

# CERTIFICATE OF COMPLETION

*This is to certify that*

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**NRI INSTITUTE OF TECHNOLOGY**

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*has successfully completed*

**GREEN LAND SCAPE AUDIT**

The study was completed by Rekhapalli Environmental Solutions & Technologies Pvt Ltd



**Dr Rekhapalli Srinivasa Rao**

*Green, Eco & Energy Lead Auditor  
Certified ISO-14001 Auditor*



Issued by

**Rekhapalli Environmental Solutions & Technologies Pvt Ltd**

August 2022

# NRI INSTITUTE OF TECHNOLOGY

Pothavarappadu (V), Agiripalli (M), Eluru District, A.P., India-521212



## Green Landscape Audit

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# Acknowledgements

REST Pvt Ltd



**Dr Rekhapalli Srinivasa Rao**  
Green, Eco & Energy Lead Auditor  
Certified ISO-14001 Auditor

22 August 2022

## Green Landscape Audit

The REST Pvt Ltd acknowledges with thanks the cooperation extended to our team for completing the study at NRI Institute of Technology (NRIIT).

The interactions and deliberations with NRIIT team were exemplary and the whole exercise was thoroughly a rewarding experience for us. We deeply appreciate the interest, enthusiasm, and commitment of NRIIT team towards environmental sustainability.

We are sure that the recommendations presented in this report will be implemented and the NRIIT team will be further improve their environmental performance.

Kind regards

Your sincerely

**Dr Rekhapalli Srinivasa Rao**  
Green, Eco & Energy Lead Auditor  
Certified ISO-14001 Auditor  
REST Pvt Ltd

# Executive Summary

The growth of countries across the world is leading to increased consumption of natural resources. There is an urgent need to establish environmental sustainability in every activity we do. In a modern academy, environmental sustainability will play a critical role in the very existence of an organization.

An educational institution is no different. Built environment, especially an educational institution, has a considerable foot print on the environment. Impact on the environment due to energy consumption, water usage and waste generation in an educational institution is prominent. Therefore, there is an imminent need to reduce the overall environmental footprint of the institution.

As an institution of higher learning, NRI Institute of Technology (NRIIT) firmly believes that there is an urgent need to address the environmental challenges and improve their environmental footprint.

True to its belief, NRIIT maintain an excellent landscaping in its campus. The whole campus is lush green, and trees are seen everywhere around the campus. REST congratulates the NRIIT for their efforts to create a truly green campus.

Based on the data submitted by NRIIT team, following improvement opportunities have been identified in the campus in terms of landscaping.

- Implement ecosystem restoration by development of theme gardens in used areas of the campus
- Develop green corridors between existing areas in the campus
- Develop natural areas to encourage bird roosting and nesting in built-up areas
- Increase tree density and canopy cover in the built-up areas by planting more fruit yielding trees.
- Conduct regular flora surveys for improving the existing data
- Develop strategies for regular monitoring prevention of invasive plant species.

By addressing the improvement opportunities, the campus would be able to achieve the following benefits:

- Identifying & implementation of proper measure for conservation of endangered floral species in the campus
- Reduce the microclimate temperature of the campus by 1-2°C which is significant
- As many of the species have the capability to absorb contaminants in the air and therefore this would lead to better air quality in the campus
- This can evolve as an excellent educational campus for spreading awareness on biodiversity and benefit the nation at large.

# Introduction

## **Urbanisation and its effect on loss of biodiversity**

Urbanization causes biodiversity to decline. As cities grow vital habitat is destroyed or fragmented into patches not big enough to support complex ecological communities. In the city, species may become endangered or even locally extinct as natural areas are swallowed up by the urban jungle.

Ironically, it is urban growth that is often responsible for the introduction of non-native species, either accidentally or deliberately, for food, pets or for aesthetic reasons.

## **Documentation of Flora**

Knowledge on biodiversity of any geographical region is a paramount importance for sustainable management and conservation plans. The foremost task in the conservation process is to prepare an inventory of species. It is necessary to have full knowledge regarding the habit, habitat, distribution and phenology of various plants for their proper conservation.

The documentation of flora will help in identifying, documenting and promoting the conservation of native flora in India. This in turn will help in promoting native species for landscapes as they suit one growing interest in “Low maintenance” gardening and landscaping.

Many species are vigorous & hard and can survive winter, cold, and summer heat. These species once established, can flourish without irrigation or fertilization and are resistant to most pests & diseases.

## **Need for documentation of Flora**

The knowledge building on significance and importance of various flora existing around us is the need of the hour. Loss of the biodiversity is likely to result in loss of various other taxonomic groups.

