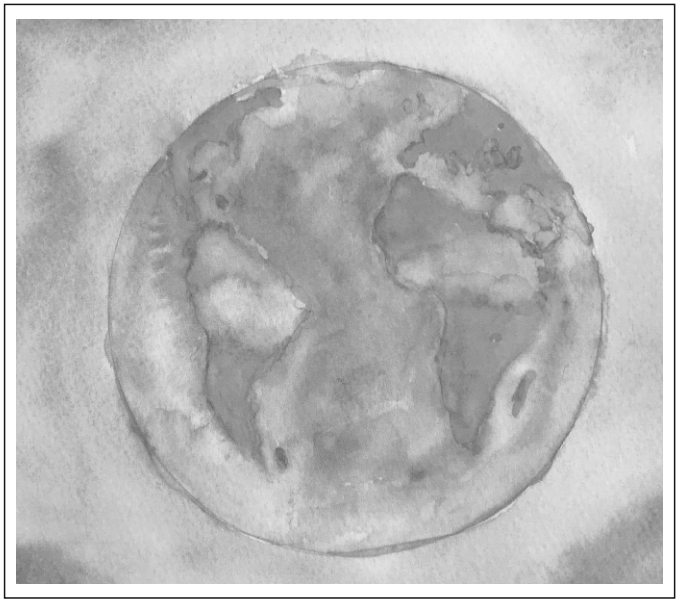
PAC
MATTEWARA JUNGLES
BDAF

Mother Earth

A Call to Action Protecting Our Health and Our Environment

Public Action Committee, Ludhiana, Punjab

MOTHER EARTH



The watercolor of our Mother Earth on the cover was painted by **Gurvinder Singh Lamba** of **Ambala Cantt** for his younger brother. This acknowledges our gratitude to him.

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"Trees are the Earth's endless effort to speak to the listening heaven."

—Rabindranath Tagore

MOTHER EARTH

A Guide for Environmental Renewal

By

Public Action Committee (PAC)

Mattewara Jungles, River Satluj

and Buddha Darya

Ludhiana, Punjab, India.

OCTOBER 2024

A Booklet

Dedicated to Sacred Mattewara Jungle,

River Satluj and Buddha Darya.

Introduction

Welcome to "Mother Earth," a compact yet powerful guide designed to inspire and inform everyone on the crucial importance of vigilance and responsibility in preserving our planet. This booklet serves as a beacon for those committed to sustainability, offering practical insights and strategies for constant environmental rejuvenation. Our goal is to safeguard ecosystems and prevent degradation by maintaining a harmonious balance within our natural resources.

Our Aim

Our aim is to foster a sustainable, clean, and green environment by empowering every citizen to actively contribute to eco-friendly community development. By prioritizing ecological balance and ensuring the availability of environmental resources, we strive to create a healthier, more resilient planet for current and future generations.

CHAPTER-1

Important Ingredients for Sustainability

The essential elements for ensuring the sustainability and survival of all life on Mother Earth are:

1. Clean Water

Clean water is the lifeblood of all ecosystems and human health. It is crucial for drinking, agriculture, and sustaining natural habitats. Ensuring access to fresh, unpolluted water sources is fundamental for preventing diseases, supporting biodiversity, and maintaining ecological balance.

2. Clean Air

Clean air is vital for the health and well-being of every living organism. It supports respiratory health, regulates climate, and facilitates the functioning of ecosystems. Reducing air pollution through sustainable

practices and emissions control is essential for preserving the planet's air quality.

3. Trees, Jungles, and Green Belts

Trees, jungles, and green belts are the lungs of the Earth. They play a critical role in producing oxygen, sequestering carbon dioxide, and supporting biodiversity. Forests and green spaces also provide habitats for wildlife, protect soil from erosion, and enhance overall environmental quality.

4. Garbage and Solid Waste Disposal

Garbage collection and effective disposal improve the Waste Management System and add to the environmental incremental growth.

5. Law Enforcement is the Dire Need

We need to follow the rules and regulations for the sustenance and rejuvenation of environmental conditions. Law enforcement agencies must act for the smooth environmental growth.

By prioritizing these ingredients, we

contribute to a thriving, balanced, and sustainable planet. Every effort to preserve and enhance these elements brings us closer to a healthier and more resilient Earth. We now focus on the important actions needed for this.

