

Green Policy Document
Indian Institute of Space Science and Technology
Dept of Space
Valiamala
Thiruvananthapuram



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The Green Policy of Indian Institute of Space Science and Technology

IIST envisions a synergistic holistic existence through environmental awareness and ecological sustainability. The Green policy of the institute aims to achieve Sustainable Development Goals (SDG) through effective environmental awareness, ecological management, and policy implementation. The campus located in the foothills of Sahyadri, blessed with the lush green ambience of Valiamala, everyday experiences the benefits being close to nature. The various academic and administrative buildings are constructed in such a manner, without causing much disturbance to the ecosystem. A major portion of the land is left untouched so as to shelter the natural habitat, and biodiversity of rare species of flora, and fauna, birds and butterflies. As the motto of the institute proclaims; “Vidya sandhi, Pravachanam santhanam,” Education connects the teacher and the disciple, the true education, is value added education and in IIST the awareness and knowledge about the mother Earth and nature is the authentic education that connects everyone.

1. Scope of the Green Policy

The policy document of IIST earmarks certain best practices for environmental management through ecological conservation, and effective management of natural resources. It also sensitises the stakeholders, the significance of ecological responsibility and maintenance of resource conservation. The policy motivates the institute to maintain, protect and promote environmental awareness. The action points and policies take care of the activities organised by the institute

2. Objectives

- a. To conserve and protect the ecological resources within the institute.**

The institute, being located in the fertile lands of Valiamala, has the advantage of varied conglomeration of biodiverse forest ecosystem and heterogeneous tree species. The construction and architecture of the institute has effectively taken into consideration its location without inflicting much disturbance to the nature. The campus has categorised plots to preserve medicinal plants, including Tulsi, Amla, Asoka, and a butterfly garden named as *Shalaba Vanam*.

b. To make a clean and green campus.

Right from its inception, IIST takes utmost care to maintain the environment and surroundings of the campus in a clean and hygiene manner. Waste bins in blue, green and red are placed in the academic buildings and hostels to categorise waste as paper waste, organic waste and plastic waste. The awareness programmes organised by Swachhta Pakhwada, to encourage students, staff and faculty to participate in plogging, so that campus cleaning could be possible in sportive manner is well taken care of by the institute.

c. Adopt a reducing, reusing, and recycling policy for effective waste management.

As far as the sustainable practices of the institute is concerned, waste management is of primary importance. There has been a water recycling facility, where the recycled water is used to water the plants. In the canteen also the kitchen waste is effectively reused in the biogas plant. There is a water treatment plant inside the institute, and facilities for rainwater harvesting.

d. To conduct green audits at regular intervals

Under the aegis of IQAC, regular meetings are conducted to discuss and plan activities to sensitise the people and to monitor the green policy activities

e. To minimize the use of paper and plastic

IIST sticks on to the policy of reduce and reuse, and it encourages the staff and students to minimise using paper and encourages electronic materials like e books, e journals, etc. Also the institute monitors and instructs to categorise waste as organic, paper, plastic and electronic in separate bins. Paper cups and plates are used to serve tea and snacks.



Fruit bearing Trees

3. Focus Areas of the Policy

i. Waste Management

- a. Proper waste collection and segregation inside the campus every day
- b. Incinerators and bio waste management facilities and shredding facilities

ii. Clean Campus Green Campus programme

- a. Awareness programs for students, teachers, and staff
- b. Plant a tree program as part of birthday celebrations and whenever a guest comes to the campus

iii. Initiatives for Landscaping

a. Well-maintained gardens, including a butterfly garden, star sign tree garden, and kitchen garden

b. Proper maintenance of lawn and ornamental plants

c. Dedicated gardener for pruning and maintaining Garden

iv. *Eco Club and related activities*

a. To organize a lot of student-oriented activities in collaboration with other clubs

b. To initiate and promote organic farming

c. To organize more awareness programs

d. To promote tree programs in the institute and beyond institute

v. *Awareness Initiatives*

a. talk shows

b. film screening

c. Outreach programs



Aesthetic Wall

4. Green Protocol Committee

IIST devises Green Protocol committee with Green Protocol officer as chairperson and the Eco-Club members as committee members to inspect and maintain the green protocol followed in the campus and to take necessary steps to keep the campus green and eco friendly.