## **Serve as a ready reckoner:**

Most of the campuses have huge landscape with diverse floral species. Nevertheless, the availability of information on these species is minimal. Hence, the documentation of the species would serve as an educational material on the details of species existing within the campus.

**Public Visibility:**

Despite having various biodiversity initiatives in place within the campus most of the campuses lack the visibility of the measures taken in conservation. The study will create awareness & visibility of the campus on various conservation measures implemented to the occupants as well as to the visitors.

Also, the organization will gain globally amongst its shareholders for the positive steps taken towards protecting biodiversity.

**Conservation of Species:**

Due to Urbanization most of the floral species are under tremendous pressure. The need of the hour is to conserve and protect these species. The study would help in identifying such species in the campus which need to be conserved.





# NRIIT carbon sequestration through plantation

Carbon sequestration through plantation is one of the important steps towards achieving carbon neutrality. In carbon footprint calculation of NRIIT, carbon sequestration through plantation is considered and due credit has been given.

No. of trees considered for carbon footprint calculation	: 1815 trees
CO2 absorbed by a tree in one year	: 18 KG
Total CO2 sequestered	: 1815 x 18 KG of CO2/year
	: 32,670 KGS of CO2





*Bougainvillea galbra* (Paper flower)



*Mangifera indica* (Mango)



*Ficus Variegata*



*Cocos nucifera* (Coconut)



*Lawsonia inermis* (Henna plant)



*Heterophylla* (Norfolk Island pine)



Tagetes(marigold)



Nerium oleander ( Ganneru)



Citrus Limon ( Lemon)



Pterocarpus santalinus (Red sandal)



Cardyline fruticosa



Chlorophytum omosum (Spider plant)



*Agave americana* (Century plant)



*Hibiscus*



*Annona reticulata* (Custard apple)



*Azadirachta indica* (Neem)



*Manilkara zapota* (Sapodilla)



*Phyllanthus emblica*

# Plantation & Maintenance techniques

## Selection of species

- Native species like *Azadirachta indica* (Neem), *Pongamia pinnata* (Pongam tree), *Cassia fistula* (Indian shower tree), *Butea monosperma* (Flame of the forest) and also fruit bearing species like *Mangifera indica* (Mango), *Manilkara sapota* (Chikoo), *Syzygium cumini* (Jamun Tree), *Psidium guajva* (Guava), *Annona squamosa* (Custard apple), *Punica granatum* (Pomegranate), *Phyllanthus emblica* (Indian Gooseberry), *Citrus sinensis* (Sweet lime) and *Citrus limon* (Lime) to be selected for plantation.
- Saplings of 2-3 ft height to be considered for plantation in public areas
- Plantation can be taken up as avenues (roadside plantation) and green belts (thick plantation in one area)
- Fruit plantation can be taken up in protected areas, institutions with large areas. Special care to be taken in maintenance since these plants also generate revenue

## Digging of pits

Pits to be dug about one month prior to the plantation date and it should be exposed to sunlight

This will help in killing of harmful disease-causing bacteria and virus.

1. In places of no availability of proper sunlight, dry trash to be filled in the pit and burnt.
2. Pit size should be normally 2ft or 3ft and in soils which are very hard 4ft<sup>3</sup> or above to be dug.
3. Further to the digging of pit, the bottom of the pit should be loosened up to 6-9 inches.
4. While digging, we can observe different soil profiles. Topsoil will be soft and contains enough nutrients for nourishing the plant. The topsoil should be deposited on one end and hard soil on the other end. While filling the pit with soil, the topsoil only should be used. The topsoil from the non-plantation area around the pit to be collected and mixed with manure and used for filling of the pit.

## **Transportation**

- Visit to the nurseries and enquire about plant species like availability, size, age and girth prior to the plantation. Also, the size of the packet in which the plant is existing to be enquired.
- Ensure that the material is available in the nursery and allotted to pick up
- The saplings to be watered one or two days prior to the movement of plants to plantation area
- The plants to be procured at least 15 days prior to plantation.
  - The saplings to be watered as soon as they reach the plantation area and regularly thereafter.
  - They should be kept in shade, non-windy & protected areas.

The above said steps to be followed for movement of plants near to the pits within the plantation area. Enough water to be stored for watering the plants after plantation. Also, tools and manpower to be kept in place to ensure proper plantation of saplings. If the sapling is bushy with many branches, then the branches are to be trimmed before plantation.

## **Plantation**

- The poly bag around the root ball to be carefully cut with a knife / sickle / scissors without disturbing the roots
- Rope and stakes are to be kept ready to support the plant after plantation.
- Regular watering to be done to the plants followed by mulching (loosening of top 3-4 inches of soil)
- Mulching will help in conservation of moisture, aeration of roots and control of weeds.
- Note: At least 5% of extra plants to be procured for timely gap filling and to ensure 100% survival. Care to be taken for these plants like other plants.

