Protecting Nature for a Sustainable Future

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Department of Environmental Management

Faculty of Social Sciences and Humanities

Rajarata University of Sri Lanka

Mihintale

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Disclaimer

The authors are solely responsible for the content of the articles published in this magazine. The views and opinions expressed herein do not necessarily reflect those of the publisher or the editorial board.

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Message from the Head
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"හරිත", the environmental magazine of the Department of Environmental Management, represents an important academic initiative that strengthens environmental awareness and scholarly engagement among undergraduate students. This inaugural volume demonstrates the Department's commitment to nurturing knowledge, responsibility, and sustainability through both academic inquiry and creative expression.

The contributions presented in this issue address contemporary environmental challenges while emphasizing the essential connection between humanity and nature. Such student-led platforms play a vital role in developing critical thinking, ethical responsibility, and a sustainability-oriented mindset, which are fundamental to environmental management as an academic discipline and professional field.

The Department extends its appreciation to the editorial team and student contributors for their dedication and efforts. It is expected that *හරිත* will continue to serve as a meaningful space for environmental dialogue, academic growth, and institutional commitment toward a sustainable future.

Prof. PSK Rajapakshe
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Message from the Chief Editor

Department of Environmental Management

This inaugural volume of **"හරිත"** is published under the *theme "Protecting Nature for a Sustainable Future,"* bringing together academic insight, reflection, and creativity to highlight pressing environmental concerns. The magazine serves as a platform through which students translate their learning into thoughtful communication that speaks to sustainability, conservation, and environmental responsibility.

The articles, essays, and poetic works included in this issue collectively convey a strong message to society on the urgency of protecting nature and promoting sustainable development. Each contribution reflects an understanding that environmental challenges require informed, ethical, and long-term solutions grounded in both scientific knowledge and human values.

Through this publication, *හරිත* aims to strengthen environmental discourse, inspire critical reflection, and encourage sustainable action within and beyond the academic community.

Dr. MMSA Marasinghe
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002.

Silent Guardians of Life: The Critical Role of Pollinators in Food Security and Ecosystem Health

Pollinators are the invisible architects of life, shaping the resilience of ecosystems and the stability of our food systems. Every gentle flutter of a butterfly, every rhythmic buzz of a bee, and every clandestine nocturnal flight of a bat transports pollen across landscapes, sustaining the reproduction of flowering plants. Their work, normally unnoticed, forms the foundation for the survival of both wild and domesticated plants. Globally, more than three-quarters of flowering plants and nearly one-third of food crops rely on pollinators for reproduction (Klein et al., 2007). Without them, biodiversity would shrink, agriculture would collapse, and human diets would become monotonous and impoverished.

The role played by pollinators is not only ecological but also profoundly economic, nutritional, and cultural. In Sri Lanka, as in most tropical countries, pollinators directly contribute to the livelihoods of millions. Coconut, mango, papaya, cardamom, and coffee are just a few of the island's major crops that rely heavily on pollination services. According to Partap and Ya (2012), effective pollination not only increases the quantity of fruits or nuts produced but also improves their quality resulting in larger, tastier, and more nutritious produce. This is particularly critical in regions affected by malnutrition or micronutrient deficiencies, where even marginal improvements in crop quality can have significant health impacts. Globally, pollinators provide ecosystem services valued between USD 235-577 billion annually (IPBES, 2016), reflecting their indispensable role in sustaining agriculture, livelihoods, and commerce.

The influence of pollinators extends far beyond the farm gate. They are ecosystem engineers that maintain the integrity of forests, wetlands, and grasslands. By enabling plant reproduction,

pollinators ensure genetic diversity within plant populations, enhancing resistance to disease, pests, and climatic change. Forests, for example, depend on a wide range of pollinators to sustain tree populations that fix carbon, bind soils, regulate hydrological cycles, and provide habitat for numerous species. Sri Lanka's mangrove forests-which are vital for protecting coastal settlements from storm surges and erosion-also depend on pollinators for regeneration. A decline in pollinator populations would therefore have cascading effects, undermining both biodiversity and the ecosystem services on which human communities rely.

Yet the global decline of pollinators presents a mounting crisis. Worldwide, including in Sri Lanka, pollinator populations face serious threats from a combination of environmental and anthropogenic pressures. Accelerating urbanization and deforestation reduce available nesting sites and fragment foraging habitats, limiting access to diverse floral resources. Modern agriculture is dominated by large-scale monocultures that offer little nutritional diversity for pollinators, while chemically intensive farming exposes them to toxic pesticides such as neonicotinoids, which impair bees' navigation, immune systems, and reproductive success. Climate change adds further stress, as shifts in flowering phenology can create mismatches between plant availability and pollinator activity, disrupting long-established ecological interactions. Invasive species and emerging pathogens, such as *Varroa* mites and *Nosema* fungi, have also devastated pollinator populations worldwide.

These pressures are particularly severe in Sri Lanka's intensive paddy fields and highland tea plantations. Highland monoculture tea estates provide minimal floral diversity, reducing food availability for pollinators and increasing exposure to disease and pesticides. The repeated application of pesticides in lowland paddy cultivation destroys both target and non-target organisms, while traditional tank cascade systems-once vital for sustaining biodiversity have been neglected or degraded. Urban expansion in and around Colombo and other major cities further fragments habitats, restricting pollinator movement and reducing genetic diversity. As a result, both managed pollinators, such as honeybees, and wild pollinators, including solitary bees, butterflies, and bats, are declining in diversity and abundance. However, the story of pollinators is not solely one of decline; it is also a narrative of hope and resilience. Focused conservation efforts, both globally and within Sri Lanka, demonstrate that pollinator populations can recover when habitats are restored and sustainable practices are adopted. Agroecological farming, which emphasizes crop diversification, organic fertilization, and integrated pest management has been shown to increase pollinator abundance while maintaining or even enhancing crop yields. Wildflower strips along field margins provide

essential foraging resources, while features such as hedgerows, deadwood, and artificial bee hotels offer breeding and nesting habitats. In Sri Lanka, the restoration of traditional tank cascade systems could once again create vital refuges for pollinators, strengthening both ecological integrity and agricultural productivity.

Local communities play a critical role in these conservation efforts. Beekeeping initiatives, for instance, not only support pollinator populations but also provide alternative livelihoods, particularly in rural areas. Awareness-raising programs that emphasize the environmental and economic importance of pollinators can foster environmental stewardship from an early age. Youth-led initiatives, citizen-science programs, and local non-governmental organizations have begun engaging communities in pollinator monitoring, public education, and advocacy for sustainable agricultural policies. By integrating pollinator conservation into economic and cultural practices, societies can secure long-term benefits for both people and nature.

Policy interventions are equally essential for pollinator protection. Legislation banning harmful agrochemicals, incentives for organic and pollinator-friendly farming, and the integration of pollinator conservation into national biodiversity strategies are critical measures. Internationally, regions such as the European Union have restricted the use of neonicotinoids, while organizations such as the Food and Agriculture Organization (FAO) promote pollinator-friendly practices through sustainable agriculture initiatives. Sri Lanka can adopt similar approaches by combining scientific evidence, traditional knowledge, and community participation to develop a comprehensive national pollinator conservation policy. Beyond ecological, economic, and policy considerations lies a fundamental moral imperative. Pollinators remind us of interdependence: human survival is intricately linked to the lives of the smallest creatures. They embody cooperation, mutualism, and harmony values often overlooked in modern development paradigms and industrial agriculture. Recognizing their intrinsic value is not merely an environmental act; it affirms humanity's shared membership in the Earth's web of life and reinforces our ethical responsibility to protect the ecosystems that sustain all living beings. The cultural significance of pollinators in Sri Lanka further enriches their value. Traditional knowledge systems, folklore, rituals, and agricultural practices frequently highlight the interconnectedness of humans and pollinators. Bees, butterflies, and birds appear in art, literature, and religious symbolism, reflecting an enduring appreciation of their role in sustaining life. Incorporating these cultural perspectives into conservation strategies can strengthen community engagement and align ecological protection with social values and traditions.

In summary, pollinators are not optional luxuries of nature; they are fundamental to ecosystem health, food security, and human well-being. Their decline constitutes an ecological, economic, and moral crisis. Yet protecting pollinators offers a clear pathway toward sustainability. Through habitat conservation, agroecological practices, policy reform, and civic engagement, population declines can be halted and even reversed. In Sri Lanka, pollinator conservation is both an ecological necessity and a socio-economic imperative, essential for food security, biodiversity conservation, and climate resilience. The hum of bees in coconut groves, the shimmer of butterflies in rainforest clearings, and the twilight flight of bats are not fleeting sights and sounds are the pulse of life itself. By safeguarding these silent sentinels, humanity secures its own future while honoring the intricate web of life upon which all species depend.

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003.

Safeguarding Nature: Pathways to a Sustainable Future

Introduction

Nature is the foundation upon which all life on Earth depends. It provides essential resources such as clean air, water, food, and raw materials. However, rapid industrialization, urbanization, and unsustainable consumption patterns have placed enormous pressure on ecosystems across the globe. As we face unprecedented environmental challenges such as climate change, biodiversity loss, deforestation, and pollution, protecting nature has become not only a moral imperative but also a necessity for ensuring a sustainable future for generations to come.

The Importance of Nature

Nature provides a vast array of ecosystem services that are critical to human survival and well-being. Forests regulate the climate and purify the air, wetlands filter water and protect against floods, and oceans sustain fisheries and absorb carbon dioxide. Biodiversity the variety of life on Earth ensures ecosystem resilience and productivity. For example, forests act as the planet's lungs, absorbing carbon dioxide and releasing oxygen. Wetlands filter pollutants and buffer communities against floods. Oceans regulate climate and supply food to billions. These natural processes are often taken for granted but are priceless in maintaining the balance of our planet. When we degrade or destroy natural habitats, we undermine the very systems that sustain us.

Environmental Challenges Threatening Sustainability

Climate Change: Greenhouse gas emissions from burning fossil fuels, deforestation, and other activities have led to global warming, resulting in more frequent and severe weather events, rising sea levels, and changing ecosystems. Climate change threatens food security, water availability, and human health.

Global Examples:

- Record greenhouse gas levels: Carbon dioxide concentrations worldwide continue to climb, hitting unprecedented levels and driving more extreme weather patterns like heatwaves, droughts, and storms.
- Arctic warming: The Arctic tundra is warming up to four times faster than the global average. As permafrost thaws and wildfires ignite, the region has shifted from a carbon sink to a net carbon source, fueling new emissions.

Sri Lanka Examples:

- Increased disasters**:** Sri Lanka experiences more frequent and intense flooding, droughts, and heatwaves. Last year's exceptionally heavy monsoon rains caused widespread crop damage and displacement.
- Agricultural disruption: Changed rainfall patterns are already affecting staple crop yields, threatening food security and livelihoods.

Biodiversity Loss: Species extinction rates are now hundreds of times higher than they have been historically, driven by habitat destruction, pollution, invasive species, and overexploitation. The loss of biodiversity weakens ecosystems, making them less able to recover from disturbances.

Global Examples:

- Global coral bleaching: The ongoing 2023-2025 global coral bleaching event has affected roughly 84% of Earth's coral reefs, the largest documented bleaching event in history.
- Species die-off: Reports show that wildlife populations have declined by nearly 70% since 1970, a sign of a planetary-wide sixth mass extinction.

Sri Lanka Examples:

- High species risk: About 66% of amphibians, 56% of mammals, 49% of freshwater fish, and 59% of reptiles are listed as threatened.
- Endangered endemics: Iconic species like elephants and the purple-faced langur face shrinking habitats due to habitat fragmentation and climate stress.

Deforestation: Every year, millions of hectares of forests are cleared for agriculture, logging, and urban development. Deforestation not only eliminates wildlife habitat but also contributes to climate change by releasing stored carbon into the atmosphere.

Pollution: Air, water, and soil pollution from industrial, agricultural, and domestic sources contaminate the environment and pose serious risks to human and animal health. Plastic waste, pesticides, and other pollutants can persist in the environment for decades.

Global Examples:

- Mas e plastic pollution: A single ship leak in 2021 spilled billions of plastic pellets into the ocean, highlighting the worldwide danger of plastic pollution to marine ecosystems.
- Air quality crisis: Air pollution is now the fourth-leading cause of global deaths, killing an estimated 7 million people annually.

Sri Lanka Examples:

- Air pollution: Cities like Colombo, Jaffna, and Dambulla consistently record air quality indexes (AQI) above hazardous levels during certain seasons. Transboundary pollution from India further exacerbates the problem.
- Plastic overload: Sri Lanka generates around 938 tons of plastic waste daily of which 69% is mismanaged. Beaches and marine reserves are littered with single-use plastics, endangering wildlife and tourism.

Overconsumption: Increasing demand for resources, driven by population growth and changing lifestyles, places unsustainable pressure on the planet's ecosystems. Overfishing, water scarcity, and land degradation are direct consequences of overconsumption.

Global Examples:

- Rising material demand: Global demand for natural resources has surged by over 500% since 1970, driving extraction, pollution, and climate stress.
- Fast fashion footprint: The fashion industry contributes more to global carbon emissions than international flights and shipping combined.

Sri Lanka Examples:

- Plastic overuse: Sri Lankans consume more than 20 million single-use items (like snack sachets and bags) monthly most of which escape waste management systems.
- Waste management gaps: Only 4% of collected plastic is recycled; the rest is open burned, dumped, or burned in uncontrolled settings, worsening pollution and health harms.

Why Protecting Nature Matters

The consequences of environmental neglect are far-reaching. Climate change threatens food and water security. Air and water pollution increase disease risk. The loss of forests and wetlands undermines natural defenses against disasters like floods and droughts. Beyond practical benefits, nature holds cultural, spiritual, and recreational value that enriches human life.

Crucially, the health of the natural environment is directly linked to economic stability. Many industries such as agriculture, fisheries, tourism depend on healthy ecosystems. Investing in nature is not just about conservation but also about securing livelihoods, jobs, and economic growth.

Strategies for Protecting Nature

1. **Conservation and Restoration:** Preserving existing natural habitats and restoring degraded ecosystems are essential. This includes expanding protected areas, reforesting cleared land, and rehabilitating wetlands and coral reefs.
2. **Sustainable Resource Management:** Using resources at a rate that allows for regeneration is key. Sustainable agriculture, forestry, and fisheries employ practices that protect the environment while maintaining productivity.
3. **Pollution Prevention and Waste Reduction:** Reducing reliance on harmful chemicals, promoting recycling, and adopting circular economy principles can significantly cut pollution and waste. Cleaner production technologies and environmentally friendly packaging also help.
4. **Climate Action:** Shifting renewable energy, improving energy efficiency, and supporting carbon capture initiatives are critical to mitigating climate change. Individuals can contribute by reducing energy consumption and supporting green energy.
5. **Environmental Education and Awareness:** Public understanding of environmental issues motivates action. Educational programs, community initiatives, and media campaigns can foster a sense of stewardship and responsibility.
6. **Strong Policies and International Cooperation:** Governments must enforce environmental regulations and participate in global agreements like the Paris Agreement on climate change and the Convention on Biological Diversity. International cooperation is vital for tackling cross-border environmental challenges.

The Role of Individuals and Communities

While policy and industry changes are crucial, individual actions collectively make a significant difference. Below are some practical steps.

- Reduce, reuse, and recycle to minimize waste.
- Choose sustainable products and support responsible companies.
- Conserve water and energy at home.
- Plant trees and support local conservation projects.
- Use public transport, bike, or walk instead of driving.
- Educate others about the importance of protecting nature.

Community-driven conservation projects can also have a powerful impact. When local people participate in managing forests, wetlands, and coasts, conservation efforts are more likely to succeed. Grassroots movements raise awareness and can influence broader policy changes.

Nature-Based Solutions for a Sustainable Future

Nature-based solutions use the power of ecosystems to address societal challenges. Examples include restoring mangroves to protect coastlines from storms, planting urban forests to reduce heat and improve air quality, and using wetlands to filter wastewater. These solutions are often cost-effective, provide multiple benefits, and support biodiversity.

Challenges and the Path Forward

Protecting nature is not without challenges. Economic pressures, political interests, and short-term thinking can undermine long-term sustainability. However, the cost of inaction far outweighs the investment needed for environmental protection.

A shift in mindset is necessary from viewing nature as an inexhaustible resource to recognizing its limits and intrinsic value. Collaboration among governments, businesses, communities, and individuals is essential. Innovative financing, such as green bonds and payment for ecosystem services, can support conservation efforts.

Conclusion

The future of humanity is inseparable from the future of nature. By protecting and restoring ecosystems, adopting sustainable practices, and fostering a culture of stewardship, we can create a world that is not only livable but also thriving. The choices we make today will

determine the legacy we leave for future generations, a legacy of balance, resilience, and sustainability. The time to act is now.

