

Fostering Biodiversity for Environmental Health and Green Growth

Kariuki Muigua

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Fostering Biodiversity for Environmental Health and Green Growth

Kariuki Muigua*

Abstract

This paper critically examines the role of biodiversity in environmental health and green growth. The paper defines biodiversity and highlights its salient components. It argues that fostering biodiversity is a critical component of environmental health and green growth. The paper analyses ways through which biodiversity can contribute to environmental health and green growth. It also highlights some of the threats facing biodiversity and their impacts on environmental health and green growth. The paper also offers solutions towards fostering biodiversity for environmental health and green growth.

1.0 Introduction

The environment can directly and indirectly impact human health and wellbeing¹. The concept of environmental health examines the interaction between the environment and human health². It refers to aspects of human health (including quality of life) that are determined by physical, chemical, biological, social and psychosocial factors in the environment³. Environmental health also refers to aspects of human health and diseases that are determined by environmental factors⁴. It involves an assessment and control of environmental factors that can potentially affect health⁵.

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¹ What is Environmental Health., Available at <https://www.ehinz.ac.nz/indicators/overview/what-is-environmental-health/> (Accessed on 12/06/2024)

² Ibid

³ Ibid

⁴ Morand. S., & Lajaunie. C., 'A Brief History on the Links between Health and Biodiversity' *Biodiversity and Health.*, 2018, pp 1-14

⁵ Ibid

According to the World Health Organization (WHO), healthier environments could prevent almost one quarter of the global burden of disease⁶. WHO further notes that clean air, stable climate, adequate water, sanitation and hygiene, safe use of chemicals, protection from radiation, healthy and safe workplaces, sound agricultural practices, health-supportive cities and built environments, and a preserved nature are all prerequisites for good health⁷. Environmental health therefore focuses on ensuring a clean and healthy environment for human health and well-being.

The concept of green growth refers to economic growth that is efficient in its use of natural resources, clean in that it minimizes pollution and environmental impacts, and resilient in that it accounts for natural hazards and the role of environmental management and natural capital in preventing physical disasters⁸. Green growth also means fostering economic growth and development while ensuring that natural assets continue to provide the resources and environmental services on which our well-being depends on⁹. Green growth has also been defined as socially inclusive economic growth and development path that is low-carbon, climate-resilient, and resource efficient; and maintains and enhances biodiversity and ecosystems¹⁰.

⁶ World Health Organization., 'Environmental Health' Available at https://www.who.int/health-topics/environmental-health#tab=tab_1 (Accessed on 12/06/2024)

⁷ Ibid

⁸ The World Bank Group., 'Inclusive Green Growth: The Pathway to Sustainable Development' Available at <https://documents1.worldbank.org/curated/en/368361468313515918/pdf/691250PUB0Publ067902B09780821395516.pdf> (Accessed on 12/06/2024)

⁹ Organisation for Economic Co-operation and Development., 'What is Green Growth and How can it Help Deliver Sustainable Development?' Available at <https://www.oecd.org/greengrowth/whatisgreengrowthandhowcanithelpdeliversustainabledevelopment.htm> (Accessed on 12/06/2024)

¹⁰ African Development Bank Group., 'Climate and Green Growth Strategic Framework: Projecting Africa's Voice' Available at https://www.afdb.org/sites/default/files/documents/publications/african_development_bank_-_climate_change_and_green_growth_policy.pdf (Accessed on 12/06/2024)

The idea of green growth therefore involves the pursuit of economic development in an environmentally sustainable manner by greening economies¹¹. According to the United Nations Environment Programme (UNEP), a green economy is defined as low carbon, resource efficient and socially inclusive¹². In a green economy, growth in employment and income are driven by public and private investment into such economic activities, infrastructure and assets that allow reduced carbon emissions and pollution, enhanced energy and resource efficiency, and prevention of the loss of biodiversity and ecosystem services¹³.

Biodiversity is at the heart of environmental health and green growth. According to WHO, loss of biodiversity can have significant direct human health impacts if ecosystem services are no longer adequate to meet social needs¹⁴. Further, the preservation of ecosystem services and the halt of biodiversity loss have been identified as key pillars of green growth¹⁵. Fostering biodiversity is therefore vital for environmental health and green growth.