# Recommendations for Enhancing Flora in Campus

## 1. Implement Ecosystem Restoration

- Develop naturalised areas in the Open Area segments
  - Wastelands in the campus can be converted to a park
- 'Theme Gardens' can be developed in unused areas of the campus to increase proportion of natural area

## 2. Enhance Ecosystem Protection

- Protect and maintain the existing Open Area segments

## 3. Planting more fruit yielding trees

- Increase tree density and canopy cover in the built-up areas

## 4. Increase number of Native Plants in the Landscape area

- Increase native plants to boost native biodiversity
  - Bees, butterflies and other insects
- Healthy native plant growth will help in easy identification of invasive alien species

## 5. Introduce more native species in Open Areas

## 6. Preventing/ Decreasing Invasive Alien Species Spread

- Identify potential threatening species in advance and implement quarantine measures
- Mass Eradication techniques for larger spreads
- Commitment to complete eradication
- Manual Uprooting of small populations

## 7. Develop natural areas to encourage bird roosting and nesting in built-up areas

## 8. Introduce features to attract birds in the built-up areas

- Bird feeders
- Water troughs/ Bird baths
- Nesting material

## 9. Improve measures for rainwater harvesting in paved and un-paved areas

- Open fields, parks, pavement landscapes, etc.
- Develop outdoor parks in open areas

# Conclusion

As seen in the carbon sequestration calculation, tree plantations lead to a tremendous reduction in net emissions of the campus. Therefore, NRIIT needs to develop a roadmap to include tree plantation as a strategy to reduce overall carbon emissions of the campus.



# SUSTAINABLE LIVING INC

## *Certificate of Completion*

This is to certify that

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**NRI Institute of Technology**

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has successfully completed

Green landscape audit

The study was completed by Sustainable Living Inc



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Hiran Prashanth  
Environmental Sustainability Auditor  
Sustainable Living

*Issued by Sustainable Living Inc*

July 2021  
GA - 03 - 21 - NRIIT

# **GREEN AUDIT REPORT**

## **2021-2022**



**INTERNAL QUALITY ASSURANCE CELL**  
**(I.Q.A.C)**

**NRI INSTITUTE OF TECHNOLOGY**  
**AGIRIPALLI**

## GREEN AUDIT REPORT, NRIIT, POTHAVARAPADU

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<b>S. No.</b>	<b>Topic</b>
1	INTRODUCTION
2	OBJECTIVES
3	METHODOLOGY
4	ABOUT THE COLLEGE
5	VISION & MISSION STATEMENT
6	GREEN AUDITING
7	LAND USE
8	GEOGRAPHICAL LOCATION OF NRIIT
9	VARIOUS BUILDINGS AT NRIIT
10	TREE DIVERSITY OF NRIIT
11	FAUNAL DIVERSITY IN NRIIT
12	WEATHER DATA OF NRIIT
13	WATER ANALYSIS REPORT OF NRIIT
14	WASTE DISPOSAL AT NRIIT
15	TRANSPORTATION AT NRIIT

## **1. INTRODUCTION**

The process of assessing the environmental impact of an organization, process, project, product, etc. A green audit of your home can reveal ways in which you can reduce energy consumption. The National Assessment and Accreditation Council, New Delhi (NAAC) has made it mandatory that all Higher Educational Institutions should submit an annual Green Audit Report. Moreover, it is part of Corporate Social Responsibility of the Higher Educational Institutions to ensure that they contribute towards the reduction of global warming through carbon footprint reduction measures.

## **2. OBJECTIVES**

The Green Audit of an institution has been becoming a paramount important for self-assessment of the institution which reflects the role of the institution in resolving the present environmental problems. The college has been working on enormous efforts to keep our environment clean. Therefore, the purpose of the present green audit is to identify, quantify, describe and prioritize framework of Environment Sustainability in compliance with the applicable regulations, policies and standards. The main objectives of carrying out Green Audit are:

- To document the floral and faunal diversity of the college
- To document the ambient environmental condition of weather, air, water and noise in the college premises
- To document the waste disposal system
- To estimate the Energy requirements of the college

## **3. METHODOLOGY**

The green audit of NRIIT methodology includes: collection of data, physical inspection of the campus, observation and review of the documentation and data analysis.