By G.D. Dilumika Malshani Kulasiri
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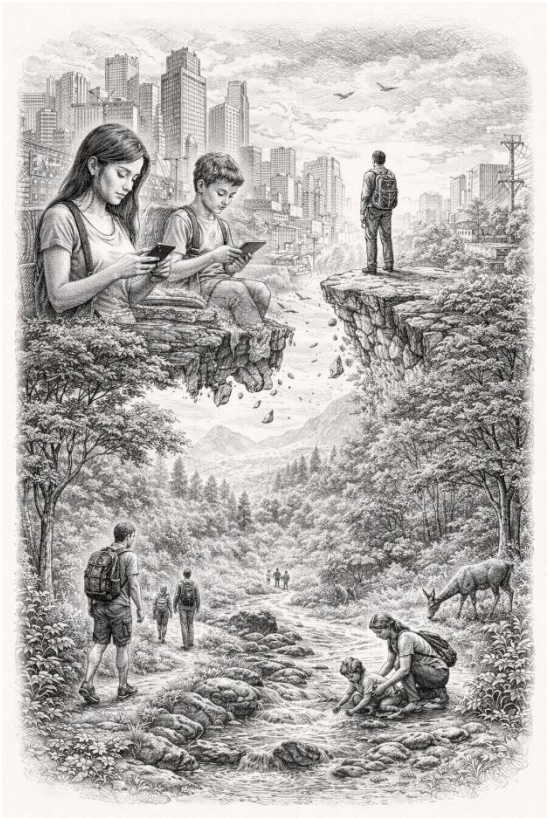
004.

Recovering the Origins of Sustainable Development: Reconnecting Human Beings to Nature

In today's world of screens, skyscrapers, and shopping malls, human beings have progressively disconnected themselves from nature. We live in glittering cities that hide the stars and spend more hours online than in the great outdoors. This growing disconnection from nature has become more than an emotional issue; it affects our health, culture, and even the planet's future. Many experts now believe that this fragmentation is one of the major underlying causes of today's environmental and sustainability challenges. Sustainable development is defined as meeting the needs of the present generation without compromising the ability of future generations to meet their own needs. However, how can we truly live by this principle if we fail to acknowledge the natural systems that support us? Reconnecting human beings with nature may be the most effective path toward a sustainable and peaceful future.



Over the past century, urbanization, technological advancement, and globalization have significantly altered the way we live. Many people are unaware of where their food, water, or everyday materials originate. We consume products manufactured far away without considering their environmental or carbon costs. Our daily lives are increasingly shaped by human-made environments that separate us from the natural world. As a result, many individuals experience rising levels of stress, loneliness, and a loss of purpose. Research indicates that spending time in nature can reduce anxiety, improve mental well-being, and increase compassion not only toward other humans but also toward animals and the environment. In short, nature heals and restores balance to our lives.

Reconnecting with nature is not simply about spending time outdoors; it is a deeper and more multifaceted experience. We are materially connected to nature through what we consume,

build, and use. We are experientially connected when we observe, sense, and feel the beauty of natural surroundings. We are intellectually connected through understanding ecological systems and how they function. Emotionally, we reconnect when we experience awe, peace, and gratitude toward the Earth. Philosophically, reconnection occurs when we realize that we are not separate from nature but an integral part of the living world. True transformation happens when our values shift when we stop viewing nature as something to dominate and begin to cherish it as something with which we must live in harmony.

This reconnection has the power to heal societies. Individuals who feel emotionally connected to nature tend to live more sustainably: they waste less, consume mindfully, and support conservation efforts. Communities that maintain strong ties to their local environments are often more resilient, cooperative, and adaptable. Reconnection not only benefits the natural environment but also improves the quality of human life. It strengthens communities, fosters a sense of belonging, and gives deeper meaning to our actions.

However, reconnecting with nature is not always easy. Rapid urbanization has led to overcrowded cities and diminishing green spaces. Children now spend more time in front of screens than engaging with the natural world a phenomenon often described as the "extinction of experience." Economic systems frequently prioritize profit over balance, supporting industries that exploit nature rather than protect it. Even some sustainability initiatives fail because they treat nature merely as a "resource" to manage, rather than a relationship to nurture. To restore our connection with nature, creativity, care, and collaboration are required at every level of society. Education plays a crucial role by extending learning beyond classroom walls. Forest schools, nature clubs, and community gardens provide hands-on experiences that cultivate curiosity and responsibility. Urban planning can also help reconnect city dwellers with nature through the development of parks, rooftop gardens, wetlands, and tree-lined streets. Governments can integrate environmental, health, and education policies by recognizing that human well-being depends on ecological health. Individuals, too, can make meaningful contributions through everyday choices buying local produce, reducing waste, planting trees, or simply spending more time outdoors. Small actions, when multiplied, can lead to significant change.

Sri Lanka's rich biodiversity and cultural heritage offer a powerful example of how humans and nature can coexist harmoniously. From the rainforests of Sinharaja to the mangroves of Puttalam and the wetlands of Colombo, the island's ecosystems provide valuable lessons in

sustainability. Reviving traditional agricultural practices, protecting forests, and restoring mangroves can strengthen people's relationship with the land. Even urban areas can be reimagined with increased greenery and environmentally sensitive designs that reconnect residents with nature. Ecotourism and outdoor education at the community level can simultaneously support environmental protection, economic development, and human well-being demonstrate that genuine sustainability is rooted in respect and balance.

Reconnection must go beyond symbolic actions. It must address deeper social and economic challenges such as inequality, excessive consumerism, and environmental injustice. True sustainability requires rethinking how we define "success" and "progress." It demands that all people, regardless of income or background, have equitable access to clean air, green spaces, and the restorative benefits of nature. Reconnection must also be culturally grounded, as each society's relationship with nature is shaped by history and tradition. In Sri Lanka, this may involve reviving long-held beliefs that view nature as sacred and shared, rather than as property to be owned and exploited.

Ultimately, reconnecting with nature is about remembering who we are and where we belong. It is about recognizing our place within the living world. When we walk through a forest, listen to the rain, or plant a seed, we participate in the same life cycle that sustains us all. Sustainable development then becomes more than a policy or strategy; it becomes an ongoing dialogue between humanity and nature. When we begin to see ourselves as part of nature rather than separate from it, sustainability shifts from an obligation to a way of life. The foundation for a better tomorrow lies in simple truth: we protect what we love, and to love nature again, we must rediscover our connection to it.

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005.

Protecting Nature for a Sustainable Future: A Call to Reconnect with Our Planet

In the rush of modern life, it is easy to forget that the earth beneath our feet, the sky above, and the rivers that weave through our lands are not merely backdrops. They are the lifeblood of our existence. Nature is not a resource to be taken for granted; it is a symphony of life that hums quietly, waiting for our respect and care. Protecting it is no longer a choice; it is an urgent responsibility.

The Fragile Beauty of Our World

Everywhere we look, the signs of environmental strain are unmistakable. Forests vanish under the chainsaws of progress, rivers choke on the remnants of human neglect, and the air, once crisp and pure, bears the weight of industrial smoke. According to the United Nations Environment Programme (2023), over a million species face the brink of extinction, and entire ecosystems are teetering on collapse.

Yet, amid these sobering truths, hope flickers in the hands of those willing to act. Protecting nature does not require grand gestures alone; it begins with small, deliberate acts that honor the interconnected web of life. Planting a tree, cleaning a stream, conserving water these are not mere tasks but declarations of love for the planet.

The Power of Individual and Collective Action

Sustainability begins with awareness but grows through action. Consider the simple act of tending a community garden. As seedlings push through the soil, we witness firsthand the miracle of life and the delicate balance required to nurture it. Community initiatives clean-up campaigns, tree-planting drives, and eco-awareness workshops remind us that nature flourishes when we collaborate. Education, too, is a vital thread in this tapestry. By teaching younger

generations to respect and protect their environment, we sow seeds of consciousness that will bloom long into the future.

Technology: Friend and Ally of Nature

While human progress has often strained the environment, it can also serve as a powerful ally. Satellite mapping allows us to monitor deforestation, renewable energy provides a path away from fossil fuels, and digital platforms inspire sustainable choices in ways once unimaginable. As environmental students, blending technology with thoughtful management strategies is crucial. We can design data-driven conservation plans, assess environmental impacts with precision, and bring global awareness to local communities through the digital realm.

Stories of Change and Connection

Perhaps the most profound impact comes not from statistics but from stories. The tale of a river restored, a forest replanted, or a community united in environmental action resonates in ways that numbers cannot. Creative expression through essays, articles, poetry, and photography breathes life into these stories, inspiring others to act. Platforms like Green HARITHA give students the stage to voice these narratives, weaving knowledge, creativity, and advocacy into a compelling call for change.

Culture, Tradition, and Nature

Protecting the environment is not solely a scientific endeavor; it is also cultural. Indigenous practices, passed down through generations, often embody profound wisdom in resource management, soil preservation, and water conservation. Learning from these traditions enriches modern sustainability strategies and reminds us that environmental stewardship is as much about respecting human culture as it is about protecting wildlife and ecosystems.

A Personal Call to Action

Each of us has the power to act. Whether planting native trees on campus, reducing energy consumption in our homes, or raising awareness among peers, every choice matters. Sustainable living is a mosaic of small, intentional acts, each one strengthening the bond between humans and nature. Education, advocacy, technology, and cultural insight together form a holistic path toward a greener future.

Finally, the health of our planet mirrors the choices we make today. Nature is not a distant backdrop; it is the heartbeat of life itself. Protecting it requires awareness, empathy, creativity,

and courage. Through platforms like Green HARITHA, we can amplify our voices, share our stories, and inspire others to cherish and defend the environment. Let us embrace this responsibility with reverence and imagination, ensuring that the world we leave behind is abundant, vibrant, and in harmony with the delicate rhythm of nature.

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006.

The Buzz of Sustainability that the Importance of Pollinators in a Changing Climate

The soft hum of a bee or the gentle flutter of a butterfly's wings can be a powerful reminder of the wonder of nature. Those sounds are one of the most crucial processes in our world, pollination. These "nature's helpers" bees, butterflies, moths, birds, and bats play a vital role in the survival of plants and humans. In our era of changing climate, as the delicate balance between flowering plants and the organisms that pollinate them becomes increasingly precarious, their vital role becomes even more important. So, when we talk about the "sound of sustainability," it's important to talk about the literal flapping of wings, the drop of pollen, the development of a flower, and the survival of ecosystems, food systems, and human well-being.

In Sri Lanka, this story is especially poignant. The island's rich biodiversity includes around 149 species of bees from 38 genera and 4 families 21 of which are endemic. These bees, together with butterflies, birds and other pollinators, animate the landscapes from the wet forests of Sinharaja to the dry zones and agricultural lands.

Pollination is a silent miracle of life. When a bee visits a flower and carries pollen from one flower to another, it enables the plant to produce seeds or fruit. Without pollination, many plants cannot reproduce and sometimes do so less successfully. This reduces the basis of habitat, biodiversity, and food systems. Animal pollination is an essential process. More than 85% of all flowering plants rely on animals to some extent for pollination.

For example, every time we eat a strawberry, chew an almond, drink a cup of coffee, or munch on a piece of dark chocolate, there is a process behind that pleasure that connects us humans to bees, butterflies, birds, and wildflowers. Its value is both economic and priceless. In the United States alone, insect pollination supports an estimated $29 billion in agricultural production.

But the story of these pollinators goes beyond dollars and cents. It ranges from reducing carbon emissions to stabilizing sea levels. Sometimes we talk about sustainability or climate resilience in different terms. But the buzz of a bee reminds us that sustainability is happening secretly in a garden, a field, a wildflower patch. If we lose pollinators, we lose not only our harvests, but also the balance of ecosystems.

Climate change here doesn't just mean warmer. It means changing seasons, shifting rainfall patterns, as well as shifting habitats and phenological mismatches. One of the most straightforward impacts of pollinators is the shifting timing of flowering and pollinator activity. For example, warmer temperatures can cause flowering to occur earlier than normal. But if bees or butterflies have not yet emerged, flowers can come and go before pollinators are active, leaving unpollinated and hungry pollinators without food. The phenological mismatch between plants and pollinators is a real measurable consequence of global warming.

Changes in temperature and humidity also affect nectar and pollen production. When flowers face drought or heat stress, they often produce less nectar (less sugar) or fewer flowers, meaning less food for pollinators. Moreover, heavy rainfall or storms can literally wash away flowers. They can reduce the number of hours that bees can fly. Or they can destroy habitats.

All of this means a rapid erosion of the plant-pollinator partnership. For example, if we consider wild bees, they are often less well-adapted than managed bees. But they play a huge role in natural habitats and diversified cropping systems. One USDA report found that wild bees are sometimes more severely affected by climate change than by habitat disturbance.

Some species cannot adapt quickly. A study focusing on Brazilian food plants and their bee pollinators found that suitable habitat for many species is predicted to decrease by more than 50% under climate change conditions.

The idea that our food plants may survive but pollinators disappear or become too few has the potential to destabilize the food web.

Pollinator diversity is important because different pollinators have different behaviors, habitats, seasons, and resilience. The consequence of losing diversity here is that ecosystems become more fragile. As one review of insect pollination in forests notes, forests support a large number of pollinating insect species, and their services are of "global importance." But under climate change, insect pollinators are showing changes in their activity, distribution, and abundance.

The consequences of pollinator loss or disruption are real for humans. The United Nations Environment Program (UNEP) reminds us that bees and other pollinators are essential to people and the planet. Without them, yields would decline.

If that happens to tropical crops like coffee, cocoa, and mangoes, livelihoods would be severely threatened.

As a World Wildlife Fund (WWF) campaign article notes, bees help maintain grasslands, forests, and other ecosystems in a way that stabilizes the climate. So, protecting pollinators is really about protecting our climate resilience.

But, despite their importance, pollinators are already under pressure. Habitat destruction, pesticide use, disease, invasive species, light pollution, and land-use changes have long affected pollinators. Climate change is exacerbating those threats or introducing new layers of complexity.

So, as human, we need to do something. Human-scale actions, ecosystem-scale changes, and policy moves are all interconnected. We can humanize this by imagining ourselves as stewards of the environment. We can do this by planting native flowers, reducing pesticide use, creating bee-friendly zones, protecting forest habitats, influencing climate action, and choosing a variety of crops and landscapes instead of monocultures. The Xerces Society (which specializes in pollinator conservation) notes that planting native plant species with high nectar value and varying bloom times is a practical way to support pollinators throughout the seasons, especially in urban and rural landscapes.

On a larger scale, it is essential to protect forest habitats, reduce fragmentation, and support ecological research on pollinator responses to climate.

From a policy perspective, we need to link climate adaptation with biodiversity protection. Reducing carbon emissions alone is not enough, and we must do so while maintaining the structure of ecosystems. Supporting pollinator-friendly agricultural practices, ensuring access to pesticide alternatives, and protecting ecological corridors become part of the climate-sustainability agenda.

Ultimately, the sound of sustainability is in the flutter of a bee's wings and the bloom of a wildflower. When we hear that sound as part of the larger story of climate change, ecosystem health, food security, and human hope, we recognize that our future is tied to the future of these tiny creatures. In a warming world, the importance of pollinators is critical to sustainability. Therefore, understanding the importance of pollinators and protecting them is a must if we want to live sustainably and use the environment.

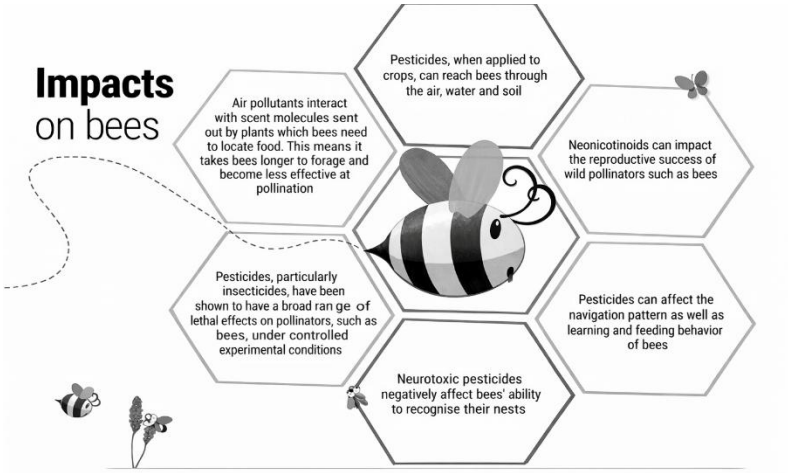

Figure 1. Importance of bees to people and the planet (UN Environment Programme, 2022).

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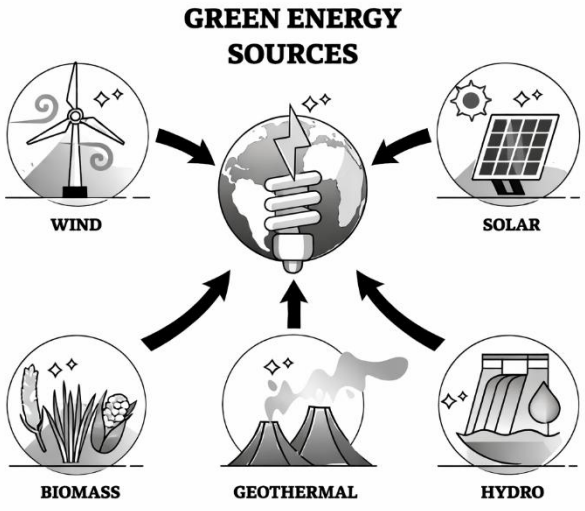
007.