This paper critically examines the role of biodiversity in environmental health and green growth. The paper defines biodiversity and highlights its salient components. It argues that fostering biodiversity is a critical component of environmental health and green growth. The paper analyses ways through which biodiversity can contribute to environmental health and green growth. It also highlights some of the threats facing biodiversity and their impacts on environmental health and green growth. The paper also

¹¹ Ibid

¹² United Nations Environment Programme., 'Green Economy' Available at <https://www.unep.org/regions/asia-and-pacific/regional-initiatives/supporting-resource-efficiency/green-economy> (Accessed on 12/06/2024)

¹³ Ibid

¹⁴ World Health Organization., 'Biodiversity and Health' Available at <https://www.who.int/news-room/fact-sheets/detail/biodiversity-and-health#:~:text=Biodiversity%20loss%20can%20have%20significant,cause%20or%20exacerbate%20political%20conflict>. (Accessed on 12/06/2024)

¹⁵ Gasparatos. A., & Willis. K., 'Biodiversity in the Green Economy' Available at <https://www.routledge.com/Biodiversity-in-the-Green-Economy/Gasparatos-Willis/p/book/9781138065932#:~:text=The%20preservation%20of%20ecosystem%20services,fits%20with%20a%20Green%20Economy>. (Accessed on 12/06/2024)

offers solutions towards fostering biodiversity for environmental health and green growth.

2.0 The Role of Biodiversity in Environmental Health and Green Growth

The *Convention on Biological Diversity*¹⁶ defines biological diversity (biodiversity) as the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems¹⁷. Biodiversity has also been defined as the diversity of all living forms at different levels of complexity: genes, species, ecosystems and even landscapes and seascapes¹⁸. According to UNEP, biodiversity is the variety of life on Earth and the natural patterns it forms¹⁹.

Biodiversity is meant to encompass all of life's variation, expressed in genes, individuals, populations, species, communities and ecosystems²⁰. It has been pointed out that biodiversity is comprised of several levels, starting with genes, then individual species, then communities of creatures and finally entire ecosystems, such as forests or coral reefs, where life interplays with the physical environment²¹. These complex interactions have made the planet habitable for billions of years²². Biodiversity forms the web of life, of

¹⁶ Convention on Biological Diversity., Available at <https://www.cbd.int/doc/legal/cbd-en.pdf> (Accessed on 12/06/2024)

¹⁷ Ibid, article 2

¹⁸ United Nations Educational, Scientific and Cultural Organization (UNESCO)., 'UNESCO's commitment to Biodiversity' available at <https://en.unesco.org/themes/biodiversity> (Accessed on 12/06/2024)

¹⁹ United Nations Environment Programme., 'UNEP and Biodiversity' Available at <https://www.unep.org/unep-and-biodiversity#:~:text=Biological%20diversity%20is%20the%20variety,of%20human%20influence%20as%20well>. (Accessed on 12/06/2024)

²⁰ Muigua. K., 'Approaches to Biodiversity Conservation: Embracing Global Resource Conservation Best Practices' Available at <https://kmco.co.ke/wp-content/uploads/2021/11/Approaches-to-Biodiversity-Conservation-Embracing-Conservation-Best-Practices-Kariuki-Muigua-November-2021.pdf> (Accessed on 12/06/2024)

²¹ Carrington. D., 'What is Biodiversity and Why Does it Matter to Us?' Available at <https://www.theguardian.com/news/2018/mar/12/what-is-biodiversity-and-why-does-it-matter-to-us> (Accessed on 12/06/2024)

²² Ibid

which humans are integral and upon which people and the planet fully depend on for survival²³.

Biodiversity plays a vital role in environmental health and green growth. Biodiversity underpins all life on Earth²⁴. The air we breathe, the water we drink, the food we eat, and our health and wellbeing depend on biodiversity²⁵. It has been noted that healthy communities rely on well-functioning ecosystems²⁶. Such ecosystems provide clean air, fresh water, medicines and food security²⁷. They also limit disease and stabilize the climate²⁸. According to WHO, healthier environments could prevent almost one quarter of the global burden of disease²⁹. Sustaining healthy ecosystems and their key services to humanity requires biodiversity³⁰.

