removal of invasive species. Canada's coastal First Nations communities lead KBA monitoring and over 3 million trees have been planted in restoring Madagascar's Kianjavato Classified Forest KBA (UN DESA, 2016–2025, p. 39 (2025)).

4.3. Biodiversity loss

Survival of species is increasingly threatened in every region of the world. Over 23,000 species of plants, fungi and animals were known to face a high probability of extinction. According to the International Union for Conservation of Nature's (IUCN) Red List Index, amphibians are declining most rapidly in Latin America and the Caribbean, primarily due to chytrid fungal disease. The greatest increases in extinction risk for birds and mammals have occurred in South-Eastern Asia, mainly driven by the conversion of lowland forests. The extinction risks for coral species is increasing most rapidly, while cycad species are the most severely threatened species group assessed. However, the extinction risks for vertebrate species have been reversed in five small island developing States (Cook Islands, Fiji, Mauritius, Seychelles and Tonga) due to conservation actions over the last several decades (UN DESA, 2016–2025, p. 41 (2016)).

Biodiversity loss, however, continues at an alarming rate. Bleaching, driven by climate change and local impacts, has affected the health of coral reefs worldwide, which could disappear completely by 2050. Amphibians also face a high risk of extinction, with 41 per cent already threatened (UN DESA, 2016–2025, p. 12 (2017)).

Globally, species extinction risk has worsened by about 10 per cent over the last three decades, with the Red List Index declining from 0.82 in 1990 to 0.75 in 2015, and to 0.73 (about 31, 000 of species) in 2020 (a value of 1 indicates no species are at risk of extinction in the immediate future, while a value of 0 indicates all species are extinct). The primary cause is due to habitat loss from unsustainable agriculture, deforestation, unsustainable harvest and trade, and invasive alien species. If current trends continue, the Red List Index will drop to or below 0.70 by 2030 (UN DESA, 2016–2025, p. 55 (2020)).

The Red List Index of the International Union for Conservation of Nature (IUCN) shows a 10 per cent decline since 1993. Among 134,400 species assessed, 28 per cent (more than 37,400 species) are threatened with extinction, including 41 per cent of amphibians, 34 per cent of conifers, 33 per cent of reef-building corals, 26 per cent of mammals and 14 per

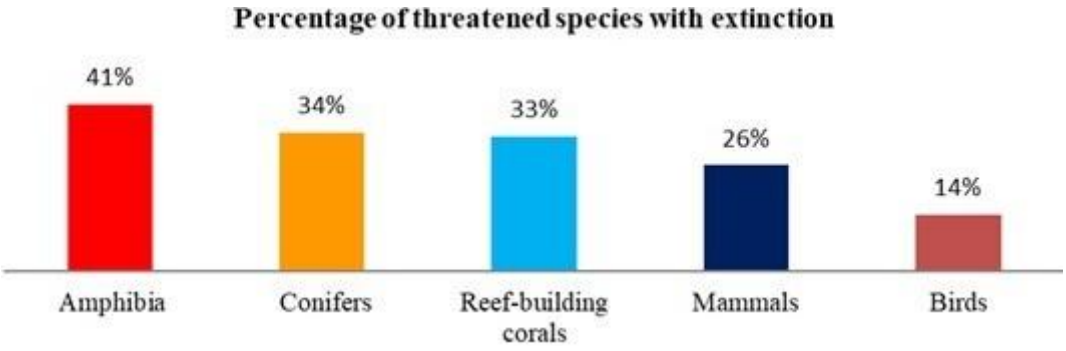

Fig. 2. Percentage of threatened species with extinction since 1993. Source: UN DESA (2016–2025), p. 55 (2021).

cent of birds (Fig. 2). The main drivers of species loss are agricultural and urban development; unsustainable harvesting through hunting, fishing, trapping and logging and invasive alien species (UN DESA, 2016–2025, p. 55 (2021)).

The Red List Index, which measures the overall extinction risk of species in selected taxonomic groups, reveals a deterioration of 9.2 per cent between 2000 and 2022. Central and Southern Asia, Eastern and South-Eastern Asia, and Small Island developing States suffer from more severe risk and faster deterioration than the global average. Human activities such as logging and farming are encroaching upon habitats, putting about 20 per cent of reptile species at risk (UN DESA, 2016–2025, p. 57 (2022)).