Powering tomorrow with green energy for a clean and sustainable planet

A stressful life is unfolding before us under the increasing environmental crisis. It is the responsibility of the people to secure the future world so that the environmental hardships or crises that humans have to endure today do not develop further. Energy has become an essential part of daily life today. It is a property of objects that can be transformed into various forms and transferred to other objects, but cannot be created or destroyed. Energy sources can be classified as renewable energy sources and non-renewable energy sources. Renewable energy sources are energy sources that are generated directly from nature such as the sun, rain, wind, tides and can be generated repeatedly when needed. Non-renewable energy sources are energy sources that are not environmentally friendly, cause environmental changes, are responsible for climate change, global warming, and can affect human health. It is no secret that most of the energy used in the world today is generated from non-renewable energy sources. This leads to an increasing need for clean, renewable energy in today's world. Green energy offers a powerful solution to these challenges and will help create a sustainable planet for future generations.

What is Green Energy?

Green energy is a renewable energy source that comes from natural sources such as sunlight, wind, rain, tides, plants, algae and geothermal heat. The idea of green energy was introduced in November 2006 as the renewable energy standard offer program. Green energy technologies include solar energy, Marine energy, Wind energy, Hydropower, Bioenergy, Geothermal energy, etc.



Why do we need green energy?

Fossil fuels, a non-renewable energy source, are the main cause of global warming. Burning fossil fuels releases a large amount of carbon dioxide into the atmosphere, which causes air pollution, climate change, etc. Non-renewable energy causes negative impacts such as greenhouse gas emissions,

water pollution, land degradation, health problems, depletion of natural resources, habitat destruction, acid rain, economic instability, and excessive waste production. Green energy helps reduce carbon dioxide emissions and create a clean and healthy planet. Therefore, the need for green energy produced from renewable energy sources is increasing in the world today.

Types of Green Energy

Solar energy, wind energy, Hydro energy, Biomass, Geothermal energy, and Vibration energy are types of green energy. Solar energy is the most common renewable energy source used in power plants and can also be used to create other energy sources such as water and wind. Solar energy can be converted directly into electricity using Solar Photovoltaic (PV) systems, and solar energy can be converted into heat through Solar Thermal technology. Common solar thermal power systems include Parabolic Trough Systems, Solar Tower Systems, and A dish/Stirling system. No harmful gases are produced as a by-product in the production of solar power. Reduced use of fossil fuels, lower electricity bills, and protection of the planet from global warming and pollution are the benefits of using solar energy, and it is a key solution for a sustainable future.

Wind energy is the energy generated from the flow of wind using wind turbines. It does not burn fossil fuels and is a renewable energy source that can be used as an alternative to fossil fuels. Wind turbines do not produce global emissions that cause acid rain or greenhouse gases. Various countries use wind farms to provide electricity to homes and businesses, and through this, a stable supply of electricity can be obtained.

Hydro energy, also known as hydropower, is the production of electricity by using the flow of water, usually from rivers or dams, to turn turbines. According to research, hydropower is a major renewable energy source, currently providing approximately 19% of the electricity produced worldwide.

Geothermal energy is a type of green energy that comes from the natural heat stored beneath the Earth's surface, and this heat can be used to generate electricity. Biomass energy is produced from organic materials such as agricultural waste, food waste, wood waste, plant residues, and animal manure.

Benefits of Green Energy

Green energy offers a number of environmental, economic and social benefits. Environmental benefits include reducing greenhouse gas emissions, reducing air and water pollution, conserving natural resources and protecting ecosystems. Economic benefits include creating new job opportunities, promoting energy independence, and providing long-term cost savings. Social and health benefits such as improving public health, improving quality of life, and empowering communities can also be identified in green energy.

Green Energy in Sri Lanka

Hydropower is the main source of green energy in Sri Lanka. Major hydropower plants such as Victoria, Randenigala and Kotmale contribute to a large part of the country's electricity supply. Solar energy is becoming increasingly popular through programs such as Sooriyabala Sangaramaya (Battle for Solar Energy), launched by the Ministry of Power in collaboration with SLSEA, CEB and LECO. It aims to add 1000 MW of solar power to the national grid by 2025 and 1500 MW by 2030.

Wind power projects have also been developed in areas such as Mannar, Puttalam and Hambantota, utilizing onshore winds. Biomass energy generated from agricultural and forestry waste is used in some areas for cooking and small-scale electricity generation.

The Government of Sri Lanka launched a five-year action plan, the “Green Energy Acceleration Plan 2025-2030”, in February 2025, with the aim of rapidly increasing the deployment of renewable energy such as solar, wind, hydropower and biomass, modernizing the electricity system, reducing electricity costs, reducing dependence on fossil fuels and educating the public about clean energy technologies. The Government of Sri Lanka has set a target of 70% renewable energy generation by 2030 and carbon neutrality by 2050. Through these initiatives, Sri Lanka is working towards a sustainable future.

Applications of green energy

Green energy has applications across the domestic, industrial, agricultural and technological sectors. Solar energy is used for calculators, traffic lights, satellites and passive space heating, solar-powered irrigation, hydrogen fuel production, parabolic troughs and refrigeration. Wind energy powers vehicles, cargo ships, water pumps and is used for sports such as windsurfing and kite flying. Geothermal energy is used to power fish farms, greenhouses, dry food, heat buildings, prevent freezing on sidewalks and roads. Vibration energy is used to generate electricity from the movement of vehicles and pedestrians, and medical implants. Innovative

technologies include translucent solar batteries, "sun paper" solar cells for portable charging, and dual-function tanks that collect solar and rainwater. These applications can help identify how green energy contributes to sustainable energy generation with minimal environmental impact and daily life.

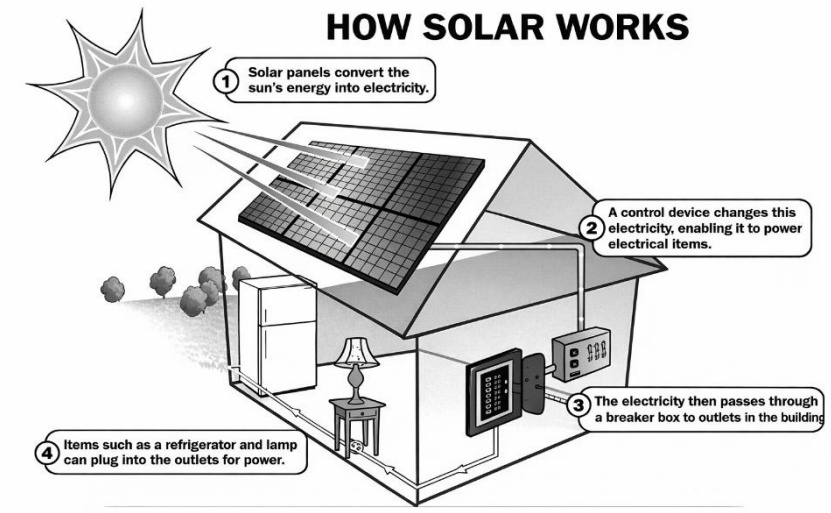


Figure 1. Importance of bees to people and the planet (UN Environment Programme, 2022).

How can we support green energy?

We can support green energy by using renewable energy sources such as solar and wind power, conserving electricity, using energy-efficient appliances, promoting solar or wind projects, encouraging local governments to use renewable energy in public places, choosing environmentally friendly products, reducing waste, and raising awareness. Industries should shift to clean energy technologies and improve energy efficiency. Governments can provide incentives, policies, and funding for green innovation.

Let's choose green. Let's power tomorrow with clean energy!

Green energy is not just a technological advancement, but an essential path to a cleaner, safer, and more sustainable planet. By harnessing renewable sources like solar, wind, hydro, and geothermal power, we can reduce pollution, combat climate change, and preserve natural resources for future generations. By investing in green energy today, we protect nature and secure a sustainable future.

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008.

Guardians of life: Protecting Ecosystem Services for a Sustainable Sri Lanka

An Eco system is a functional and structural unit where the living organisms interact with each other and the surrounding environment. Sri Lanka is traditionally known as the Pearl of the Indian Ocean, no less for its breath-taking landscapes, but also for its rich diversity of eco systems. From mist-covered mid mountain and dense rainforest to mangrove coastlines and coral reefs, nature works in silent anonymity countless functions that enable life.

Eco Systems play a major role in regulating the essential ecological processes, supports life systems and renders stability. And the Eco system is also responsible for the cycling of nutrients between biotic and abiotic components. Also, Eco systems maintain a balance among the various trophic levels in the eco systems. It cycles minerals through the biosphere. Furthermore, the abiotic components help in the synthesis of organic components that involve the exchange of energy.

However, these natural systems are experiencing unimaginable pressure today. Deforestation, global warming, urbanization, plastic waste and the overexploitation of resources are destroying eco systems and reducing their ability to support life. Sri Lanka as a country that depends greatly on agriculture, fisheries, tourism, conserving biodiversity and the eco system services is essential, not just for nature, but for economics, social security and to the future Sri Lankans.

What are eco system Services

The direct and indirect benefits from ecosystems are known as ecosystem services. Ecosystem services are identified as the benefits people receive from nature, such as climate regulation, food and clean water provision, spiritual, recreational, and cultural benefits, and supporting services such as nutrient cycling, which are intermingled to provide and maintain the conditions for life on earth. Sarathchandra et al., (2021) According to the Millennium Eco system Assessment (2005), are classified eco system services into four categories including,

1. **Provisioning** services - These consist of food, fresh water, wood and fiber, fuel, medicinal plants. Rice fields, coconut and tea states, fisheries generate national income and food security in Sri Lanka.

2. **Regulation** of services - nature's ways of supporting environmental balance, such as Climate regulation, Flood regulation, Water purification and Disease regulation.

3. **Supporting** services – These form the foundation for all the other services and include Nutrient cycling, Soil formation and primary production. Sri Lankan soils have microorganisms that decompose organic matter as well as recycle nutrients to support the growth of crops.

4. **Cultural** Services – Nature also nourishes the human soul. Scenic beauty like Ella, Horton Plains and Adam's Peak attracts tourists and pilgrims. Rural life, Ayurveda medicine and traditional rituals have close connections with eco systems.

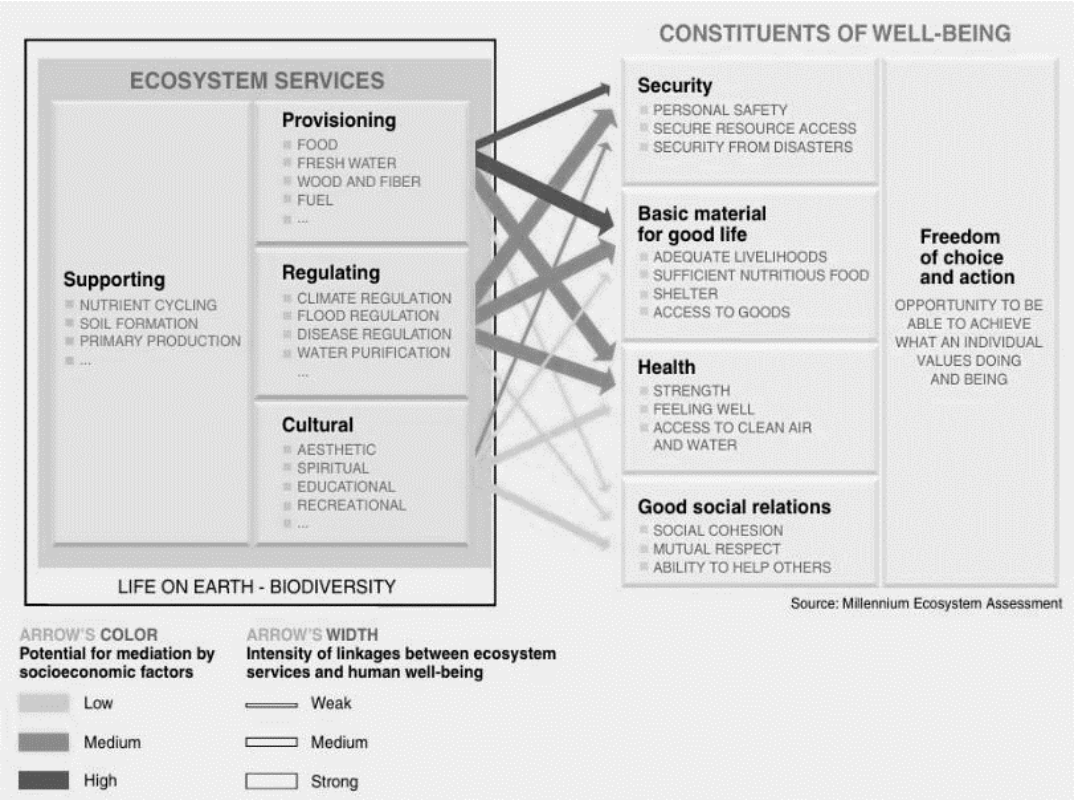

Figure 1: Millennium Ecosystem Assessment, 2005. Ecosystems and Human Well-being: Synthesis. https://share.google/Yk9YIlcKf9CEy5m4m Accessed date: 2025.10.18

Sri Lanka's Natural Wealth

Eco systems in Sri Lanka are exceptionally bountiful considering its small size, ranging from rainforests to monsoon forests, dry zones, wetlands, rivers, mountain eco systems, coastal areas and coral reefs. Sri Lanka recorded a 28.7% forest cover at the start of last decade [28], terrestrial protected area coverage was 29.86% [29] in 2015, and the coastal area consists of 25% of the total land [30]. At present, though some reports state Sri Lanka has 16.5% forest cover [31], no published data support this claim. Sarathchandra et al., (2021)

Forests provide carbon sequestration, regulate water cycles, prevent landslides, and support thousands of plant and animal species. The Sinha raja Rainforest is a UNESCO World Heritage Site and a stunning example of a biodiversity hot spot and a rain regulator.

Wetlands such as Muthurajawela Marsh, Beddagana Wetland Park, and Nawala Urban wetland act as natural water purifiers. They trap surplus rainwater and mitigate city flooding in metropolises such as Colombo while supporting bird populations and freshwater fish.

Apart from that the Crop ecosystems provide rice, tea, rubber, coconut, cinnamon, and spices supporting rural livelihoods. Traditional tank cascade systems in the dry zone illustrate how Sri Lanka's ancient people constructed nature-inspired water management systems that still persist today.

The most extensive mangroves occur in Puttalam - Kalapitiya area in association with estuaries. Dense localized stands also occur in association with estuaries in the Southern, Southwestern and Northeastern coasts e.g. Koggala lagoon, Kalamatiya lagoon, and Kokilai, lagoon. (Department, n.d.). They are biologically important nurseries for prawns, crabs, and fish. They also act as protective barriers against coastal erosion and tsunamis.

Hikkaduwa, Pasikuda, and Kalpitiya coral reefs are biologically rich and support tourism and fishing. Coral reefs are underwater walls that spread wave energy from storms.

Challenges to Ecosystem Services

Although Sri Lanka's ecosystems are diverse, they face various environmental challenges:

- Deforestation and Habitat Destruction:

Large tracts of forests are cleared for agriculture, settlement expansion, wood, and building. At present, though some reports state Sri Lanka has 16.5% forest cover [31], no published data support this claim. Recent years have recorded the worst forest cover clearing due to infrastructure development activities in Sri Lanka [32], in addition to illegal logging activities recorded throughout the country, though the country has suspended any form of commercial timber extraction [33].Sarathchandra et al., (2021). Not only does this reduce biodiversity, but it also leads to soil loss and decreasing water.

- Pollution

Rivers like Kelani and Mahaweli, are polluted with industrial waste effluence, agricultural runoff, and plastic trash. Air pollution in urban areas like Colombo and Kandy is increasing

due to vehicle exhaust and industrial development. Soil pollution resulting from the overuse of agrochemicals is also an important concern.

- Climate Change:

Sri Lanka is highly vulnerable to extreme weather events like droughts, floods, cyclones, and sea level rise. Climate change and changing precipitation patterns reduce agricultural yields and affect tea estates in hill countries. Bleaching of coral reefs by warming oceans is destroying coral reefs.

- Wetland and Coastal Degradation:

The Wetlands in Sri Lanka are being filled up for residential purposes, tourism, and road building. Unbridled tourism and sand mining drain coastal ecosystems.

- Overexploitation of Resources:

Overfishing, excessive groundwater abstraction, wildlife poaching, and excessive tourism pose threats to ecosystems. For instance, human-wildlife conflicts include elephants when forests are cleared to plant crops.

How Can We Save Ecosystem Services?

1. Strengthening Laws and Policies

Robust legislative frameworks like the National Environmental Act (1980), Forest Ordinance, and Wildlife Conservation Act are in place. Enforcement should be tightened to prevent unauthorized forest cutting, pollution, and wildlife trade.

2. Ecosystem-Based Management

Nature restoration rather than replacing it with artificial solutions is sustainable and cost-effective. Mangrove restoration programs like Batticaloa and Kalpitiya support coastal resilience.

3. Community and Youth Participation

Local people are custodians of their environment. Eco-tourism ventures in Ella, Sinharaja, Kitulgala, and village reforestation campaigns allow people to earn a livelihood while preserving nature. Plastic-free and tree-planting campaigns can be launched by youth clubs, school green clubs, and university environmental clubs.

