

Finance Department
Government of Kerala

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ENVIRONMENT BUDGET 2025-2026

KERALA ENVIRONMENT BUDGET



Government of Kerala

FOREWORD

Kerala, located on the south-western coast of India, is renowned for its unique geographical features, natural beauty, and rich biodiversity. However, in recent years, the state has faced significant environmental challenges, including frequent floods, landslides, coastal erosion, and the broader impacts of climate change. These issues have had severe consequences on the state's natural resources and economy, making sustainable development crucial for its well-being. Kerala's vulnerability to these challenges underscores the need for comprehensive and sustainable strategies to protect both its ecosystems and its people.

A recent landslide in Wayanad, caused by intense monsoon rains and worsened by climate change, highlighted the importance of prioritizing sustainability to mitigate future disasters. This tragedy further emphasizes the necessity of resilient environmental policies. In this context, the Kerala Environment Budget plays a vital role by outlining initiatives linked to environmental conservation. It aims to address environmental fragility, enhance disaster preparedness, and promote ecosystem restoration, ensuring that environmental protection is central to the state's development planning.

As part of its proactive approach, Kerala has made significant strides in addressing environmental challenges. The state's landmark initiative, the 'Kerala Environment Budget 2024-25,' is the first of its kind in India. This document integrates green initiatives into Kerala's fiscal processes and reflects the state's commitment to balancing economic growth with sustainability. By incorporating environmental considerations into fiscal planning, the Kerala Environment Budget tackles issues like climate change, biodiversity loss, and resource depletion, positioning Kerala as a model for environmental governance.

Kerala has also made notable achievements in sustainable resource management, afforestation, and the promotion of clean energy. Programmes like the 'Haritha Kerala Mission', solar energy expansion, and waste management reforms highlight the state's commitment to build a sustainable future. These initiatives aim to foster a harmonious relationship

between development and nature, ensuring a better quality of life for both present and future generations.

In addition to these efforts, the Kerala Climate Action Plan emphasizes climate resilience in developmental policies. Recognizing the immediate threats of climate change, the plan addresses rising temperatures, erratic rainfall, and extreme weather events. It aligns with global sustainable development goals and ensures that Kerala remains proactive in climate adaptation and mitigation efforts.

The State is also at the forefront of green initiatives such as the Subhiksha Keralam Project, which promotes sustainable agriculture, and the Suchitwa Mission, focused on waste management. Other efforts, like mangrove restoration and eco-tourism, highlight Kerala's holistic approach to environmental stewardship. These programmes exemplify the state's commitment to sustainable living and community-driven conservation.

Through these initiatives, Kerala is establishing itself as a model for others to follow. The Kerala Environment Budget is a visionary blueprint for a greener, safer, and more sustainable future. I hope these initiatives will yield fruitful results which in turn will address prevailing environmental problems to a great extent and also provide awareness among the public about the significance of sustainable coexistence in nature.

K N BALAGOPAL

Minister for Finance

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List of Acronyms & Abbreviations

AMRUT	Atal Mission for Rejuvenation and Urban Transformation
ANERT	Agency for New and Renewable Energy Research and Technology
BBGF	Bring Back Green Foundation
BEE	Bureau of Energy Efficiency
CBD	Convention on Biological Diversity
CCRI	Children's Climate Risk Index
CCS	Carbon Capture and Storage
CITA	Co-operative Initiative in Technology Driven Agriculture
CRMI	Cyclone Risk Mitigation Infrastructure
DCAT	Disaster Risk Reduction and Climate Action Tracker
DoECC	Directorate of Environment & Climate Change
DRR	Disaster Risk Reduction
EMC	Energy Management Centre
EV	Electric Vehicle
EWDS	Early Warning Dissemination System
HVIC	Hydrogen Valley Innovation Cluster
IFS	Integrated Farming System
KAU	Kerala Agricultural University
KAWACHAM	Kerala Warnings Crisis and Hazards Management System
KBSAP	Kerala State Biodiversity Strategy and Action Plan
KILA	Kerala Institute of Local Administration
KINFRA	Kerala Industrial Infrastructure Development Corporation
KSAPCC	Kerala State Action Plan on Climate Change
KSCCAM	Kerala State Climate Change Adaptation Mission
KSDMA	Kerala State Disaster Management Authority
KSECF	Kerala State Energy Conservation Fund
KSREC	Kerala State Remote Sensing and Environment Centre
LAPCC	Local Action Plans on Climate Change
MNRE	Ministry of New and Renewable Energy

MOOC	Massive Open Online Course
MVI	Multidimensional Vulnerability Index
NAPCC	National Action Plan on Climate Change
NCRMP	National Cyclone Risk Mitigation Project
NDC	Nationally Determined Contributions
NDMA	National Disaster Management Authority
NGO	Non-Governmental Organization
NGT	National Green Tribunal
NISH	National Institute of Speech and Hearing
NITI	National Institution for Transforming India
NIUA	National Institute of Urban Affairs
PBR	People's Biodiversity Registers
SDG	Sustainable Development Goals
SEEI	State Energy Efficiency Index
UFRMP	Urban Flood Risk Management Programme
UNICEF	United Nations International Children's Emergency Fund
WASH	Water, Sanitation and Hygiene Institute

Executive Summary

As a State, Kerala has already set a benchmark in showcasing the achievements in the realm of Sustainable Development and Environmental goals. For this, we have adopted a multifaceted approach in which a perfect participation and blending of Government policies, local communities and innovative models etc. are sought to be implemented.

The Environment Budget 2025-26 identifies and prioritizes schemes that have a direct positive impact on the environment. A total of 95 schemes across 10 key sectors have been selected. These schemes cover critical areas such as afforestation, flood management, renewable energy expansion, sustainable agriculture and pollution control. The approach involves strengthening institutional frameworks like the Kerala State Disaster Management Authority, Kerala Institute of Local Administration, and various energy and waste management agencies to implement eco-friendly policies and enhance community participation. Their collaborative efforts ensure that environmental concerns are integrated at every level of governance, from local self-government bodies to state-wide infrastructure projects. Public participation is also a key focus, with efforts to engage communities, businesses and educational institutions in sustainable practices. Notable projects include green hydrogen initiatives, EV promotion, coastal ecosystem restoration, and sustainable urban planning.

Comparatively, as far as the State is concerned, the Environment Budget is a new initiative, through which better usage of budgetary tools can be adopted to integrate environmental concerns into planning and implementation. In this document a total of 95 plan schemes are selected under 10 sectors. 68.25% of the total budget outlay of these schemes has been earmarked for Environment related components. In future, it will be extended to more departments and Non Plan schemes in order to deliver desired results so that it can cope with the environmental hazards and disasters.



CHAPTER 1

KERALA ENVIRONMENT BUDGET

1.1 Introduction

In an era marked by escalating environmental challenges, the concept of an "Environment Budget" has emerged as an innovative and critical tool for integrating environmental objectives into governance and planning. Unlike traditional financial budgets that focus primarily on monetary resources, an Environment Budget operates on the principle that natural resources are finite and must be managed carefully. It is designed to identify, implement, and assess budgetary measures that contribute to achieve environmental objectives.

This approach acknowledges the vital interdependence between economic activity and the environment, recognizing that unchecked resource consumption and pollution may ultimately undermine long-term prosperity and human well-being. Also, this framework aligns financial planning with green policies, addressing critical issues such as climate change, pollution control, biodiversity conservation,

and sustainable resource management. Therefore, an Environment Budget provides a structured approach for assessing, planning, and monitoring the impact of developmental activities on the environment. It is a proactive management tool necessary for navigating the complexities of the modern world, where economic and environmental sustainability are inextricably linked. However, its success depends on accurate assessment, informed policy, and a commitment to integrate environmental well-being into all aspects of decision-making.

1.2 Purpose and the Objectives of Environment Budget

Faced with imminent environmental threats, governments worldwide are increasingly adopting or planning to adopt environmental or green budgeting practices to align their policies with climate change impacts and international environmental commitments, such as the Paris Agreement and the United Nations Sustainable Development Goals (SDGs). Kerala has already adopted United Nations Sustainable Development Goals in its development policies and planning. The state's mission for Net Carbon Neutral state by 2050 in accordance with the guidelines of NDC is a typical example for state's commitment towards national and international development goals.

The objectives of an Environment Budget are multifaceted and can be tailored to specific contexts but generally includes

- **Promote Sustainable Development:** Align financial planning with environmental goals to balance economic growth with ecological preservation, in line with global and national initiatives like United Nations Sustainable Development Goals (SDGs) & Nationally Determined Contributions (NDCs).
- **Enhance Transparency:** Promote transparency and accountability in the use of public resources, effectiveness of Government action towards sustainability and conservation.
- **Foster Public Participation:** Encourage local communities, students and NGOs to engage in and support Government-led environmental initiatives.

- **Quantify Environmental Impacts:** Systematic Identification, Measurement, and Evaluation of the impact of various projects, policies, and activities on crucial environmental indicators.
- **Climate Action and Resilience:** Address climate change impacts like coastal erosion, extreme weather events, temperature rise etc and strategies for adaptation/mitigation & early warnings.
- **Strengthen Institutional Capacity:** Build the capacity of government institutions to assess, plan, and implement environmentally sound policies and programmes.
- **Achieve Policy Integration:** Embed environmental objectives into financial policies and programmes of the State. The integrated approaches foster the alignment of priorities, optimize resource allocation and enable comprehensive solutions that address both immediate and long-term environmental challenges.
- **Sustainable Resource Management:** Promote responsible use of natural resources, conservation of natural eco system & bio diversity, eco-friendly farming, organic cultivation, responsible fishing practices, rejuvenation of rivers, lakes and groundwater sources, eco-tourism activities etc.
- **Promotion of Circular Economy& Pollution control:** Encourage the reuse, recycling and responsible disposal of waste to minimize resource extraction and strengthening measures to reduce air, water and land pollution.
- **Capacity Building and Awareness:** Training and public awareness programmes to foster an environmentally conscious society.
- **Disaster Management & Preparedness:** Strengthening early warning systems and preparedness for floods, landslides and other environmental disasters.
- **Green Energy & Low-Carbon Growth:** Encouraging renewable energy projects like solar and wind power to reduce carbon footprints.

By observing environment friendly green protocol in financial management, governments and organizations can systematically address environmental challenges while promoting sustainable and inclusive growth. It acts as a guiding framework for achieving ecological balance and securing a healthier planet for future generations.

1.3 Approach and Methodology

In Environment Budget 2025-26, schemes are chosen from sensitive areas that closely associated to the environment. The schemes are chosen based on their significance in climate change adaptation and mitigation, environmental management, biodiversity conservation, pollution and waste management.

The goal is to reduce the vulnerability of human and natural systems to climate risks by enhancing resilience, improving adaptability and minimizing exposure to environmental hazards. This includes various initiatives ranging from co-operative initiatives to environmental research, panchayat-level resource surveys to forest management, information and knowledge generation to capacity development, energy management initiatives to conservation and management of marine resources, crop diversification to flood management programmes, and the implementation of climate change adaptation actions to extension forestry.

1.4 Environmental Sustainability in Kerala's Development Process

Kerala, known for its rich biological diversity, ecological features and progressive social indicators, has been actively integrating environmental sustainability into its development agenda during the recent past. This focus is driven by the state's unique vulnerabilities to the changing climate and its consequences, including rising sea levels, flood and extreme weather events, as well as its commitment to preserve its natural heritage.

Owing to high population density, diverse and sensitive ecosystems, limited land availability, an ageing population, and other factors, the state is facing a crucial challenge in balancing rapid development with vital environmental sustainability. The state's vulnerability is influenced by its geographical location, socio-economic factors, and developmental patterns. Ongoing changes in temperature and rainfall, their variability, and the observable increase in the frequency of extreme events have made serious impacts on both natural ecosystems and socio-economic systems across the state. The recent period has been pivotal in this regard, characterized by both progress and persistent challenges. Major environmental challenges and vulnerabilities are summarized as follows:

I. Rising Sea Levels and Coastal Erosion

The state's coastal areas are vital to its economy, contributing a lion share through tourism, fishing, agriculture, and other activities. Nevertheless, the state's long coastline is highly susceptible to rising sea levels and coastal erosion, both of which are exacerbated by climate change. According to reports, over 40% of the coastline has been lost to the sea over the past 26 years due to sea level rise, resulting in more frequent and severe coastal flooding in low-lying areas and accelerated erosion. Furthermore, the declining trend in marine productivity threaten both livelihoods and subsistence along Kerala's extensive coastline. Coastal erosion leads to loss of land, displacement of communities, damage to infrastructure, and ecological imbalances and these vulnerabilities have significant economic, social and ecological impacts on the state's dense coastal population, fishing industry and food security.

II. Flooding and Landslides

The State is increasingly prone to flood and landslides, especially during the monsoon season. Heavy rainfall, influenced by climate change, has intensified the frequency and severity of floods. Likewise, Kerala has experienced frequent landslides in recent years. Districts like Idukki, Wayanad, and Malappuram have been severely affected. Some notable landslides include:

- **Kavalappara Landslide (2019):** Occurred in Malappuram, wiping out an entire village and killing dozens.
- **Puthumala Landslide (2019):** Took place in Wayanad, destroying homes, tea estates, and causing multiple casualties.
- **Pettimudi Landslide (2020):** A massive landslide in Idukki district killed several people and was triggered by intense rainfall.
- **Wayanad Landslides (2024):** Triggered by heavy monsoon rains, resulting in loss of life, displacement and damage to property and infrastructure.



Aerial View of Wayanad Landslide 2024

III. Extreme Weather Events

The frequency of extreme weather events such as extremely heavy rainfall, storms and cyclones has been increasing due to climate change. These weather extremes cause not only damage to infrastructure but also threaten agriculture and human lives. Crops such as rice, banana, and vegetables are highly sensitive to weather fluctuations. Unpredictable rains during the planting season, coupled with cyclonic

events, have resulted in crop failure and food insecurity. The state's reliance on agriculture, especially small-scale farming, makes it particularly vulnerable due to this unpredictable weather patterns.