Biodiversity has been described as the foundation of healthy communities³¹. It drives the multitude of ecosystem services that support our daily lives³². It has been noted that from the pollination of crops by bees, to the natural filtration of water by wetlands, to the crucial carbon capture performed by vast forests, biodiversity is key to the endurance and adaptability of ecosystems³³. Fostering biodiversity is essential in ensuring that ecosystems continue to deliver the essentials like clean air, fresh water, and the very sustenance upon which human health and prosperity depends on³⁴.

²³ United Nations Environment Programme., 'UNEP and Biodiversity' Op Cit

²⁴ Hoffman. L., Salleh. A. F., & Adam. N., 'Fostering Action for Biodiversity' Available at <https://stories.flores.unu.edu/fostering-action-for-biodiversity/> (Accessed on 12/06/2024)

²⁵ Ibid

²⁶ World Health Organization., 'Biodiversity and Health' Op Cit

²⁷ Ibid

²⁸ Ibid

²⁹ World Health Organization., 'Environmental Health' Op Cit

³⁰ Hoffman. L., Salleh. A. F., & Adam. N., 'Fostering Action for Biodiversity' Op Cit

³¹ Smith. M., 'Biodiversity as the Foundation of Healthy Communities' Op Cit

³² Ibid

³³ Ibid

³⁴ Ibid

Biodiversity impacts human health³⁵. It has been noted that human health ultimately depends upon ecosystem products and services including the availability of fresh water, food and fuel sources which are requisite for good human health and productive livelihoods³⁶. In addition, diverse ecosystems act as buffers against infectious diseases by regulating disease vectors and pathogens³⁷. It has been argued that areas with higher and richer biodiversity tend to have reduced incidence of certain diseases since the diversity of species can dilute and control the spread of pathogens³⁸. WHO further notes that the biological diversity of microorganisms, flora and fauna provides extensive benefits for biological, health, and pharmacological sciences³⁹. According to WHO, significant medical and pharmacological discoveries are made through greater understanding of the earth's biodiversity⁴⁰.

Biodiversity is therefore key for human health and well-being. Healthy communities rely on well-functioning ecosystems for clean air, fresh water, medicines, food, and shelter⁴¹. Further, healthy ecosystems also regulate disease, stabilize the climate and support a range of non-material benefits such as mental health and cultural identity⁴². Fostering biodiversity is therefore vital for environmental health.

Biodiversity is also crucial in green growth. According to UNEP, green economy focuses on various aspects including prevention of the loss of biodiversity and ecosystem services⁴³. Green economy initiatives such as good forest management practices are

³⁵ World Health Organization., 'Biodiversity and Health' Op Cit

³⁶ Ibid

³⁷ Smith. M., 'Biodiversity as the Foundation of Healthy Communities' Op Cit

³⁸ Ibid

³⁹ World Health Organization., 'Biodiversity and Health' Op Cit

⁴⁰ Ibid

⁴¹ World Health Organization., 'Promoting Biodiversity Conservation for Climate and Health' Available at <https://www.who.int/activities/promoting-biodiversity-conservation-for-climate-and-health> (Accessed on 12/06/2024)

⁴² Ibid

⁴³ United Nations Environment Programme., 'Green Economy' Op Cit

beneficial for biodiversity by reducing impacts from logging, creating riparian buffer zones and green tree retention in clearcuts, and conserving protected areas⁴⁴. In addition, Integrated Water Resources Management (IWRM) approaches which are key in green growth can help improve water efficiency, preserve biodiversity and environmental capacity, and reduce pollution of water resources⁴⁵. Further, fostering healthy blue ecosystems is linked to environmental management and biodiversity protection⁴⁶.

Green growth is associated with improvement in biodiversity conservation with more nationally designated protected terrestrial areas, reduction in percentage change in wetland areas and conservation of threatened species⁴⁷. Biodiversity conservation is key in most economic sectors that are vital for green growth including agriculture, forestry, fisheries, tourism, and the blue economy⁴⁸. Fostering biodiversity is therefore key for green growth.