4. Education & awareness

Schools must include environment science, climate change, and conservation of biodiversity in the curriculum. And also, we can improve the Awareness of farmers and related people about what are the ancient Sri Lankan traditions and methods to the conservation of Eco Systems. Especially in Agriculture like wise.

5. Research and Monitoring

Correct decisions are made by policymakers based on correct data. Regular monitoring of forest cover, water quality, the health of coral reefs, and endangered animals is essential. Universities, research institutions, and the Central Environmental Authority play a prominent role in this.

Sri Lanka's Path to Sustainability

A truly sustainable Sri Lanka must put nature first in development planning. Ecosystems worth measuring the economic value of forests, wetlands, and coral reefs will be in a better position to make better decisions. For example, conservation of a wetland can avoid millions of rupees spent on flood damage that could otherwise have been invested in man-made drains.

Linking conservation to UN Sustainable Development Goals (SDGs) specifically SDG 13 (Climate Action), SDG 14 (Life below Water), SDG 15 (Life on Land) will leverage global cooperation and economic support. Nature-based solutions such as-Organic agriculture and green irrigation, Rainwater harvesting and home gardens, Urban parks, rooftop gardens, solar energy, and recycling can lead Sri Lanka to a low-carbon, climate-resilient future.

Conclusion

Ecosystem services are the unsung pillar of Sri Lanka's nature, culture, and economy. They provide us with food, water, climate regulation, inspiration, and income. They may be forgotten or ruined, though, and soon enough nature will no longer support human life as it has for millennia.With strong policies, indigenous knowledge, scientific creativity, and people's involvement, Sri Lanka can protect its ecosystems and create a greener tomorrow.

Protect Nature Today, and Tomorrow it will become our greatest guardian!

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009.

Protecting the Hydrological Cycle for a Sustainable Future

" Thousands have lived without love, not one without water." : W. H. Auden

In this way, we can point to water resources as the most basic building block necessary for sustaining life. Water is the most abundant liquid on Earth, and about 70% of the Earth's surface is covered with water. Similarly, we can identify water in three main forms: solid, liquid, and gas, and water is constantly changing between these forms. Furthermore, water is the medium for many chemical reactions involving rocks, soils, and pollutants that make up the environment, and for many biochemical reactions involving a large number of living organisms. Accordingly, the existence of this water determines the composition of nature and the abundance of terrestrial organisms. Accordingly, the supply of water to the Earth can be identified as the result of an endless process involving the atmosphere and the land. This endless process is the "hydrological cycle or water cycle".

The hydrological cycle (water cycle) is the process of continuous circulation of water between the Earth's surface, atmosphere, and interior on a global scale. This is a system with a fixed amount of water, and no water or matter enters or leaves it from the outside. Therefore, the water cycle is considered a closed system. Accordingly, it can be recognized that the mass of water on Earth remains largely constant over time. Furthermore, water constantly moves from one place to another through the water cycle, and various processes are used for this.

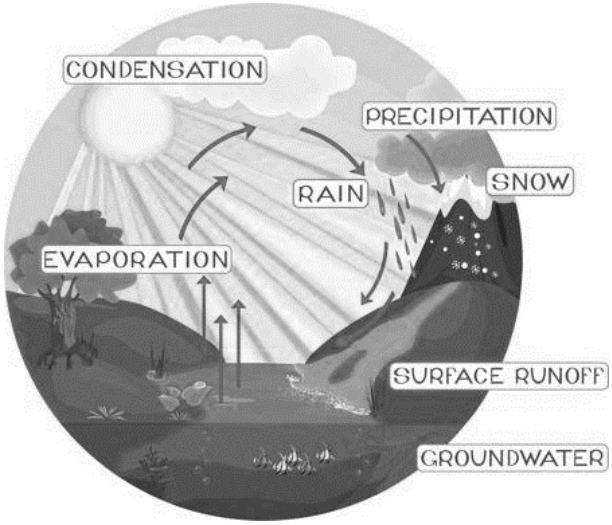

Figure 1: Hydrological Cycle

Evaporation, Condensation, transpiration, precipitation, infiltration, and surface runoff are some of them. Evaporation transfers water from storage areas such as the sea and land to the

atmosphere, while transpiration releases water taken up by plants as liquid and water contained in the bodies of animals into the atmosphere through processes such as respiration. Furthermore, precipitation transfers water from the atmosphere to water surfaces or land, and it occurs in several forms such as rainfall, snowfall, and frost. Also, when the amount of water received is greater than the amount of water absorbed by the soil, the remaining water flows due to gravity and ends up in a river or lake, which is called surface runoff. Many such processes come together to create the water cycle, and if the relationship between these factors breaks down, it can adversely affect the entire planet. Accordingly, let us examine in detail how we can protect the water cycle for our future and the future of the entire world.

Importance of the Hydrological Cycle

Water is life. Since ancient times, our entire civilization has been built on water. The Mesopotamian civilization, Egyptian civilization, Greco-Roman civilization, and Indus Valley civilization are the main examples. Accordingly, it is seen that water has made a significant contribution to maintaining the existence of mankind from the past to the present. Accordingly, this water helps the survival of the entire ecosystem as well as humans, and the water cycle distributes this water throughout the earth for various needs. Through this, we can recognize how important the water cycle is. Let us examine some of them as follows.

The water cycle ensures life and the availability of fresh water. It provides a continuous supply of water to all living things and recycles it naturally. It also regulates climate and weather patterns. It regulates temperature by linking factors such as precipitation, evaporation, and heat transfer in the water cycle. It also influences atmospheric circulation and helps stabilize weather conditions. Further investigation reveals that the water cycle contributes to the maintenance of ecosystems and biodiversity. It also plays a key role in transporting nutrients and providing habitats for animals such as freshwater wetlands, rivers, and lakes. In addition, the water cycle directly contributes to shaping the landscape and geological processes. The continuous movement of water through factors such as runoff, precipitation, and groundwater flow also contributes to erosion, sediment transport, and land transformation. Further examination of this reveals that the water cycle also directly contributes to agriculture, food security, and the prosperity of human society. Accordingly, through this movement of water, we find that the distribution of nutrients in the soil, the replenishment of aquifers, and the active provision of water for domestic and industrial purposes take place.

Example - Water supply for domestic needs in the world

Year	Amount of water (km^3)
1950	87
1980	219
2000	384
2025	607

Table 1: ජලය පරිහරණය, සංරක්ෂණය සහ කළමනාකරණය

Accordingly, it appears that the water cycle directly contributes to the survival of the entire planet, however, it also appears that water is being used more than in the past due to factors such as increasing population, unlimited demand, and overconsumption of water.

It can be recognized that various adverse human activities have contributed to the further depletion of the currently limited water resources, and as a result, problematic conditions have been created for the water cycle processes.

Human Impact on the Hydrological Cycle

"We only realize the value of water when the wells are dry.": Benjamin Franklin

Accordingly, humans are destroying water resources, which are essential for sustaining life, just as they are destroying their own lives. This will inevitably disrupt the existence of the water cycle.

Among these impacts, land cover change is the most important. Here, humans change the surface cover of vegetation, etc., based on factors such as deforestation, rapid urbanization, and agriculture. Through this, the transpiration process is disrupted, which leads to a decrease in regional precipitation, an increase in surface runoff, etc. Also, in recent times, humans have increasingly altered the natural flow of water and constructed reservoirs and dams, which has also disrupted the natural flow and storage of the water cycle. In addition, due to the rapid urbanization that is currently taking place, the amount of built-up land has increased, which is blocking the paths through which water flows to the groundwater. Urbanization has also led to water pollution and deterioration in its quality. Agricultural wastewater, industrial wastewater, and urban wastewater have caused chemical and biological changes in the natural water cycle. This also leads to depletion of the groundwater.

In this way, it can be recognized that various human activities are affecting the deterioration of the water cycle. However, efforts should be made to minimize these adverse effects and maintain the stability of the water cycle for the future.

Protecting Hydrological Cycle for Sustainable Future

As mentioned earlier, the hydrological cycle is directly important to all areas of life - environmental, social, and economic. Therefore, water must be managed sustainably for future well-being. Sustainability means " Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”: (Brundtland Commission Report)

Accordingly, for a sustainable future, the hydrological cycle must be protected by ensuring its continuity in the present. One of the main steps that can be taken is the protection and restoration of natural ecosystems. Here, through the conservation of natural ecosystems such as forests, wetlands and mangroves, the physical pathways and biological processes of the water cycle can be maintained well, and thus natural disasters such as floods and droughts can be reduced. Therefore, the path to a sustainable future can be paved through this. Similarly, implementing nature-based green infrastructure in urban areas can mitigate the impacts of rapid urbanization on the natural water cycle, thereby contributing to a sustainable future by integrating environmental and socio-economic factors.

In addition, another important step that can be taken to maintain the sustainability of the hydrological cycle is the protection of groundwater resources. This can be done by setting limits on the extraction of groundwater, which is a crucial factor in the water cycle, and providing the necessary conditions for the active exchange of groundwater and surface water. Likewise, by reducing water pollution and increasing wastewater treatment, the quality of the hydrological cycle can be preserved and maintained for future generations.

As mentioned above, one of the main obstacles to the well-being of the hydrological cycle is inappropriate human activities. Therefore, in order to achieve a sustainable future, these activities must definitely be minimized. This can be done through education, stakeholder participation and capacity building. Through this, long-term steps can be taken to protect the water cycle through social cooperation.

It can also be recognized that protecting the hydrological cycle through the Sustainable Development Goals has contributed to a sustainable future.

Examples - Goal 6 - Clean water and sanitation.

Goal 12 - Responsible consumption and production.

Goal 14 - Life below water.

Figure 2: Sustainable Development Goals

Conclusion

Ultimately, it is clear that protecting the hydrological cycle is essential to ensure environmental stability and sustainable development. Through this, the natural hydrological balance can be maintained through ecosystem conservation, pollution control, efficient water use and climate change management. Therefore, these collective actions support biodiversity and human well-being by protecting water for all generations, born and unborn. Based on these facts, it can be said that through the proper and efficient maintenance of the "hydrological cycle / water cycle", which is an essential element in creating a sustainable future, it is possible to build a socio-economic and environmentally prosperous future.

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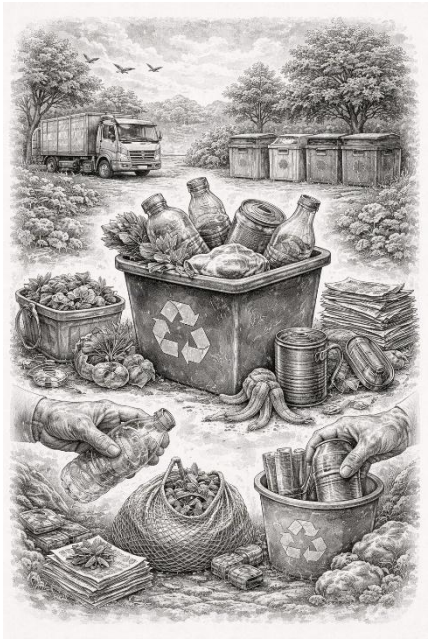
010.

Protecting the Planet: Environmental Sustainability in a Changing World



Environmental protection is one of the most pressing issues of our time. As human activities continue to impact the natural world, the need for sustainable practices has become more urgent than ever. From climate change and deforestation to pollution and biodiversity loss, the environment is under constant threat. Protecting our environment is not just about conserving nature, it is about securing a future where humans and ecosystems can thrive together. Environmental sustainability refers to the ability to meet the needs of the present without compromising the ability of future generations to meet their own needs. This concept, introduced by the Brundtland Report in 1987, states that development should balance the use of natural resources with the protection of the environment, promoting sustainable development in economic and social terms.

"Environmental sustainability is the path to a sustainable future."

Environmental sustainability has become a fundamental concept for economic and social development in the 21st century. In a world where the effects of climate change are increasingly visible, ensuring a balance between human needs and the preservation of the natural environment is crucial for present and future generations. This article explores the importance of environmental protection, the challenges we face, and the solutions that can help build a sustainable future.

Key concepts of environmental sustainability

To understand environmental sustainability, it is essential to be clear about the following terms: Environmental management, circular economy and renewable energies.

- Environmental management: Responsible use of resources to avoid their depletion.
- Circular economy: Reduction, reuse and recycling of raw materials to minimize waste.
- Renewable energies: Implementation of clean technologies such as solar energy and renewable energy in general.

The Importance of Environmental Protection

The environment plays a crucial role in maintaining life on Earth. It provides essential resources such as air, water, and food, as well as raw materials for industry and energy production. Moreover, it regulates climate, supports biodiversity, and offers recreational and cultural benefits. Protecting the environment ensures the survival of countless species, including our own.

- **Human Health and Well-being:** Clean air and water are fundamental to human health. Pollution from industries, transportation, and agriculture contributes to respiratory diseases, cardiovascular problems, and other health conditions. By protecting the environment, we reduce exposure to harmful pollutants and improve overall well-being.
- **Biodiversity Conservation**: The loss of biodiversity threatens ecosystems and food security. Many species play critical roles in pollination, pest control, and maintaining the balance of natural systems. Deforestation, habitat destruction, and climate change accelerate species extinction, disrupting ecosystems worldwide.
- **Climate Regulation:** Forests, oceans, and wetlands act as carbon sinks, absorbing and storing carbon dioxide. Protecting these natural areas helps mitigate climate change by reducing greenhouse gas concentrations in the atmosphere.

  Examples

  - Renewable energy and energy efficiency

  The use of technologies such as solar energy and energy efficiency is transforming key sectors. In Spain, 45% of electricity comes from renewable energy, reducing dependence on fossil fuels.

  - Environmental education plays a key role in raising awareness of climate change and the importance of adopting sustainable practices.

Major Environmental Challenges

Despite the known benefits of environmental protection, numerous challenges threaten ecosystems and human communities.

1. **Climate Change**

Climate change, driven by greenhouse gas emissions from human activities, leads to rising global temperatures, extreme weather events, and sea-level rise. These changes threaten agriculture, infrastructure, and biodiversity.

2. **Pollution**

Pollution affects air, water, and soil quality, with severe consequences for human health and ecosystems. Major types of pollution include:

- Air pollution: Emissions from vehicles, industries, and burning fossil fuels contribute to smog, acid rain, and respiratory diseases.
- Water pollution: Industrial waste, agricultural runoff, and plastic debris contaminate water bodies, harming aquatic life and reducing access to clean drinking water.
- Soil pollution: Pesticides, heavy metals, and waste disposal degrade soil quality, affecting food production and ecosystem stability.

3. **Deforestation**

Forests are disappearing at an alarming rate due to logging, agriculture, and urban expansion. Deforestation leads to habitat loss, reduced biodiversity, and increased carbon dioxide levels, worsening climate change.

4. **Waste Management**

The increasing amount of waste, particularly plastic waste, poses a serious environmental challenge. Landfills, ocean pollution, and microplastic contamination impact wildlife and human health. Reducing waste and promoting recycling are crucial to mitigating this problem.

Current challenges and the path to a sustainable future

Meeting the needs of the present

Achieving a balance between economic development and sustainability requires investments in technology and the adoption of **evidence-based sustainable development policies.** The global commission on sustainable development stresses that it is not enough to meet the needs of the present, but that it is also necessary to ensure the availability of resources for future generations.

Environmental sustainability is also evident in the mission of the Sri Lankan Ministry of Environment.

"To provide Leadership for sustainable environmental management by ensuring environmental protection through sustainable natural resource management."

How to Contribute to Environmental Sustainability

1. **Renewable Energy Adoption**

Transitioning from fossil fuels to renewable energy sources, such as solar, wind, and hydroelectric power, can significantly reduce greenhouse gas emissions and combat climate change.

2. **Sustainable Agriculture**

Adopting eco-friendly farming practices, such as crop rotation, organic farming, and reduced pesticide use, can protect soil health, conserve water, and minimize environmental impact.

3. **Conservation Efforts**

Protecting natural habitats through national parks, wildlife reserves, and reforestation programs helps preserve biodiversity and ecosystem functions.

4. **Waste Reduction and Recycling**

Governments and businesses must implement waste management strategies, including recycling programs, composting, and reducing single-use plastics.

5. **Policy and Legislation**

Strong environmental policies and regulations are necessary to enforce sustainable practices. Governments must implement and enforce laws that limit pollution, protect natural resources, and promote sustainability.

6. **Education and Awareness**

Raising awareness about environmental issues through education, media, and community programs can encourage people to adopt sustainable habits and advocate for policy changes.

Individual Actions,

While large-scale policies are essential, individuals also play a crucial role in environmental protection. Here are some simple actions that can make a difference:

- **Reduce, Reuse, Recycle:** Minimize waste by choosing reusable products and recycling materials properly.
- **Conserve Water and Energy:** Turn off lights, unplug electronics, and use water-saving appliances to reduce resource consumption.

- **Support Sustainable Brands:** Choose eco-friendly products and support businesses that prioritize sustainability.
- **Use Public Transportation:** Reduce carbon emissions by walking, biking, carpooling, or using public transit.
- **Plant Trees:** Trees absorb carbon dioxide, provide oxygen, and support biodiversity.
- **Participate in Cleanups:** Join local efforts to clean up parks, beaches, and communities.