Fortunately, conservation actions could stave off further species losses. Many bird and mammal species have benefited from invasive species control, conservation in zoos and other collections, and site protection. Since 1993, conservation actions have prevented the extinction of 21 to 32 species of birds and 7 to 16 species of mammals. Considering that 10 bird and 5 mammal species were confirmed or suspected to have been driven to extinction over this period, such actions have reduced extinction rates by three to four times compared with what would have been anticipated (UN DESA, 2016–2025, p. 39 (2021)).

Global biodiversity faces ongoing threats, evidenced by 12 per cent deterioration in the Red List Index between 1993 and 2024. Over 44,000 species, or 28 per cent of almost 160,000 assessed species, are currently threatened. Buckley's glass frog, assessed as Critically Endangered and found only in the Ecuadorian Andes, faces increased extinction risk due to habitat loss from expanding agriculture and livestock grazing, fungal disease and climate change. Regionally, severe biodiversity declines across all species groups are evident in Central and Southern Asia as well as in Eastern and South-Eastern Asia (UN DESA, 2016–2025, p. 39 (2024)).

Despite the importance of plants and animals in the ecosystem, the world is currently facing the largest extinction event since the dinosaurs disappeared. Habitat destruction, invasive species, overexploitation, illegal wildlife trade, pollution and climate change are propelling this crisis. Central and Southern Asia, Eastern and South-Eastern Asia, and Oceania have suffered the fastest declines. In 2022, assessments revealed that 21 per cent of reptile species are threatened, including the iconic Komodo Dragon in Indonesia, highly valued for ecotourism but endangered by climate change and deforestation (UN DESA, 2016–2025, p. 45 (2023)).

New assessments show rising threats to freshwater species, including fish, dragonflies, crabs and shrimps due to pollution, construction of dams, agriculture, invasive species and overharvesting. Out of 38 per cent of the plant species assessed, 47,282 species face extinction as a result of habitat loss, overexploitation, climate change, pests and diseases (UN DESA, 2016–2025, p. 39 (2025)).

According to the WWF (2024), the latest edition of the Living Planet Report, which measures the average change in population sizes of more than 5,000 vertebrate species, shows a decline of 73% between 1970 and 2020. The report warns that, as the Earth approaches dangerous tipping points posing grave threats to humanity, a huge collective effort will be required over the next five years to tackle the dual climate and nature crises.

Urgent action is imperative to halt these potential losses, as they would have irreversible and profound impacts on nature and pose a serious threat to human well-being. Species extinction is irreversible, resulting in the permanent loss of biodiversity and threatening humanity's well-being. The Kunming-Montreal

Global Biodiversity Framework (KM-GBF) is a landmark agreement adopted by the Convention on Biological Diversity (CBD) (2023) in December 2022 (COP15) to halt and reverse biodiversity loss by 2030 to guide global conservation efforts and link biodiversity with sustainable development. The CBD Secretariat supports its implementation, which involves aligning National Biodiversity Strategies and Action Plans (NBSAPs) with the framework, establishing monitoring mechanisms, and mobilizing finance for actions by governments, businesses, and communities to achieve a world living in harmony with nature by 2050.

4.4. Land degradation

Land degradation is affecting one fifth of the Earth's land area and the lives of one billion people. Twenty per cent of the Earth's total land area was degraded between 2000 and 2015 diminishing the underlying three variables, viz. land cover, land productivity and organic carbon in soil. In all regions, except Europe, Northern America, Northern Africa and Western Asia, the extent of degradation covered 22.4 per cent to 35.5 per cent of land area (UN DESA, 2016–2025, p. 52 (2019)).

Land degradation is undermining the wellbeing of some 3.2 billion people, driving species to extinction and intensifying climate change. From 2000 to 2015, global trends in land cover indicated a net loss in natural and semi-natural classes of land. These losses resulted from direct and indirect factors, including deforestation, unsustainable agricultural practices and urbanization, as well as land tenure and poverty. By early 2020, 123 countries had committed to setting voluntary targets to achieve "land degradation neutrality", a global target adopted in the 2030 Agenda, and 60 countries had officially endorsed those targets (UN DESA, 2016–2025, p. 54 (2020)).

Sub-Saharan Africa, Western Asia, Latin America and the Caribbean, and Southern Asia experienced land degradation at rates faster than the global average. If current trends continue, restoring 1.5 billion hectares of land by 2030 will be necessary to achieve a land-degradation-neutral world (UN DESA, 2016–2025, p. 44 (2023)).