CHAPTER-2

Clean Water

1. Maintenance of Existing Water Resources

Preserving the quality and availability of existing water resources is critical. This involves protecting natural water bodies from contamination, managing water usage efficiently, and ensuring that water infrastructure is well-maintained and sustainable. Regular inspections and maintenance of water reservoirs, rivers, and lakes help prevent deterioration and ensure their long-term viability.

2. Water Conservation in Domestic, Industrial, and Agricultural Use

Efficient water use is essential across all sectors. In domestic settings, practices such as fixing leaks, using water-efficient fixtures, and mindful consumption help conserve water. Industries should adopt technologies and practices that reduce water usage and

minimize waste. In agriculture, techniques such as drip irrigation and soil moisture management can significantly reduce water consumption while enhancing crop yields.

3. Water Harvesting from Rain, Flood, and Running Water Bodies

Capturing and utilizing rainwater, floodwater, and runoff can supplement existing water supplies and mitigate water scarcity. Implementing rainwater harvesting systems, creating retention basins for floodwater, and directing runoff into storage systems can provide additional resources for various uses, including irrigation, groundwater recharge, and emergency supply. Canal water can be used to recharge ground water in areas where this has been receding, especially through use of underground pipes, and flood control measures can be combined with water harvesting in projects. Polluted water from agriculture or industry should not be used to recharge ground water.

4. No Water Pollution: Treat, Recycle, and Reuse Treated Industrial and Dairy

Discharges

Preventing water pollution is crucial for maintaining clean water. All wastewater, including industrial and dairy effluents, should be properly treated before discharge. Implementing recycling processes and reusing treated water for non-potable purposes, such as irrigation or cooling, reduces the environmental impact and conserves valuable resources.

5. Zero Liquid Discharge into Water Bodies and Subsoil

Achieving zero liquid discharge (ZLD) means that no liquid waste is released into water bodies or the soil. This requires implementing advanced treatment technologies and closed-loop systems that ensure all wastewater is treated and reused within the system. ZLD practices help eliminate pollution, conserve water, and protect ecosystems.

6. Regular Monitoring and Enforcing Stricter Laws for Compliance

Consistent monitoring of water quality and

usage is essential for enforcing water management policies. Stricter laws and regulations should be established and enforced to ensure compliance with environmental standards. Regular audits, penalties for violations, and incentives for good practices can drive adherence and promote sustainable water management.

By focusing on these measures, we can safeguard our water resources, enhance their quality, and ensure their availability for future generations. Each measure plays a vital role in achieving a sustainable and resilient water management system.

CHAPTER-3

Clean Air

1. Strict Compliance of Instructions, Rules, and Regulations by Industrial Units

Industrial units must adhere to stringent guidelines for air quality control. This involves ensuring that all emissions from chimneys and exhaust systems meet established standards for cleanliness. Regular maintenance and monitoring of emission control systems, such as scrubbers and filters, are essential to minimize pollutants released into the atmosphere. Compliance with air quality regulations helps prevent the release of harmful substances and maintains a healthy environment.

2. Strict Control of Vehicular Pollution

Controlling vehicular emissions is crucial for maintaining clean air. This includes enforcing laws that mandate regular vehicle inspections, emission tests, and maintenance to ensure that vehicles operate efficiently and produce minimal pollutants. Implementing

stricter emission standards and encouraging the use of cleaner fuels and technologies can significantly reduce air pollution from transportation.

3. Usage of Green Energy

Transitioning to renewable energy sources such as solar, hydropower, and wind energy is vital for reducing air pollution. Green energy technologies generate power without releasing harmful emissions, thereby contributing to cleaner air. Investing in and adopting these sustainable energy sources not only reduces dependence on fossil fuels but also supports long-term environmental health. For solar power, since the fuel is freely available as sunlight, this can provide good cost savings too and savings in the electric bills of users and energy costs for electric utility companies. If solar energy is stored in batteries and green hydrogen through electrolysis of water, this stored energy can be used when the sun is not shining. India has started a National Hydrogen Mission which has this focus.