IV. Depletion of freshwater resources

Kerala is rich in water resources, with a network of rivers and lakes. However, climate change has caused irregular rainfall patterns, leading to periods of drought, thereby putting pressure on the state's freshwater resources. Prolonged dry spells, especially in the summer months, have led to declining groundwater levels, water scarcity and reduced agricultural productivity. This strain is especially severe in urban areas where water demand is rising rapidly. Kerala's heavy reliance on monsoon rainfall for agriculture and daily water supply makes it highly susceptible to altered rainfall patterns and droughts.

V. Biodiversity loss and Ecosystem degradation

Kerala is home to rich biodiversity, particularly in the Western Ghats, but climate change poses a significant threat to its fragile ecosystems. Rising temperatures, changing precipitation patterns, and habitat destruction are exerting pressure on the region's flora and fauna. The recent surge in human-wildlife conflict reflects altering habitat conditions, migration patterns, and food chains, all of which threaten biodiversity. Degradation and fragmentation of natural landscapes, along with land-use changes and climate impacts, are contributing to the decline of the state's vital natural resources.

VI. Unsustainable Development and Urbanization

The uncontrolled and unplanned expansion of urban areas into surrounding rural and natural landscapes encroaches on fertile agricultural land, converts wetlands, and increases air and water pollution. While Kerala is known for its unique settlement patterns with dispersed urbanization and close interlinkages between rural and urban areas, recent trends show increasing pressures from population growth, infrastructure development, and migration to urban centres. Rapid

urbanization and industrialization have led to the depletion of natural resources, habitat destruction, and increased carbon emissions in Kerala. A comprehensive urban planning and strict enforcement of environmental laws need to be adopted for facing these environmental challenges.

VII. Health Impacts and Waste Management Crisis

Climate change also brings about significant health risks for State's population. Rising temperatures, vector-borne diseases (like malaria and dengue), and extreme weather events lead to health crisis. The generation of large volumes of waste, coupled with inadequate treatment facilities, also continues to be a major problem. There is an increase in vector-borne diseases, respiratory problems due to air pollution, and waterborne diseases, particularly after floods. The state's public health infrastructure, though progressive, faces challenges in addressing the growing burden of climate-related health issues.

1.5 State's response to environmental challenges and key interventions

Kerala's vulnerability to environmental challenges and climate change calls for a multi-faceted, long-term strategy that includes: (i) strengthening disaster resilience and climate adaptation strategies; (ii) promoting sustainable agricultural practices, especially for small-scale farmers; (iii) expanding renewable energy sources to reduce dependence on fossil fuels; (iv) enhancing coastal management and protecting wetlands and mangroves; (v) enforcing stricter environmental regulations to reduce deforestation, urban sprawl, and pollution. Ardently, the State has implemented various measures to address these challenges, which focuses on sustainable development, renewable energy, and climate resilience.

I. The Kerala Perspective Plan 2030

The Kerala Perspective Plan 2030 outlines a strategic vision for inclusive, equitable, and sustainable development in the state, align with Sustainable Development Goals (SDGs). It emphasizes economic growth driven by innovation, social equity,

and environmental sustainability. The plan identifies priority areas, including education, healthcare, skill development, renewable energy, urban infrastructure, and biodiversity conservation.

Kerala's sustainable development policies complement this vision by focusing on resource efficiency, climate resilience, and community engagement. Initiatives like Haritha Keralam Mission and the Kerala State Action Plan on Climate Change emphasize sustainable agriculture, water conservation, waste management, and carbon-neutral strategies. The state leverages technology and traditional knowledge to promote green practices and strengthen local governance. Kerala, always recognized for its success in achieving high levels of human resource development along with prioritization of environmental sustainability its policies and programmes. The state has consistently maintained the top spot in the Sustainable Development Goals (SDG) India Index, released by NITI Aayog, reflecting its commitment to sustainable development and social welfare. Kerala achieved a total score of 79/100 in the 2023-24 assessment, leading the country in the SDG index.

II. Kerala State Action Plan on Climate Change 2023-2030 (KSAPCC 2.0)

The Kerala State Action Plan on Climate Change 2.0 (KSAPCC 2.0) prepared by the Directorate of Environment and Climate Change is a comprehensive framework designed to address the growing impacts of climate change in Kerala. Building on the insights and outcomes of the initial plan, KSAPCC 2.0 incorporates advancements in scientific



understanding, technology, and global best practices. It identifies key vulnerabilities across critical sectors such as agriculture, animal husbandry, coastal fisheries, water resources, health, forest and biodiversity, and tourism, focusing on adaptation and mitigation strategies to enhance resilience and sustainability. It also emphasizes reducing carbon emissions, promoting renewable energy, conserving biodiversity, and ensuring water security. Furthermore, the plan underscores the importance of Public Private Partnerships, stakeholder engagement, leveraging innovative technologies, capacity building and adopting nature-based solutions to combat climate challenges.

III. Kerala State Biodiversity Strategy and Action Plan 2022-2032

The Kerala State Biodiversity Strategy and Action Plan (KBSAP) 2022-2032 outlines a strategic framework to conserve and sustainably manage the state's rich biodiversity. Aligned with India's National Biodiversity Action Plan and global biodiversity targets, it focuses on addressing key challenges such as habitat loss, invasive species, climate change, and unsustainable resource use. The plan emphasizes ecosystem restoration, conservation of endemic and threatened species, sustainable agriculture, and preservation of traditional knowledge.

KBSAP adopts a participatory approach, engaging local communities, indigenous knowledge systems, and stakeholders to promote biodiversity-based livelihoods and equitable benefit sharing. It integrates cross-sectoral themes, including eco-tourism, biodiversity education, and climate adaptation strategies. The plan highlights innovative measures, such as strengthening biodiversity management committees and promoting ecosystem services through technological advancements.

By fostering community stewardship, enhancing institutional frameworks, and leveraging policy support, KBSAP 2022-2032 aims to ensure ecological sustainability, bolster resilience, and secure the state's biodiversity for future generations

1.6 Notable Green Initiatives undertaken by GOK

As a State, Kerala has already set a benchmark in showcasing the achievements in the realm of Sustainable Development and Environment goals. For this, we have adopted a multi-faceted approach in which a perfect participation and blending of Government policies, local communities and innovative models are sought to be implemented.

The Carbon Neutral Kerala 2050 initiative and green hydrogen initiatives are aligned with NDC goals which shows state's commitment to observe national and international commitments and positioning the state as a leader in climate action and green development.

The Government of Kerala has implemented several key initiatives to promote environmental sustainability in various sectors. Here are some of the notable efforts:

I. Renewable Energy



The State has implemented numerous energy efficiency initiatives across sectors such as agriculture, electricity distribution, transportation, industry, large buildings, and households, supported by government funding and associated institutions. Kerala has consistently excelled in the State Energy Efficiency Index (SEEI) published by the Bureau of Energy Efficiency (BEE) and was second place during 2023. Kerala also secured second place in the NITI Aayog report in 2022 which highlighted Kerala's advancements in electric vehicle adoption, expansion of charging infrastructure and increased deployment of smart meters. These recognition underscores Kerala's commitment to sustainable energy practices and its ongoing efforts to enhance energy efficiency, reduce pollution, and promote clean energy adoption across multiple sectors.

- **Soura solar Project:** Promotes rooftop solar installations to increase the share of renewable energy in households, commercial units and industries advancing renewable energy usage and reducing carbon footprint.
- **Banasura Sagar Floating Solar Power Plant:** India's first floating solar power plant, located in Wayanad for encouraging renewable energy and reducing dependency on fossil fuels.
- **Aditya Solar Ferry:** India's first fully solar-powered boat, operating in the backwaters.

II. Water Conservation and Management

- **'Room for River:** Designed to restore natural flow of rivers by reclaiming encroached flood plains and removing obstacles to flood water movement.
- **Ini Njan Ozhukatte (Now, Let me flow):** Scheme focussed to revive traditional water management system.
- **Vembanad Lake Conservation:** Efforts to restore and protect the fragile ecosystem of Vembanad Lake, a Ramsar site, through pollution control and habitat restoration.

III. Sustainable Agriculture

- **Subhiksha Keralam:** A campaign to promote sustainable agriculture and self-sufficiency in food production.
- **Jaiva Kerala (Organic Kerala):** Encourages organic farming and the reduction of chemical fertilizers.

IV. Tourism

- **Responsible tourism:** Promotes community involvement, encourage local artisans, farmers and service providers for getting direct benefits along with protection of local environment peculiarities.
- **Green carpet initiative:** Project aimed at building a sustainable and plastic free tourism zones in Kerala through participations and partnerships.

V. Bio Diversity



- **Miyawaki Afforestation Model:** Promotes dense, native-forest plantations in urban areas to enhance biodiversity and mitigate climate change.

- **People's Biodiversity Registers (PBRs):** Involving locals in documenting and protecting their native flora and fauna.
- **Pachathuruthu Project:** The 'Pachathuruthu (Green Islands) Project' aims to create micro-forests on unused public land across the state.
- **Project Bhoomithrasena:** A school-based initiative to educate students on environmental conservation and sustainable practices.
- **Nagaravanam:** Project creates miniature forests in urban and semi-urban areas to provide the benefits of natural forests, enhance aesthetic value, reduce climate change effects and educate the public about the role of indigenous species in climate mitigation.
- **Vidyavanam:** The scheme aims to promote environmental education by creating school-based mini forests with indigenous plants, fostering awareness among students about biodiversity and climate change.

VI. Green Transport & Mobility



- **Kochi Metro Green Energy Policy:** One of India's first metro systems powered by solar energy.
- **Kochi Water Metro:** Eco-friendly hybrid electric boats for sustainable urban transportation.
- **Kerala Electric Vehicle (EV) Policy:** Promotes EV adoption, including charging stations and subsidies.

VII. Urban Planning

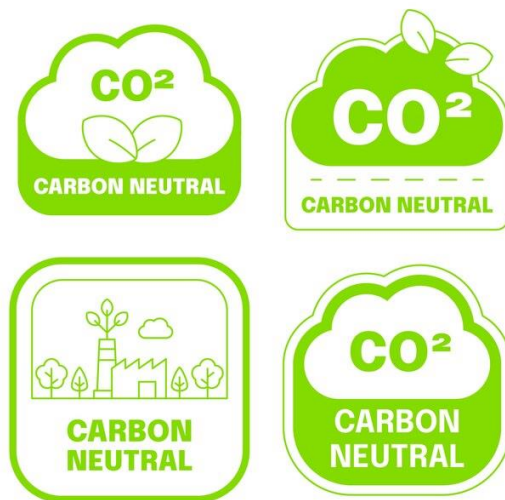
- **AMRUT** (Atal Mission for Rejuvenation and Urban Transformation): Aims to enhance Urban infrastructure such as water supply, sewage systems, and green spaces.
- **Cycle-Friendly Urban Planning:** Thiruvananthapuram & Kochi are developing cycle lanes and eco-mobility projects.

1.7 Other Policies and Programmes

I. Carbon Neutral Kerala-2050

The Carbon Neutral Kerala 2050 initiative is a visionary framework aimed at transitioning the state towards a low-carbon, sustainable future. This initiative aligns with India's Nationally Determined Contributions, and focuses on achieving carbon neutrality by 2050. It emphasizes reducing greenhouse gas emissions across key sectors such as energy, transportation,

agriculture, industry, and waste management while enhancing carbon sequestration through afforestation and ecosystem restoration. The Carbon



Neutral Kerala 2050 initiative underscores Kerala's commitment to sustainability, positioning the state as a leader in climate action and green development in India.

II. EV policy

Kerala is actively pursuing a sustainable future by prioritizing energy efficiency and promoting electric vehicles (EVs). The state is incentivizing EV adoption through subsidies and infrastructure development, including a network of charging stations. Furthermore, policies are encouraging the use of energy-efficient technologies in both industrial and residential sectors to minimize energy consumption and foster green growth. This focus on EVs directly supports Kerala's environmental objectives, aiming to decrease air pollution, lessen reliance on fossil fuels, and bolster energy resilience. These combined efforts pave the way for Kerala's transition to a cleaner and more sustainable energy landscape.

III. Green Hydrogen

Kerala is actively participating in India's National Green Hydrogen Mission with its own green hydrogen initiatives. The state aims to become a hub for green hydrogen production and utilization, focusing on applications in sectors like transportation and industry. Kerala's initiatives leverage its renewable energy resources, particularly hydropower, to produce green hydrogen sustainably. These projects are expected to contribute



to decarbonizing the state's economy and creating new job opportunities. By aligning with the national mission, Kerala aims to play a significant role in India's transition to a cleaner energy future.

IV. Kerala Green House Gas Inventory

It is one of the pioneering efforts by a state government in India to systematically quantify its greenhouse gas emissions and set benchmarks for climate action. The Directorate of Environment and Climate Change (DoECC) is leading the initiative and the inventory aims to measure the total greenhouse gas emissions across various sectors, including energy, transportation, agriculture, industry, and waste management. The inventory provides a data-driven foundation for formulating policies and strategies aimed at reducing emissions and transitioning to a low-carbon economy. By creating a comprehensive emissions monitoring system, the inventory plays a crucial role in the Government of Kerala's goal of achieving Net Carbon Neutrality by 2050. By continuing to refine the inventory and integrating it with policy frameworks, it can serve as a model for other regions aiming to address climate change effectively.

VI. Green tourism destinations

As part of the 'Malinya Muktham Nava Keralam', 68 tourist destinations have been declared as green tourism destinations in November 2024. This initiative focuses on transforming these locations into sustainable destinations that promote effective waste management, hygiene, cleanliness, and environmental conservation.