The Global Perspective

Environmental challenges are not confined to national borders. Climate change, ocean pollution and species migration are global phenomena that require international cooperation.

Key international efforts include:

- The **United Nations Sustainable Development Goals (SDGs),** particularly Goal 13 (Climate Action), Goal 14 (Life Below Water), and Goal 15 (Life on Land).
- The **Convention on Biological Diversity (CBD)** aims to conserve biodiversity and promote sustainable use of natural resources.
- The **IPCC (Intergovernmental Panel on Climate Change)** provides scientific assessments that guide climate policy worldwide.

Nations must work together to share knowledge, fund conservation, and hold each other accountable. Protecting nature is not merely an environmental concern but a multifaceted issue that intertwines with human health, economic stability, and social well-being. By addressing the challenges and implementing sustainable strategies, we can pave the way for a harmonious coexistence with our planet, ensuring a thriving future for all living beings.

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011.

Protecting nature for a sustainable future

Nature has always been the basis of human life. It provides essential resources like clean air, water, food, medicine, and raw materials for shelter and industry. Besides these practical benefits, nature brings beauty, a spiritual connection, and balance to the Earth's ecosystems. However, rapid population growth, urbanization, industrialization, and unsustainable consumption are seriously harming the natural environment. The effects are clear: climate change, loss of biodiversity, pollution, and a shortage of vital resources. In this situation, protecting nature for a sustainable future is crucial.

Maintaining the ability of future generations to meet their own needs while fulfilling the needs of the present is known as environmental sustainability. Balance between the consumption of natural resources and environmental protection on the other hand is advocated sustainable development, which is the social and economic development of a society which was first proposed in the Brundtland Report in 1987.

In the 21st century, environmental sustainability has become known as an essential idea for advancement in society and the economy. Achieving a balance between human needs and environmental preservation is essential for both current and future generations in a world where the effects of climate change are becoming more apparent. This article will discuss the definition of environmental sustainability, its significance, notable instances, and strategies for achieving a sustainable future.

The overall objective of sustainability is to satisfy current demands without harming the capacity of future generations to satisfy their own. In a sustainable future, social well-being, environmental preservation, and economic growth interact. Protecting ecosystems, preserving biodiversity, cutting pollution, and making sure that natural resources are used responsibly are all important aspects of environmental sustainability. Future environmental crises, such as food

and water shortages, health hazards, natural disasters, and loss of livelihoods, are going to grow if nature is not protected today.

The basis of life on Earth is nature, which includes our forests, rivers, oceans, mountains, soil, and wildlife. Many ecosystem services are provided by it, including pollination, fertile soil, clean water and air, flood control, and climate regulation. Both human survival and the stability of the environment depend on these natural processes. However, the state of the environment is rapidly declining due to factors like increasing population pressures, industrialization, urbanization, pollution, deforestation, and climate change. "Protecting nature for a sustainable future" is a call to action rather than merely a catchphrase. It calls on us to manage, restore, and conserve natural ecosystems in ways that satisfy present demands without endangering the capacity of future generations to satisfy their own.

The largest threat to the environment is human activity. Some of the harmful practices include burning fossil fuels, using plastics carelessly, contaminating rivers with industrial waste, and clearing forests for land. Sea levels are rising, more extreme weather events are occurring, and species are decreasing as a result of climate change brought on by greenhouse gas emissions. Natural habitats are destroyed by mining, overfishing, illegal logging, deforestation, and land conversion for agriculture. The air, water, and soil are contaminated by chemicals, untreated sewage, plastic waste, and industrial emissions. Increased water levels, extreme weather, and damage to ecosystems are all results of climate change brought on by greenhouse gas emissions. As cities grow, green spaces are replaced by concrete, which lowers biodiversity and impacts temperatures. Furthermore, the Earth's systems are under unsustainable strain due to the excessive use of natural resources like freshwater.

How we can help in protecting environment

Small, daily actions are the first steps toward sustainability. Here are a few ways you can help save the environment and make a difference:

- **Reduce, Reuse, and Recycle**

Reducing waste is largely based on the three R's: reduce, reuse, and recycle. Reuse things whenever you can, recycle materials like paper, glass, and metal, and cut down the amount of single-use plastics and disposable items you use. You can contribute to reducing the quantity of waste that ends up in landfills and the ocean by doing this.

- **Conserve both energy and water**

Using less energy at home can significantly decrease your carbon footprint because energy production is one of the main causes of climate change. Simple changes like using energy-efficient devices, turning off lights when not in use, and converting to renewable energy sources (like wind or solar) can have a significant impact. Similar to this, conserving water through leak repair, shorter showers, and the use of water-efficient fixtures helps protect this valuable resource.

- **Encourage efforts to reforestation**

Carbon dioxide absorption, conservation of biodiversity, and soil erosion prevention all need trees. Donating to planting trees or even planning community tree-planting events are two ways you can support reforestation efforts. We are getting closer to a more sustainable future with each tree planted.

- **Select for Eco-Friendly Transportation**

One of the biggest factors contributing to greenhouse gas emissions is transportation. wasting time driving alone, you can significantly decrease your carbon emissions by taking public transportation, biking, walking, or carpooling. To reduce your travel-related carbon footprint, think about taking the train or flying more occasionally for longer trips.

- **Consume a Sustainable Meal Plan**

Your diet influences the environment as well. Reducing food waste, consuming organic and locally grown food, and eating more plant-based meals can all help protect natural resources and lower greenhouse gas emissions. reducing off meat consumption, even if only occasionally, can help the environment because animal agriculture is a major contributor to methane emissions and deforestation.

- **Encourage the use of renewable energy**

Make the move to renewable energy sources for your office or home if at all possible. Hydropower, wind, and solar are all excellent alternatives for fossil fuels and help cut greenhouse gas emissions. You can now select renewable sources for your electricity needs because of the green energy options that many utility companies offer.

- **Promote and Educate**

Spreading awareness of the importance of sustainability and supporting rules that put environmental protection first are both of the most effective ways to save the environment. You may contribute to systemic change by spreading awareness and supporting environmentally friendly laws at the local, national, and international levels.

The path to a sustainable future is one that requires collective action, and we all have a role to play. Whether through small, individual actions or larger-scale advocacy, every step we take toward protecting the environment helps secure a healthier, more vibrant planet for future generations. You can have an important difference by participating for a community cleanup, making a donation that helps in reforestation, or simply implementing more environmentally friendly habits in your everyday life. By working together, we can create a world where ecosystems prosper, people communicate peacefully with the environment, and future generations keep a planet that is suitable of habitation.

Today is the first step in creating a sustainable future. Let's take action, protect the environment, and make sure that all people can continue to live in a safe and supportive environment on Earth.

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012.

The Green Embrace of Nature Preserve, Protect, and Prosper

The wonderful blanket of nature that mom wraps around us
When we need warmth, warmth too
Cold when we need it cold
Well, received
A green blanket
A blanket with an indispensable beautiful world
A blanket carved with the sky, trees, streams, and mountains

Enjoy that wonderful blanket of nature
The wind moves like a quiet song,
Brushing against our skin,
Whispering secrets only the trees understand
The wind blows freely
The waves and rivers flow with grace
The sun, the moon, and the stars give us light,
How amazing is this?

Listen to the beautiful song of nature
The sweet sound of birds,
The gentle flow of streams,
The calm swaying of the trees
Feel the inspiration it brings
How much does it relax our bodies?
How calm is the mind?

See the evergreen world
Look at the colors that please the eye
But think a little deeper...
So-called development,
Concrete fields replacing forests,
Is there healing, happiness, clean air there?
I feel like the beautiful blanket our mother wrapped me

In is slowly being removed

The beginning of destruction
Obedient, kind nature,
Waiting sadly in unbearable situations,
Breaks down
Becomes agitated
Becomes violent
It feels the same to humans

Without destroying it completely,
Let's enhance the beauty of nature
Development is possible,
Green buildings, green paths, green forestry,
All with nature at the center
That is the foundation of a beautiful world

Don't be ungrateful person
Protect nature
The beautiful blanket that Mom knitted,
Make it more beautiful
Plant trees!
Protect water!
Don't pollute the air!
To a wonderful green future,
Open the greenway ….

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013.

Planet Over Profit

Why Cutting Nature Looses is the Only Way to a Sustainable Future?

Despite decades of increasing investment in conservation, we have not succeeded in "bending the curve" of biodiversity decline. (Obura, Achieving a nature, 2022)

The planet is nearing dangerous limits. (theguardian, 2025) Anthropocene - an era marked by immense human dominance over the Earth's environment. (Cavicchioli, 2019) This threatens the loss of biodiversity at a staggering rate - 100's of times greater than the 'natural' rate. It is mainly due to the destruction of habitats, pollution, over-exploitation of resources, climate change, etc. A good example of this is the destruction of the Amazon - 'the lungs of the Earth' - at an alarming rate for agriculture and logging. (Roy, 2024) This vastly increases the destruction of habitats and threatens countless species. In addition, it reduces the ability of the planet to absorb the CO2, which greatly increases the climate change impacts.

The warning signs are everywhere. The Sixth Mass Extinction is upon us. This extinction, unlike others, is not the result of an asteroid impact or volcanic eruption; it is the result of human development. For decades we have treated nature as an infinite resource as well as a dump, and now that mistake is showing its consequences. A truly sustainable future is not simply a matter of planting a few trees or stopping the use of plastic straws. It requires an immediate, radical, and global decision to halt destruction of the natural world, because the health of this world is not just related to our survival it is our survival.

Despite decades of increasing investment in conservation, we have not succeeded in 'bending the curve' of biodiversity decline. (Obura, 2022)

Nature's Urgent Plea

most alarming findings have been widely reported. Of an estimated 8 million animal and plant species (75 percent of which are insects), around 1 million are threatened with extinction—more than ever before in human history. Over 40 percent of amphibian species, almost 33 percent of corals, and more than a third of all marine mammals are threatened. At least 680 vertebrate species have been driven to extinction. All this is largely the result of human actions. Three-quarters of the land-based environment and about 66 percent of the marine environment have been significantly altered by man. More than a third of the world's land surface and nearly 75 percent of freshwater resources are now devoted to crop or livestock production. A third of

marine fish stocks are being harvested at unsustainable levels. In summary, the biosphere is being altered at an unprecedented scale and pace.

The dominant driver of these adverse trends is humanity's rapidly growing need for food, energy, water, and materials. The value of agricultural crops has increased by 300 percent since 1970; raw timber harvest has risen by 45 percent and approximately 60 billion tons of renewable and nonrenewable resources are now extracted globally every year, twice the level estimated for 1980. Land degradation has reduced the productivity of 23 percent of the global land surface. Climate change will accelerate many of these adverse effects over coming decades. The summary concludes with an enumeration of dozens of actions that can be taken by governments, researchers, and individuals, such as practicing informed government, improving documentation of nature, promoting sustainable agricultural practices, and reducing food waste. (Bongaarts, 2019)

Every year, millions of hectares are lost to logging, agriculture, or fires. When forests are destroyed, we lose much more than trees we lose medicines that come from plants, protection against floods, and habitats for wildlife. As they point out, the boreal forests alone hold 1.8 trillion metric tons of carbon, the equivalent of an astonishing 190 years' worth of worldwide emissions at 2019 levels. Soil is often ignored because it hides beneath us, but it is one of the most valuable natural resources on Earth. Healthy soil is alive with microorganisms that help crops grow, filter water, and store carbon. Without it, agriculture fails.

Unfortunately, human activity has accelerated the rate of extinction. Deforestation, hunting, pollution, and climate change are putting enormous pressure on wildlife. It is said that one million species are at risk of extinction in the coming decades if nothing changes.

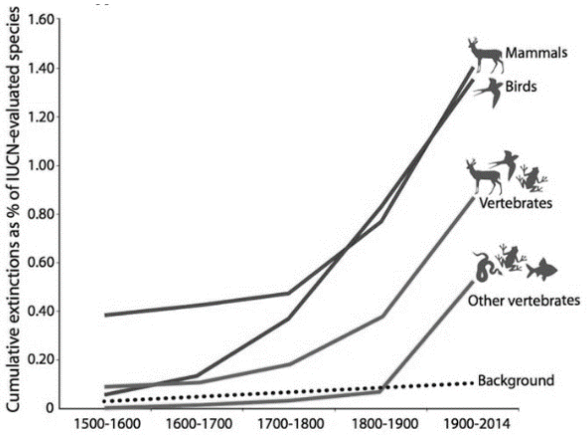

Table 01*: biodiversity loss.* (Alberts, 2022)

The clean energy transition and the electrification of the global economy shifting from fuel-based technologies to material-intensive, electric-powered alternatives are expected to drive a fivefold or greater increase in demand for critical minerals such as lithium, cobalt, nickel, copper, and rare earth elements by 2040 in some scenarios. (ellenmacarthurfoundation, 2017)

building of a Nature-First Future

The planet we live on is full of life. From the forests and mountains to rivers, deserts, and grasslands, every piece of land carries meaning for people and nature alike.

The "Life on Land" goal is not just a dream for environmentalists. It is a global necessity. Protecting land is directly connected to ending poverty, ensuring food security, fighting climate change, and supporting peace. It is the link between nature's survival and humanity's progress.

Restoring forests, planting new trees, and managing woodlands sustainably are crucial steps. Some countries have already shown how large-scale reforestation can change landscapes, reduce desertification, and improve local economies. When communities are given the chance to care for forests, they not only protect biodiversity but also create jobs and income through eco-tourism, sustainable farming, and forest products.

To protect soil, farming practices need to change. Crop rotation, organic farming, reduced pesticide use, and composting all improve soil health. Governments and communities must invest in land restoration, turning decertified or barren land back into productive ecosystems. Protecting soil is not only about feeding today's population, it is about ensuring that future generations have land to grow their food.

Figure 01: *plastic pollution impacts animals* (earth.org, 2022)

Protecting biodiversity is not just about saving rare animals like tigers or elephants. It is about saving the chain of life that keeps humanity alive. When ecosystems collapse, humans lose

food, medicine, and clean water. Establishing protected areas, restoring habitats, reducing plastic waste, and supporting eco-friendly businesses all contribute to biodiversity conservation. (gqa, 2016)

One way that resource management contributes to sustainability is through the efficient use of materials and energy. By implementing practices such as reducing, reusing, and recycling, organizations can minimize waste and lower their consumption of raw materials. For instance, in manufacturing, adopting lean principles can lead to more efficient production processes that use fewer materials and produce less waste. In energy management, implementing renewable energy sources and improving energy efficiency can significantly reduce an organization's carbon footprint.

Transitioning from fossil fuels to renewable energy sources constitutes a fundamental cornerstone of sustainable resource management. Solar, wind, hydroelectric, geothermal, and biomass energy sources offer cleaner alternatives, significantly reducing greenhouse gas emissions. Governments and industries investing in renewable energy infrastructure contribute to a sustainable energy future. (ellenmacarthurfoundation, 2017)

The Imperative of Collective Action

Despite the numerous benefits that the environment offers, human activities pose a significant threat to its sustainability in various ways. The planet's ecological balance is in a precarious state as it attempts to harmonize a supporting ecosystem with the expanding industrial and technological advancements. Unfortunately, human actions have often prioritized unchecked development over environmental conservation, leading to the overexploitation of natural resources and subsequent environmental degradation. The consequences are evident, with increasing global temperatures, accelerated species extinction rates, water pollution, rampant deforestation, a rising world population, and the deterioration of the ozone layer due to excessive industrialization.

In response to the urgent challenges presented by the escalating triple-planetary crisis of climate change, nature loss, and pollution, international efforts have gained momentum. Collaborative initiatives such as the Paris Agreement on climate change, the adoption of the Kunming-Montreal Global Biodiversity Framework, and the resolution to develop an international legally binding instrument on plastic pollution represent significant strides towards addressing these interrelated environmental issues. This underscores the importance of coordinated multilateral actions to effectively tackle these pressing challenges. By engaging

local communities and fostering international cooperation, substantial progress can be made in protecting essential ecosystems and advancing a more sustainable future for all.

Education forms the bedrock of this transformation. It is important to recognize that the power to protect the environment lies in the hands of individuals, communities, and societies. Schools have a crucial role to play in educating, nurturing, and encouraging conservation efforts.

Figure 03: *Ecology, environmental protection and sustainable development* (capturingthegains, 2022)

By integrating environmental subjects into the curriculum and establishing environmental clubs, students can learn about the importance of protecting the environment and become advocates for change in their communities. Appreciating the work done by institutions and individuals can significantly contribute to environmental conservation efforts. Highlighting the achievements of others and rewarding them can inspire further action that benefits both individuals and the environment. (igad.int, 2024)

Ultimately, the decision rests with us. We are at a pivotal moment in which we can either hasten the environmental crisis, or forge a path toward peaceful co-existence with nature. Protecting nature is not only an environmental issue; it is the very basis of human prosperity, health, and survival. It is time for The Great Decoupling - the time is now to break our destructive relationship with the planet and build a future in which both people and nature can flourish.

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014.