Despite the importance of biodiversity in environmental health and green growth, the conservation of biodiversity is hindered by several challenges. The loss of biodiversity has been identified as among the triple planetary crisis alongside climate change, and pollution⁴⁹. The reasons for biodiversity loss include overfishing, habitat loss due to

⁴⁴ African Development Bank Group., 'A Toolkit of Policy Options to Support Inclusive Green Growth' Available at <https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/A%20Toolkit%20of%20Policy%20Options%20to%20Support%20Inclusive%20Green%20Growth.pdf> (Accessed on 12/06/2024)

⁴⁵ Ibid

⁴⁶ African Union., 'Africa Blue Economy Strategy' Available at https://www.auiabar.org/sites/default/files/2020-10/sd_20200313_africa_blue_economy_strategy_en.pdf (Accessed on 12/06/2024)

⁴⁷ United Nations Economic Commission for Africa., 'Achieving Sustainable Development in Africa through Inclusive Green Growth' Available at https://www.greenpolicyplatform.org/sites/default/files/downloads/resource/Achieving_sustainable_development_africa_inclusive_growth_ECA.pdf (Accessed on 12/06/2024)

⁴⁸ Gasparatos. A., & Willis. K., 'Biodiversity in the Green Economy' Op Cit

⁴⁹ United Nations Climate Change., 'What is the Triple Planetary Crisis?' Available at <https://unfccc.int/news/what-is-the-triple-planetary-crisis#:~:text=The%20triple%20planetary%20crisis%20refers,change%2C%20pollution%20and%20biodiversity%20loss.> (Accessed on 12/06/2024)

deforestation to make way for development, desertification, and climate change⁵⁰. UNEP notes that some species are threatened with extinction, soils are turning infertile, and water sources are drying up⁵¹. Biodiversity is being threatened by invasive alien species, changes in land and sea use, climate change, pollution, and overexploitation of natural resources⁵². According to UNEP, Africa's biodiversity is threatened by several factors including climate change, invasive alien species, and the illegal trade in wildlife⁵³. The decline and loss of biodiversity is reducing nature's contributions enjoyed by the people of Africa and the rest of the world, affecting daily lives and hampering the sustainable social and economic development targeted by all countries⁵⁴.

It has been noted that species are now disappearing hundreds, or even thousands, of times faster than the natural background rate of extinction⁵⁵. Biodiversity loss impacts ecosystem services including food and clean water therefore threatening the survival of life on the planet⁵⁶. According to WHO, biodiversity changes affect ecosystem functioning and significant disruptions of ecosystems can result in the loss of life sustaining ecosystem goods and services⁵⁷. For example, due to biodiversity loss, humanity is losing, before discovery, many of nature's chemicals and genes, of the kind that have already provided humankind with enormous health benefits. Further, the loss of biodiversity can result in significant disruptions to ecosystems and key sectors of the

⁵⁰ Ibid

⁵¹ United Nations Environment Programme., 'Five Drivers of the Nature Crisis' Available at <https://www.unep.org/news-and-stories/story/five-drivers-nature-crisis#:~:text=The%20Kunming%20Montreal%20Global%20Biodiversity%20Framework,-The%20planet%20is&text=One%20million%20species%20are%20threatened,reverse%20nature%20loss%20by%202030>. (Accessed on 12/06/2024)

⁵² Ibid

⁵³ United Nations Environment Programme., 'Supporting Sound Ecosystem Management' Available at <https://www.unep.org/regions/africa/regional-initiatives/supporting-sound-ecosystem-management> (Accessed on 12/06/2024)

⁵⁴ Ibid

⁵⁵ United Nations Environment Programme., 'UNEP and Biodiversity' Op Cit

⁵⁶ United Nations Climate Change., 'What is the Triple Planetary Crisis?' Op Cit

⁵⁷ World Health Organization., 'Biodiversity and Health' Op Cit

economy including agriculture, forestry, water, fisheries, tourism, wetlands, and the blue economy therefore affecting green growth⁵⁸. It is therefore vital to foster biodiversity for environmental health and green growth.

3.0 Fostering Biodiversity for Environmental Health and Green Growth

The United Nations *2030 Agenda for Sustainable Development*⁵⁹ sets out the need to foster biodiversity. The Agenda acknowledges that loss of biodiversity is one of the key challenges facing humanity today⁶⁰. It seeks to protect biodiversity for Sustainable Development⁶¹. Sustainable Development Goal (SDG) 15 seeks to inter alia halt the loss of biodiversity⁶². SDG 15 urges countries to take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity, and protect and prevent the extinction of threatened species⁶³. It also urges countries to integrate ecosystem and biodiversity values into national and local planning, development processes, and poverty reduction strategies⁶⁴. In addition SDG 15 requires countries to mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems⁶⁵. Achieving the targets of SDG 15 is therefore crucial in fostering biodiversity for environmental health and green growth.