VII. Grading of Government offices

In October 2024, the Kerala government introduced a grading system for public offices to ensure adherence to best hygiene and environmental practices. The offices are evaluated based on criteria such as waste segregation, scientific handling of waste and implementation of green protocols, with the aim of grading all offices by March 2025.

Thus, Kerala Government has implemented several commendable initiatives/policies to promote environmental sustainability and these efforts reflect a strong commitment to balance development with ecological conservation. However, continuous public participation and comprehensive approach are essential to ensure long-term success in preserving Kerala's rich biodiversity and natural resources.



CHAPTER 2

ALIGNMENT WITH NATIONAL AND INTERNATIONAL ENVIRONMENTAL GOALS

Kerala always shows an unwavering dedication to observe National and International goals which is reflected in its policies and programmes. Some of the notable initiatives in line with development goals are mentioned below.

2.1 Alignment with the United Nations Sustainable Development Goals (SDGs)

Kerala's green initiatives contributed significantly to the following SDGs:

- **Haritha Keralam Mission** (SDG 6, 11, 13, 15): Focuses on waste management, water conservation, and organic farming, promoting sustainable ecosystems and community participation.

- **Responsible Tourism Mission** (SDG 8, 12): Encourages eco-friendly tourism practices, supporting local economies while preserving cultural and natural heritage.
- **Soura Solar Project** (SDG 7, 13): Promotes rooftop solar installations, advancing renewable energy usage and reducing carbon footprints.
- **People's Biodiversity Registers (PBRs)** (SDG 15): Engages communities in documenting and conserving biodiversity, safeguarding ecosystems.
- **Plastic-Free Initiatives** (SDG 12, 14): Implements bans on single-use plastics and promotes biodegradable alternatives to reduce waste and protect marine ecosystems.
- **Room for River Programme** (SDG 6, 13): Focuses on flood mitigation through restoring natural waterways and floodplains.
- **Carbon Neutral Wayanad Project** (SDG 13, 15): Aims to achieve carbon neutrality through afforestation, renewable energy adoption, and sustainable farming.
- **Smart Cities Mission** (SDG 6, 11, 13, 15): Develops sustainable urban infrastructure in Kochi and Thiruvananthapuram, emphasizing smart transportation, energy efficiency, and waste management.
- **Life Mission** (SDG 1, 3, 6, 10, 11): Affordable housing for marginalized communities, ensuring good health and well-being, clean water and sanitation, reduce the inequalities and develop sustainable communities.
- **Subiksha Keralam** (SDG 1, 2, 3): Encourages food self-sufficiency through local cultivation, reduce the poverty and ensure good health and well-being.
- **Jalanidhi** (SDG 3, 6, 11, 13): Community-driven rural water supply projects, covers economically disadvantaged families, ensure water conservation, and improve the adaptation to climate change extremes.

- **Ini Njan Ozhukatte** (SDG 6, 11, 13, 14): Revives traditional water management systems, ensure sustainable urban centres, mitigate the impacts of climate change extremes like flooding, and rejuvenate the aquatic ecosystem.
- **Responsible Tourism Mission** (SDG 12, 8): Aimed at promoting sustainable tourism practices that prioritize environmental conservation, cultural preservation, and the well-being of local communities. The mission seeks to ensure that tourism in the state benefits both visitors and residents, while minimizing negative impacts on the environment and local cultures.
- **Green Protocol** (SDG 12): Introduced by the state government, a set of guidelines aimed at promoting environmental sustainability by reducing waste, conserving resources, and ensuring eco-friendly practices in various sectors. The protocol focuses on minimizing environmental impacts from large-scale events, festivals, public gatherings, and government activities.
- **Disaster Risk Reduction and Climate Action Tracker (DCAT)** (SDG 9, 13, 17): A strategic tool designed to monitor, assess, and enhance efforts related to disaster risk reduction and climate action. It helps governments, organizations, and stakeholders track progress in implementing initiatives aimed at building resilience to disasters and addressing climate change impacts.

2.2 Alignment with India's Nationally Determined Contributions (NDCs) under the Paris Agreement

Kerala has implemented several green initiatives that align with India's Nationally Determined Contributions (NDCs) under the Paris Agreement, focusing on reducing greenhouse gas emissions, enhancing climate resilience, and promoting sustainable development. Key initiatives complemented these targets in several ways, which includes:

I. Renewable Energy Expansion:

- *Small Hydropower Projects:* Develops eco-friendly hydropower generation to utilize Kerala's abundant water resources.
- *Wind and Biomass Energy:* Encourages the use of wind and biomass for energy production.
- *Green Hydrogen Initiatives:* The programmes envisaged under India's National Hydrogen Mission to push for cleaner fuels.

II. Reducing Emissions Intensity:

- *Energy Efficiency Programmes:* Promotes LED lighting, energy-efficient appliances, and green building practices.
- *Kerala State Energy Conservation Fund (KSECF):* Supports energy-saving projects and initiatives.
- *Kerala State Energy Conservation Building Code:* Establish minimum requirements for energy-efficient design and construction of new buildings in Kerala, aiming to reduce energy consumption by incorporating passive design strategies, efficient building components, and renewable energy integration, thereby promoting sustainable building practices across the state.

III. Carbon Sink Enhancement:

- *Afforestation Programmes:* Increases forest cover through community-driven plantation drives.
- *Mangrove and Wetland Restoration:* Enhances carbon sequestration and protects coastal ecosystems.
- *Eco restoration Policy:* A holistic approach to ecological restoration of degraded forests and monocrop plantations, emphasizing public participation and sustainable livelihood opportunities for communities reliant on forest resources; this policy aims to address human-wildlife

conflicts, mitigate natural disaster impacts, and promote sustainable development across the state.

IV. Climate Resilience

- *Kerala State Action Plan on Climate Change (KSAPCC 2.0)*: Focuses on mitigation and adaptation strategies across agriculture, fisheries, animal husbandry, water, forestry, health and energy sectors.
- *Room for River Programme*: Addresses flood risks through river restoration and natural waterway management.
- *Climate-Resilient Agriculture*: Encourages organic farming, sustainable irrigation, and drought-resistant crop varieties.

V. Waste Management and Pollution Control

- *Haritha Keralam Mission*: Promotes solid waste management, water conservation, and urban greening.
- *Plastic-Free Kerala Initiative*: Reduces pollution by banning single-use plastics and encouraging biodegradable alternatives.

VI. Sustainable Urban Development

- *Smart Cities Mission*: Develops sustainable urban infrastructure with a focus on clean energy and efficient transportation.
- *Public Transportation Electrification*: Introduces electric buses and charging stations to reduce urban emissions.

2.3 Alignment with National Environmental Policies

I. National Action Plan on Climate Change (NAPCC)

Kerala adopted state-specific missions under the NAPCC framework, such as:

- *Solar Mission*: Expanding solar energy capacity through innovative projects like floating solar plants.

- *National Water Mission*: Implementing water conservation projects, including the rejuvenation of rivers and natural water bodies.
- *Green India Mission*: Promoting afforestation and ecological restoration programmes.

II. Swachh Bharat Mission

Kerala's Malinya Muktham Nava Keralam (Garbage-Free New Kerala) campaign, focusing on effective waste management and plastic reduction, complemented the national Swachh Bharat Mission.

III. National Biodiversity Action Plan

The state's biodiversity conservation efforts, including the protection of endemic species and restoration of degraded ecosystems, supported India's commitments under the Convention on Biological Diversity (CBD).

2.4 Contributions to Global Environmental Goals

I. Paris Agreement

Kerala is making significant strides toward achieving 100% renewable energy by 2040 and net carbon neutrality by 2050 as part of its commitment to sustainable development and combating climate change. The state has been investing in solar, wind, and small hydropower projects to diversify its energy mix and reduce reliance on fossil fuels. Initiatives like the Solar Rooftop Programme, floating solar plants, and wind-solar hybrid projects are key components of this effort. Kerala's government is also focusing on energy efficiency measures and promoting electric vehicles (EVs) with supporting infrastructure to reduce carbon emissions. Through these initiatives, Kerala aims to transition to a clean energy future while ensuring energy security and environmental conservation.

II. UN Decade on Ecosystem Restoration (2021-2030)

Kerala has been actively contributing to the UN Decade on Ecosystem Restoration (2021–2030) with initiatives aimed at reviving degraded ecosystems and promoting sustainable development. The state has undertaken efforts to restore wetlands, mangroves, and forests, recognizing their crucial role in biodiversity conservation and climate resilience. Programmes initiated by *Haritha Keralam Mission* and NGOs focus on rejuvenating water bodies, promoting afforestation, and waste management. Kerala is also working on coastal ecosystem restoration, addressing soil erosion, and implementing community-based conservation models.



CHAPTER 3

MAJOR SECTORS SELECTED

Environmental challenges present a serious threat to the sustainability of social and economic development, community livelihoods and environmental management in Kerala. Extreme climatic events are expected to become more frequent and intense, leading to shifts in their magnitude, frequency and timing. These changes will have significant impacts on natural resource sectors like fisheries, forests and water resources, as well as socio-economic systems, including agriculture, health and communities across different districts.

3.1 Overview of Sectors Selected

- I. **Agriculture:** Adaptation actions in the agriculture sector focus on enhancing climate resilience by promoting the development and adoption of climate-resilient and ecologically sustainable practices. These efforts aim to improve productivity and profitability across the entire value chain. Their goal is to improve and climate-proof production methods, reduce post-production losses,

and strengthen the capacities of supporting institutions and service providers, including Krishi Bhavans, markets, storage facilities, as well as credit and insurance providers.

The strategies for mitigating climate change in the agricultural sector should prioritize the sustainable conservation of natural resources, the adoption of agricultural management practices that enhance soil organic matter and promote carbon sequestration, the implementation of an efficient soil testing programme, the amelioration of problematic soils, effective land cover management, soil erosion control, and the prevention of soil pollution.

- II. Soil and Water conservation:** Despite the challenges posed by climate change, urbanization, and extreme weather events, Kerala has made significant strides in soil and water conservation through a range of effective strategies. The State's commitment to terracing, contour ploughing, agroforestry, and sustainable agricultural practices is helping to protect its environment and enhance resilience. With continued efforts in rainwater harvesting, coastal protection, and improved land and water management, Kerala is on a path to ensure long-term ecological balance and sustainable development. These actions not only safeguard the natural resources but also contribute to the prosperity and well-being of its communities, making Kerala a model for environmental conservation in the face of adversity.
- III. Animal Husbandry:** In Kerala, actions in the livestock sector focus on reducing climate stress through improved animal nutrition, housing, breeding, and health, aiming to enhance productivity and environmental sustainability. Key strategies include promoting climate-resilient livestock, lowering milk production emissions, and increasing farm income through backyard poultry and a circular economy approach, such as converting poultry waste into animal or fish feed. Environmentally friendly veterinary services are strengthened through better healthcare systems, disease surveillance, and improved facilities for veterinary care. Practices like balanced feeding, bioclimatic-

specific breeding policies, efficient waste management, and sustainable fodder production are encouraged. Additionally, community biogas plants, crop residue management, and fodder banks support sustainable livestock farming while mitigating climate impacts. These efforts contribute to improving livestock productivity and environmental health in Kerala's diverse climatic zones.

- IV. **Dairy:** The dairy sector in Kerala is a key contributor to rural livelihoods, offering income, employment, and essential nutrition, with strong demand for milk and milk-based products. While it presents opportunities for environmental improvement, such as reducing methane emissions, optimizing water use, and enhancing waste management, sustainable practices like efficient manure management, water conservation, and organic farming are actively being promoted. These initiatives ensure that the sector can continue to thrive economically while supporting environmental sustainability and local ecosystems.
- V. **Fisheries:** Global warming poses a multifaceted threat to marine life, affecting the health of species, ecosystems, and the services they provide to humans and the planet. More frequent storms and rising sea levels can physically damage marine habitats, including coral reefs and coastal ecosystems, further threatening marine biodiversity. Coastal flooding and loss of coastline due to erosion is affecting the marine ecosystems that have been the primary source of livelihood for coastal fishing communities in Kerala. Adaptation and mitigation strategies are crucial for managing and preserving marine biodiversity in the face of these challenges.

Nature based solutions for adaptation need to be prioritized to regenerate coastal resources and prevent further degradation of coastal areas as well as inland water bodies. Projects based on adaptation strategies to address the coastal as well as aquatic vulnerability have been selected which include

modernisation of fishing fleet, stock enhancement programmes, conserving the natural ecosystem etc.

Climate change affects communities and livelihoods in fisheries sector, and efforts to adapt to and mitigate climate change must also be human centred. For improving the capacity of relief shelters and having appropriate rescue relief and rehabilitation mechanisms in place in case of adverse climatic conditions, there is a need to provide safe housing to coastal communities. Alternatively, investment is made in providing safe housing facilities and post-harvest activities which has mitigation co-benefits. For addressing the long-term consequences of plastic waste on the marine ecosystems, a major intervention is made through the project “Suchitwa Sagaram”. Actions are targeted at amplifying both coastal and inland aquaculture production to ensure food security and sustainably enhanced income; development of climate resilient coastal villages with safe housing for fishing communities, climate proofing of fisher folk livelihood by diversifying income sources and loss and damage reduction due to coastal hazards; and development of post-harvest infrastructure essential to minimize losses.

- VI. Co-operation:** The State has a wide-ranging network of co-operatives involved in diverse activities such as agricultural credit, the public distribution system, distribution of agricultural goods, health, education (including professional education), housing, agro-processing, and the development of scheduled castes and scheduled tribes, women's empowerment, and fisheries.