### 4. ABOUT THE COLLEGE

Sri Durga Malleswara Educational Society was established in 2007 with the objective of reaching the zenith in the field of education. NRI College of Pharmacy, started in 2007 and NRI Institute of Technology, started in 2008 are the result of such sincere and dedicated efforts and stern determination of the founders of the society. NRI Institute of Technology is an AICTE approved Institution affiliated to the JNTUK which functions as a private self financing institution to cater to the needs of juvenile aspirants in and around Vijayawada. The promoters of NRIIT started the college with a vision to empower the students with vibrant technology, sensitively matured and innovative to face the challenges of real time global experiences. The founders are socially conscious and continuously responding to the needs and requirements of the region, to uplift the region and to promote educational facilities by establishing schools, to promote games and sports activities in the region, help the poor and improve their health standards by organizing free medical camps etc., Since the day of inception, NRIIT has been growing at a credible but steady pace for an educational institution of its kind. Both NRIIT and NRI College of Pharmacy have been taking a place of pride every year JNTUK results are announced. NRI College of Pharmacy had recently added a feather to the crown of the Society by successfully placing its first out going batch of dynamic young pharmacists in various esteemed Organizations. are an Autonomous Institution with good discipline as well as Result oriented with NAAC-A Grade, JNTU Kakinada -Permanent affiliation and ISO Certified Institution.

There is one N.S.S. Company in the institution attached with (Boy Cadets = 72, Girl Cadet = 27, total of 99 Cadets. N.S.S. having a total of 350 volunteers has been providing opportunities to the students for Social Services in various fields

like blood donation, plantation, cleanliness etc. However a total of more than 500 volunteers are enrolled in NSS in the College each academic year.

### **FOLIAGE**

The immediate enticement that allures one's eye after reaching the campus is its presence amidst the wide spread rural setting of serene and natural surroundings with plenty of lush green mango orchards. The institution is an implicit paradise of pure, pristine nature and idyllic beauty untouched by the devil – pollution. It adds refreshing and aesthetic fragrance to the consecutive fruits of success. The eco-friendly green patches energize the mood of the students and make learning highly enjoyable. The ambience indisputably befits scholastic pursuits. The institution has been putting in lakhs and lakhs of rupees to maintain and acquire improved versions of instruments to keep abreast the emerging trends and applications and to empower labs on par with its increasing student intake.

### **5. VISION, MISSION & QUALITY POLICY**

#### **VISION**

To produce Professionally Excellent, Knowledgeable, Globally Competitive and Socially responsible Engineers and Entrepreneurs.

#### **MISSION**

M1: Providing quality education through state-of-art Infrastructure, Laboratories, and Committed Staff.

M2: Establishing a continuous Industry-Institute Interaction, Participation and Collaboration to contribute Skilled Engineers.

M3: Involving Faculty members and Students in Research and Development to become globally competitive and for the betterment of society.

M4: Developing Human values, Social values, Entrepreneurship skills and Professional Ethics among the Technocrats.

## **QUALITY POLICY**

NRIIT is committed to meet the needs of all its Stakeholders, continually improving the effectiveness of QMS by imparting quality education to students and to train faculty in the field of Technical Education for achieving International recognition. Utmost care is taken to maintain all types of Accreditations.

## **6. GREEN AUDIT**

The college has adopted the ‘Green Campus’ system for environmental conservation and sustainability. The main pillars are i.e. zero environmental foot print, positive impact on occupant health and 100% graduates demonstrating environmental literacy.

The goal is to reduce CO<sub>2</sub> emission, energy and water use, while creating atmosphere where students can learn and be healthy.

## **7. LAND USE**

Land use is the term used to describe the human use of land. It represents the economic and cultural activities (e.g., agricultural, residential, industrial, mining, and recreational uses) that are practiced at a given place. Public and private lands frequently represent very different uses. For example, urban development seldom occurs on publicly owned lands (e.g., parks, wilderness areas), while privately owned lands are infrequently protected for wilderness uses.

Land use differs from land cover in that some uses are not always physically obvious (e.g., land used for producing timber but not harvested for many years and forested land designated as wilderness will both appear as forest-covered, but they have different uses).