Green Protocol is a set of environmentally responsible practices, education and research which go hand in hand creating a healthy environment for the campus community. It involves following steps standard operating procedure (SOP):

- a) Judicial land use, strategic environmental planning and strict resource management i.e., sustainable management of water resources (ground/ surface/ rainwater), energy efficiency, conserving natural resources (water/ land/ air/ ecosystem services/ natural cycles/ flora/ fauna), habitat restoration, production/use of renewable energy and sustainable management of wastes.
- b) Enhancing the campus environmental quality by educating for sustainability thereby resulting in a healthy environment to live and learn.
- c) Carrying out all the functions according to a system-wide culture of environmental
- d) consciousness.
- e) Refusing/ reducing the use of disposables while dramatically increasing the use of
- f) Reusable's like glass/ stainless /porcelain materials and cotton bags. As an outcome,
- g) strategically these very principles would promote or lead to an elite and environmentally conscious cluster of campuses/ territories for the regional sustainability.

Responsibilities of Green Protocol Officer and team

- To disseminate green policies to staff, students, officers, and teachers
- Encourage the promotion of vegetable and flower gardens.
- Encourage tree planting

- Appoint a nodal officer for the implementation of the National Forest Policy
- To create awareness of the afforestation
- Protect the biodiversity-rich area of the campus
- Develop a medicinal plant garden
- Avoid open burning of the waste
- Avoid the use of plastic flags and other plastic articles for celebrations
- Place Green office boards at various places on the campus and in buildings.

5. Green Campus Initiatives

Creating a green campus involves implementing a range of activities to reduce environmental impact, promoting sustainability, and fostering a culture of eco-consciousness among students, faculty, and staff. Some of the key initiatives that can contribute to a green campus include Energy Audits, Energy-Efficient Buildings, Renewable Energy Sources, Sustainable Transportation, Shuttle Services, Waste Reduction and Recycling, Composting Programs: Establish composting facilities for organic waste from dining halls and landscaping, Waste Reduction Campaigns, Rainwater Harvesting: Implement systems to capture and reuse rainwater for irrigation and other non-potable purposes, Drought-Tolerant Landscaping, Use of native plants and xeriscaping techniques to minimize water use in landscaping.

By implementing these initiatives, our campus has significantly reduced its environmental footprint, educate the next generation of environmental stewards, and contribute positively to the local community and global sustainability efforts. The following initiatives play a crucial role in creating a holistic approach to building and maintaining a green campus;

Birth Star Garden

There is a well maintained garden rearing trees associated with each birth star. The garden accommodates 27 trees including fig, jamun, jack fruit tree, Indian Willow, etc. This garden preserves indigenous and rare trees. As there is a cafeteria near to this garden, people could relax and spend time. This is regarded as an educational tool to teach students and visitors about astrology, specifically the concept of birth stars (nakshatras) and their significance in different cultures. Select plants and flowers that are traditionally associated with each birth star is planted in the garden. The CMD has also installed interpretive signage that explains the names of the plants chosen. This helps to engage and educate visitors about the garden's purpose. It also encourages students, staff and faculty members to participate in maintaining the garden. This

fosters a sense of ownership and community involvement in the green initiative. It also emphasizes the environmental benefits of the gardens, such as providing habitat for pollinators, improving air quality, and contributing to overall biodiversity on campus.



Birth Star Garden

This initiative integrates the Birth Star Gardens with other sustainable practices on campus, such as composting, and water conservation efforts, or renewable energy projects. In our campus the gardens are also spaces for cultural celebrations or other significant events. This can help foster a sense of cultural diversity and appreciation among students and staff.

In short Birth Star Garden is a creative way to blend science, culture, and environmental stewardship on campus.