The idea of nature-positive production focuses on the potential synergies between ecosystem restoration and food/biomass production, as well as the relationships among biodiversity, nature, and agriculture. The Co-operative Initiative in Technology-Driven Agriculture (CITA) is a programme included under the Environment Budget. It primarily focuses on five key operational areas: soil and water conservation, soil enhancement, evolutionary populations, the integration of crops, forestry, livestock, and aquaculture, and

integrated pest management. These activities will contribute positively to the restoration of vital habitats, the protection of watersheds, and the enhancement of soil health.

- VII. Environment:** The Directorate of Environment and Climate Change (DoECC) is the primary agency responsible for coordinating environmental matters in the State, working in collaboration with the State Biodiversity Board, State Pollution Control Board and Kerala State Climate Change Adaptation Mission (KSCCAM). The first Kerala State Action Plan on Climate Change was developed by the DoECC with contributions from relevant departments, agencies, and research institutions.

All programmes in the environmental sector, whether directly or indirectly, contribute to climate change management and are included in the Environment Budget. The Directorate of Environment and Climate Change directly oversees climate change mitigation and adaptation strategies and action plans through the State's Action Plan on Climate Change (SAPCC) with support from agencies like the Biodiversity Board and Pollution Control Board in managing the environment and conserving biodiversity.

- VIII. Forest and Wildlife:** Although the state boasts impressive forest coverage, some districts have relatively lower biodiversity, reduced forest area and coverage, inadequate forest protection, and fewer water bodies within forests. The sector's vulnerability is heightened by insufficient field-level human resources and facilities for forest conservation, along with the rising number of forest fires and human-wildlife conflicts. Enhancing forest biodiversity, managing invasive species, and addressing forest fires and human-wildlife conflicts are crucial to strengthening the sector's adaptive capacity.

Continuous natural disasters, particularly floods, have led to significant loss of vegetation, landslides, erosion of nutrient-rich topsoil, and subsequent degradation, which is impacting the water retention capacity of the forest

floor. Measures are needed for the eco-restoration of climatically and ecologically vulnerable regions, including forests and the associated hilly areas within agro-ecosystems. Forests should be regarded as a primary source of carbon sinks to mitigate greenhouse gas emissions from other sectors.

- IX. Irrigation and Flood Management:** Climate change is fundamentally a water crisis, with its impacts being increasingly felt through floods, rising sea levels, droughts, and other extreme weather events. Protecting and restoring freshwater ecosystems not only reduces GHG emissions but also provides a buffer against extreme climate events. One effective approach is the adoption of more efficient technologies that use less water. Improved irrigation management can help conserve water while boosting yields. Water management must adapt to the challenges of climate change, and it can also play a key role in mitigating it. Maintaining canals and improving irrigation systems further support water, energy, and carbon savings. Investing in water infrastructure—such as treatment plants, distribution networks, and storage facilities—can enhance water quality and availability, mitigating the impact of climate change.
- X. Industry and Infrastructure Sector:** The energy sector is crucial in shaping both the economy and the environment, serving as a major driver of economic growth while also being a significant source of environmental harm. The production of energy, especially from fossil fuels like coal, oil, and natural gas, leads to pollution, environmental degradation, and contributes to climate change. Nevertheless, the energy sector also holds the potential to help mitigate environmental damage. Transitioning to renewable energy sources such as wind, solar, and hydropower can substantially cut carbon emissions and reduce reliance on fossil fuels. These renewable sources are sustainable and have a much smaller environmental impact than traditional energy production methods. Additionally, the growing emphasis on energy efficiency

and the use of cleaner technologies, such as Carbon Capture and Storage (CCS), can further minimize the negative effects of energy generation.

Kerala is the first state in India to achieve 100% household electrification. The state's total installed power capacity is 2,966 MW, with hydel power contributing 71.8%, followed by thermal projects at 15.7%, solar at 10.13%, and wind at 2.37%. The vision for the power sector in Kerala is to provide economically affordable and environmentally clean energy to all. The state has set ambitious goals to reach 100% renewable energy by 2040 and net zero emissions by 2050. Kerala plans to realize this vision through a phased transition that emphasizes non-conventional and renewable energy sources, as well as the promotion of energy efficiency and energy management systems. The agencies responsible for implementing and regulating non-conventional and renewable energy sources in Kerala are (i) the Agency for New and Renewable Energy Research and Technology (ANERT) and (ii) the Energy Management Centre (EMC). ANERT serves as the primary agency for the promotion and execution of programmes and projects related to renewable and potentially renewable energy sources, rural technologies, and for encouraging carbon-neutral governance in government institutions through renewable energy and electric mobility. The various programmes under the different plan schemes by ANERT are designed to promote the use of renewable energy sources in the State and to foster an ecosystem for renewable energy development. The EMC is responsible for executing several schemes aimed at implementing energy-saving measures in government departments, establishments, industries, commercial buildings, and the domestic sector. These initiatives encourage the development of energy management technologies through research, training, demonstration programmes and awareness campaigns.

Science and technology institutions focus on addressing the environmental issues of the state through high quality research and development activities and propose strategies for environment management.

The State's Action Plan on Climate Change (SAPCC) outlines cautious emission reduction goals to prevent a rise in GHG emissions in the future due to growing energy demand. Achieving reductions in GHG emissions across the entire energy sector necessitates significant changes, including a major decrease in fossil fuel consumption, the adoption of low-emission energy sources, a shift to alternative energy carriers, and improvements in energy efficiency and conservation.

ENVIRONMENT BUDGET- 2025-26				
SUMMARY STATEMENT				
<i>Sl. No.</i>	<i>Sectors</i>	<i>No. of Schemes selected</i>	<i>Budget allotted for environment component (Rs. lakh)</i>	<i>Remarks</i>
1	Agriculture	8	26892	Schemes such as soil health, KAU, development of rice, coconut, fruits, flowers, vegetables, and spices, Organic Farming and Good Agricultural Practices are included.
2	Soil and water conservation	5	1182.25	Schemes such as Resource Survey at Panchayat and Block level, KSREC, Revival of Traditional Water bodies, Development of micro watersheds, Protection of catchment of Reservoirs of water supply schemes are included
3	Animal Husbandry	1	1800	Scheme such as strengthening of department farms and conservation is included.
4	Dairy Development	2	1085	Schemes such as Production and conservation of fodder in farmers' fields and Dairy Co-operatives and Commercial Dairy and Milkshed Development Programme are included.
5	Fisheries	10	16800	Schemes such as conservation of fisheries resources, Aquaculture Development, Sea safety and sea rescue operations, Reservoir Fisheries Development, Cleaning of Vembanad Lake, Suchitwa sagaram, Modernization/Up-gradation of Fishing Fleet, Punargeham, Basic Infrastructural facilities are included.
6	Cooperation	1	3000	The CITA scheme is implemented using the Integrated Farming System (IFS) method. Furthermore, activities such as value addition, micro-irrigation, formation and assistance to Farmer Service Centres etc. are included in the scheme. Initiative to develop Kerala as a High-Value Horticulture Hub is also adopted.
7	Ecology and environment	12	2532	All 12 schemes from the sector are included

<i>Sl. No.</i>	<i>Sectors</i>	<i>No. of Schemes selected</i>	<i>Budget allotted for environment component (Rs. lakh)</i>	<i>Remarks</i>
8	Forestry and wildlife	33	19634	Schemes of forest protection, biodiversity conservation, eco-development and eco-tourism, wildlife sanctuaries, national parks, forest fire protection works, Tiger reserves and project elephant, Human-animal conflict management, bio-sphere reserves, eco-restorations programmes are included.
9	Irrigation and flood control	9	8354	Schemes such as Flood Management Programmes in Kuttanad, Thottappally project, Coastal Zone management, restoring polluted stretches of rivers based NGT Order, Renovation of Tanks and Ponds under Haritha Keralam, Rejuvenation of Rivers and Streams and establishing flood early warning systems are included.
10	Industry and Infrastructure	14	9177.5	Schemes including Research & Development Institutions under Kerala State Council for Science, Technology and Environment, KSCSTE - Institute of Climate Change Studies Kottayam, Programmes on Renewable Energy, Petro Chemical Park, Kochi, Kochi-Palakkad Hi-Tech Industrial Corridor (Part of Kochi-Bengaluru Industrial corridor, Comprehensive maintenance of SDF at Kinfra Integrated Industrial and defense park, Ottapalam, Establishment of an Industrial Park/ Food Park at Kollam, KINFRA Integrated Textile Park, Palakkad, Infrastructure Development Works, Perumbavoor, Infrastructure Development Works Ramanattukara, Kinfra Apparel Park, TVPM, Upgradation of Infrastructure KINFRA park, Kunnamthanam, energy conservation fund (The activities under the scheme supports Net Zero initiatives of the State), green energy hub (The scheme supports various activities to achieve Net Zero target by 2050 and 100 per cent Renewable Energy State by 2040) are included.
Total		95	90456.75	Outlay of Rs.904.57 crore in 95 Schemes under 10 Sectors



CHAPTER 4

INSTITUTIONAL FRAMEWORK FOR ENVIRONMENTAL SUSTAINABILITY

4.1 KERALA STATE DISASTER MANAGEMENT AUTHORITY (KSDMA)

Kerala State Disaster Management Authority is the leading body in Kerala who integrates proactive planning, technological innovation, other comprehensive strategies to mitigate risks and enhance resilience.

Major Projects & Policies

➤ National Cyclone Risk Mitigation Project (NCRMP)

The National Cyclone Risk Mitigation Project (NCRMP) is a centrally sponsored initiative, supported by the World Bank and implemented by the NDMA and State Disaster Management Authorities. The project has four components: Early

Warning Dissemination System (EWDS), Cyclone Risk Mitigation Infrastructure (CRMI), Capacity Building for Disaster Risk Management and Project Management & Monitoring. In Kerala, 14 multipurpose cyclone shelters have been established in coastal districts under this project to enhance disaster preparedness and resilience.

➤ **Urban Flood Risk Mitigation**

The Urban Flood Risk Management Programme (UFRMP) in Trivandrum aims to reduce urban flooding through structural and non-structural measures. Key projects include developing drainage systems (Parvathy Puthanaar, Thekenekkara canal, Amayizhanjan canal, Thettiyaar thodu, Akkulam Veli pozhi, Killi & Karamana rivers) and removing encroachments to enhance flow capacity for ensuring Trivandrum's long-term flood resilience while safeguarding its infrastructure and communities.

➤ **KaWaCHaM (Kerala Warnings Crisis and Hazards Management System)**

A comprehensive disaster warning system has been developed by KSDMA with support from NDMA to provide timely alerts related to extreme weather events, such as heavy rain, strong winds, heat and sea surges, to the public through the "KaWaCHaM" network.

Community-Based Disaster Management

➤ **Apda Mitra:** Kerala is fostering volunteerism in Disaster Risk Reduction (DRR). Kerala has 200 trained Apda Mitra volunteers per district for enhancing local disaster preparedness and response.

➤ **Living Lab–Kanichar:** After multiple landslides in Kanichar Panchayat in 2022, the KSDMA proposed the "Living Lab" project to enhance resilience. A "Living Lab" is a collaborative platform connecting stakeholders to develop,

validate, and implement solutions for disaster risk reduction. A resilience centre will be established in the panchayat to support these efforts and strengthen long-term disaster preparedness.

- **Prapyam:** Prapyam is a project by the Kerala State Disaster Management Authority that provides sign language training to rescue workers. NISH has collaborated with KSDMA to develop sign languages resources. NISH created an eight -module MOOC Course for the Apda Mithra volunteers.

4.2 KERALA INSTITUTE OF LOCAL ADMINISTRATION (KILA)

KILA plays a vital role in addressing environmental challenges faced by Kerala to strengthening decentralized governance and capacity-building for local self-governments. Major ventures undertaken by KILA are as follows:

- **Waste Management:** KILA has been actively involved in waste management in collaboration with various organizations like NIUA, UNICEF, and WASH Institute. KILA is the lead training agency for the Kerala State Solid Waste Management Project and Malinya Muktham Navakeralam campaign to address environmental challenges and foster grassroots resilience.
- **Climate Action and Disaster Resilience:** Kerala faces rising climate vulnerabilities, including floods, landslides and coastal erosion. To enhance localized climate action, the state mandated Local Action Plans on Climate Change (LAPCCs) for LSGs to address local impacts, reduce carbon footprints and align with SDGs. Also, the role of LSGs are crucial in disaster risk management. KILA developed the DCAT tool to assess LSGs interventions in climate action& disaster risk mitigation. LSGs in Pamba basin districts achieved commendable heights in the preparation of LAPCC and remarkable score in the field of DCAT with the technical support of KILA.
- **Panchayat Climate Parliament:** The Panchayat Climate Parliament, a joint initiative by KILA and the Bring Back Green Foundation (BBGF), engages youth

volunteers in climate action through community mobilization and grassroots discussions. So far, 100+ workshops across 23 LSGs have mobilized 4,000+ youth volunteers.

- **Children's Climate Risk Assessment & Vulnerability Index:** KILA, in collaboration with UNICEF, developed the Children's Climate Risk Index (CCRI) and Multidimensional Vulnerability Index (MVI) to assess environmental hazards and socio-economic vulnerabilities affecting children in Kerala.
- **Gender-Responsive Environmental Governance:** The KILA Gender School empowers Local Self Governments (LSGs) to achieve gender equality and environmental sustainability through capacity development, policy integration and gender-responsive budgeting. It supports gender mainstreaming in governance, disaster management, and environmental planning.
- **Sustainable Urban Policy:** The Kerala Urban Policy Commission (KUPC) focuses on environmental sustainability, emphasizing climate-resilient spatial planning and sustainable urban development. The report highlights blue-green infrastructure, integrated watershed management and decarbonization strategies.

4.3 AGENCY FOR NEW AND RENEWABLE ENERGY RESEARCH AND TECHNOLOGY (ANERT)

ANERT is advancing its role as a renewable energy centre of excellence by focusing on emerging technologies, state-specific applications and quality assurance facilities.