Nature at the Heart of Our Future

Nature is the foundation of life. Forests, rivers, oceans, and wildlife provide the air we breathe, the water we drink, the food we eat, and the essential resources required for human survival. However, today nature faces unprecedented threats due to deforestation, pollution, overexploitation of resources, and climate change. Protecting nature is no longer an option but a shared responsibility to ensure a sustainable future for coming generations (United Nations, 2019).

One of the most urgent steps is promoting environmental conservation at all levels of society. Individuals can adopt simple practices such as reducing waste, planting trees, and conserving water. Governments and institutions must also implement strong environmental policies, regulate industries, and promote renewable energy to reduce environmental damage (World Health Organization, 2022). Furthermore, education plays a key role in building awareness, empowering young people, and encouraging sustainable lifestyles.

A sustainable future is not only about protecting ecosystems but also about safeguarding human well-being. Clean air, safe water, and fertile soil directly determine the quality of life. By protecting nature, we also ensure economic stability, food security, and resilience to natural disasters (Intergovernmental Panel on Climate Change [IPCC], 2021). To overcome today's environmental challenges, humanity must restore harmony between people and nature. Ultimately, protecting nature is the greatest investment we can make for the future. Every small action such as conserving energy, reducing plastic use, or protecting biodiversity matters. Our collective efforts can ensure that the planet remains a safe, healthy, and beautiful home for all life.

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015.

Protecting Nature for a Sustainable Future

Nature is the foundation of life on Earth, providing essential resources like clean air, fresh water, fertile soil, food, and countless other necessities for survival. Human activities such as deforestation, pollution, overuse of natural resources, and climate change are putting immense pressure on the environment.

Protecting nature is both an ethical responsibility and a vital requirement for building a sustainable future, where sustainability means meeting present needs without compromising the ability of future generations to meet their own. To achieve this, wise use of natural resources and maintaining ecosystem balance are crucial. Forests, for example, play a vital role in regulating climate and protecting biodiversity, yet large areas are cleared annually for agriculture and development. Similarly, water sources are polluted by industrial waste and over-extraction, leading to shortages and health hazards.

Securing a sustainable future requires collaboration among individuals, communities, and governments. Simple actions like reducing plastic use, recycling waste, conserving water, and planting trees can make a significant difference. Governments should implement strong policies on renewable energy, wildlife conservation, and pollution control, while industries adopt eco-friendly practices and educational programs raise awareness about environmental protection.

Technology can contribute to sustainability through innovations in clean energy, waste management, and sustainable farming. However, technology alone is insufficient without changes in behavior and values, emphasizing the importance of respect for nature and responsible consumption.

Ultimately, protecting nature is key to ensuring a sustainable and healthy future for all living beings. Failure to act today will lead to severe environmental crises for future generations, but preserving and restoring the natural world can build a future where humans and nature coexist in harmony.

By T.M.N.R.Ranasingha

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016.

Environmental Sustainability: Protecting the Life-Support Systems of Earth

Environmental sustainability has emerged as a critical focus for societies globally. As the impacts of climate change, pollution, and resource depletion become increasingly evident, the need for sustainable practices to protect the environment has never been more urgent. The concept of sustainable development meeting the needs of the present without compromising the ability of future generations to meet their own needs is intrinsically linked to the health of our planet's natural ecosystems. Nature is not merely a resource to be exploited; it is the fundamental support system for all life, providing essential services like clean air, fresh water, fertile soil, climate regulation, and biodiversity. As human activity continues to exert unprecedented pressure on the environment, the urgency of protecting nature for a truly sustainable future has become the defining challenge of our era. Addressing this requires a paradigm shift, moving from a model of endless growth and consumption to one that values ecological integrity as the foundation of economic and social well-being.

Definition and Principles of Environmental Sustainability

Environmental sustainability refers to the responsible interaction with the environment to avoid depletion or degradation of natural resources, thereby ensuring long-term environmental quality. The core principles of environmental sustainability include:

1. Conservation of resources: Efficient use and management of natural resources to prevent over-exploitation and ensure availability for future generations.
2. Biodiversity protection: Preserving various forms of life, which contribute to ecosystem stability and resilience.
3. Pollution reduction: Minimizing the release of pollutants into the air, water, and soil to safeguard human health and ecological balance.
4. Renewable energy utilization: Transitioning from fossil fuels to renewable energy sources such as solar, wind, and hydro power to reduce carbon emissions and mitigate climate change.
5. Sustainable development: Integrating environmental, economic, and social considerations in development processes to achieve equitable and lasting growth.

The Invaluable Role of Nature and the Crisis We Face

Nature's contributions to human existence, often termed ecosystem services, are vast and largely irreplaceable. Forests act as crucial carbon sinks, absorbing greenhouse gases and regulating local and global climates. Wetlands and watersheds filter pollutants and provide vital fresh water. Oceans regulate temperature, produce over half of the world's oxygen, and are a major source of food. And underpinning it all is biodiversity, the variety of life on Earth, which ensures the resilience and productivity of ecosystems, from crop pollination to disease regulation.

The current trajectory, however, is one of alarming declines. Climate change, driven primarily by the burning of fossil fuels, exacerbates all environmental pressures, leading to rising sea levels, extreme weather events, and habitat destruction. Simultaneously, rapid urbanization, industrialization, unsustainable agricultural practices, and rampant pollution, particularly plastic waste are driving the sixth mass extinction event, resulting in a dramatic loss of biodiversity. Deforestation, the draining of wetlands, and the overexploitation of marine resources threaten to push key ecosystems past tipping points, jeopardizing the life-support systems upon which human civilization depends. Reversing this crisis demands a concerted, multi-scalar response from governments, corporations, and individuals worldwide.

Global Actions and Commitments

The international community has recognized the gravity of the environmental crisis and established frameworks for collective action. The most comprehensive of these is the 2030

Agenda for Sustainable Development, with its 17 Sustainable Development Goals (SDGs). Several SDGs are directly focused on nature and its protection, notably:

- Goal 13 (Climate Action): Taking urgent action to combat climate change and its impacts.
- Goal 14 (Life below Water): Conserve and sustainably use the oceans, seas, and marine resources.
- Goal 15 (Life on Land): Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt biodiversity loss.

The Paris Agreement under the UN Framework Convention on Climate Change (UNFCCC) commits nations to limit global warming to well below 2°C, and ideally to 1.5°C, requiring a massive transition away from fossil fuels to renewable energy sources like solar and wind power. In the realm of biodiversity, the Convention on Biological Diversity (CBD) sets targets for global conservation. Recent landmark agreements, like the proposed Global Biodiversity Framework, aim to galvanize action, including the goal to effectively conserve and manage at least 30% of the world's land and seas by 2030 (often termed the "30 by 30" target).

Furthermore, major international organizations like the United Nations Environment Programme (UNEP) and the International Union for Conservation of Nature (IUCN) work to monitor species and ecosystems, inform policy, and promote nature-based solutions. A key global movement is the UN Decade on Ecosystem Restoration (2021-2030), which supports efforts to prevent, halt, and reverse the degradation of ecosystems worldwide.

Sri Lanka's Actions for a Green Economy

As an island nation and a global biodiversity hotspot, Sri Lanka faces unique and acute environmental challenges, particularly from climate change (sea level rise, extreme weather) and high population density pressure on natural resources. The country has proactively positioned itself to transition toward a low-carbon, climate-resilient green economy.

A critical policy framework is the National Environmental Policy (NEP), which guides sustainable use, management, and protection of environmental resources. The National Environmental Action Plan (NEAP) 2022-2030 outlines specific thematic areas for action:

Biodiversity Conservation and Sustainable Use: This includes strengthening the network of protected areas, promoting sustainable tourism, and combating illegal wildlife trade. Sri Lanka

is signatory to international agreements like the Convention on Biological Diversity (CBD) and has established a robust system of national parks and nature reserves under the Fauna and Flora Protection Ordinance.

Climate Actions for Sustainability: Sri Lanka has adopted Nationally Determined Contributions (NDCs) under the Paris Agreement, focusing on transitioning to renewable energy, enhancing energy efficiency, and improving climate adaptation across sectors like agriculture and water management.

Conservation of Marine and Coastal Resources: Given its extensive coastline and reliance on marine resources, the country has focused on protecting vulnerable ecosystems like coral reefs, mangroves, and seagrass meadows, and addressing plastic pollution in its coastal waters.

Integrated Water Resources Management (IWRM) and Sustainable Land Resources Management: Efforts are underway to ensure sustainable water use, combat land degradation, and promote eco-friendly and climate-resilient agricultural practices, building on Sri Lanka's historic water management heritage.

Holistic Waste Management: Addressing the growing problem of waste, especially plastic, through national strategies for waste reduction, recycling, and responsible disposal is a key focus for local government and community action.

These national policies are complemented by the establishment of the Sustainable Development Council, which monitors the implementation of the SDGs, signaling a commitment to integrating environmental protection with economic and social development.

Pathways to a Sustainable Future

Achieving a sustainable future requires a deep integration of environmental principles across all sectors of society.

Policy and Governance

Effective environmental governance is paramount. Governments must establish and rigorously enforce environmental laws, prioritize environmental impact assessments for all major projects, and implement policies that internalize environmental costs (e.g., carbon pricing, pollution taxes). Globally, a shift is needed to measure economic success beyond Gross Domestic Product (GDP), incorporating metrics that account for natural capital and ecosystem

health. Furthermore, transparency and public participation in environmental decision-making are crucial for ensuring accountability and local buy-in.

Economic and Technological Transformation

The transition to a circular economy is essential. This model moves away from the traditional linear "take-make-dispose" approach to one that minimizes waste and keeps resources in use for as long as possible through reuse, repair, and recycling. Green technologies, particularly in renewable energy, sustainable transport (e.g., electric vehicles), and smart agriculture, must be rapidly scaled up through public and private investment. Furthermore, there is a growing necessity for Nature-Based Solutions which involve working with nature to address societal challenges, such as using mangroves for coastal protection or restoring urban parks for heat mitigation and air quality improvement.

Individual and Community Stewardship

While large-scale policy and corporate action are vital, individual choices collectively drive significant change. Adopting a lifestyle based on "Reduce, Reuse, Repair and Recycle" is fundamental. This includes reducing meat and dairy consumption in favor of plant-based diets, minimizing energy use at home and in transport (e.g., walking, cycling, public transport), and consciously choosing products from companies committed to sustainability and ethical sourcing (e.g., FSC-certified wood, Fair Trade, and Rainforest Alliance products). Civic engagement, such as participating in local cleanup initiatives, supporting conservation organizations, and advocating for stronger environmental policies, empower citizens to become active stewards of their local and global environment.

Education and Awareness

Raising awareness about environmental issues and promoting sustainable practices among the public is essential. Educational programs, media campaigns, and community initiatives can foster a culture of sustainability.

Conclusion

Protecting nature is not an optional luxury but a fundamental prerequisite for human survival and prosperity. The actions taken globally and locally, from multilateral agreements like the Paris Agreement to Sri Lanka's National Environmental Action Plan demonstrate a growing recognition of this truth. However, the current pace of degradation far outstrips the rate of

protective action. A truly sustainable future requires a collective, ambitious, and immediate commitment to valuing nature's services and integrating ecological sustainability into every facet of economic planning and daily life. The generations that follow will inherit the consequences of our choices today. By safeguarding our forests, oceans, and biodiversity, we do not just protect the planet; we secure a healthier, more resilient, and more equitable future for all.

By T.M.N.R.Ranasingha
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017.

Growing a Greener Tomorrow Through Community Action

Introduction

With the rapidly transforming environments of today, the call to defend our natural world has become more urgent than ever before. The effects of climate change, pollution and habitat destruction are threatening the subtle balance of ecosystems upon

With the rapidly transforming environments of today, the call to defend our natural world has become more urgent than ever before. The effects of climate change, pollution, and habitat destruction are threatening the subtle balance of ecosystems upon which human life is dependent. A report released by the United Nations-supported IPBES warned that around one million plant and animal species are under threat of extinction due to human activity (IPBES, 2019) [1]. This unprecedented loss of biodiversity risks the "web of life" that supports our food security, health, and economies [2]. But there is hope among these risks. Experts note that it is never too late to act if we do it now at all levels from local communities to global coalitions (IPBES, 2019) [3]. Not only is it important to protect nature environmentally, but it is also a social and moral imperative to make a sustainable future for generations to come. This article discusses ways in which individuals can take the lead by planting trees, conducting clean-up campaigns, raising awareness among people, and sustainable agriculture to heal our world and make a greener tomorrow.

Tree planting and Reforestation

Forests have been called the lungs of the planet, and not by chance. Trees absorb carbon dioxide from the air, emit oxygen, maintain soil, and provide habitat for hundreds of millions of species. Deforestation, however, continues at an alarming rate. Some 42 million trees are cut down every day, and only one tree is planted as a replacement for every eight that vanishes, resulting in a net loss of over 13 billion trees a year (Rush, 2023) [4]. This deforestation leads to climate change and loss of biodiversity. As a result, individuals all over the world are taking action to restore the damage by reforesting. From small villages to megacities, local communities are coming together to plant native trees, restore degraded lands, and restore ecosystem processes. For example, in Kenya, the Green Belt Movement founded by Wangari Maathai in 1977 mobilized local women to the millions of trees level in a campaign against soil erosion and deforestation (Forest Nation, 2024) [5]. Over the decades, the grassroot movement evolved into

a force to be reckoned with, demonstrating how people's action can heal landscapes and empower people. Similarly, global initiatives like the "Plant a Billion Trees" campaign also aim to reforest landscapes from Brazil to Africa, showing that maybe a gap can be made in the issue of deforestation (Rush, 2023) [6]. Above all, community engagement is the heartbeat of successful tree planting programs when neighbors plant and care for trees in their residential neighborhoods, they acquire a sense of ownership and duty for these living beings (One More Tree Foundation, 2024) [7]. This way, reforestation is not just about planting saplings; it's planting seeds of stewardship and hope for a green future.

Community Clean -Up Drives and Prevention of Pollution

Yet another crucial way in which Communities protect nature is by reducing pollution through campaigns of clean -up and waste reduction. Plastic litter, toxic waste and other toxins are chokings oceans and landscapes, killings wildlife and the health of citizens. Clean-up campaigns in communities directly address this problem by removing garbage from beaches, rivers, streets and parks and instilling environmental consciousness among volunteers. Every year millions of volunteers worldwide engage in events like the International Coastal cleanup and the effects is so immense. In 2025, nearly half a million volunteers from coastal and inland communities together picked up a combined total of approximately 18 million pieces of trash from rivers and beaches (Save The Bay, 2025) [8]. These initiatives do not only keep our environment clean of plastics and trash but also create awareness of our trail of waste. Many volunteers said participating in a clean-up opened their eyes for the first time to the impact of littering and overuse and made them make greener choices since. As well as one-off events, some communities are actively attempting to prevent pollution at source.

Citizen clean-up activities can also have tangible payoffs in the local area and spark more action. AN example from Sri Lanka s Rajarata University is as follows: Sarasavi Nature Club students coordinated with teachers and villagers for a clean-up exercise at Mihinthale Lake. Within one day, the volunteers collected approximately 400kg of waste from the lake and the environment, restoring the ecosystem and educating the people (Rajarata University, 2024) [10]. Not only did this collaborative effort improve the scenic view of the site and protect wildlife from pollutants, but it also drove world Sustainable Development Goals like clean water, sustainable communities, and life on land (Rajarata University, 2024) [11]. These vignettes prove that when communities unite to battle pollution whether by hauling filth off a lake or rallying for plastic-free laws they create healthier worlds and foster a culture of

responsibility. Every bottle or bag collected is one fewer danger to wildlife, and every cleanup sends a loud message that ordinary citizens can make an extraordinary difference in safeguarding nature.

Environmental Education and Awareness Programs

Education and awareness are the backbone of any long-term environmental endeavor. There needs to be knowledge of why one should preserve nature, and how, before one takes action. From school environmental clubs and workshops to social media campaigns and public awareness campaigns, communities across the globe are engaging in awareness programs to enlighten and inspire citizens toward environmental conservation. A glaring example of global environmental awareness is Earth Day, celebrated each year on April 22. Earth Day has grown to become the world's largest civic environmental event with over one billion people from 192 countries participating in rallies, tree planting, clean-up, and educational activities annually (EARTHDAY.ORG, 2025) [12]. It is such a large-scale action that brings to the fore the possibility that awareness creation is able to unite people from various cultures for a singular cause. Current Earth Day theme, "Invest in Our Planet," echoes the reality that protecting nature is an investment in our own sustainable future (EarthDay.org, 2023).

At the local level, teachers and community leaders are organizing environmental workshops and training programs to empower individuals with knowledge and skills. These workshops involve topics such as sustainable lifestyles, conservation of biodiversity, climate change, and waste management. The effect of these educational programs is most likely to be profound.