Green pathways

Creating green pathways inside our campus as part of a green initiative involves designing and implementing walkways that prioritize sustainability, aesthetics, and environmental benefits. Fruit bearing trees are planted inside the campus where people could walk under the shades of the trees.

Native Plants which are well-adapted to the local climate, require less water, and support local biodiversity including pollinators and wildlife are planted on both sides of pathway. Also, for

the pathway with permeable pavers allows rainwater to infiltrate into the ground, reducing storm water runoff and helping to recharge groundwater. The pathway incorporates trees and shrubs to provide shade for pedestrians and cyclists. We also ensure that the pathways are accessible to all users, including those with disabilities. Here we have gentle slopes, wide paths, and appropriate surface textures to accommodate wheelchairs and walkers. The pathways provide habitats for local wildlife and supporting pollinators and it reduces heat island effect through shade and vegetation. It mitigates storm water runoff and improves water quality through natural filtration. It also encourages physical activity and mental relaxation by providing pleasant, green spaces for walking, and jogging, and improves air quality and reduces noise pollution. These pathways are gathering spaces for social interaction and community events, fostering a sense of belonging and connectedness among campus residents and visitors. The pathway demonstrates the campus' commitment to sustainability and environmental stewardship, serving as a model for green practices to students, staff, and visitors.



Birth Star Garden

Implementing green pathways within our campus not only enhances its aesthetic appeal but also contributes significantly to environmental sustainability and community well-being. It's a

holistic approach to integrating nature into urban settings, promoting both ecological and human health benefits.



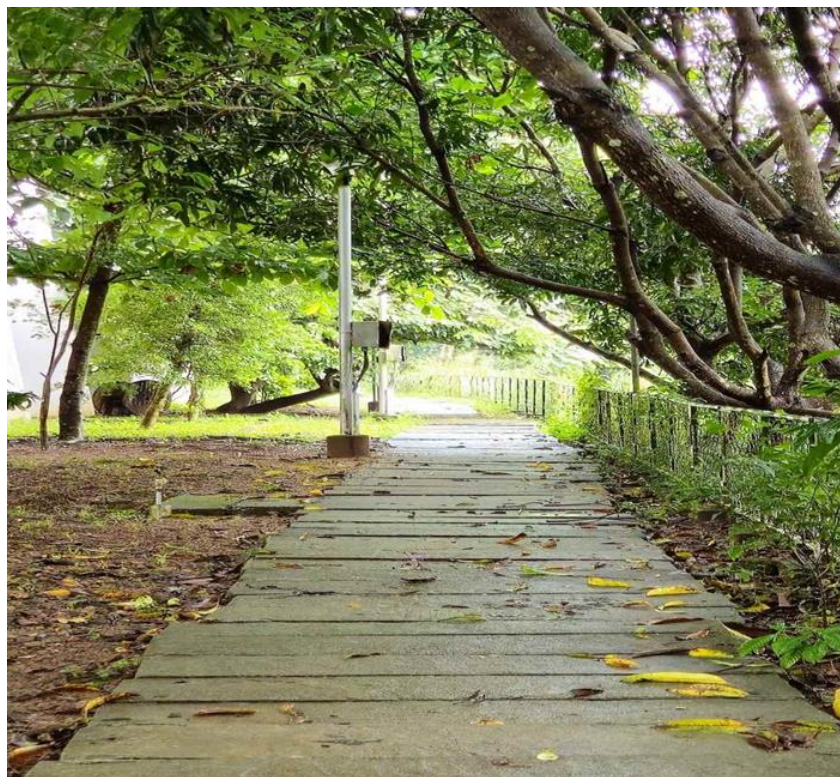
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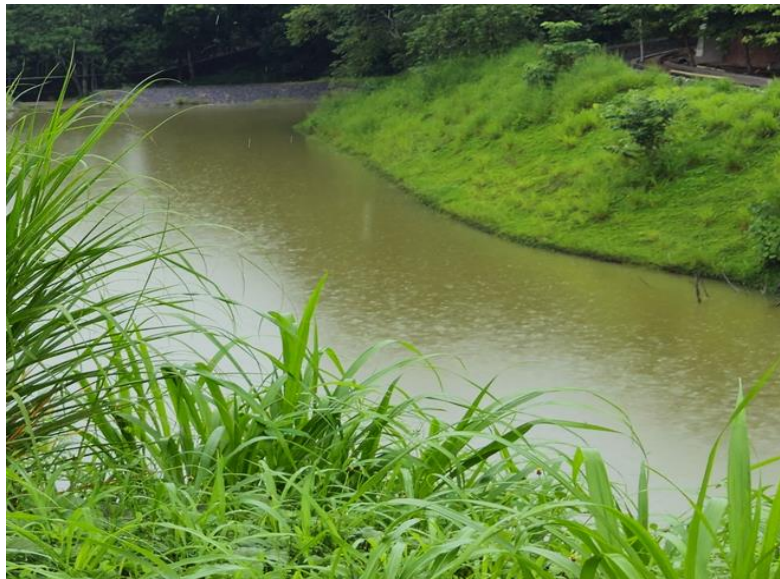