Programmes on Renewable Energy

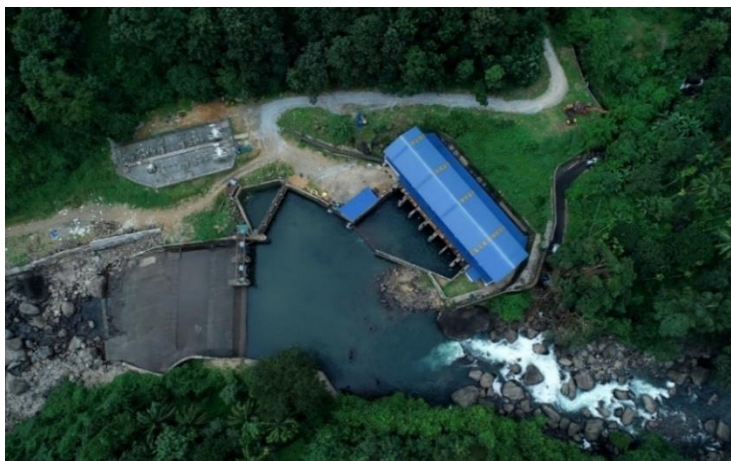
- **Solar power plants in Public buildings:** ANERT proposes 1 MW solar power installations in public institutions under the RESCO model, to promote Carbon Neutral Government initiatives in public institutions where institutions pay only energy charges.

- **eMobility:** *EV Charging stations and related new applications like vehicle to grid:* Promotes installing electric vehicle charging stations, prioritizing solar-supported systems to reduce fossil fuel electricity use.
- **Solar electrification of households of the disadvantaged:** ANERT proposes solar power installations in remote hamlets with no grid or frequent grid failures to improve living standards.
- **Solarization of agricultural pumping systems:** The Ministry of New and Renewable Energy (MNRE) has approved the installation of over 45,000 solar pumping systems under the PM-KUSUM scheme. Solarizing agricultural pumps can alleviate the burden of providing free power to farmers.
- **Technology Hub at Kuzhalmannam:** The Kuzhalmannam Technology Hub in Palakkad is under development, featuring an industrial facilitation center with laboratories to support startups, equipment testing, certification, and product development. A centre of excellence in e-Mobility and green hydrogen is also planned in collaboration with other institutions.
- **Green Energy Hub:** Kerala aims to achieve carbon neutrality and net-zero emissions by developing green hydrogen technologies. ANERT is spearheading initiatives such as the Hydrogen Valley Innovation Cluster (HVIC) to promote energy transition and decarbonization. The Kochi Green Hydrogen Hub is being developed in collaboration with German Development Agency (GIZ) to establish a comprehensive hydrogen value chain. A green hydrogen mobility project has been approved, involving hydrogen-powered trucks and refueling stations.

4.4 ENERGY MANAGEMENT CENTRE (EMC)

The **Energy Management Centre** is a state government agency promoting energy efficiency, renewable energy, and sustainable development through policy implementation, research, and capacity-building initiatives.

The Kerala Government is advancing environmentally friendly energy production by implementing small hydropower projects. The Energy Management Centre (EMC) has prepared a draft policy to enhance project implementation frameworks.



Some of the notable initiatives undertaken by EMC are as follows.

Energy Efficiency in Public Institutions

- **Angan Jyothi:** The project aims to enhance energy efficiency in Anganwadis. In the initial phase, energy-efficient electric cooking equipment and utensils were distributed to 424 Anganwadis included carbon-free, fast-cooking electrical induction cookers, idli cookers, pressure cookers, milk cookers, induction-compatible utensils and warming boxes, all designed to improve energy efficiency. The project is in expansion stage all over in Kerala concentrating local governments and Anganwadis.
- **Urjayaan:** The project aims to enhance energy efficiency in government buildings. Many institutions including schools & health centres received energy-efficient upgrades, replacing inefficient lights and fans with LED lights and BEE star-rated fans, leading to significant energy savings.
- **Chaithanyam:** The project aims to enhance energy efficiency in government health centres.

Public Awareness

- **Go Electric Campaign:** The campaign, aimed to promote electric vehicles (EVs) and raise awareness about EV charging infrastructure. These initiatives

have significantly contributed to the adoption of EVs in Kerala, with approximately 1.5 lakh EVs registered as of April 2024, placing the state second nationally in EV registrations.

- **STREE Project:** The campaign features the STREE (Sustainable Transport for Rural Entrepreneurs through Electric Cycles) initiative, empowering women entrepreneurs through electric bicycles.
- **Oorja Kiran–Summer Campaign:** The Oorja Kiran Summer Campaign, jointly organized by the Energy Management Centre (EMC) and Kerala State Electricity Board Ltd. (KSEBL), aims to raise public awareness about efficient electricity usage during peak summer months.
- **Energy Club Kerala:** Implemented in 6,800 schools, this program involves over one lakh students in energy conservation leadership roles. Through competitions, projects, and the Kerala State Students Energy Congress, EMC fosters awareness and innovation among young minds in collaboration with the Directorate of General Education.
- **LiFE Campaign:** Under the Ministry of Environment and NITI Aayog’s initiative, EMC hosted 431 workshops promoting sustainable lifestyles, energy efficiency, and conservation practices. These sessions, spread across Kerala, encouraged public participation in combating climate change.
- **Set@26°C Campaign:** This social media initiative encouraged the public to set air conditioners to 26°C, emphasizing energy-efficient cooling practices. This can significantly reduce electricity consumption, with goal of minimizing environmental impact.



4.5 KERALA SOLID WASTE MANAGEMENT PROJECT (KSWMP)

The Kerala Solid Waste Management Project (KSWMP), supported by the World Bank (WB) and Asian Infrastructure Investment Bank (AIIB), aims to strengthen Solid Waste Management (SWM) systems in the state. Key initiatives for the current year include further development and implementation of these systems across the state to improve overall waste management and sustainability.

Scientific Waste Processing

- **Bio Mining and Bio remediation of dumpsites:** The Government of Kerala has identified 20 sites under the KSWMP for legacy dumpsite bio-mining and bio-remediation. These sites are divided into two clusters: 12 sites in Cluster-1 and 8 in Cluster-2. The total waste accumulated is 4,50,000 MT, and 67 acres of land will be reclaimed. Bio-mining is ongoing at seven sites, including Palakkad, Wadakkanchery, Vadakara, Vadavathur, Muvattupuzha, Malappuram, and Kalamassery.
- **Refuse Derived Fuel (RDF) Plants:** RDF Fuel is produced from the combustible fraction of solid waste, such as plastic, wood, pulp, and organic waste, through processes like drying, shredding, and compacting. RDF can be used for co-processing in cement kilns and other industries, strengthening forward linkages in the state.
- **Compressed Bio gas/Bio -CNG plants:** Under the Kerala Solid Waste Management Project (KSWMP), efforts are being made to manage biodegradable waste by establishing Bio-CNG plants across the state. Bio-CNG is a green energy source for the transportation sector and offers a sustainable waste management solution.

Capacity Building & Waste Management Drives

As part of the 'Malinya Muktham Janakeeya Campaign', the KSWMP conducted several capacity-building and training activities to enhance the skills of stakeholders. The



KSWMP released a coffee table book titled "Shuchithvathinte Kunju Heroes (Young Heroes of Cleanliness)" during the Malinya Muktha Janakeeya campaign highlighting the innovative efforts, hard work, and dedication of students involved in waste management initiatives. It aims to inspire others to join the movement for a cleaner and greener Kerala. Some of the notable **Waste Management Drives undertaken by Kerala** are Clean Onam' 'Maarunna Keralam', 'Suchitwa Chattangal' and 'Clean Green Diwali'.

4.6 KERALA STATE LAND USE BOARD (KSLUB)

The Kerala State Land Use Board (KSLUB) plays a key role in natural resource management, promoting climate resilience, sustainable land use, and water conservation. Key initiatives focus on carbon neutrality, agricultural sustainability, watershed management, and groundwater conservation.

Sustainable Land Use Initiatives

- **Carbon Neutral Kattakada:** The Carbon Neutral Kattakkada initiative, aims to make Kattakkada India's first carbon-neutral assembly constituency. Key objectives include promoting green technologies, reducing fossil fuel dependency, enhancing forest and soil management, protecting natural resources, and fostering community preparedness. Stakeholders, including

government bodies, NGOs, and citizens, actively contribute to executing mitigation strategies and sustainable lifestyle changes.

- **Jaivasamridhi Project:** The Kattakada Jaiva Samrudhi Project, aims to make Kattakada a fallow-free constituency. It encourages landowners to either cultivate their land with agricultural department support or lease it for farming. The initiative also promotes value-added agricultural products for export.
- **Samagra Kottarakkara Project:** The Samagra Kottarakkara Project aims for sustainable growth in the Kottarakkara constituency. Its key objectives include water conservation, agriculture expansion, waste management, livelihood improvement, and environmental and tourism development. Goals include creating a sustainable ecosystem, rejuvenating *Pulamonthodu* (a primary water source), and enhancing agricultural productivity.

Water Conservation Strategies

- **Jalasamrudhi:** This gained international recognition at the 4th World Reconstruction Conference (2019) in Geneva, where Dutch experts highlighted its integrated watershed management approach. The project contributed to shifting Nemom block's groundwater status from semi-critical to safe and has received several accolades, including the Chief Minister's Award for Innovation (2017), SKOCH Silver Award, and the 2nd National Water Award (Best Awareness Category).
- **Sajalam 2024-25:** This is the water resource management initiative of KSLUB for water conservation, engineering methods to increase groundwater levels, and recommendations for rainwater harvesting. These measures aim to enhance drought and flood resilience.
- **Vattatha Uravakkay Jalasamrudhi:** The *Vattatha Uravakkay Jalasamrudhi* Project aims to make Kattakada water-sufficient within five years. It integrates various government water conservation schemes with public participation.

4.7 INTEGRATED RURAL TECHNOLOGY CENTRE (IRTC)

IRTC was established with the vision of leveraging scientific and technological advancements to enhance the social and economic well-being of rural communities. Development of appropriate technologies and promotion of rural technology was recognized as the vehicle for this purpose.

Major Objectives

- To adapt technologies known elsewhere into forms which will be readily acceptable to the society.
- To diffuse innovative practices and technologies and to develop a scientific culture among the masses.
- To work out local level development plans with a focus on the vulnerable population.
- To conduct academic courses and programmes like lectures, seminars etc. in the field relating to Science, Technology, Rural Development and Rural Management.
- To undertake studies and consultancy services in the design, development and experimentation with respect to problems relating to agriculture and industry.
- To work in close collaboration with the Kerala Sasthra Sahithya Parishad with a view of making the results of the research and study of the Centre available to Parishad and other similar organizations.

Significant initiatives

- **Meenvallo Small Hydel Project:** IRTC served as the technical consultant for the Palakkad District Small Hydro-electric Power Company, overseeing the design, construction and commissioning of the 3-megawatt Meenvallo Small Hydro-electric Project. They are currently consulting another 1 Megawatt Palakkuzhy SHP project.

- **Sustainable Watershed Development Project (SDP):** Funded by NABARD, this project was implemented in 22 watersheds in Palakkad district, with IRTC acting as the Technical Support Agency. Activities include livelihood enhancement, capacity building, organic vegetable cultivation, and watershed development. Plans are underway to establish weather stations in these watersheds to monitor local climatic parameters.
- **DBT Foldscope Project:** Supported by the Department of Biotechnology, this project focused on assessing microbial counts and water quality profiling in Pudukkottai Panchayat, Palakkad.
- **NABARD Holistic Watershed Development Project (NHWDP):** IRTC act as the Project Facilitating Agency. Achievements included improvements in crop production, groundwater levels, soil nutrient content, and the livelihood of landless individuals and women. Additionally, a Paddy Farmer's Producer Company named 'Susthira' was formed.
- **Biotech-Krishi Innovation Science Application Network (Biotech-KISAN):** Under the (Biotech-KISAN) program, the Department of Biotechnology has set up hubs across India to support farmers with technology-driven solutions. IRTC was selected as a biotech hub in Kerala and is currently working on a crop residue composting project to reduce carbon emissions and nutrient loss from residue burning. So far, 125 homestead composting units have been established using an accelerator biodigester and inoculum, cutting composting time from 60–90 days to 35–40 days.

CONCLUSION AND WAY FORWARD

Kerala's journey towards environmental sustainability has seen both notable advancements and persistent obstacles. The state has made considerable strides in promoting renewable energy, waste management, water conservation, and ecosystem protection. However, challenges related to resource depletion and climate change vulnerability remain. Moving forward, a more robust and integrated approach is required, one that prioritizes effective implementation, strict enforcement of environmental regulations, active public participation, and an unwavering commitment to long-term environmental well-being.

By adopting a holistic and inclusive strategy, Kerala can effectively balance environmental preservation with sustainable growth, ensuring a flourishing ecosystem and a higher standard of living for its citizens. The State must continue leveraging its strong community participation, decentralized governance, and partnerships with national and international organizations. Some significant focus areas are summarised as follows:

- **Strengthening Climate Resilience:** Implement climate-resilient infrastructure, early warning systems, and disaster management strategies to mitigate the impacts of climate change.
- **Sustainable Urban Planning:** Promote green urban planning, integrated transport systems, and eco-friendly construction methods to minimize environmental impacts.

- **Reforestation and Biodiversity Conservation:** Expand afforestation programmes, protect wildlife corridors, and involve local communities in biodiversity conservation initiatives.
- **Efficient Waste Management:** Introduce decentralized waste management systems, promote recycling and composting, and enforce stricter penalties for littering and illegal dumping.
- **Wetland and Mangrove Restoration:** Prioritize the conservation and restoration of wetlands and mangroves through community-driven and scientifically backed programmes.
- **Sustainable Agriculture Practices:** Encourage organic farming, crop diversification, and water-efficient irrigation techniques to reduce the ecological footprint of agriculture.
- **Renewable Energy Expansion:** Accelerate the adoption of renewable energy, such as solar and wind power, to reduce dependency on fossil fuels and achieve energy security.
- **Community Participation and Awareness:** Strengthen public participation in conservation projects through education campaigns, eco-tourism, and incentivized conservation schemes.
- **Promote Research and Innovation:** Invest in research to develop innovative solutions for conservation challenges, such as climate-adaptive crops, flood-resistant infrastructure, and sustainable technologies.