Green Farming and Sustainable Living Practices

We also need to reconsider how we grow our food and utilize land at the community level in an effort to preserve nature for a sustainable future. Agriculture is crucial for sustaining us, but with intensive farming comes high environmental prices like deforestation, soil loss, agrochemical pollution of water, and excessive release of greenhouse gases. The good news is that the majority of communities are embracing green agricultural practices that work with nature instead of against nature. Practices of sustainable agriculture such as organic farming, agroforestry, permaculture, and regenerative agriculture can produce food while enhancing environmental well-being. Organic farming, for instance, does not employ chemical pesticides and fertilizers, thereby preventing toxic chemical runoff from entering rivers and streams (Australian Organic Ltd., n.d.) [14]. Organic and regenerative farms will also emit fewer greenhouse gases and produce healthier soils than conventional farms and are therefore better

suited to endure climatic extremes like droughts (Australian Organic Ltd., n.d.) [15][16]. Sustainable farmers maintain biodiversity and reduce pollution by using crop rotations, natural pest control, composting, and water-saving techniques while still yielding productive harvests (WWF, 2021).

Beyond agriculture, sustainable day-to-day life practices are taking hold in the community solar panel co-ops, rainwater harvesting systems, bike-sharing programs, and tree planting on sidewalks are all examples of living sustainably. Every single one of these programs, regardless of size, helps reduce the demand on natural resources. More importantly, they demonstrate that sustainability is not a theoretical notion but a reachable and real way of life. When a village goes organic or a town builds a solar-powered town center, they serve as examples to others. By committing to sustainable practices collectively, communities show that we are able to meet our needs in a sustainable manner without degrading the environment. This harmony between people and planet is at the heart of sustainability.

Conclusion

Be it tree-planting and river-cleaning child -teaching and sustainable farming, community-based projects are vital threads in the nature conservation tapestry. Nature conservation is not the sole preserve of governments and scientists- it is everyone's concern, and it needs each and every one of us to play our role. These case studies featured in this article show that when ordinary citizens unite over a common green cause, incredible things are possible. A more sustainable future is plausible if we replicate and magnify these activities globally. As the saying goes, "little drops of water make the mighty ocean." Each tree planted, each clean-up drive, each plastic bottle avoided, and each organic garden tends to add up to significant environmental change in the long term. Additionally, community activities do more than yield environmental change in the long term. Additionally, community and community activities do more than yield environmental dividends alone, they also strengthen social bonds and give people a sense of purpose and empowerment.

They remind us that humans are not helpless against environmental issues; indeed, our decisions and actions today will determine the kind of world that coming generations will inherit. Moving ahead, it is essential to support and participate in local community based environmental actions. Students in particular can be powerful agents of change on campus and in their hometowns by leading sustainability initiatives or volunteering for already existing

ones. Preserving nature is preserving the life-support systems upon which our own survival relies.

According to environmentalists, we don't inherit the Earth from our parents; we borrow it from our children. Ensuring that we return it in livable shape is the task of our time. The path to sustainability will require persistence, innovation, and collaboration at all levels of society. The encouraging news is that communities all over the world have already embarked on this journey, planting hope with every tree they sow, cleaning up our world piece by piece, and living more lightly on the planet. Theirs is the light that can lead us forward. If we each take responsibility and follow up on these efforts, we can grow an earth where people and nature thrive together in harmony. Saving nature is, in the end, saving ourselves and there is no better investment in the future.

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තිරසාර අනාගතයක් යනු, අනාගත පරම්පරාවන්ට ඔවුන්ගේ අවශ්‍යතා සපුරාලීමේ හැකියාවට හානි නොකර වත්මාන අවශ්‍යතා සපුරාලීමයි. මෙය සිදුවිය හැක්කේ අප ස්වභාවික ලෝකය ආරක්ෂා කර ප්‍රතිසංස්කරණය කළ විට පමණි. තිරසාර අනාගතයක් සැලසුම් කිරීමෙහිලා අංශ ගණනාවක් සලකා බලයි. එනම් පරිසර, ආර්ථික හා සමාජීය අංශයන් කෙරෙහි ය. එහිදී පරිසරය නැත්නම් සොබාදහම සුවිශේෂී වේ.

පෘථිවියේ හදගැස්ම බඳු **සොබාදහම** පෘථිවියේ ජීවය පවත්වාගෙන යාමේ පදනමයි. හොඳින් වැඩුණු ගසක් දිනකට මිනිසුන් 04කට අවශ්‍ය ඔක්සිජන් ලබා දේ. කුඹුක් වැනි ශාක ජල උල්පත් 20කට වඩා ඇති කරයි. මී ගස් වැනි ශාකවලින් අතිසාරවත් පොහොර ලැබෙන අතර ඒවා යූරියාවලට වඩා සිය ගුණයක් සාරවත් ය. නමුදු ඇතැම් අවස්ථාවල දැනුවත්ව හා නොදැනුවත්ව අප පරිසරය නොසලකා හැර සූරාකෑමට ලක්කර ඇත්තෙමු. වනාන්තර හානි වෙමින් පවතී; සාගර ප්ලාස්ටික්වලින් හුස්ම හිරවෙමින් පවතී; වාතය දූෂණයෙන් බර වෙමින් පවතී. මෙම සියලු සැලකීම් සඳහා සොබාදහම අනතුරු අඟවමින් සිටින බවට පෙන්නුම් කරයි.

වත්මානයේ දී සොබාදහම මුහුණ දී ඇති අබාධිත ගැන සලකා බැලීමේ දී, වනාන්තර විනාශය ප්‍රධාන වේ. ලෝක බැංකු වාතර්ාවන්ට අනුව 1990 සිට අද වන විට පෘථිවියට වනාන්තර හෙක්ටයාර මිලියන 420කට වඩා අහිමි වී ඇති බව වාතර්ා වී ඇත. පෘථිවියේ පෙනහළු බඳු ඇමසන් වනයේ නීති විරෝධී ලෙස දැව කැපීම, හරිතාගාර වායු විමෝචනය මඟින් මෙහෙයවනු ලබන දේශගුණ විපර්යාස තර්ජනයට හසුව ඇත. තව ද වසරකට ප්ලාස්ටික් ටොන් මිලියන 08 කට වඩා සාගරවලට එකතුවන අතර, සමුද්‍ර ජීවීන්ට තර්ජනයක් වී ඇත. ලෝක සෞඛ්‍ය සංවිධානයට අනුව මිලියන 07ක් පමණ ජීවිත විනාශ වී ඇති බව වාතර්ා වේ.

සොබාදහම සුරැකීමේ පියවර පුළුල් සංකීර්ණ ක්‍රියාවලියක් ලෙස පෙනුණ ද එය එක් කුඩා පියවරකින් ආරම්භය සනිටුහන් කළ හැකි ය. තිරසාර අනාගතයක් සඳහා සොබාදහම සුරැකීම යනුවෙන් රැල්ලක් සමාජගත කළ හැකි ය. දෛනික ව පරිභෝජනය කරන භාවිතයන් ගැන සැලකිලිමත් වී ප්‍රතිචක්‍රීකරණය කළ හැකි භාවිතයන් සමඟ සමීප විය හැකි ය. බලශක්ති කාර්යක්ෂමතා උපකරණ භාවිතා කරමින් පිරිසිදු බලශක්තියට සහාය විය හැකි ය. තිරසාර ප්‍රවාහනයක් ඉලක්ක කර ගනිමින් ඇවිදීම, බයිසිකල්

පැදීම හෝ පොදු ප්‍රවාහනයක් භාවිතා කළ හැකි ය. පරිසර හිතකාමී වෙළඳ නිෂ්පාදන සමාගම්වල නිෂ්පාදන සේවාවන්ට ප්‍රමුඛත්වය ලබාදිය හැකි ය. පාසල්, විශ්වවිද්‍යාල, රජයේ ආයතන හා පෞද්ගලික ආයතන තුළ ද හරිත කවුන්සිලයක් පිහිටුවිය හැකි ය.

සොබාදහමේ වටිනාකම අපට මතක් කර දෙන ව්‍යවසන එනතෙක් බලා නොසිටිමු. අපි ගස් සිටවමු; නාස්තිය අඩු කරමු; පුනඃජර්නනීය බලශක්තිය වැළඳ ගනිමු සහ දැනුවන්භාවය පතුරවමු. සොබාදහම අපට සියල්ල ලබා දී ඇත. දැන් ආපසු දීමට කාලයයි. මන් ද සොබාදහම සුරකීම යනු අපව ම බේරා ගැනීමයි.

තිරසාර අනාගතයක් සඳහා සොබාදහම සුරකීමේ ක්‍රියාන්විතයේ පළමු පියවර ඔබේ නිවසින් ආරම්භ කළ හැකි ය. ඒ සඳහා ගත හැකි පියවර කිහිපයක් මෙලෙස හඳුනා ගත හැකි ය.

- සාම්ප්‍රදායික බලශක්ති ප්‍රභවයන් මත යැපීම අඩු කිරීමට සහ ඔබගේ බිල්පත් ගෙවීම් අවම කිරීමට සූයර් පැනල සහ සූයර් බලයෙන් ක්‍රියාත්මක වන උපකරණ භාවිතය.
- පරිසර හිතකාමී නිවාස නිර්මාණය කිරීම සඳහා අනුගමනය කළ හැකි තිරසාර ගොඩනැගිලි ද්‍රව්‍ය, දැව භාවිතය අවම ගොඩනැගිලි සැලසුම් භාවිත කිරීම.
- සෑම විට ම ප්‍රතිචක්‍රීකරණය කළ හැකි ගොඩනැගිලි ද්‍රව්‍ය භාවිතය.
- පෞද්ගලික වාහන භාවිතයට වඩා ඔබ බස් රථ, දුම්රිය සහ උමං මාගර් වැනි පොදු ප්‍රවාහන විකල්ප භාවිතා කිරීම තුලින් මාගර් තදබදය අඩු කිරීමට හැකි ය.
- එදිනෙදා ඔබගේ ජීවිතයේ දී වුව ද ප්ලාස්ටික් භාවිතය හැකිතාක් අවම කර අවම ඇසුරුම් සහිත නිෂ්පාදන මිල දී ගත හැකි ය.
- ඔබ වෙළඳපොළට යනවිට ඔබට රෙදි බෑගයක් රැගෙන යා හැකි ය.
- එදිනෙදා ඔබ ඉවතලන ප්ලාස්ටික් ද්‍රව්‍ය එළිමහනේ පිළිස්සීමෙන් වළකින්න.
- ඔබේ නිවසේ සීමිත ඉඩකඩෙහි වුව ද වගා කටයුතු සිදු කළ හැකි ය. කුඩා ඉඩකඩක පාත්ති පවත්වන ආකාරය අධ්‍යයනය කරමින් ඔබේ නිවසේත් වගා කටයුතු ආරම්භ කළ හැකි ය. හැකි සෑම ඉඩකඩකම පැළයක් වගා කරන්න. ඒවාට සාත්තු කිරීමට ද වගබලා ගන්න.

ඉන් ඔබෙන් පරිසරය රැකුමට වන දායකත්වයට අමතර ව ඔබේ පසුම්බියට ද සහනයක් හිමිවේ.

තිරසාර අනාගතයක්, හරිතවත් හෙටක් නිර්මාණය කිරීම සඳහා සාමූහික උත්සාහයක් අවශ්‍ය වේ. මෙම ප්‍රායෝගික පියවර අපගේ දෛනික ජීවිතයට එක් කිරීමෙන් සහ එය කිරීමට අන් අයව දිරිමත් කිරීමෙන්, වර්තමාන සහ අනාගත පරම්පරාවන් සඳහා වඩාත් තිරසාර, ඔරොත්තු දෙන සහ සමෘද්ධිමත් හෙටක් උදෙසා අපි දායක වෙමු.

සොබාදහම සුරැකීම පාරිසරික යුතුකමක් පමණක් නොවේ. එය පැවැත්මේ උපාය මාගර්යකි. තිරසාර අනාගතයක් රඳා පවතින්නේ අද අපි අපේ පෘථිවියට සලකන ආකාරය මත ය. අප සෑම කෙනෙකුම පෘථිවියේ ආරක්ෂකයෙක් වන අතර, සෑම ක්‍රියාවක්ම කොතරම් කුඩා වුවත් වැදගත් වේ.

මිනිසුන් පරිසරය නොසලකා හැරීමට එක් හේතුවක් නම් , ඔවුන් සොබාදහමින් දුරස් වී ඇති බව දැනීමයි. නූතන ජීවන රටාවන් අපිව ගෘහස්ථව තිරවලට ඇලී තබා අපව සොබාදහමේ කොටසක් බවත් එයින් වෙන් නොවන බවත් අමතක කරයි. සොබාදහම සමඟ අපගේ බැඳීම නැවත ගොඩනැගිය යුතු කාලය එළඹ ඇත. තණකොළ මත පාවහන් නොමැතිව ඇවිදීම, කුරුල්ලන්ට සවන් දීම හෝ තරු නැරඹීම වැනි සරල ක්‍රියාවන් මගින් ස්වභාවික ලෝකය කෙරෙහි අපගේ අගය නැවත ඇති කළ හැකි ය. ඔබ යම් දෙයකට ආදරය කරන විට ඔබ එය ආරක්ෂා කරයි.

රටක ශක්තිමත් නායකත්වය පද්ධතිමය වෙනස්කම් සඳහා සෘජුව ම බලපෑම් කරයි. රජයේ දැඩි පාරිසරික නීති ක්‍රියාත්මක කළ යුතු ය; පුනඵර්නනීය බලශක්තිය සඳහා ආයෝජන කළ යුතු ය සහ ස්වභාවික වාසස්ථාන ආරක්ෂා කළ යුතු ය. පැරිස් දේශගුණික ගිවිසුම වැනි ජාත්‍යන්තර ගිවිසුම් ඉදිරි පියවරක් වන නමුත් සැබෑ වෙනසක් සිදු වන්නේ ප්‍රතිපත්ති භූමියේ ක්‍රියාත්මක වන විට ය. ආයතනික වගකීම ද ඒ හා සමානව වැදගත් වේ. සමාගම්වලට ඔවුන්ගේ කාබන් පියසටහන අඩු කිරීමට, චක්‍රීය ආර්ථික ආකෘති අනුගමනය කිරීමට සහ සංරක්ෂණ මුල පිරීම් සඳහා සහාය විය හැකි ය. තිරසාර අනාගතයක් කළ හැක්කේ ව්‍යාපාර, රජය සහ ජනතාව එක ම දිශාවකට ගමන් කරන විට පමණි.

අනාගතය පිළිබඳ දැක්මක් අවසාන වශයෙන් අපට සිතින් මවා ගත හැකි ය. 2100 වසර වන විට, මුළු මහත් මානව වගර්යා තිරසාර ජීවන රටාවක් වැළඳ ගෙන ඇත. නගර පිරිසිදු බලශක්තියෙන් ධාවනය වේ. වනාන්තර පෝෂණය ලබා සමෘද්ධිමත් වී පවතී. ගංගාවෝ පැහැදිලි ව ගලා බසිති. පලතුරු වතුවල මී මැස්සන් සෝශා කරයි. වාතය නැවුම් සුවඳක් පිට කරයි. දරුවෙකු කුස තුළ ම වැඩෙන්නේ සොබාදම් මාතාවගේ සෑම කොළයක ම, සෑම ජල බිඳුවක ම, සෑම ජීවියෙකුගේ ම වටිනාකම ඉගෙන ගනිමින් ය. මෙය මනඃකල්පිතයක් නොවේ. මෙය පෘථිවි වාසීන්ගේ අද තේරීමයි.

ගංගා පිරිසිදුව ගලා යන, වනාන්තර කුරුල්ලන්ගේ ගීත සමඟ දෝංකාර දෙන සහ දරුවන් දුමෙන් අපිරිසිදු වාතය ආශ්වාස නොකරන අනාගතයක් ගැන සිතන්න. එම අනාගතය ආරම්භ වන්නේ අද අප ගන්නා තේරීම් සමඟිනි. සොබාදහම ආරක්ෂා කිරීම යනු පරිත්‍යාගය ගැන නොවේ. එය අපව නඩත්තු කරන පෘථිවිය කෙරෙහි සමබරතාවය, ගෞරවය සහ කෘතඥතාව නැවත සොයා ගැනීම ගැන ය.

අවසානයේ මේ උදාව ඇත්තේ, සොබාදහමට අපව අවශ්‍ය කාලයයි. සොබාදම් මාතාව අපට නිසි මොහොතේ උපකාරී වී ඇත. හුස්ම ගැනීමට වාතය, පානය කිරීමට ජලය, වගා කිරීමට පස; මෙවන් උපකාර කළ සොබාදහමට පිළිතුරු දීමට කාලය එළඹ ඇත. නැගී සිට කතා කළ සහ ඉතිහාසයේ ගමන් මඟ වෙනස් කළ පරම්පරාවක් වීමේ අදිටන සිතෙහි තබා ගෙන සොබාදම් මාතාව රැකගමු. එහි එක ම නිවහන විනාශ කළ පරම්පරාව ලෙස නො ව, එය ආරක්ෂා කිරීමට ධෛර්යයෙන් නැගී සිටි පරම්පරාව ලෙස අපව සිහිපත් කරමු. පෘථිවියට අපව ජීවත් කරවීමට අවශ්‍ය නැත - නමුත් අපට ඇය අවශ්‍යයි. අපි හොඳින් සවන් දුන්නොත්, සුළඟේ කෙඳිරිය, සාගරයේ මැසිවිලි නැඟීම සහ කොළවල සෝෂාව අපට සරල සත්‍යයක් මතක් කර දෙයි. සොබාදහම ආරක්ෂා කිරීම යනු අපව ම ආරක්ෂා කර ගැනීමයි.