4. Avoid Usage of Fossil Fuel-Based Power Plants and Vehicles

Fossil fuel-based power plants and vehicles are major sources of air pollution due to their high emissions of greenhouse gases and particulate matter. Shifting away from these technologies and promoting alternatives, such as electric and fuel cell vehicles and renewable energy plants, helps lower air pollution levels. Reducing the reliance on fossil fuels is a key strategy for achieving cleaner air and combating climate change. Fuel cell buses that use hydrogen gas as fuel have been introduced by the government in many parts of India. These emit only water vapor when used.

5. Biogas Plants with Zero Polluted Air Discharge (ZPAD)

Biogas plants should be designed and operated to ensure zero polluted air discharge (ZPAD). This means that all emissions from biogas production processes must be fully captured and treated before being released into the environment.

Implementing advanced filtration and treatment technologies in biogas plants prevents the release of harmful gases and ensures that biogas production contributes positively to air quality.

6. Stubble Burning

Stubble Burning must be avoided to save the soil quality and environment at all costs with Zero Air Pollution (ZAP). Methods need to be evaluated, evolved, and adopted for removal and utilization of stubble without increasing cost for grower with an increase in economic growth. Stubble can be collected and burned in electric power generators, but while leaving less smoke, do result in pollution and the emission of carbon dioxide. The stubble left in the soil as mulch returns the residues of fertilizer in it to the next crop, reduces water use as moisture is retained and if the soil is not tilled and seeds for the next crop are sown directly, this saves the use of diesel fuel. Direct seeding of rice (DSR) and direct seeding of wheat are both benefitted with considerable cost and water savings for the

farmer, and saving of ground water.

By focusing on these aspects, we can make significant strides towards achieving cleaner air, improving public health, and protecting the environment. Each measure is a critical component in the broader effort to reduce air pollution and promote a sustainable future.

CHAPTER-4

Trees, Jungles and Green Belts

1. Maintenance of Existing Jungles / Forests with Incremental Boost

The ongoing care and enhancement of existing jungles and forests are crucial for preserving their ecological functions and biodiversity. This includes regular monitoring, protecting against illegal logging and poaching, and addressing any signs of disease or pest infestations. Incrementally boosting forest areas through reforestation and afforestation projects ensures their health and sustainability for future generations.

2. Growing More Jungles at Macro and Micro Levels

Expanding forested areas both on a large scale (macro) and within smaller, localized areas (micro) is essential for increasing green cover. Macro-level efforts might include large-scale reforestation projects or national forest expansion programs, while micro-level initiatives could involve planting

trees in urban areas, community spaces, and residential zones to enhance local green cover and connectivity.

3. Growing Green Belts and Gardens

Establishing green belts and gardens in urban and rural areas helps to create buffer zones that reduce pollution, provide recreational spaces, and support local wildlife. Green belts around cities can also act as natural barriers against urban sprawl and contribute to improved air quality. Gardens, both public and private, enhance community well-being and promote environmental stewardship.

4. Promotion of Sustainable Agroforestry

Agroforestry integrates trees and shrubs into agricultural systems, providing multiple benefits such as soil conservation, enhanced biodiversity, and increased crop yields. Sustainable agroforestry practices can improve land productivity, reduce the need for chemical inputs, and create resilient agricultural systems that support both economic and environmental health. Trees,

properly planted relative to crops can provide needed shade and leaf fertilizer, especially when use is made of indigenous varieties of trees and ones that provide some economic benefit to the farmer.

5. Maintenance of Plants with a High Rate of Survival

Ensuring that newly planted trees and vegetation have a high survival rate is key to the success of reforestation and afforestation efforts. This involves proper site preparation, ongoing care, and maintenance, including watering, mulching, and protection from pests and diseases. High survival rates contribute to the long-term success of green initiatives and the restoration of ecosystems.

6. Promotion of Biodiversity as an Important Sustainable Green Growth and Ecosystem

Biodiversity is vital for the health and stability of ecosystems. Promoting a diverse range of plant and animal species within forests, jungles, and green belts supports ecological resilience and sustainability.

Biodiversity-rich environments provide essential services such as pollination, water purification, and soil fertility, which are critical for sustainable green growth. The use of bee keeping enhances pollinators that help crops and fruit trees.