ENVIRONMENT BUDGET STATEMENTS

ENVIRONMENT BUDGET- SCHEME WISE DETAILS - 2025-26							
1. AGRICULTURE (Rs in lakh)							
Sl. No.	Scheme Code	Name of Scheme/ Sector/ Sub-Sector	Head of Account	Budget Outlay	Outlay proposed for Environment	Details of the Environment components/ Activities	Justifications for the selection of Scheme
1	AGR 001	Kerala Agricultural University	2415-01-188-99	7600.00	4300.00	Research	Research programmes giving thrust to crop improvement through new breeding techniques for development of climate resilient , pest and disease resistant, biotic and abiotic stress resistant varieties, development of bioformulations and microbes for plant protection, Development of integrated farming system models.
2	AGR114	Rice development	2401-00-102-90	9360.00	8000.00	Assistance for group farming of rice with integrated crop management and Royalty to paddy land owners.	Group farming of rice with integrated crop management aims at increased production and productivity in rice. Royalty for conservation of paddy lands as such.
3	AGR114	Vegetable development	2401-00-119-85	6045.00	1550.00	Support to homestead vegetable cultivation, project based intensive vegetable cultivation in institutions	Promoting vegetable production and productivity in the state in a safe-to-eat manner and attaining self-sufficiency through the promotion of homestead vegetable cultivation and project-based intensive vegetable cultivation in institutions

Sl. No.	Scheme Code	Name of Scheme/ Sector/ Sub-Sector	Head of Account	Budget Outlay	Outlay proposed for Environment	Details of the Environment components/ Activities	Justifications for the selection of Scheme
4	AGR 005	Coconut development	2401-00-103-87	7300.00	7100.00	Comprehensive coconut rejuvenation and planting programme and coconut seedling distribution as part of coconut development council and subsidy assistance for introduction of microirrigation/fertigation in coconut gardens	Integrated management & judicious use of resources through popularisation of improved varieties and improving efficiency of plantation. It also includes promotion of microirrigation techniques in coconut gardens that aim at water conservation.
5	AGR 124	Development of Spices	2401-00-108-59	760.00	760.00	Area expansion of spices, establishment of decentralized nurseries, support for adoption of improved management practices and collaborative programme with ICAR institutions and KAU for field multiplication of newly developed spices varieties.	Area expansion of spices, including intercropping and promotion of improved management practices, thus improving crop diversity within the farm and supporting judicious use of resources.
6	AGR 193	Development of fruits, flowers & medicinal plants	2401-00-119-79	1892.00	1467.00	Distribution of fruit plants and establishment of fruit clusters	Area expansion of fruit crops that contribute to crop diversification in the farm.
7	AGR 127	Soil Health Management & Productivity Improvement	2401-00-800-28	3210.00	3210.00	Support of integrated nutrient management in paddy and other crops including soil ameliorants, secondary and micro nutrients and soil test campaigns	Improving soil health and increasing productivity through soil test-based nutrient applications and integrated nutrient management practices. Balanced nutrient application and site-specific management practices. Low external input usage.

Sl. No.	Scheme Code	Name of Scheme/ Sector/ Sub-Sector	Head of Account	Budget Outlay	Outlay proposed for Environment	Details of the Environment components/ Activities	Justifications for the selection of Scheme
8	AGR051	Organic Farming and Good Agricultural Practices	2401-00-105-85	600.00	505.00	Promotion of Organic farming and GAP cultivation in crops including organic certification, branding, packing and labelling, Organic farming of fruits and vegetables through SHGs, and certification through VFPCCK, and Organic manure production programme- compost making units and additional support to biogas plants	Promote safe-to-eat food production through organic practices and good agricultural practices. Low external input usage.
Total				36767.00	26892.00		

ENVIRONMENT BUDGET- SCHEME WISE DETAILS - 2025-26

2. SOIL AND WATER CONSERVATION (Rs. In lakh)

Sl. No.	Scheme Code	Name of Scheme/ Sector/ Sub-Sector	Head of Account	Budget Outlay	Outlay proposed for Environment	Details of the Environment components/ Activities	Justifications for the selection of Scheme
1	SWC 004	Resource Survey at Panchayat and Block level	2402-00-001-96	184.00	167.25	The preparation of NRM Plans, Land Use Plans, and crop suitability assessments at the LSGI level	The preparation of NRM Plans, Land Use Plans, and crop suitability assessments at the LSGI level promotes environmental sustainability by: Ensuring efficient land use to prevent degradation and support sustainable agriculture.Fostering soil and water conservation to protect natural resources.Promoting climate-resilient agriculture by selecting suitable crops, reducing the need for harmful inputs.These actions help protect ecosystems, improve resource management, and support long-term environmental health.
2	SWC 003	Kerala State Remote Sensing and Environment Centre	2402-00-188-99	1330.00	357.00	1. Satellite data based report generation of plots related to wetland and paddy conservation Act"- 2. Decision support system for spatial planning and empowering Local self-governments in spatial governance"	1. Satellite data based report generation of plots related to wetland and paddy conservation Act"-to assess the land use status as on August 2008 especially whether paddy and wetland converted to a plantation crop. 2.Decision support system for spatial planning and empowering Local self-governments in spatial governance" helps to develop comprehensive spatial data base of natural resources which helps conservation of ecology and environment.

Sl. No.	Scheme Code	Name of Scheme/ Sector/ Sub-Sector	Head of Account	Budget Outlay	Outlay proposed for Environment	Details of the Environment components/ Activities	Justifications for the selection of Scheme
3	SWC 063	Revival of Traditional Waterbodies	4402-00-102-99	200.00	200.00	The scheme focuses on the revival and development of traditional water bodies	The scheme focuses on the revival and development of traditional water bodies, such as thalakulams, springs, and drainage sources, to enhance groundwater levels and address drought impacts on agriculture. By implementing scientific water conservation methods, it aims to improve water harvesting, particularly for agricultural use, and treat tributaries and drainage systems of major rivers. The scheme plays a vital role in sustaining water resources, improving groundwater recharge, and supporting environmental resilience against droughts.
4	SWC 065	Development of microwatersheds	4402-00-102-98	393.00	393.00	The initiative aims to combat soil erosion and conserve soil moisture, particularly in post-flood and post-landslide areas	The initiative aims to combat soil erosion and conserve soil moisture, particularly in post-flood and post-landslide areas, by developing micro watersheds. This will promote climate-resilient agriculture and enhance environmental sustainability, improve soil health, reduce erosion, and build resilience to climate change, benefiting both the environment and agriculture.
5	SWC 014	Protection of catchment of Reservoirs of water supply schemes	2402-00-102-88	65.00	65.00	The scheme focuses on addressing siltation in reservoirs	The scheme focuses on addressing siltation in reservoirs, which affects the water supply capacity. It aims to improve the reservoirs' ability to hold water by implementing both structural and vegetative conservation measures. These measures include planting grasses, wild vetiver, and other species, as well as using geotextiles to reduce soil erosion. The scheme plays a crucial role in preserving water resources, improving water quality, and promoting environmental sustainability.
Total				2172.00	1182.25		

ENVIRONMENT BUDGET- SCHEME WISE DETAILS - 2025-26

3. ANIMAL HUSBANDRY (Rs. In Lakh)

Sl. No.	Scheme Code	Name of Scheme/ Sector/ Sub-Sector	Head of Account	Budget Outlay	Outlay proposed for Environment	Details of the Environment components/ Activities	Justifications for the selection of Scheme
1	AHY 106	Strengthening of Department Farms and Conservation	2403-00-102-81, 4403-00-102-96	1800.00	1800.00	Promoting sustainable farming practices and efficient resource use.	The Animal Husbandry department controls farms for cattle, goats, pigs, rabbits, poultry, and ducks, aiming to modernize and strengthen them as production, breeding, and demonstration centers. The scheme includes infrastructure development, supply of inputs, mechanization support, and the establishment of new farms, benefiting both farmers and the environment by promoting sustainable farming practices and efficient resource use. This helps the environment by optimizing farm operations, reducing waste, and promoting sustainable farming practices through improved training and technology.
Total				1800.00	1800.00		

ENVIRONMENT BUDGET- SCHEME WISE DETAILS - 2025-26

4. DAIRY DEVELOPMENT (Rs. In Lakh)

Sl. No.	Scheme Code	Name of Scheme/ Sector/ Sub-Sector	Head of Account	Budget Outlay	Outlay proposed for Environment	Details of the Environment components/ Activities	Justifications for the selection of Scheme
1	DDT 035	Production and conservation of fodder in farmers fields and Dairy Co-operatives	2404-00-102-77	750.00	750.00	The scheme aims to address the scarcity of fodder in the dairy sector, which increases production costs, by promoting sustainable fodder cultivation practices.	The scheme addresses fodder scarcity in the dairy sector by promoting sustainable cultivation practices, offering several environmental benefits. It encourages the use of barren land for perennial fodder crops, reducing pressure on forests, and introduces eco-friendly feeding techniques and agroforestry, which support biodiversity and soil health. Additionally, it focuses on drought-resistant crops and efficient irrigation to conserve water, while promoting fodder trees and live fencing for carbon capture and soil erosion prevention. Ultimately, the scheme fosters both environmental sustainability and the economic viability of dairy farming.
2	DDT012	Commercial Dairy and Milkshed Development Programme	2404-00- 109 - 93	3480.00	150.00	Construction of elevated cattleshed	Elevated and community cattle shed: It will ensure continuity in dairy operations during annual floods, preventing livestock casualties and providing a secure environment for the surviving animals.
		Commercial Dairy and Milkshed Development Programme	4404-00-109-96(01),(02),(03), (04)	500.00	185.00	Construction of cattleshed	Assistance for construction of scientific cattle shed :focusing on agricultural practices for disease prevention and ensuring food safety. Scientific designed cattle sheds helps to keep the animal in optimum THI (temperature-Humidity Index) thus reducing the environmental heat stress and maximize the productivity and thereby ensuring profitability to farmers
Total				4730.00	1085.00		

ENVIRONMENT BUDGET- SCHEME WISE DETAILS - 2025-26							
5. FISHERIES (Rs. In Lakh)							
Sl. No.	Scheme Code	Name of Scheme/ Sector/ Sub-Sector	Head of Account	Budget Outlay	Outlay proposed for Environment	Details of the Environment components/ Activities	Justifications for the selection of Scheme
1	FSH 128	Conservation and Management of fish resources(Marine)	2405-00-103-91	900.00	900.00	To sustain marine fisheries for nutritional food security, economic growth and ensuring the sole livelihood of fishermen, effective surveillance and management principles in natural marine fisheries have to be effectively implemented. The components include implementation of KMFR Act, online registration and licensing of fishing vessels, co management of marine fishery resources & functioning of Fisheries Management Councils (FMCs) etc	To sustain marine fisheries for nutritional food security and economic growth
2	FSH 128	Conservation and Management of fish resources(Inland)	2405-00-101-62	400.00	400.00	To increase the fish production by protecting the natural stock through Fisheries Management Councils (FMCs), by conducting patrolling to prevent illegal fishing, by enhancing the fish stock through ranching, by the establishment of a protected area, restoration of damaged aquatic ecosystems and mangrove afforestation.	To increase the fish production. Establishment of a protected area, restoration of damaged aquatic ecosystems and mangrove afforestation.
3	FSH 180	Aquaculture Development	2405-00-101-54	6750.00	6750.00	Promotion of different aquaculture systems like cages, bioflocs, seaweed and mussel-oyster farming, aquaponics, riverine and open water systems.It also proposes utilizing the potential resources available in the State for shrimp farming	To promote different aquaculture systems.

Sl. No.	Scheme Code	Name of Scheme/ Sector/ Sub-Sector	Head of Account	Budget Outlay	Outlay proposed for Environment	Details of the Environment components/ Activities	Justifications for the selection of Scheme
4	FSH 195	Sea safety and sea rescue operations	2405-00-103-76	250.00	250.00	To enhance sea safety and sea rescue operations. As a part of sea safety measure.Tracking fishing boats by utilizing low-cost advanced airborne sensors (AAS) to aid rescue missions during extreme events and ensure the availability of safety equipment.	To enhance sea safety and sea rescue operations and reduce marine pollution.
5	FSH 209	Reservoir Fisheries Development	2405-00-101-51	100.00	100.00	To enhance inland fish production through reservoir fisheries.	To enhance inland fish stock .
6	FSH 213	Cleaning of Vembanad Lake	2405-00-101-50	100.00	100.00	The scheme envisages protecting and conserving the natural ecosystem of brackish water lakes of Kerala	To protect and conserve the natural ecosystem of brackish water lakes of Kerala
7	FSH 239	Modernization/Upgradation of Fishing Fleet (Traditional/Mechanised)	2405-00-110-94	150.00	150.00	It is proposed to replace the traditional fishing craft especially plywood craft with modern FRP vessels for more strength, safety efficiency and facilities	To replace the traditional fishing craft to enhance fuel efficiency and reduce marine pollution.
8	FSH 211	Removal of Plastic from water bodies- "Suchitwa Sagaram"	2405-00-103-69	150.00	150.00	The scheme is proposed to reduce plastic waste accumulation in the sea and conservation of aquatic life from the plastic menace	To reduce plastic waste accumulation in the sea and to conserve aquatic life from the plastic menace.
9	SAD 034	Basic Infrastructural facilities and Human development of Fisher folk(Capital Head)	4405-00-103-93	2000.00	2000.00	Envisages a sustainable coastal village including provision for the improvement of basic amenities such as safe drinking water, sanitation, provision for health facilities, houses, setting up of fish marketing centres, construction of fisheries schools	Envisages a sustainable coastal village.