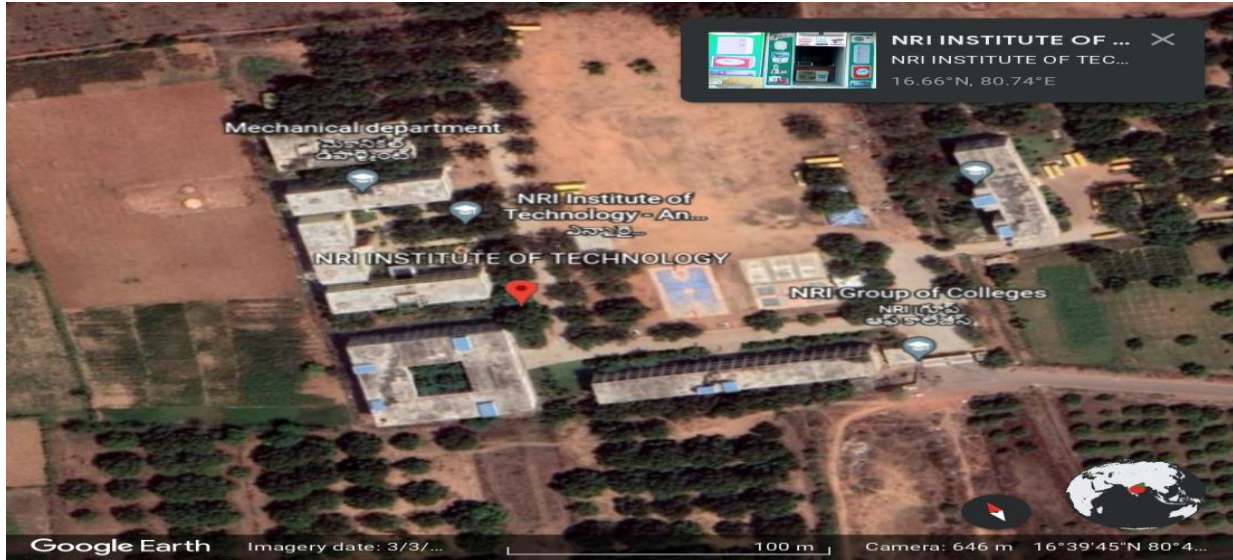
## **8. GEOGRAPHICAL LOCATION OF NRIIT**

NRIIT is a pollution-free campus spread over 20 acres of land away from the city Vijayawada and near to the Agiripalli.

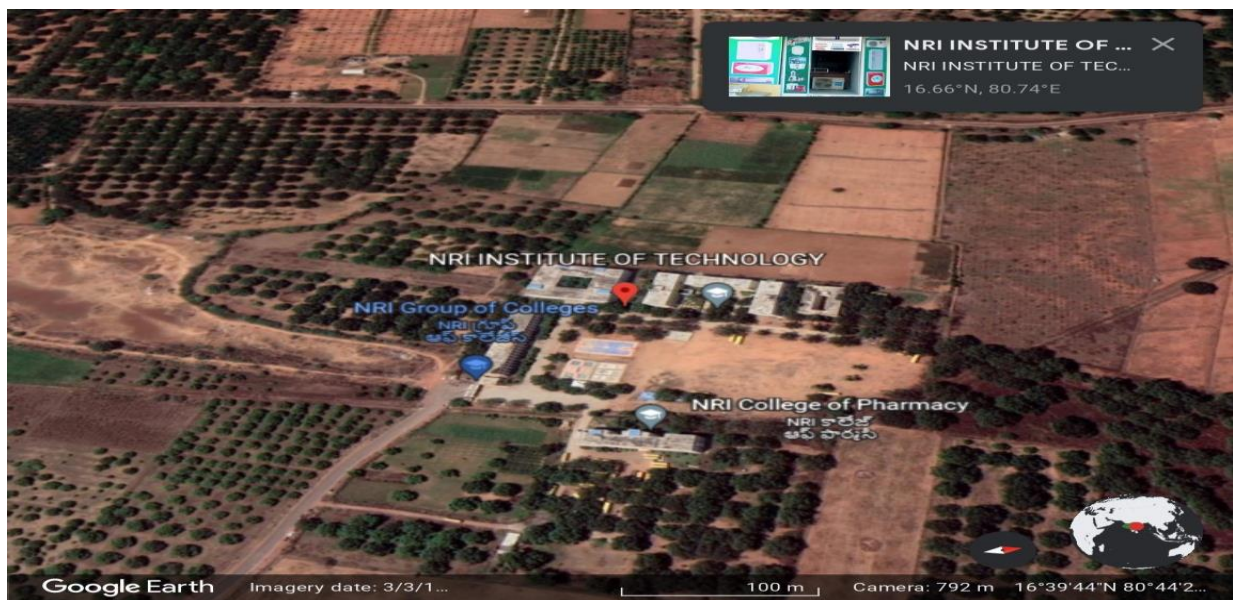
## GREEN AUDIT REPORT, NRIIT, POTHAVARAPADU

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The Google earth aerial views of College Campus have been shown in Photos respectively which are showing different college buildings, sports stadium, hostels and residential areas.