එච්.ජී.කේ. සඳරුවනි

පාරිසරික කළමනාකරණ අධ්‍යයනාංශය

ආශ්‍රිත ග්‍රන්ථ හා මූලාශ්‍රය

WORLD BANK GROUP, (2017 ජූනි 5), තිරසාර සංවර්ධනය තහවුරු කෙරුමට පරිසරය සුරකිමු වියමන්, (2025) හරිත තිරසර.

019.

තිරසාර අනාගතයක් සඳහා සොබාදහම සුරකිමු

1944 දී පළ කෙරුණු මාක්ස්ගේ මුල් කාලීන රචනාවක් වූ "ආර්ථික හා දර්ශනික අත්පිටපත් (Economic and Philosophical Manuscript) නමැති ලියවිල්ලේ සොබාදහම හා මිනිසා අතර සම්බන්ධය විග්‍රහ කරන්නේ මෙසේ ය.

"මිනිසාගේ ජීවය ඇත්තේ සොබාදහම තුළ ය. සොබාදහම යනු මිනිසාගේ ශරීරයයි. නොමැරී ජීවිතය රැක ගැනීමට නම් මිනිසා සොබාදහම සමඟ අඛණ්ඩව ගනුදෙනුවක් පවත්වා ගත යුතු ය. මිනිසාගේ භෞතික හා ආධ්‍යාත්මික ජීවිතය සොබාදහම සමඟ සම්බන්ධයැයි යන්නෙන් අදහස් කරන්නේ සොබාදහම එය සමඟ ම සම්බන්ධ වී ඇතැයි යන්නයි. මිනිසා සොබාදහමේ කොටසකි "

ස්වභාවධර්මය මිනිස් පැවැත්මේ අත්තිවාරම වන අතර මානව වර්ගයාට ලැබෙන ශ්‍රේෂ්ඨතම ත්‍යාගයයි. පැවැත්ම සඳහා අත්‍යවශ්‍ය වාතය, ජලය, ආහාර, ඖෂධ, නවාතැන් සහ පෘථිවියේ ජීවය පවත්වා ගැනීමට අවශ්‍ය අසංඛ්‍යාත සම්පත් අපට සපයයි. සොබාදහම නොමැති ව කිසිදු ශිෂ්ටාචාරයක් සමෘද්ධිමත් විය නොහැකි අතර කිසිදු පරම්පරාවකට නොනැසී පැවතිය හැකි ය.

එහෙත් වේගවත් සංවර්ධනයක් සහ ආර්ථික වර්ධනයක් සඳහා අප ලුහුබැඳීමේ දී අපි මෙම වැදගත් සත්‍ය අමතක කර ඇත්තෙමු. වනාන්තර විනාශ වෙමින් පවතී. සාගර දූෂණය වෙමින් පවතී. ශාක සත්ත්ව විශේෂ වඳ වී යාමට තල්ලු වෙමින් පවතී. මිනිසුන් සහ සොබාදහම අතර සම්බන්ධතාවය අසමතුලිත වී ඇති අතර මෙම අසමතුලිතතාවය මානව වර්ගයාගේ අනාගතයටම තර්ජනයක් වී ඇත. එබැවින් පෘථිවියේ ජීවය ආරක්ෂා කිරීම සඳහා තිරසාර අනාගතයක් අත්කර ගැනීමේ පළමු පියවර ලෙස සොබාදහම සුරැකීමේ අදහස අපි පිළිගත යුතු ය.

තිරසාරභාවය යන වචනය අද ලෝකයේ කේන්ද්‍රීය සංකල්පයක් බවට පත් ව ඇත. බ්‍රන්ඩ්ට්ලන්ඩ් කොමිසම 1987 දී එය අර්ථ දැක්වූයේ "අනාගත පරම්පරාවන්ට තමන්ගේ ම අවශ්‍යතා සපුරා ගැනීමට ඇති හැකියාවට හානි නොකර වර්තමාන අවශ්‍යතා සපුරාලීම ලෙස ය." මෙම නිවර්චනය අපට මතක් කර දෙන්නේ සොබාදහම සුරැකීම පාරිසරික සැලකිල්ලක් පමණක් නො ව සදාචාරාත්මක වගකීමක් ද බවයි.

මිනිස් ජීවිතයේ පැවැත්ම සෘජු ව ම රඳා පවතින්නේ සොබාදහම මත ය. අප හුස්ම ගන්නා ඔක්සිජන් ශාක හා සාගරවලින් පැමිණේ. අප ගන්නා ආහාර සාරවත් පස සහ ස්ථාවර දේශගුණය මත රඳා පවතී. අප පානය කරන ජලය ස්වභාවික පරිසර පද්ධති මගින් පිරිසිදු කරනු ලැබේ. මෙම පද්ධති විනාශ කළහොත් අපි අපිව ම විනාශ කර ගැනීමක් සිදු වේ. පැවැත්මට අමතරව සොබාදහම ආර්ථිකයට ද සහාය වේ. ලෝක ආර්ථික සංසදයට අනුව ගෝලීය දළ දේශීය නිෂ්පාදිතයෙන් අඩකට වඩා ස්වභාවික සම්පත් සමඟ සෘජු ව ම සම්බන්ධ බව තහවුරු කර ඇත.

කෘෂිකර්මාන්තය, ධීවර කර්මාන්තය, වන වගාව සහ සංචාරක ව්‍යාපාර යන සියල්ල ම පරිසර පද්ධති මත රඳා පවතී. ශ්‍රී ලංකාව වැනි දූපත් රටවල ජාතික වනෝද්‍යාන, වනාන්තර සහ වෙරළ තීරයන් මත පදනම් වූ පරිසර සංචාරක ව්‍යාපාර සැලකිලිය යුතු ආදායමක් ගෙන දෙන අතර රැකියා අවස්ථා ද බිහි කරයි.

කණගාටුවට කරුණක් නම් පරිසරයේ සුන්දරත්වය රැක ගැනීම අපගේ යුතුකමක් වුව ද අද වන විට එය නොසලකා හැර තිබීමයි. වනාන්තර විනාශය විශාලත ම තර්ජනයක් බවට පත් ව ඇති අතර සෑම වසරක ම හෙක්ටයාර මිලියන ගණනක වනාන්තර අහිමිවෙයි. මෙම වනාන්තර 'පෘථිවියේ පෙනහළු' වන අතර කාබන්ඩයොක්සයිඩ් අවශෝෂණය කර ඔක්සිජන් නිපදවයි. නමුත් අපි කෘෂිකර්මාන්තය සහ නාගරික ව්‍යාප්තිය සඳහා දැව කපා දැමීම දිගට ම කරගෙන යන්නෙමු. තව ද කාමර්ීක අපද්‍රව්‍ය ප්ලාස්ටික් සහ හානිකර රසායනික ද්‍රව්‍ය පස, ගංගා සහ සාගර දූෂණය කර ඇත. දේශගුණික විපර්යාස ද වඩාත් ම හදිසි ගෝලීය අභියෝග බවට පත් ව ඇත. එසේ ම අධික පරිභෝජනය සහ ද්‍රව්‍යවාදය මගින් මෙහෙයවනු ලබන නාස්තිකාර ජීවන රටාවන් පෘථිවියේ සම්පත් යථා තත්ත්වයට පත් කළ නොහැකි ලෙස පීඩාවට පත් කර ඇත.

තිරසාර සංවර්ධනයේ පාරිසරික පැතිකඩෙහි ප්‍රධාන අරමුණු වන්නේ මිනිසුන්ට හිතකර සනීපාරක්ෂක පරිසරයක් ලබා දීම, ප්‍රතිස්ථාපනය කළ හැකි සම්පත් කාර්යක්ෂම ලෙස උපයෝජනය කිරීම, ප්‍රතිෂ්ඨාපනය කළ නොහැකි සම්පත් සුරැකීම ආදියයි.

ශ්‍රී ලංකාවට වටිනා ජීව විද්‍යාත්මක සම්පත්, බහුල ජල සම්පත්, සාරවත් පස්, ඛනිජ සහ හිතකර දේශගුණයක් හිමි වී තිබේ. ඒකක ප්‍රදේශයකට වැඩි ම ශාක හා සත්ත්ව විශේෂ සංඛ්‍යාවක් රට තුළ ඇත. එය ලෝකයේ ජෛව විවිධත්ව "උණුසුම් ස්ථාන" අතරට එක් වන්නේ එහි සීමිත සීමාව මත ඇති වන දැඩි පීඩනය හේතුවෙනි. අඛණ්ඩ ආර්ථික සංවර්ධනය මගින් උග්‍රවන ජන විකාශන පීඩනයන් තුළින් භූමිය අධික ලෙස සූරාකෑම (විශේෂයෙන් බෑවුම් සහිත භූමිය) වැනි පාරිසරික ගැටලු රාශියක්, වන විනාශය, ජෛව විවිධත්වය නැතිවීම, තෙත්බිම් පිරවීම, ජල දූෂණය, කොරල්පර විනාශ කිරීම, නාගරික දූෂණය, අපද්‍රව්‍ය සහ දුප්පත්කම, වගා කළ හැකි ඉඩම් පරිහානිය, කෘෂිකාමර්ීක ඵලදායිතාව අඩුවීම, වෙරළබඩ වෘක්ෂලතාදිය ඉවත් කිරීම, කඩොලාන ඉවත් කිරීම, මුහුදු වෙරළේ සහ වෙරළබඩ කඳුවල වැලි කැණීම්, ප්‍රධාන නගරවල රථවාහන තදබදය සහ දුවර්ල පරිසර කළමනාකරණය වැනි පාරිසරික ගැටලුවලට ශ්‍රී ලංකාව මුහුණ දී සිටී.

අපද්‍රව්‍ය නාගරික හා කාමර්ීක ප්‍රදේශවල මෙන් ම ගම් මට්ටමින් ද වර්ධනය වන ගැටලුවකි. වර්තමානයේ දී, පළාත් පාලන ආයතන විසින් අපද්‍රව්‍ය එකතු කිරීම දිනකට ටොන් 3,000 කට වඩා වැඩි ය. මූලික ගැටළුව වන්නේ නිසි ලෙස සැලසුම් කර ඇති අපද්‍රව්‍ය එකතු කිරීම හා බැහැර කිරීම සඳහා සතුටුදායක ක්‍රියාමාගර් නොමැති වීමයි. වායු දූෂණය තවමත් නාගරික ගැටළුවක් වන අතර එය බොහෝදුරට කොළඹට පමණක් සීමා වී ඇත. මේ සියලු හේතු ඒකරාශී වී ක්‍රම ක්‍රමයෙන් සොබාදහම අඩපණ වේ.

මෙම අභියෝග මධ්‍යයේ වුව ද සොබාදහම සුරැකීමට සහ තිරසාර අනාගතයක් කරා ගමන් කිරීමට අපට බොහෝ ක්‍රම තිබේ. වඩාත් ම බලගතු ක්‍රියාමාගර්වලින් එකක් වන්නේ නැවත වන වගාවයි. ශ්‍රී ලංකාවේ 'තුරු මිතුරු' වැනි ප්‍රජා වැඩසටහන් මගින් පවුල්වලට තමන්ගේ ම උද්‍යානවල ගස් වැවීමට දිරිගැන්වීමක් ලබා දී ඇත. තිරසාර කෘෂිකර්මාන්තය ද ඒ හා සමාන ම වැදගත් වන අතර කාබනික ගොවිතැන, රසායනික පොහොර භාවිතය අඩු කිරීම සහ ආහාර සුරක්ෂිතතාවය ආරක්ෂා කිරීමට ද උපකාරී වේ.

සූයර්, සුළඟ සහ ජල විදුලිය වැනි පුනර්ජනනීය බලශක්ති ප්‍රභවයන් වෙත මාරුවීම පොසිල ඉන්ධන මත යැපීම අඩු කරන අතර හරිතාගාර වායු විමෝචනය අඩු කරයි. මෙම කැපවීම පෙන්නුම් කිරීම සඳහා ශ්‍රී ලංකාවේ බොහෝ විශ්වවිද්‍යාල සහ පාසල් දැනටමත් සූයර් පැනල ස්ථාපිත කර ඇත.

එසේ ම සාර්ථක පාරිසරික ආරක්ෂාව පිළිබඳ කදිම උදාහරණ කිහිපයක් ලෝකය ඉදිරිපත් කරයි. වරක් දැඩි ලෙස වනාන්තර විනාශ කරන ලද කොස්ටාරිකාව වන සංරක්ෂණය සහ පරිසර සංචාරක ව්‍යාපාරය සඳහා ආයෝජනය කර ඇති අතර වර්තමානයේ 50% වඩා වනාන්තර ආවරණයක් ගැන පුරසාරම් දොඩයි. ජර්මනිය පුනර්ජනීය බලශක්තියේ ගෝලීය ප්‍රමුඛයා වන අතර කාබන් සෘණ රටක් වන භූතානය දැඩි පාරිසරික ආරක්ෂාව සමඟ සංවර්ධනය සමතුලිත කරන අතර එහි බොහෝ භූමි ප්‍රමාණයක වනාන්තර ආවරණය යටතේ තබා ඇත.

ශ්‍රී ලංකාවේ ද යුනෙස්කෝ ලෝක උරුම අඩවියක් වන සිංහරාජ වැසි වනාන්තරය මෙන් විවිධත්ව සංරක්ෂණයේ ආදර්ශයකි. යාල සහ විල්පත්තු ජාතික වනෝද්‍යාන වනජීවීන් ආරක්ෂා කරන අතර ම පරිසර සංචාරක ව්‍යාපාරයට ද සහාය වේ. බොහෝ තරුණ සංවිධාන ගස් සිටුවීමේ ව්‍යාපාර සහ පාරිසරික දැනුවත් කිරීමේ වැඩසටහන් පවත්වනු අතර සාමූහික උත්සාහයන් අර්ථවත් වෙනසක් ඇති කළ හැකි බව ඔප්පු කරයි.

අද අප ගන්නා තේරීම් හෙට ලෝකය හැඩ ගස්වනු ඇත. ප්ලාස්ටික් භාවිතය අඩු කිරීම, පාරිසරික ප්‍රතිපත්ති හා ගිවිසුම්වලට එළඹීම, ප්‍රතිචක්‍රීකරණ ව්‍යාපෘති, ගස් උද්‍යානවලින් සමන්විත හරිත මණ්ඩප ඉදි කිරීම, පරිසර හිතකාමී අමුද්‍රව්‍ය භාවිතය යනාදී පිළිවෙත් පරිසර හානිය අඩු කරනවා පමණක් නොව සමාජයට ද ආදර්ශයක් සපයයි.

තිරසාර අනාගතයක් උදෙසා සොබා දහම පිළිබඳ කතා කරන විට ශ්‍රේෂ්ඨ චින්තකයන්ගේ ප්‍රකාශන ඉතා වැදගත් වෙයි. රතු ඉන්දියානු නායක සියැටල් වරක් පැවසූයේ "මහ පොළොව මිනිසාට අයිති නැත; එහෙත් මිනිසා මහ පොළොවට අයත් ය; පවුලේ සියලුදෙනා එක ම ලේ බැඳීමකින් බැඳෙන්නාක් මෙන් මෙලොව ඇති සියලු දෙය ම එකට බැඳී පවතී" යන්නයි. මහත්මා ගාන්ධි මතක් කර දුන්නේ "ලෝකයේ වනාන්තරවලට අපි කරන දේ අපි අපටම කරන දේ පිළිබිඹු කිරීමකි". මෙම වචන සොබාදහම සුරැකීමේ සදාචාරාත්මක මානයන් ඉස්මතු කරයි.

සොබාදහම සුරැකීම දුරස්ථ ඉලක්කයක් නොව හදිසි අවශ්‍යතාවයකි. පරිසරය ආරක්ෂා නොකර තිරසාර සංවර්ධනයක් කළ නොහැකි ය. තිරසාර අනාගතයක් සාක්ෂාත් කර ගත හැක්කේ මිනිසුන් සහ

සොබාදහම සමඟ සමගියෙන් ජීවත්වන විට පමණි. එබැවින් අපි එක් ව නැගී සිටිමු; වගකීම බාර ගනිමු; ඉදිරි පරම්පරාවන් සඳහා හරිත, පිරිසිදු සහ තිරසාර අනාගතයක් සහතික කරමු.

ඩබ්ලිව්.එස්. විද්‍යානපතිරණ

පාරිසරික කළමනාකරණ අධ්‍යයනාංශය

ආශ්‍රිත ග්‍රන්ථ හා මූලාශ්‍රය

ටී.ආර්.පී. මධුමිණි, (2023). තිරසාර සංවර්ධනයේ නොදුටු පැතිකඩ, කැළණි විශ්වවිද්‍යාලය.

Liftlibrary.net, මාක්ස්වාදී දර්ශනය හා සොබාදහම.

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Nature Photographs

By H.M.N.W.Bandaranayaka

Department of Environmental Management

පාරිසරික කළමනාකරණ අධ්‍යයනාංශය
සමාජයීය විද්‍යා හා මානවශාස්ත්‍ර පීඨය
ශ්‍රී ලංකා රජරට විශ්වවිද්‍යාලය
මිහින්තලේ

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