The restoration efforts on the ground are advancing too slowly. Voluntary commitments have pledged to restore over 1 billion hectares of land, with large-scale restoration initiatives in sub-Saharan Africa, Central America, Central Asia and the Middle East. According to the United Nations Convention to Combat Desertification (UNCCD), combating desertification, land degradation and drought demands $1 billion per day between 2025 and 2030. But current annual funding stands at $66 billion, just 18 per cent of estimated needs. Without a significant scale-up in financing and implementation, losses in productivity, resilience and biodiversity will continue to mount (UN DESA, 2016–2025, p. 38 (2025)).

The UNCCD (2022–2025) Global Land Outlook (GLO2) is the second major report from the United Nations Convention to Combat Desertification (UNCCD), published in April 2022, providing crucial analysis and pathways for combating land degradation, promoting sustainable land management, and achieving land restoration for resilience and recovery by highlighting economic dependencies on land and offering actionable strategies for governments and communities, with a focus on achieving Land Degradation Neutrality (LDN) targets. It sets the agenda for addressing land issues leading up to the UNCCD Conference of the Parties (COP15) in 2024 and the twenty-third session of the Committee for the Review of the Implementation of the Convention (CRIC) in 2025, emphasizing how restoring land creates opportunities for development and livelihoods.

The Intergovernmental Panel on Climate Change (IPCC) (2023) assessment refers to the Sixth Assessment Report (AR6), a comprehensive series of reports culminating in the March 2023 Synthesis Report, highlighting that climate change is widespread, rapid, intensifying, and human-caused, with urgent deep emission cuts needed to limit warming to 1.5 °C or 2 °C, as impacts (like extreme weather, food insecurity, and health risks) worsen significantly with continued emissions. Key findings emphasize that limiting warming avoids the worst impacts, but current trends put the 1.5 °C threshold at risk within the next two decades, requiring immediate action.

4.5. Illegal trade in wildlife

Illegal trade in wildlife is a global phenomenon with distinct regional variations. The list of species under international protection continues to grow. At the same time, conservation efforts are being thwarted by the poaching and trafficking of wildlife. Since 1999, at least 7,000 species of animals and plants have been reported in illegal trade affecting 120 countries. Trafficking in birds is most common

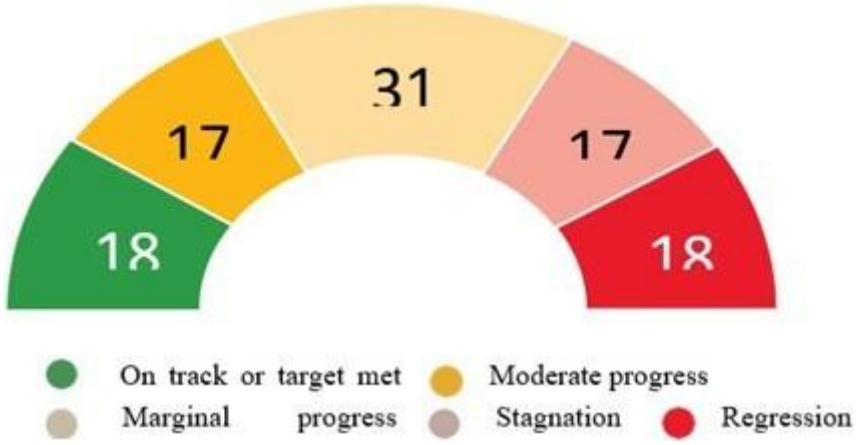

Fig. 3. Stark Reality of SDG Progress rate Source: UN DESA, 2016–2025, p. 39 (2025).

in Central and South America, mammals in Asia and Africa, reptiles in Europe and North America, and corals in Oceania (UN DESA, 2016–2025, p. 41 (2016)). In 2013, elephant ivory, rosewood, rhinoceros horn and reptiles comprised 70 per cent of total wildlife seizures (UN DESA, 2016–2025, p. 13 (2017)).

Illegal wildlife trade persists worldwide despite two decades of concerted action at international and national levels. It poses a significant threat to global biodiversity, endangering a wide range of terrestrial and marine species. Illegal trade has affected around 4,000 plant and animal species in 162 countries and territories from 2015 to 2021. This exploitation jeopardizes the survival of species and undermines ecosystem functions (UN DESA, 2016–2025, p. 39 (2024)).