The *Convention on Biological Diversity* also captures the ideal of fostering biodiversity for environmental health and green growth⁶⁶. It recognizes that biodiversity is vital to

⁵⁸ Gasparatos. A., & Willis. K., 'Biodiversity in the Green Economy' Op Cit

⁵⁹ United Nations General Assembly., 'Transforming Our World: the 2030 Agenda for Sustainable Development.' 21 October 2015, A/RES/70/1., Available at <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf> (Accessed on 13/06/2024)

⁶⁰ Ibid

⁶¹ Ibid

⁶² Ibid

⁶³ Ibid, SDG 15.5

⁶⁴ Ibid, SDG 15.9

⁶⁵ Ibid, SDG 15.a

⁶⁶ Convention on Biological Diversity., Op Cit

humanity's economic and social development⁶⁷. According to the Convention, biological diversity is a global asset of tremendous value to present and future generations hence it needs to be conserved⁶⁸. It recognizes the intrinsic value of biological diversity and of the ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its components⁶⁹. The Convention notes that conservation of biological diversity is a common concern of humankind⁷⁰. The Convention seeks to enhance the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding⁷¹. In order to foster conservation and sustainable use of biodiversity, the Convention requires states to develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity; and to integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies⁷². The Convention on Biological Diversity sets out several strategies for fostering biodiversity including *in-situ conservation* which entails the conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings (emphasis added); and *ex-situ conservation* which involves the conservation of components of biological diversity outside their natural habitats (emphasis added)⁷³. Implementing the in-situ and ex-situ strategies set out in the Convention on Biological Diversity is key in fostering biodiversity for environmental health and green growth.

⁶⁷ Ibid

⁶⁸ Ibid

⁶⁹ Ibid, Preamble

⁷⁰ Ibid

⁷¹ Ibid, article 1

⁷² Ibid, article 6

⁷³ Ibid, articles 8 & 9

At a continental level, the *African Convention on the Conservation of Nature and Natural Resources*⁷⁴ sets out the need to foster biodiversity in Africa for development. The Convention defines biological diversity as the variability among living organisms from all sources including, inter alia, terrestrial, marine, or other aquatic ecosystems and the ecological complexes of which they are part; including diversity within species, between species and of ecosystems⁷⁵. The Convention requires African states to establish, maintain and extend, as appropriate, conservation areas in order to ensure the long term conservation of biological diversity⁷⁶. It also urges states to ensure conservation of ecosystems characterized by a high degree of biological diversity⁷⁷.

The *Nairobi Declaration on Climate Change and Call to Action*⁷⁸ also sets out the need to foster biodiversity in Africa for climate action. The Declaration urges African countries to strengthen actions to halt and reverse biodiversity loss, deforestation, and desertification, as well as restore degraded lands to achieve land degradation neutrality⁷⁹. It also requires African countries to integrate biodiversity agendas into national development plans and processes in order to increase resilience of local communities and national economies⁸⁰. Fostering biodiversity is therefore a key agenda both globally and in Africa.

⁷⁴ African Union., 'African Convention on the Conservation of Nature and Natural Resources' Available at https://au.int/sites/default/files/treaties/41550-treaty-Charter_ConservationNature_NaturalResources.pdf (Accessed on 13/06/2024)

⁷⁵ Ibid, article V (7)

⁷⁶ Ibid, article X II (1)

⁷⁷ Ibid, article XII (1) (a)

⁷⁸ African Union., 'The African Leaders Nairobi Declaration on Climate Change and Call to Action' Available at https://www.afdb.org/sites/default/files/2023/09/08/the_african_leaders_nairobi_declaration_on_climate_change-rev-eng.pdf (Accessed on 13/06/2024)

⁷⁹ Ibid

⁸⁰ Ibid

In order to foster biodiversity for environmental health and green growth, it is imperative to halt and reverse the loss of biodiversity⁸¹. In order to achieve this goal, it is imperative to strengthen the conservation of vital ecosystems including forests, wetlands, and the blue economy⁸². It has been noted that the highest levels of terrestrial biodiversity are found in tropical forests, which host over eighty per cent of terrestrial species⁸³. Further, it is estimated that around 1.6 billion people depend on forests for their livelihood, and a quarter of all modern medicines come from tropical forest plants⁸⁴. Conserving forests among other ecosystems is therefore crucial in halting the loss of biodiversity.

