

# GREEN AUDIT – 2022-23



**SREE NARAYANA GURU COLLEGE**

**CHELANNUR, KOZHIKODE**

**KERALA**

*EXECUTED BY*



**ATHUL ENERGY CONSULTANTS PVT LTD**

4th FLOOR, CAPITAL LEGEND BUILDING,

KORAPPATH LANE, ROUND NORTH, THRISSUR, KERALA-680020

Ph: +91 735611199/0-6 Web: [www.athulenergy.com](http://www.athulenergy.com) E-Mail: [info@athulenergy.com](mailto:info@athulenergy.com)

March 2023

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## PREFACE

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Every institution should be imparting knowledge about the campus environment and its surroundings through activities that follows the principles of sustainability. Hence an evaluation is needed to understand where it stands in the path to be an environment friendly, talent nurturing educational institution. This Green Audit was done with the aim to assess and rate the sustainable nature of the campus. The college vision is “to enlighten and empower women in rural and suburban society and enable them to act as agents of social transformation and acquire knowledge of self and surroundings and to make the world a better place”. And in the **social goals**, it is written as “**to make the students aware of the pressing global issues and the moral responsibility to handover to the coming generation an eco-friendly life style and an earth free from pollution, filth, bigotry and corruption**”. It was observed by us from the students’ participation during the green audit.

## ACKNOWLEDGEMENTS

We express our sincere gratitude to the management of M/s Sree Narayana Guru College Chelannur for giving us an opportunity to carry out the project of Green Audit. We are extremely thankful to all the staffs for their support to carry out the studies and for input data, and measurements related to the project of Green audit.

- |   |                |                            |
|---|----------------|----------------------------|
| 1 | Dr. Kumar S.P  | Principal                  |
| 2 | P.M Raveendran | S.N Trust Executive member |

Also congratulating our Green audit team members for successfully completing the assignment in time and making their best efforts to add value.

### GREEN AUDIT TEAM

- 1. Mr. Santhosh A**  
Registered Energy Auditor of Bureau of Energy Efficiency (BEE – Govt. of India)  
Accredited Energy Auditor No – EA 7597
- 2. Mr. Ashok KMP**  
**Energy Manager of Bureau of Energy Efficiency, GRIHA Certified Professional**
- 3. Mr. Hari Krishnan** Project Engineer



Yours faithfully

Managing Director  
Athul Energy Consultants Pvt Ltd



## GREEN AUDIT SUMMARY

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- ❖ Sree Narayana Guru College of Chelannur taken considerable effort for maintaining the green and sustainable campus.
- ❖ Varieties of living eco (Hill rocks, Valley and Wet land ) systems with varieties of trees and open lands are maintained by
- ❖ Staff and student's collaboration of NSS units (19&33) is held responsible for maintenance of greenery inculcating a sustainable culture among the student's community.
- ❖ By recognizing the importance of making healthy youth, management taken initiatives and built a badminton and volleyball courts, food ball ground in the college surrounded with lush of greeneries.
- ❖ Contours are made in the campus for as ground water recharging as rain water harvesting in many areas.
- ❖ College well maintaining vegetable garden , Muringa Garden ,Pappaya Plantation , Kadali Plantain garden etc in the college
- ❖ Classes are conducted by the college in its open atmosphere which lead the students are in line with nature and the eco systems.

### **Suggestions for improvement**

- ❖ Water meter to be installed for measuring water consumption per day.
- ❖ Practice Institutional Ecology- Set an example of environmental responsibility by establishing institutional ecology policies and practices of resource conservation.
- ❖ Road map for the tree plantation to be done along with the master plan of the college. Gave importance for the oxygen generating plants and lush green trees.
- ❖ Display boards are to be placed in the, herbal, botanical garden areas with name of trees in that areas.
- ❖ Cordoned area to be provided with suitable plants in the herbal garden, star garden and bio diversity gardens.

## GENERAL DETAILS

The general details of the Sree Narayana Guru College Chelannur are given below in table.

Sl. No:	Particulars	Details
1	Name of the College	Sree Narayana Guru College, Chelannur
2	Address	Sree Narayana Guru College, Kozhikode Balussery Rd, Chelannur, Kozhikode, Kerala 673616
		Kozhikode -673616
3	Contact Person	Dr. Anusmitha, Ph: 9961777677
4	Contact Phone number&E mail	0495-2260495
		sngcollege2007@yahoo.com
5	Web site	www.sngcollegechelannur.edu.in
6	Type of Building	Educational Institution
7	Annual Working Days	210
8	No: of Shifts	Day Shift (One) (9AM -4PM)
9	No: of students enrolled	1235
10	No: of teaching staff	33
11	No: of non-teaching staff	17
12	No: of departments	19
13	No : UG courses	07
14	No: of PG courses	04
15	Total campus area	67 Acre
16	Total Built Up area	6927 m <sup>2</sup>
17	No: of hostel	01( Women) &Sports Hostel for Gents