Recent estimates indicate that wildlife trade (legal and illegal) has been on the rise since 2017, peaking during the COVID-19 pandemic. Wildlife seizures comprised over 1.9 and 1.4 per cent of global wildlife trade in 2020 and 2021, respectively. Trends likely reflect a disproportionate reduction in legal trade during the pandemic and an increase in enforcement efforts for certain wildlife commodities (UN DESA, 2016–2025, p. 39 (2024)).

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) regulates international wildlife trade, while TRAFFIC (Trade Records Analysis of Flora and Fauna in Commerce) monitors wildlife trade and trafficking trends. TRAFFIC (2023) and United Nations Office on Drugs and Crime (UNODC) (2024) report that wildlife trafficking networks increasingly utilize online and digital platforms, creating new enforcement challenges for conservation agencies.

In 2023, illegal wildlife trade (IWT) saw significant activity, experiencing over a million seized specimens (mostly live animals like lizards, eels, and birds). CITES collaborates on major global assessments like the UNODC's World Wildlife Crime Report 2024**,** which analyzed 2015-2021 data, highlighting rhino horn, pangolin scales, and ivory as top trafficked items. CITES's ICCWC (International Consortium on Combating Wildlife Crime) actively supports enforcement in 2024, with initiatives like Operation Thunder 2024 showing record seizures and arrests, and ongoing monitoring of online trade revealing increased digital sales of elephant products.

5. The Stark Reality of SDG Progress

The Stark Reality of SDG Progress reflects the grim finding that the world is significantly off-track to meet the Sustainable Development Goals (SDGs) by the 2030 deadline. The 2025 progress assessment reveals that the world remains far off track from achieving the 2030 Agenda. Of the 169 SDG targets, 139 could be assessed using global trend data from the 2015 baseline to the most recent year, supplemented by custodian agency analyses. Among these, only 35 per cent show adequate progress – 18 per cent are on track and 17 per cent are making moderate progress. In contrast, 48 per cent of targets show insufficient progress, including 31 per cent with only marginal gains and 17 per cent with no progress at all. Most concerning, 18 per cent of targets have regressed below 2015 baseline levels (Fig. 3).

6. Executive Summary SDG 2030 Agenda as SDR, 2025

Sustainable Development Report, 2025 emphasizes the following eight key messages.

- Global commitment to the SDGs is strong: 190 out of 193 countries have presented national action plans (NAP) and participated in the Voluntary National Review process (VNR).
- East and South Asia has outperformed all other regions in SDG progress since 2015.
- Other countries that have progressed more rapidly than their peers include; Benin, Nepal, Peru, and the Caribbean, the United Arab Emirates, Uzbekistan, Costa Rica, and Saudi Arabia.
- European countries continue to top the SDG Index score and 19 of the top 20 countries are in Europe.
- On average globally, the SDGs are far off-track to be achieved by 2030.
- Barbados ranks first and the United States ranks last in UN-based multilateralism. Brazil (G20) is the most committed to UN-based multilateralism, with Chile leading among Organisation for Economic Co-operation and Development (OECD) countries.
- For many developing countries, a lack of fiscal space is the major obstacle to SDG progress.
- Sustainable development offers high returns: capital should flow to the emerging and developing countries on more favourable terms.

7. Governance challenges of SDG 2030 Agenda

The proper implementation and superlative results of SDG 17 face a lot of Governance challenges, such as coordinating diverse actors, mobilizing finance, ensuring accountability, managing complex trade-offs, data gaps, etc.

Here's a breakdown of key governance challenges:

7.1. Collective Action and Coordination

- Siloed Structures: Governments and organizations often work in silos, hindering cross-sectoral collaboration needed for holistic SDG achievement.
- Multi-Stakeholder Complexity: Engaging diverse actors (public, private, non-profit, civil society) at multiple scales (local to global) is difficult but crucial.
- Policy Coherence: Ensuring national policies align with SDG goals across different ministries and levels of government.

7.2. Financing and Resource Mobilization

- Insufficient Funding: Mobilizing adequate financial resources, especially for developing nations, remains a major hurdle.
- Debt Burdens: High debt servicing costs strain low- and middle-income economies, limiting fiscal space for development.
- Private Sector Engagement: Ensuring private investment aligns with SDG objectives, not just profit motives, and overcoming technological/trade barriers.