Fostering biodiversity also requires the restoration of degraded and damaged landscapes and ecosystems⁸⁵. The degradation of landscapes and ecosystems can result in the loss of biodiversity⁸⁶. Restoration of ecosystems and landscapes is a key approach towards improving biodiversity conservation and restoration of biodiversity and ecosystem services⁸⁷.

In addition, there is need to protect endangered species⁸⁸. Endangered species are an essential component of biodiversity, and their loss can have a profound impact on the ecosystem⁸⁹. They contribute to biodiversity by playing unique roles in their ecosystems,

⁸¹ United Nations., 'Forests, Desertification, and Biodiversity' Available at <https://www.un.org/sustainabledevelopment/biodiversity/#:~:text=What%20can%20we%20do%3F,or%20to%20prevent%20wildlife%20disturbance>. (Accessed on 13/06/2024)

⁸² Ibid

⁸³ United Nations Environment Programme., 'UNEP and Biodiversity' Op Cit

⁸⁴ Ibid

⁸⁵ Muigua. K., 'Restoring Landscapes and Ecosystems for Climate Mitigation' Available at <https://kmco.co.ke/wp-content/uploads/2024/02/Restoring-Landscapes-and-Ecosystems-for-Climate-Mitigation.pdf> (Accessed on 13/06/2024)

⁸⁶ Ibid

⁸⁷ Ibid

⁸⁸ How Endangered Species Affect the Environment., Available at <https://www.gvi.co.uk/blog/smb-how-endangered-species-affect-the-environment/#:~:text=Endangered%20species%20contribute%20to%20biodiversity,biodiversity%20has%20other%20negative%20effects>. (Accessed on 13/06/2024)

⁸⁹ Ibid

such as pollinators, predators, and prey⁹⁰. Therefore, when these species disappear, the ecosystem's balance is disrupted, and other species may be negatively affected⁹¹. Protecting endangered species is therefore crucial for the preservation of biodiversity and the maintenance of healthy ecosystems since these species play essential roles in maintaining the balance of their ecosystems⁹². Countries should therefore strengthen efforts towards protecting endangered species in order to foster biodiversity for environmental health and green growth.

Further, there is an urgent need to control invasive species⁹³. These are animals, plants, fungi and microorganisms that have entered and established themselves in the environment outside their natural habitat⁹⁴. They have devastating impacts on native plant and animal life, causing the decline or even extinction of native species and negatively affecting ecosystems⁹⁵. It has been noted that invasive species reproduce rapidly, out-compete native species for food, water and space, and are one of the main causes of global biodiversity loss⁹⁶. According to UNEP, the global economy, with increased transport of goods and travel, has facilitated the introduction of alien species over long distances and beyond natural boundaries⁹⁷. The negative effects of these species on biodiversity can be intensified by climate change, habitat destruction and pollution⁹⁸. Invasive species have been identified as a major threat to Sustainable Development and human wellbeing⁹⁹. As a result, there is an urgent need to control invasive species in order to foster biodiversity.

⁹⁰ Ibid

⁹¹ Ibid

⁹² DGB Group., 'Why Should Endangered Species be Protected?' Available at <https://www.green.earth/blog/why-should-endangered-species-be-protected> (Accessed on 13/06/2024)

⁹³ United Nations Environment Programme., 'Five Drivers of the Nature Crisis' Op Cit

⁹⁴ Ibid

⁹⁵ Ibid

⁹⁶ Convention on Biological Diversity., 'Invasive Alien Species' Available at <https://www.cbd.int/undb/media/factsheets/undb-factsheet-ias-en.pdf> (Accessed on 13/06/2024)

⁹⁷ United Nations Environment Programme., 'Five Drivers of the Nature Crisis' Op Cit