**IMAGE 1: Aerial View of College Campus (Source: Google Earth)**



**IMAGE 2: Aerial View of College Campus (Source: Google Earth)**



## 9. VARIOUS BUILDINGS AT NRIIT

S.No	Name of Building	Number of Floors
1.	ADMINISTRATIVE BLOCK (MAINBUILDING)	04
2.	EEE & FED BLOCK	04
3.	CIVIL BLOCK	03
4.	IT BLOCK	03
5.	MECHANICAL BLOCK	03
6.	BOYS HOSTEL	03
7.	PHARMACY BLOCK	03
8.	GIRLS HOSTEL	04
9.	OPEN CANTEEN	01

## 10. TREE SPECIES OF NRIIT

NRIIT is within the geo-position between latitude 16.66° N and longitude 80.74° E in Agiripalli, Vijayawada. It encompasses an area of about 20 Acres. The area is immensely diverse with a variety of tree species performing a variety of functions. Most of these tree species are planted in different periods of time through various plantation programmes organized by the NSS authority and have become an integral part of the college. The trees of the college have increased the quality of life, not only the college fraternity but also the people around of the college in terms of contributing to our environment by providing oxygen, improving air quality, climate amelioration, conservation of water, preserving soil, and supporting wildlife, controlling climate by moderating the effects of the sun, rain and wind. Leaves absorb and filter the sun's radiant energy, keeping things cool in summer. Many species of birds are dependent on these trees mainly for food and

## GREEN AUDIT REPORT, NRIIT, POTHAVARAPADU

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shelter. Nectar of flowers and plants is a favourite of birds and many insects. Leaf covered branches keep many animals, such as birds and squirrels, out of reach of predators. Different species display a seemingly endless variety of shapes, forms, texture and vibrant colours. Even individual trees vary their appearance throughout the course of the year as the seasons change. The strength, long lifespan and regal stature of trees give them a monument – like quality. They also remind us the glorious history of our institution in particular. We often make an emotional connection with these trees and sometime become personally attached to the ones that we see every day. A thick belt of large shady trees in the periphery of the college have found to be bringing down noise and cut down dust and storms. The following are the tree species with whom we are being attached-

**Table: List of tree species of NRIIT**

S.NO	SCIENTIFIC NAME	COMMON NAME	TOTAL
1	MANGIFERAINDICA	MANGO(RASALU)	04
2	MANGIFERAINDICA	MANGO(BANGINAPALLI)	145
3	COCOS NUCIFERA	COCONUT	50
4	BOUGAINVILLEA GALBRA	PAPER FLOWER	505
5	NEOLAMARCKIACADAMBA	KADAMBAM	50
6	SANTALUM ALBUM	SRI GANDHAM	50
7	PTEROCARPUSSANTALINUS	RED SANDAL	30
8	AZADIRACHTAINDICA	NEEM	98
9	TECTONAGRANDIS	TEAK TREE	10
10	NERIUM OLEANDER	GANNERU	22
11	HIBISCUS	MANDARAM	2
12	PSIDIUMGUAJAVA	GUAVA	15
13	MANILKARAZAPATA	SAPOTA	10

## GREEN AUDIT REPORT, NRIIT, POTHAVARAPADU

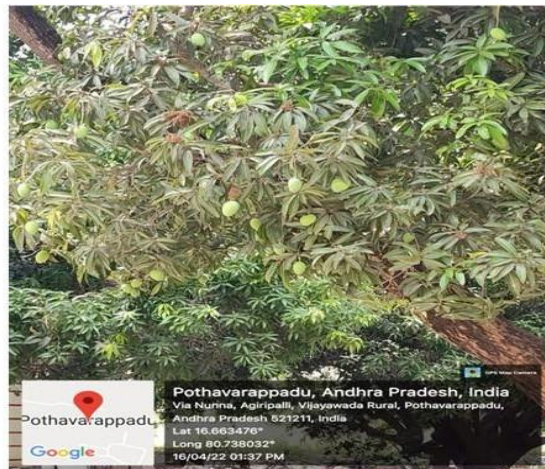
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14	SYZYGIUM CUMINL	JAVA PLUM	12
15	CARDYLINEFRUTICOSA	TI PLANT	24
16	CHLOROPHYTUMMOMOSUM	SPIDE PLANT	32
17	CODIAEUM VARIEGATUM	GARDEN CROTON	9
18	ARAUCARIA HETEROPHYLLA	NORFOLK ISLAND PINE	1
19	FICUS VARIEGATA	THE COUNCIL TREE	2
20	ELAEOCARPUS ANGUSTIFOLIUES	BLUE MARBLE TREE	14
21	TAGETES	MARIGOLD	310
22	LAWSONIAINERMIS	HENNA PLANT	1
23	ROSA	ROSE PLANT	32
24	WILD SWEETSOP	CUSTARD APPLE	14
25	HYPHORBELAGENICAULIS	BOTTLE PALM	10
26	SACRED FIG	RAAVI TREE	2
27	PHYLLANTHUSEMBLICA	INDIAN GOOSEBERRY	4
28	CITRUS LIMON	LEMON	6
29	MYOPORUM LAETUM	MOUSEHOLE TREE	190
30	STRELITZIA REGINAE	BIRD OF PARDISE PLANT	14
31	AGAVE AMERICANA	CENTURY PLANT	35
TOTAL			1703