7.3. Accountability and Data

- Measurement and Attribution: Defining standard criteria and linking data to public policies to measure progress and attribute results effectively.
- Monitoring Gaps: Weak statistical systems in many countries hinder tracking progress and ensuring accountability.

7.4. Managing Trade-offs and Interlinkages

- Balancing Goals: Addressing inherent conflicts and trade-offs between different SDGs (e.g., economic growth vs. environmental protection) requires difficult choices.
- Complexity: The interconnected nature of the 17 SDGs demands integrated, systems-thinking approaches, which are hard to implement.

7.5. Political and Economic Obstacles

- Trade Tensions and Geopolitics: Global conflicts and protectionist policies disrupt partnerships and resource flows.
- National Leadership vs. Global Goals: Respecting national policy space while ensuring commitment to global agendas.

8. Recommendation

To improve more logistically the Sustainable Development Goals (SDGs), some of the suggestive features are being drawn as follows:

- Economic growth, serves social justice and planetary boundaries, prioritizing well-being over pure GDP growth should be ensured.
- Global and local collaborations (SDG 17), encourage fair trade, and invest in developing countries to bridge financing gaps should be enhanced.
- Fundamental rights (gender, property, labour, etc.) should be mainstreamed into national policies to ensure vulnerable groups aren't left behind.
- New policy alternatives and sustainable business models through innovation should be driven in areas like clean energy and digital access, suggests Tunley Environmental.
- Lifelong learning as a universal right and build national mechanisms should be recognized for re-skilling and up-skilling to meet SDG targets.
- Core rights (gender equality, property, labour rights, etc.) should be systematically integrated into all SDG policy and action plans.

9. Conclusion

The agenda 2030 for Sustainable Development presents a comprehensive framework aimed at achieving environmental sustainability, social equity, and economic prosperity. Building upon the earlier Millennium Development Goals (2000–2015), it represents the first universal and integrated global governance model addressing interconnected global challenges. Although not legally binding, it serves as a powerful collective commitment to ensure that present development does not compromise the needs of future generations.

However, the current environmental situation is increasingly deteriorating, posing serious threats to ecosystems and biodiversity. Environmental degradation, driven by unsustainable practices and transboundary pollution, highlights the urgent need for coordinated global action. International agreements such as the Paris Agreement (2015), the Kunming-Montreal Global Biodiversity Framework (2022), and the Nagoya Protocol (2010) represent significant milestones in addressing climate change and biodiversity loss through collective responsibility and legally or politically binding commitments.

Despite these efforts, major challenges persist, including geopolitical conflicts, structural weaknesses in governance systems, and limited financial capacity in many nations. Multilateralism—grounded in inclusivity, cooperation, and shared responsibility remains essential for addressing global crises such as climate change, pandemics, and environmental degradation. However, recent geopolitical shifts and withdrawal of key nations from global commitments threaten progress and undermine collective efforts.

Transparency, accountability, and global cooperation are critical for the successful implementation of the SDGs. Adequate financing plays a pivotal role, particularly for goals related to partnerships (SDG 17) and environmental conservation (SDG 15). Investments in sustainable land use, biodiversity conservation, and ecosystem restoration are necessary to maintain ecological balance and support human well-being.

Biodiversity is fundamental to sustaining life on Earth, providing essential ecosystem services such as pollination, water purification, soil fertility, and carbon storage. The ongoing loss of species increases ecological vulnerability and risks long-term environmental collapse. Therefore, urgent measures are required to halt biodiversity loss and restore degraded ecosystems.

Finally, sustainable resource use must be practiced at individual, community, and global levels. Adopting principles such as reduce, reuse, and recycle can significantly conserve natural resources and minimize environmental harm. Achieving sustainable development requires a balanced approach that integrates environmental protection, social inclusion, and economic growth to ensure a resilient and equitable future for all.

CRediT statement

H.M- Investigation, Writing Original draft, Data analysis, Editing and Supervision

Declaration of competing interests

The author declares that he has no known competing financial interests or personal relationships that could influence the work reported in this paper.

AI-use disclosure statement

During the preparation of this manuscript, the author used AI tools to improve the language and readability. After using this tool, the author reviewed the content and made changes wherever necessary. The author takes full responsibility for the contents of this publication.

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