⁹⁸ Ibid

⁹⁹ Ibid

It is also necessary for countries to strengthen environmental governance by integrating biodiversity conservation efforts into national and local development plans and policies¹⁰⁰. Countries can strengthen their biodiversity conservation efforts by developing National Biodiversity Strategic Action Plans¹⁰¹. These are integrated, multisectoral, participatory instruments for national biodiversity planning¹⁰². National Biodiversity Strategic Action Plans provide a platform for countries to plan the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, by outlining and addressing the threats to their biodiversity and biodiversity resources¹⁰³. They have been identified as key instruments and tools for translating the measures set out in the Convention on Biological Diversity, and in other biodiversity-related conventions, into national action and for creating a path to the achievement of concrete outcomes¹⁰⁴. It is therefore vital for countries to adopt National Biodiversity Strategic Action Plans in order to foster biodiversity for environmental health and green growth.

Finally, it is vital to increase awareness on biodiversity conservation¹⁰⁵. It has been noted that increasing knowledge and awareness on the importance of biodiversity can change attitudes and behaviour towards nature therefore strengthening conservation efforts¹⁰⁶. Knowledge and awareness on the importance of biodiversity can reduce overconsumption and halt biodiversity loss for the benefit of both humanity and nature¹⁰⁷.

¹⁰⁰ United Nations Environment Programme., 'UNEP and Biodiversity' Op Cit

¹⁰¹ Ibid

¹⁰² United Nations Environment Programme., 'Law and National Biodiversity Strategies and Action Plans' Available at https://wedocs.unep.org/bitstream/handle/20.500.11822/25655/LawBiodiversity_Strategies.pdf?sequence=1&isAllowed=y (Accessed on 13/06/2024)

¹⁰³ Ibid

¹⁰⁴ Ibid

¹⁰⁵ Hoffman. L., Salleh. A. F., & Adam. N., 'Fostering Action for Biodiversity' Op Cit

¹⁰⁶ Ibid

¹⁰⁷ Ibid

4.0 Conclusion

Biodiversity is key for environmental health and green growth. Biodiversity supports human and societal needs, including food and nutrition security, energy, development of medicines and pharmaceuticals and freshwater, which together underpin good health¹⁰⁸. It also supports economic opportunities, and leisure activities that contribute to overall wellbeing¹⁰⁹. Biodiversity conservation is key in most economic sectors that are vital for green growth including agriculture, forestry, fisheries, tourism, and the blue economy¹¹⁰. Fostering biodiversity is therefore vital for environmental health and green growth. However, this ideal is hindered by the loss of biodiversity which has been identified as one of the key challenges facing humanity¹¹¹. Biodiversity loss impacts ecosystem services including food and clean water therefore threatening the survival of life on the planet¹¹². It is therefore necessary to foster biodiversity for environmental health and green growth. In order to achieve this goal: it is imperative to halt and reverse the loss of biodiversity¹¹³; restore degraded and damaged landscapes and ecosystems¹¹⁴; protect endangered species¹¹⁵; control invasive species¹¹⁶; strengthen environmental governance by integrating biodiversity conservation efforts into national and local development plans and policies¹¹⁷; and increase awareness on biodiversity conservation¹¹⁸. Fostering biodiversity for environmental health and green growth is a vital agenda that should be enhanced and realized.

¹⁰⁸ World Health Organization., 'Biodiversity and Health' Op Cit

¹⁰⁹ Ibid

¹¹⁰ Gasparatos. A., & Willis. K., 'Biodiversity in the Green Economy' Op Cit

¹¹¹ United Nations Climate Change., 'What is the Triple Planetary Crisis?' Op Cit

¹¹² Ibid

¹¹³ United Nations., 'Forests, Desertification, and Biodiversity' Op Cit

¹¹⁴ Muigua. K., 'Restoring Landscapes and Ecosystems for Climate Mitigation' Op Cit

¹¹⁵ How Endangered Species Affect the Environment., Op Cit

¹¹⁶ United Nations Environment Programme., 'Five Drivers of the Nature Crisis' Op Cit

¹¹⁷ United Nations Environment Programme., 'UNEP and Biodiversity' Op Cit

¹¹⁸ Hoffman. L., Salleh. A. F., & Adam. N., 'Fostering Action for Biodiversity' Op Cit

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