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Bougainvillea (Paper flower)



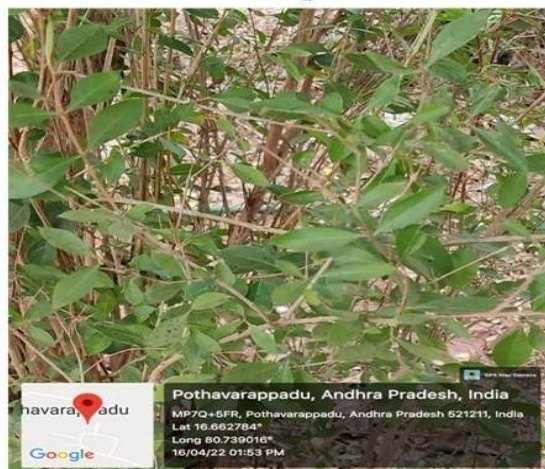
Mangifera (Mango)



Ficus Variegata



Cocos (Coconut)



Lawsonia inermis (Henna plant)



Heterophylla (Norfolk Island pine)

# GREEN AUDIT REPORT, NRIIT, POTHAVARAPADU



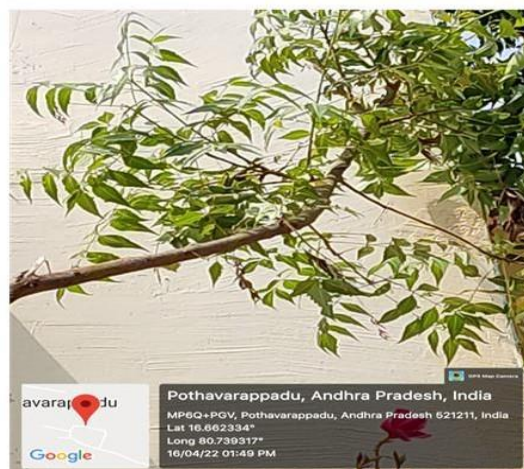
*Agave americana* (Century plant)



*Hibiscus*



*Annona reticulata* (Custard apple)



*Azadirachta indica* (Neem)



*Manilkara zapota* (Sapodilla)



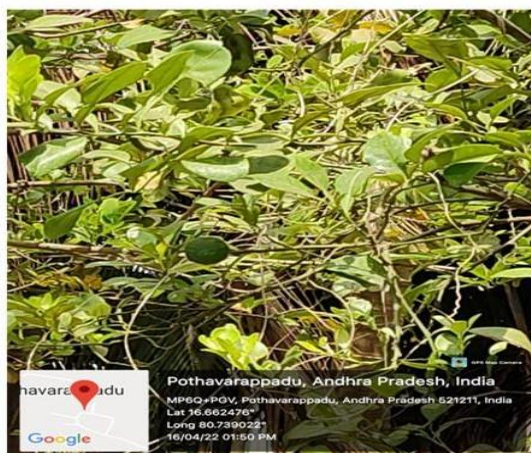
*Phyllanthus emblica*



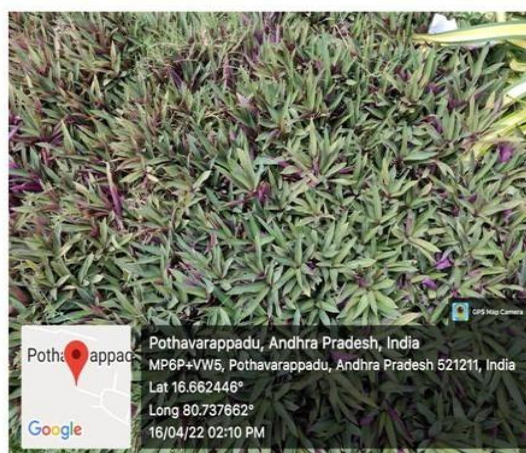
Tagetes(marigold)



Nerium oleander ( Ganneru)



Citrus Limon ( Lemon)



Cardyline fruticosa



Pterocarpus santalinus (Red sandal)