Green Pathways in the campus

Rainwater Harvesting

Rainwater harvesting is implemented on campus to conserve water resources, reduce runoff, and support environmental sustainability. Gutters and Downspouts are identified to channel rainwater from collection surfaces into storage tanks or cisterns. There were two large ponds which act as Storage Tanks or Cisterns. Here we use filters and screens to remove debris and sediment from collected rainwater. A distribution system is designed to transport harvested

rainwater to points of use, such as irrigation systems for landscaping or flushing toilets in buildings.



Rainwater Harvesting Pond-1

Rainwater harvesting inside the campus reduces reliance on municipal water sources for non-potable uses, thus conserving drinking water resources. It also mitigates storm water runoff and reduces the risk of flooding and erosion on campus. The concerned authorities regularly inspect and maintain the system to ensure proper functioning, cleanliness, and water quality.



Rainwater Harvesting Pond-2

Butterfly Garden



Butterfly Garden

Butterfly garden is envisaged in our campus for biodiversity conservation. Such parks attract various species of butterflies, contributing to local biodiversity. They provide habitats and food sources for butterflies throughout their life cycles. Through these gardens we learn about butterfly life cycles, plant-pollinator relationships, and the importance of conservation. They are also visually pleasing and can enhance the beauty of campus landscapes. They often feature colourful flowers and plants that attract butterflies. So it adds to the aesthetic appeal of the campus. These gardens also promote sustainable practices and can improve overall environmental health by supporting pollinators and native plant species.

This dedicated garden takes care of the rare varieties of butterflies. This is an open garden with larval and adult host plants maintained. This garden which is situated just in front of the IIST library serve as gathering place for campus events or quiet spaces for reflection and enjoyment, fostering a sense of community among students, faculty, and staff.



Butterfly Garden

Biodiversity Park



Biodiversity Park

The biodiversity park in our campus enhances environmental sustainability, promote biodiversity conservation, and provide educational opportunities. The park has been selected in an appropriate area that could support diverse plant and animal life. We have also looked at factors like sunlight exposure, soil quality, water availability, and existing vegetation. The native plant species are well-suited to the local climate and soil conditions. The native plants

require less maintenance, provide habitat for local wildlife, and contribute to ecosystem resilience. It has also included meadows, wetlands, woodland edges, and wildflower patches. We have also established a maintenance plan to ensure the park remains healthy and thriving. This may involve regular monitoring of plant health, controlling invasive species, and managing water features.



Biodiversity Park

There is active participation from students, faculty, and staff in planning, planting, and maintaining the biodiversity park, and has also implemented sustainable landscaping practices such as composting, rainwater harvesting, and organic gardening techniques to minimize environmental impact and support ecosystem health.

Thus, the green protocol programmes on campus involves adopting sustainable practices and policies aimed at reducing environmental impact and promoting eco-friendly behaviours among students, faculty, staff, and visitors.