7. Promotion of Jungles Along the Banks of Rivers, Canals, and Around Lakes, Wetlands, and Ponds

Planting and maintaining jungles and green vegetation along water bodies such as rivers, canals, lakes, wetlands, and ponds help protect these areas from erosion, filter pollutants, and provide habitat for wildlife. Riparian forests play a crucial role in maintaining water quality and supporting aquatic ecosystems by stabilizing banks and enhancing biodiversity.

8. Raising the Ecological (Eco) Task Force in the Form of Territorial Army (TA) Battalions

Establishing specialized Eco Task Forces, similar to Territorial Army battalions, dedicated to ecological management and

conservation is an innovative approach to maintaining and expanding green areas. These units would be responsible for raising and sustaining ecological growth along rivers, canals, wetlands, and lakes, ensuring ongoing protection and monitoring. They would act as vigilant custodians, supporting the health and sustainability of our natural environments.

9. Promotion of Horticulture – Fruit Trees and Crops

Replacing wheat and rice crops with horticulture can provide valuable fruit crops to farmers, while increasing green belts and green cover around farms and cities. Especially replacing rice agriculture with horticulture can help in a big way to save water.

By focusing on these aspects, we can enhance our green spaces, support ecological balance, and contribute to a healthier and more sustainable environment. Each measure plays a pivotal role in fostering a robust and thriving ecosystem.

CHAPTER-5

Garbage Disposal and Environmental Growth

1. Segregation of Waste

Domestic Waste: This includes household waste such as food scraps, paper, plastics, and glass. Segregation at the source is crucial for effective management and recycling. Organic waste, especially from kitchens, can be separated for composting, while recyclable materials should be sorted for appropriate processing. Industrial Waste: Includes by-products from manufacturing processes, which can be hazardous or non-hazardous. Proper segregation ensures that hazardous materials are handled safely, while non-hazardous materials are recycled or disposed of responsibly.

Agricultural Waste: Consists of crop residues, animal manure, and other farm-related waste. This waste should be segregated to enable composting or bioenergy production, contributing to soil health and reducing the need for chemical

fertilizers.

Dairy Waste: Includes waste from dairy operations such as manure and milk by-products. Proper management and segregation can lead to effective utilization in biogas production and composting.

Hospital Waste: Encompasses biohazardous waste, pharmaceuticals, and non-hazardous waste. Strict protocols are needed for the segregation and disposal of medical waste to prevent contamination and ensure safety.

2. Collection and Disposal

Collection: Implement systematic waste collection schedules and methods for different types of waste. Ensure that waste collection vehicles are equipped to handle various categories of waste, and train personnel in proper handling and safety procedures.

Disposal: Follow established procedures for the disposal of waste. This includes sending non-recyclable and hazardous waste to approved facilities that adhere to environmental regulations. Ensure that all

disposal practices minimize environmental impact and comply with legal standards.

3. Effective Processing and Recycling

Re-utilization: Where feasible, convert waste into reusable products. For example, organic waste can be used to produce biogas or compost, which can be applied to agriculture. Industrial waste can be repurposed in manufacturing processes or as raw materials for other industries.

Recycling: Promote recycling programs for materials such as plastics, paper, aluminum, glass and metals. Ensure that recycling facilities are available and accessible and educate the public on proper recycling practices.

Reducing Waste at Source: Encourage the reduction of packaging by promoting the downloading of food products (especially dry products like daals, beans, seeds, dry fruit, and rice) into reusable containers. Ban the production and use of single use plastics (especially bags) and replace these with strong paper bags and compostable plastic

bags. Promote reusable containers for water, drinks, and food. Promote large reusable containers for water that can be refilled with treated water for drinking and cooking.

4. Domestic and Dairy Waste Management

Biogas Production: Organic waste from households and dairies can be processed in biogas plants to produce methane, which can be used as a renewable energy source. This process reduces reliance on fossil fuels and decreases greenhouse gas emissions.

Composting: Compost organic waste to create nutrient-rich soil amendments. Composting reduces the volume of waste sent to landfills and enhances soil health, supporting sustainable agriculture.