Sl. No.	Scheme Code	Name of Scheme/ Sector/ Sub-Sector	Head of Account	Budget Outlay	Outlay proposed for Environment	Details of the Environment components/ Activities	Justifications for the selection of Scheme
10	SAD 034	Basic Infrastructural facilities and Human development of Fisher folk(Punargeham)	4405-00-103-89	6000.00	6000.00	It proposes the rehabilitation of all families residing within 50m from HTL under the constant threat of sea erosion to safer locations. The evacuated land within 50 metres from the sea coast can be used for the formation of bio-shield	The rehabilitation of all families residing within 50m from HTL. For the formation of bio-shield.
Total				16800.00	16800.00		

ENVIRONMENT BUDGET- SCHEME WISE DETAILS - 2025-26							
6. CO-OPERATION (Rs. In Lakh)							
Sl. No.	Scheme Code	Name of Scheme/ Sector/ Sub-Sector	Head of Account	Budget Outlay	Outlay proposed for Environment	Details of the Environment components/ Activities	Justifications for the selection of Scheme
1	COP 086	Co-operative's Initiative in Technology Driven Agriculture (CITA)	2425-00-107-59	1440.00	1440.00	The CITA scheme is implemented using the Integrated Farming System (IFS) method. Furthermore, activities such as value addition, micro-irrigation, formation and assistance to Farmer Service Centres etc. are included in the scheme. Initiative to develop Kerala as a High-Value Horticulture Hub is also adopted.	Contributes to environmental sustainability by promoting eco-friendly agricultural practices such as organic farming, efficient water usage through micro-irrigation, and reduced dependence on harmful chemicals. The adoption of Integrated Farming Systems (IFS) encourages biodiversity and soil health, while value addition and processing of agricultural products help reduce post-harvest wastage. By supporting the establishment of Farmers Service Centres and Grameen markets, the scheme reduces transportation-related carbon footprints and facilitates local, sustainable food systems. Furthermore, the initiative to develop Kerala as a High-Value Horticulture Hub supports the cultivation suited to the region’s agro-climatic conditions.
			4425-00-107-79	1260.00	1260.00		
			6425-00-107-68	300.00	300.00		
Total				3000.00	3000.00		

ENVIRONMENT BUDGET- SCHEME WISE DETAILS - 2025-26

7. ECOLOGY AND ENVIRONMENT (Rs. In lakh)

Sl. No.	Scheme Code	Name of Scheme/ Sector/ Sub-Sector	Head of Account	Budget Outlay	Outlay proposed for Environment	Details of the Environment components/ Activities	Justifications for the selection of Scheme
1	EAE 001	Strengthening of the Department of Environment	3435-03-102-89	50.00	50.00	Infrastructure development, Capacity building, Consultancy reports, procurement of instruments/software/geo-spatial data for environment monitoring.	Administrative expenditure related to environmental activities
2	EAE 002	Environmental awareness and Education	3435-03-003-98	120.00	120.00	Bhoomithra Sena clubs, Paristhithikam, observance of environmentally significant days, Paristhithimithram awards, other sensitization programmes	Environment awareness and incentives programmes included in this scheme
3	EAE 003	Environmental Research and Development	3435-03-103-99	200.00	200.00	Paristhithiposhini and Vidhyaposhini fellowships, recurring funds for ongoing projects, geo-spatial laboratory facility, new projects	Environment research and development activities included in this scheme
4	EAE 004	Biodiversity Conservation	3435-03-101-99	1050.00	1050.00	Biodiversity conservation, Access and benefit sharing, research and knowledge hub, strengthening of the biodiversity Board	Bio diversity aspect related to environment
5	EAE 009	Environment Impact Assessment	3435-04-104-99	160.00	160.00	Capacity building, Statutory functioning and operational costs, functioning of district level machinery	The scheme outlay is used for conducting studies and EIA on ecologically sensitive areas
6	EAE 016	Climate change	3435-04-104-98	192.00	192.00	State Climate Change Cell, New and recurring projects, Ujjwal Post-doctoral fellowship	Research activities related to climate change included in the scheme
7	EAE 022	Kerala State Pollution Control Board	3435-04-188-99	300.00	300.00	Infrastructure development, procurement of instruments for environment monitoring, digitization, awareness creation, surveillance programmes	All the activities related to environmental aspects

Sl. No.	Scheme Code	Name of Scheme/ Sector/ Sub-Sector	Head of Account	Budget Outlay	Outlay proposed for Environment	Details of the Environment components/ Activities	Justifications for the selection of Scheme
8	EAE031	State Wetland Authority, Kerala (SWAK)	3435-03-101-89	150.00	150.00	Administrative functioning of SWAK, Implementation of Wetland rules (Conservation and Management Rules), 2017 – Notification of wetlands and allied activities, and wetland boundary demarcation, Wetland education, data augmentation and dissemination campaigns, preparation of integrated management action plans of wetlands as per the Wetland (Conservation and Management) rules	Wetland specific activities within the State
9	EAE033	Kerala Coastal Zone Management Authority(KCZMA)	3435-03-102-87	120.00	120.00	Operational and administrative expenses, expenses of courtcases, transportation expenses, website updation, awareness creation.	The Kerala Coastal Zone Management Authority (KCZMA) ensures proper implementation of CRZ notification in the entire coastal stretches of Kerala.
10	EAE035	State Wetland Authority, Kerala (SWAK) (40% SS and 60 % CSS)	3435-03-101-87 (2)	60.00	60.00	Preparation and implementation of projects based on management action plan for Vembanad, Ashtamudi, Sasthamkotta and other wetlands.	Wetland specific activities within the State
11	EAE 036	Climate resilient farming	3435-03-103-97	30.00	30.00	Development of climate resilient protocol for important agriculture crops, climate change vulnerability and risk assessment of agro-ecological zones of Kerala.	Development of climate resilient protocol for important agriculture crops.
12	EAE 042	Kerala State Climate Change Adaptation Authority-KSCCAA	3435-03-103-94	100.00	100.00	Adopt Carbon Capture usages & Storage technologies, climate change dialogue series, establishment expenses.	All the activities related to Environment.
Total				2532.00	2532.00		

ENVIRONMENT BUDGET- SCHEME WISE DETAILS - 2025-26

8. FOREST AND WILDLIFE (Rs. in lakh)

Sl. No.	Scheme Code	Name of Scheme/ Sector/ Sub-Sector	Head of Account	Budget Outlay	Outlay proposed for Environment	Details of the Environment components/ Activities	Justifications for the selection of Scheme
8. FOREST AND WILDLIFE							
1	Management of Natural Forest						
1	FOR002	Forest Protection (Survey of Forest Boundaries and forest Protection) (Revenue)	2406-01-101-81	2500.00	2500.00	Survey and forest boundary demarcating structures, improvement of eco-system services, livelihood of forest dependent communities, forest protection activities, measures to reduce forest fire incidents and human-wildlife conflict, staff quarters and procurement of equipments and vehicles for protection, digitization.	The scheme is to improve ecosystem services including water and clean air, environmental stability, minimization of forest fire incidents, partnership with forest fringe communities for forest protection, improve the livelihood of forest dependent communities, and to improve the biodiversity of forests.
2	FOR002	Forest Protection (Survey of Forest Boundaries and forest Protection) (Capital)	4406-01-101-99 (01)	2500.00	2500.00		
3	FOR003	Regeneration of denuded forests	2406-01-101-94	225.00	225.00	Raising and maintenance of plantation, fire protection measures, and eco-restoration activities.	The scheme is to convert the degraded forests to natural forest and thereby improving the biodiversity and the ecosystem services.
4	FOR073	Non-wood Forest products including promotion of medicinal plants	2406-01-101-80	160.00	160.00	Fencing, awareness programmes, medicinal plantation, fire protection, documentation and mapping, biodiversity conservation	Supporting the conservation of biodiversity
Sub Total				5385.00	5385.00		

Sl. No.	Scheme Code	Name of Scheme/ Sector/ Sub-Sector	Head of Account	Budget Outlay	Outlay proposed for Environment	Details of the Environment components/ Activities	Justifications for the selection of Scheme
II	Improving productivity of plantation						
5	FOR004	Hardwood Species	4406-01-105-87 (01)	500.00	500.00	Raising of plantations and nursery, maintenance of plantations	Raising of new plantations, eco-restoration sites, treatment and maintenance of existing plantations, eco-restoration sites, and raising of seedlings.
6	FOR005	Industrial Raw material plantation	4406-01-105-87(02)	50.00	50.00	Replanting, maintenance, eco-restoration, indigenous species	The main objective is to convert poorly stocked or degraded hardwood plantations to natural forests. Improved ecosystem services are the outcomes expected from the scheme.
7	FOR143	Minimum Support Price for Minor Forest Produce (25 % SS)	2406-01-105-89(02)	100.00	100.00	Procurement of wild honey, collection centres of FDA, Centralised collection, value addition, processing.	Procurement of wild honey, shatavari and broomgrass.
Total				650.00	650.00		
III	Bio -diversity Conservation & protected area management						
8	FOR 011	Conservation of Bio diversity	2406-02-110-68	597.00	597.00	Habitat improvement, awareness creation, natural resources management, rescue centres, fire protection, camps, ecodevelopment activities, observation of wildlife week, capacity building, research, removal of weeds, roads/paths, captive elephant management, surveys and monitoring	The main objective of the scheme is conservation of biological resources.

Sl. No.	Scheme Code	Name of Scheme/ Sector/ Sub-Sector	Head of Account	Budget Outlay	Outlay proposed for Environment	Details of the Environment components/ Activities	Justifications for the selection of Scheme
9	FOR015	Eco -Development programme	2406-02-110-56	350.00	350.00	Participatory conservation of natural resources, resources management, alternative livelihoods, hamlet development, fire protection, facilities and eneregy management, Camps, EDC.	Participatory conservation of natural resources, resources management,
10	FOR016	Eco tourism	4406-01-800-91	600.00	600.00	Reovation, strengthening and consolidation of sites, procurement of materials and equipments, maintenace of facilities, protection acitvities, waste management	Ensure sustainable tourism practices which include conservation of nature and wildlife, and allow local communities to benefit from tourism.
11	FOR069	Elephant rehabilitation Centre at Kappukad	2406-02-110-29	200.00	200.00	Enhancement of facilities in the centre	Ensuring healthy environment for the captive elephants
12	FOR087 (old) FOR 107 to 122 (New)	Integrated Development of Wild Life Habitat- Management of wildlife sancturies - 16 nos(40% SS)	2406-02-110- (13 to 28)	300.00	300.00	Protection of wildlife habitats, mitigation of human-wildlife conflict, eco-development, awareness creation, capacity building, eco-tourism	Restoration of habitats, and eco-development
13	FOR088 (Old) FOR 123 to 127 (New)	Integrated Development of Wild Life Habitat- Management of national parks -5 nos (40% SS)	2406-02-110- (75 to 79)	120.00	120.00	Protection of wildlife habitats, mitigation of human-wildlife conflict, eco-development, awareness creation, capacity building, eco-tourism	Restoration of habitats, and eco-development
14	FOR089 (old) FOR 128 (New)	Integrated Development of Wild Life Habitat- Management of community reserves- Kadalundi-Vallikkunnu (40% SS)	2406-02-110-72(02)	12.00	12.00	Protection of wildlife habitats, mitigation of human-wildlife conflict, eco-development, awareness creation, capacity building, eco-tourism, infrastructure facilities, capacity building, camps	Restoration of habitats, and eco-development

Sl. No.	Scheme Code	Name of Scheme/ Sector/ Sub-Sector	Head of Account	Budget Outlay	Outlay proposed for Environment	Details of the Environment components/ Activities	Justifications for the selection of Scheme
15	FOR 090 (Old) FOR 129 and 130 (New)	Project Tiger - 2 Tiger reserves(40% SS)	2406-02-110 (73 and 74)	600.00	600.00	Protection of wildlife habitats, mitigation of human-wildlife conflict, eco-development, awareness creation, capacity building, eco-tourism, infrastructure facilities, capacity building, camps, antipoaching activities	Restoration of habitats, and eco-development
16	FOR 091 (Old) FOR 131 (New)	National Afforestation Programme - National Mission for Green India (40% SS)	2406-01-102-86 (01)	200.00	200.00	Eco-system services, enhancement of tree cover outside forest, agroforestry and social forestry, restoration of wetlands, alternative energy	National Mission for Green India (GIM), one of the eight missions under the National Action Plan on Climate Change (NAPCC), recognizes that climate change will seriously affect and alter the distribution, type and quality of natural biological resources of the country and the associated livelihood of the people.
17	FOR092 (old) FOR 132 (New)	Integrated development of wildlife habitat (protection of wildlife outside protected areas- 40% SS)	2406-02-110-52 (02)	300.00	300.00	Elephant proof walls and trenches, RRTs, squads, wildlife monitoring, relief of victims, study and assessment, monitoring systems	To reduce Human wild conflict
18	FOR095 (old) FOR 134 (New)	Forest Fire Prevention and Management scheme (40% SS)	2406-01-101-77 (02)	240.00	240.00	Forest fire prevention measures, infrastructure support, awareness creation, capacity building	The scheme is to ensure forest areas free from fire and to enrich biodiversity in forest.
19	FOR 099 (old) FOR 138 (new)	Integrated development of wildlife habitat -Wayanad wildlife sanctuary-relocation (40% SS)	2406-02-110-31 (02)	200.00	200.00	Relocation of tribal communities	Relocation of tribal communities