Chlorophytum osum (Spider plant)

## 11. FAUNAL DIVERSITY IN NRIIT CAMPUS

NRIIT is located in NTR District of Andhra Pradesh. It has got extreme climates. The highest temperature is recorded 39<sup>0</sup> C just prior to the onset of monsoon (around May- early June). Summer rain is normal, and is principally caused from late July to August by the moisture-laden South-West Monsoon. The climatic condition of the NTR district as a whole and NRIIT in particular is very suitable for a wide variety of flora and fauna to support its rich biodiversity. The faunal Diversity of NRIIT campus has been studied and documented as below:

**Table: Common and Scientific names of birds and animals**

S.No	Common Name	Scientific Name
1.	Common Myna	Acridotheres Tristis
2.	Bank Myna	Acridotheres Ginginianus
3.	House Sparrow	Passer Domesticus
4.	House Crow	Corvus Splendens
5.	Cuckoo	Cuculidae
6.	Snake	Naja Naja
7.	Yellow Wasp	Ropalidia Marginata
8.	Butter Fly	Danaus Genutia
9.	Common Woodshrike	Tephrodornis Pondicerianus
10.	Pied Myna	Gracupica Contra
11.	Monkey	Rhesus macaque
12.	Skylark	Aluda Gulgula
13.	Garden Tiger Moth	Arctia Caja
14.	Little Owl	Athene Brama
15.	Oleander Moth	Syntomeida Epilais
16.	Slender Skimmer	Orthetrum Sabina

### **12. WEATHER DATA OF NRIIT**

In Pothavarappadu, the climate is warm and temperate. The summers are much rainier than the winters in pothavarappadu. The average annual temperature in Pothavarappadu is 27 °C and precipitation level is about 1000 mm.

### **13. WATER ANALYSIS REPORT OF NRIIT**

Water quality testing is important because it identifies contaminants and prevents water- borne diseases. Drinking or using contaminated water can result in severe illness or death. That is why it is important to ensure that drinking water is safe, clean and free from bacteria and disease.

The parameters for water quality are determined by the intended use. Work in the area of water quality tends to be focused on water that is treated for human consumption, or in the environment.

#### **Drinking water indicators:**

The following is a list of indicators often measured by situational category:

- Alkalinity
- Color of water
- PH value
- Taste and odor
- Dissolved metals and salts
- Dissolved organics

NRIIT has provided R.O water plant for drinking and domestic usage in the campus.

### **14. WASTE DISPOSAL AT NRIIT**

#### *Solid waste management and Waste recycling system*

Pollution from waste is aesthetically unpleasing and results in large amounts of litter in our communities which can cause health problems. Solid waste can be categorized into three types: biodegradable, non-biodegradable and hazardous waste. Bio-degradable wastes include food wastes, canteen waste, wastes from



toilets etc. Non-biodegradable wastes include plastic, tins and glass bottles etc. Hazardous waste is waste that is likely to be a threat to health or the environment like cleaning chemicals, acids and laboratory chemicals.

Each and every department as well as administrative offices create some waste and dumped in small waste bin located in the department. Each building several dust bins are placed from where housekeeping staffs take the wastes. From the small bin wastes are dumped in big bin by the housekeeping staffs regularly. Routine waste is daily collected in dustbins at different locations, which are emptied in movable containers, carts and segregated taken to the dumping yard.

Institute produces lot of paper waste. Paper wastes from Academic Blocks, Library, Administrative offices, Hostels are disposed through vendors. The wastes are properly stacked in designated place and later disposed through vendors for proper waste management.

Institute promotes digital platform to reduce the usage of paper for communication and sharing documents.

### *Liquid waste management*

Liquid waste generated within the campus, the liquid waste from kitchen/ Bath rooms and sewage from the toilets. Separate chambers and pipelines have been constructed to collect kitchen/ Bathroom liquid waste and Sewage waste. This liquid waste generated in the institute disposed into soak pits. The liquid wastes are mainly drained to improve the ground level of water. Institute does not have any sewage treatment plant yet.

## **15. TRANSPORTATION AT NRIIT**

Being one of the largest campus in the district and located centrally, NRIIT faculty, staff and students commute on different modes of transportation. The college is dedicated to provide its students and staff all the comfort and convenience to help them to achieve their targets. The students are encouraged to use cycles and college buses where the mass transit can reduce the usage of two wheelers for

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students as a safety precaution and also which leads to fuel saving and also the contribution of pollutants to atmosphere is less.

**Table: Transportation details**

S.NO	TYPE OF THE VEHICLE	TOTAL
1	CARS	04
2	COLLEGE BUSES	54
3	OTHERS	02