5. Compliance and Monitoring

Regulations: Adhere to all local and national regulations governing waste management. This includes following guidelines for waste segregation, collection, and disposal to ensure environmental protection and public health. Special handling of toxic and hazardous wastes should be mandated so

these are not released to the environment, especially to all water bodies and ground water. Environmental protection agencies should be established and if already there, should be empowered to police the handling and disposal of such wastes.

Monitoring: Regularly monitor waste management processes to ensure compliance with regulations and identify areas for improvement. Implement audits and inspections to maintain high standards of waste management and address any issues promptly.

By focusing on these aspects of waste management, we can significantly contribute to environmental growth and sustainability. Effective segregation, collection, and disposal of waste not only reduce pollution but also support resource conservation and enhance ecological balance.

CHAPTER-6

Law Enforcement: A Crucial Element in Addressing Environmental Degradation

1. Law Abiding Responsibilities

Understanding Legal Obligations: Individuals, businesses, and institutions have a fundamental responsibility to understand and adhere to environmental laws and regulations. This includes compliance with rules related to waste management, pollution control, and resource conservation. By recognizing and accepting these legal obligations, all stakeholders contribute to the collective effort of environmental protection and sustainability.

Proactive Engagement: Engaging proactively with environmental regulations involves not only following existing laws but also participating in initiatives that promote better practices. This can include adopting eco-friendly technologies, reducing waste, and supporting sustainable practices in daily

activities. Adherence to legal responsibilities ensures that environmental degradation is minimized and that natural resources are preserved for future generations.

Education and Awareness: Raising awareness about environmental laws and their importance is crucial for fostering compliance. Educational programs for the public, businesses, and governmental bodies can highlight the impact of environmental regulations and the benefits of following them. By enhancing understanding, individuals and organizations are more likely to commit to responsible environmental practices.

2. Law Enforcement

Implementation and Monitoring: Effective law enforcement requires rigorous implementation of environmental regulations. This involves regular monitoring of compliance, conducting inspections, and assessing the impact of environmental practices. Enforcement agencies must be equipped with the necessary resources and

expertise to carry out their duties effectively, ensuring that violations are promptly addressed.

Strict Penalties for Non-compliance: To deter violations and encourage adherence, it is essential to impose strict penalties for non-compliance. Fines, sanctions, and corrective actions serve as deterrents against illegal practices and reinforce the seriousness of environmental laws. A clear and fair system of penalties ensures that those who violate regulations face consequences, promoting a culture of accountability.

Collaborative Approach: Law enforcement should not operate in isolation but rather in collaboration with various stakeholders, including local communities, environmental organizations, and industry representatives. By working together, these groups can share information, identify violations, and implement effective solutions. Collaboration enhances the overall effectiveness of enforcement efforts and fosters a more comprehensive approach to environmental

protection.

Continuous Improvement: The landscape of environmental challenges is constantly evolving, and so should the strategies for law enforcement. Regularly updating laws and enforcement mechanisms to address new issues and technologies ensures that regulatory frameworks remain relevant and effective. Continuous improvement involves adapting to emerging environmental threats and refining enforcement practices to better protect natural resources.

In summary, the successful resolution of environmental degradation hinges on a robust system of law enforcement coupled with a strong sense of law-abiding responsibility. By ensuring adherence to environmental laws and effectively enforcing regulations, we can protect our ecosystems, preserve natural resources, and promote a sustainable future for all. The proof of success will come when monitored water and air quality continuously improve to meet state, national and global health standards.

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*Harinder (Hari) Singh Lamba has written a book to restore our Mother Earth, by offering a plan to quantitively solve climate change, restore and expand global ecosystems and have green renewable energy replace. We need this to begin to cool the atmosphere and oceans of our Earth which is beginning to overheat. This book is “Brighter Climate Futures”, Regent Press, Hari Lamba, 2020. His

earlier book "Rethinking Progress – Towards a Creative Transformation of Global Society," Daanish Publishers, New Delhi, 2005, provides global solutions to protect our Mother Earth, clean up the radioactive and toxic pollution, and restore biodiversity that is being threatened by the extinction of species.

A Verse from a Poem: "Our Only Home – Our Earth", Hari Lamba, book of poems – Our Dream!!

"I walked through the green forest
I walked along the flowing river
I breathed the fresh blowing air
I drank the precious flowing water
That was when I realized that
This was our only home
Our only home, our only home".