Sl. No.	Scheme Code	Name of Scheme/ Sector/ Sub-Sector	Head of Account	Budget Outlay	Outlay proposed for Environment	Details of the Environment components/ Activities	Justifications for the selection of Scheme
20	FOR106 (old) FOR 140 (New)	Recovery Programme for Nilagiri Tahr	2406-02-110-12 (02)	26.00	26.00	Habitat management, protection of Nilgiri Tahr, awareness creation	The main objective of the scheme is recovery of endangered species like Nilgiri Tahr in Munnar/Silent valley region
21	FOR106 (old) FOR 141 (New)	Recovery Programme for Critically Endangered Species	2406-02-110-11 (02)	22.00	22.00	Habitat management, protection of vultures, awareness creation, documentaries	The main objective of the scheme is recovery programme for the endangered species of vultures in Wayanad Wildlife Sanctuary.
Total				3767.00	3767.00		
IV	Resource Planning & Research						
22	FOR051	Forest Management Information system & GIS	2406-01-800-57	150.00	150.00	IT Supports and devices/software/equipments/machines, website, electronic equipment, monitoring and evaluation	E- governance initiatives
23	FOR064	Measures to reduce Human -animal conflict	2406-02-110-09	7040.00	7040.00	Various measures to mitigate human-wildlife conflict, compensation to victims, insurance, wildlife rescue, relocation of habitats, monitoring and evaluation, RRTs, early warning systems, awareness creation	Improvement of wildlife habitats one of the major focus
24	FOR067	Zoological Park, Wildlife protection and Research Centre, Puthur	2406-02-110-48	600.00	600.00	Construction and maintenance of infrastructure facilities, establishment expenses	Rehabilitation of the animals

Sl. No.	Scheme Code	Name of Scheme/ Sector/ Sub-Sector	Head of Account	Budget Outlay	Outlay proposed for Environment	Details of the Environment components/ Activities	Justifications for the selection of Scheme
25	FOR070	Extension, Community Forestry & Agro Forestry	2406-01-101-78 (01)	600.00	600.00	Seedlings production and distribution, urban forests, Vidyavanam, Nakshathra vanam, forestry clubs, Sanjeevani vanam, medicinal gardens, extension activities, observation of important environment days, awareness creation, Forestry Information Bureau	The scheme aims at enhancing the green cover outside forests, protect special habitats outside forests, to create awareness among the public on the importance of biodiversity conservation, and to promote urban forestry.
26	FOR076	Resource Planning & Research	2406-01-004-92	100.00	100.00	Fire prevention, plantation, silvi-cultural operations, infrastructural facilities, data collection and analysis, working plans	Preparation of working plan and management plan for forest
27	FOR094 (old) FOR 133 (new)	Project Elephant (40% SS)	2406-02-110-35-(02)	350.00	350.00	Protection and improvement of elephant habitats, captive elephant management, mitigation of human-elephant conflicts, anti-poaching activities, fire protection, eco-restoration, compensation to victims, translocation of elephants, awareness creation, elephant day celebrations, infrastructure management	The objective of the scheme is to protect the elephant and to improve its habitats.
28	FOR096 (old) FOR 135 (new)	Conservation of Natural Resources and Ecosystems (Nilgiri Biosphere reserve) -40%SS	2406-02-110-34 (02)	180.00	180.00	Habitat improvement, threatened species rehabilitation, NTFP processing, upliftment of local communities, corridors management, research and monitoring	Habitat improvement activities, rehabilitation of landscape of threatened species and ecosystem,

Sl. No.	Scheme Code	Name of Scheme/ Sector/ Sub-Sector	Head of Account	Budget Outlay	Outlay proposed for Environment	Details of the Environment components/ Activities	Justifications for the selection of Scheme
29	FOR097 (old) FOR 136 (new)	Conservation of Natural Resources and Ecosystems (Agasthyamala Biosphere reserve)-40%SS	2406-02-110-33(02)	120.00	120.00	Habitat improvement, threatened species rehabilitation, NTFP processing, upliftment of local communities, corridors management, research and monitoring	Habitat improvement activities, rehabilitation of landscape of threatened species and ecosystem,
30	FOR142	National Coastal Mission (Conservation and management of mangroves in Vembanad and Kannur regions)-(60% CSS) State share	2406-02-110-10 (02)	61.00	61.00	Conservation and management of mangroves, eco-restoration and afforestation, awareness creation, propagation of seedlings	Conservation and management of mangroves, eco-restoration and afforestation,
31	FOR 144	Eco restoration	2406-01-101-76	31.00	31.00	Replanting and enrichment with native species, forest fire protection, elimination of alien species, protection of river banks and coastal areas and other eco-systems	To restore areas planned with species like eucalyptus, acasia, wattle, etc. in forest areas to other natural state.
32	FOR 134	Forest Fire Prevention and Management scheme -TSP (40% SS)	2406-01-796-98(02)	100.00	100.00	Fire management with community support through forest management approaches, awareness campaigns, fire watchers	To ensure forest areas free from fire by using modern technology, to enrich biodiversity of forest, and to protect both flora and fauna.
33	FOR 145 New	Kozhikode Biological Park (New Scheme)	2406-02-110-06	500.00	500.00	Wildlife conservation, research, ecotourism and environmental education.	Wildlife conservation and environmental education.
Total				9832.00	9832.00		
Grand Total				19634.00	19634.00		

ENVIRONMENT BUDGET- SCHEME WISE DETAILS - 2025-26							
9. IRRIGATION & FLOOD CONTROL (Rs. in lakh)							
Sl. No.	Scheme Code	Name of Scheme/ Sector/ Sub-Sector	Head of Account	Budget Outlay	Outlay proposed for Environment	Details of the Environment components/ Activities	Justifications for the selection of Scheme
1	MMI 098	Establishing Flood Early Warning System	4701-80-800-69	100.00	100.00	Real time operation of reservoirs integrated with flood forecasting and warning system for river basins	This system helps in issuing timely warnings to facilitate disaster preparedness
2	MMI 101	Thottappally Project	4701-21-800-96	500.00	500.00	Flood control works in Achenkovil, Pamba and Manimala rivers to prevent flooding in low lying areas of Kuttanad	Protection works on the banks of Pamba river to safeguard the region from flooding
3	MMI 104	Rejuvenation of Rivers and Streams	2701-80-800-73	200.00	200.00	Improve the water carriage capacity of the existing rivers and streams by desiltation, removal of weeds and other debris and to carryout essential protection works/training works on rivers and streams banks	Prevent floods, improve ground water level, ensure safety to the life of people, prevent erosion of banks of rivers, streams and structures on the sides of the bank river
4	MIN 003	Scheme for Control and Regulation of Ground Water Exploitation	2702-02-005-93	150.00	150.00	Addres complaints of over exploitation of groundwater, registration of drilling rigs and firms/agencies engaged in construction of groundwater abstraction structures and its renewal and conduct mass awareness programmes on groundwater conservation, management and water quality issues	Control and regulate groundwater development through the implementation of Kerala Groundwater (control & regulation) Act 2002 to prevent adverse environmental impacts of groundwater exploitation and to ensure equitable distribution of resources

Sl. No.	Scheme Code	Name of Scheme/ Sector/ Sub-Sector	Head of Account	Budget Outlay	Outlay proposed for Environment	Details of the Environment components/ Activities	Justifications for the selection of Scheme
5	MIN 007	Conservation of Ground Water and Artificial Recharge	4702-00-102-97	600.00	600.00	Conservation and recharge of ground water through artificial recharge techniques	Restore supplies from aquifers depleted due to excessive draft or to improve supplies from aquifers lacking adequate natural recharge
6	MIN 057	Renovation of Tanks and Ponds under Haritha Keralam	4702-00-101-63	750.00	750.00	Renovation and revamping of major existing public/community ponds	Revival, conservation and up gradation of local water resources and traditional system of water management
7	MIN 062	Restoring polluted stretches of rivers based on National Green Tribunal order	2702-01-800-86	200.00	200.00	Reinstate polluted stretches and rivers in Kerala based on NGT order	The objective of the scheme is to restore the polluted river stretches based on the orders of National Green Tribunal
8	FC 032	Flood Management Programmes in Kuttanad	4711-01-103-84 (01),(02),(03)	5700.00	5700.00	Mitigate floods in various padasekharams of Alappuzha and Kottayam districts	Various flood mitigation works to protect the padasekharams from flooding
9	FC 012	Coastal Zone Management	4711-02-103-99	154.00	154.00	Construction of new sea wall and reformation of old sea wall	For protecting the coastal stretches from the wave attack, it is envisaged to construct seawall using modern technologies.
Grand Total				8354.00	8354.00		

ENVIRONMENT BUDGET- SCHEME WISE DETAILS - 2025-26							
10. INDUSTRY & INFRASTRUCTURE				(Rs. In lakh)			
Sl. No.	Scheme Code	Name of Scheme/ Sector/ Sub-Sector	Head of Account	Budget Outlay	Outlay proposed for Environment	Details of the Environment components/ Activities	Justifications for the selection of Scheme
SCIENTIFIC SERVICE & RESEARCH							
1	SSR 002	Research & Development Institutions under Kerala State Council for Science, Technology and Environment	3425-60-200-71(01)	6420.00	1290.00	Jawaharlal Nehru Tropical Botanical Garden & Research Institute (JNTBGRI)-The Institute undertakes research programmes for the sustainable utilisation of plant resources of Kerala and functions as an inventory for conservation of plant wealth.	The institute conducts various R&D activities to sustainable use of plants and conserve them.
2					350.00	Malabar Botanical Garden & Institute of Plant Sciences (MBGIPS) - MBGIPS is an institution for the conservation and research on aquatic plant diversity, lower group plants, and endangered plants of the erstwhile Malabar Region as well as disseminating knowledge on various facts of plant sciences.	The institute conducts various R&D activities to the conservation of lower group plants of Malabar region

Sl. No.	Scheme Code	Name of Scheme/ Sector/ Sub-Sector	Head of Account	Budget Outlay	Outlay proposed for Environment	Details of the Environment components/ Activities	Justifications for the selection of Scheme
3					1000.00	Kerala Forest research Institute (KFRI) - KFRI envisioned as a Centre of Excellence in Tropical Forestry, conduct research to provide scientific support for decision making on matters related to forestry, with particular emphasis on conservation, sustainable utilisation and scientific management of natural resources	The institute conducts various R&D activities focusing on conservation, sustainable utilisation and scientific management of natural resources
4	SSR 060	KSCSTE - Institute of Climate Change Studies Kottayam	3425-60-200-50	130.00	130.00	The institute focuses on State specific impacts of climate change on various sectors and zones of the State, conduct research, develop strategies and propose appropriate action for climate change management.	The institute aims to address environmental issues of Kerala, and develop strategies to solve them
Total (Scientific Services & Research)				6550.00	2770.00		
ENERGY							
1	NRE 001	(6) Programmes on Renewable Energy	2810-00-800-90(06)	3150.00	3150.00	Activities including the installation of rooftop solar plants to increase the use of renewable energy sources	Promotion of renewable energy will help in achieving the goal of a carbon neutral state.
2	NRE 001	(9) Green Energy Hub	2810-00-800-78	650.00	650.00	Promotion of projects on Green Hydrogen	The scheme supports various activities to achieve Net Zero target by 2050 and 100 per cent Renewable Energy State by 2040

Sl. No.	Scheme Code	Name of Scheme/ Sector/ Sub-Sector	Head of Account	Budget Outlay	Outlay proposed for Environment	Details of the Environment components/ Activities	Justifications for the selection of Scheme
3	NRE 004	(5) Kerala State Energy Conservation Fund	2810-00-104-98 (05)	650.00	475.00	(i) Promotion of energy efficiency projects and energy management systems (ii) Development and demonstration of clean energy technologies	The activities under the scheme supports Net Zero initiatives of the State
Total (Energy)				4450.00	4275.00		
Medium & Large Industries							
		KINFRA					
1	MLI 009	Petro Chemical Park, Kochi	6885-60-190-99(01)	3000.00	1000.00	Aims to set up effluent treatment plant in the park	KINFRA developed parks with due care for environment and hence include activities like the installation of effluent treatment plants, waste management, development of green spaces etc.
2	MLI 142	Kochi-Palakkad Hi-Tech Industrial Corridor (Part of Kochi-Bengaluru Industrial corridor	4885-60-800-86	20000.00	1000.00	Aims to set up effluent treatment plant related with industrial area	
3	MLI 134	Upgradation of Infrastructure in Industrial Parks					
		Comprehensive maintenance of SDF at Kinfra Integrated Industrial and defence park ,Ottapalam	4885-60-190-94-18	100.00	5.00	Various maintenace acitivities in the park including component like STP	
		Establishment of an Industrial Park/ Food Park at Kollam	4885-60-190-94-22	500.00	25.00	Various activities including installation of ETPs	
		KINFRA Integrated Textile Park,Palakkad	4885-60-190-94-20	600.00	30.00	Various maintenace acitivities in the park including component like STP	
		Infrastructure Develoipment Works, Perumbavoor	4885-60-190-94-21	600.00	30.00	Various activities including installation of ETPs	

Sl. No.	Scheme Code	Name of Scheme/ Sector/ Sub-Sector	Head of Account	Budget Outlay	Outlay proposed for Environment	Details of the Environment components/ Activities	Justifications for the selection of Scheme	
		Infrastructure Development Works Ramanattukara	4885-60-190-94-16	600.00	25.00	Various activities including drains,rain water harvesting and landscaping etc		
4	MLI 159	Upgradation of Infrastructure in Industrial Park-Matching state share for Cluster Development Programmes						
		Kinfra Apparel Park ,TVPM	4885-60-190-91-01	250.00	12.50	Various activities including revamping of water treatment plant		
		Upgradation of Infrastructure KINFRA park,Kunnamthanam	4885-60-190-91-03	100.00	5.00			
Total (Medium & Large Industries)				25750.00	2132.50			
Grand Total				36750.00	9177.50			