**TABLE 1: GENERAL DETAILS**

## ABOUT SREE NARAYANA GURU COLLEGE CHELANNUR

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Sree Narayana Guru College, Chelannur, is situated at the foot of the towering Kalari Hills, in a quiet village about 14 kilometres in the north-east direction from Kozhikode. The college has a serene and extensive campus of about 67 acres, by the side of Kozhikode-Balussery Road, noted for its scenic beauty and blessed with the natural spring water fountain in the south-east location. The institution has been catering to the academic needs and aspirations of the pupils in and around Chelannur for more than four decades.

The foundation stone of the college building was laid in February 1968 by Dr. T. Balakrishnan. The formal inauguration of the commencement of classes took place in June 1968 with Sri. R. Sankar, the Founder Secretary of the S.N. Trusts engaging the first Pre-Degree class. In 1975, with the beginning of under graduate courses in Botany and Commerce, the college was elevated to the status of a degree college. It became a venue for Post Graduate Studies with the commencement of M.Com degree course in 1995 and MA (English) Degree course in 1999. Recently in 2021 the 4th PG course Msc Biology course with specialization Genetics, Biomechanics, Biomedicine, Genomics, Green Biology was started. In March 2007, the college was accredited by the NAAC at the level of B+ grade and re-accredited by the NAAC at the level of B++ grade in October 2016.

At present the college is one of the prestigious institutions of higher learning run by S.N. Trusts, Kollam. It is managed by the executive committee of the S.N. Trusts with Sri.Vellappally Natesan as the manager. The Regional Development Committee, Calicut, assists the Trusts in the management and developmental activities of the college. The Principal is the Ex-officio member of the Regional Development Committee.

### **Our Motto**

"Enlightenment through Education"

### **Our Vision**

"Enlightenment and Liberation through Education"

### **Our Mission**

To promote tolerance, secularism, communal harmony and democratic spirit among the youth. | To create morally responsible citizens. To expel the darkness of ignorance by lighting the lamp of wisdom.



## Objectives

- To equip students with updated knowledge and relevant skills for improving their global competency.
- To promote higher education among the economically weak and socially backward sections of the society irrespective of caste and creed.
- To enhance the research aptitude of students and create a craving for academics
- To facilitate industry interactions.
- To develop knowledge and skills related to the subject of study.
- To install the capacity to identify, formulate and handle scientifically complex problems, as well as to critically evaluate information and to formulate possible solutions.
- To develop skills to communicate knowledge at the theoretical as well as applied levels.
- To enhance the commitment of the faculty, staff, and students to the centrality of diversity, social justice and democratic citizenship
- To help students use their physical, mental and intellectual energies for the advancement of the individual and the society, to strive for the achievement of truth and righteousness.
- To enable teachers to integrate innovations with pedagogic discourse
- To encourage basic research and original thinking.
- To empower the marginalised and backward classes with special focus on women.
- To promote secularism, communal harmony and democratic spirit.



**Figure 1 MAIN BUILDING FRONT VIEW**



## GREEN AUDIT

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The whole world is on the road to a sustainable development, and the environment conservation is the top priority among the list as every human activity has its effect on their surroundings, which is the environment. Hence be it a house, a commercial building, an industrial building, or any other construction will disturb the balance of the environment. It is very important to do a detailed study about the effects on the environment. This is conducted under the name of *Green Audit*, which can be defined as *the official examination of the effects a company or other organization has on the environment, especially the damage that it causes*. The objectives of the green audit can be listed as follows:

- Including participants from every section of the organization in the auditing process.
- Understanding the environment by drawing a simple sketch of the total area.
- Identifying the activities in the premises and listing them.
- Calculating the resource consumption like the land and water.
- Assessing the waste management and disposal.
- Study the energy usage pattern.
- Identify the good practices.
- Suggest the viable solutions to improve the sustainable nature of the institution.
- Compile the report with the above-mentioned details.
- Conduct a walkthrough audit to check the suggestions implemented by the institution and suggest for further improvements
- Verify all the points with actual measurements is it is meeting the performance and gave suggestions for improvement

## CAMPUS ENVIRONMENT

The environment in and around the college campus plays an important part in maintaining a healthy atmosphere in nurturing talents. Trees are the major source of the oxygen we breathe, and receiver of the carbon dioxide we exhale. The sustainability of an ecosystem depends on the number of plants and trees in and around the surroundings. The open space in the college is used for gardening, cashew nut plantations, buildings are built up without disturbing the sustainable nature of land scape of the area.

Ultimately the campus is maintaining natural equilibrium with open spaces, buildings, trees, birds along with human interactions

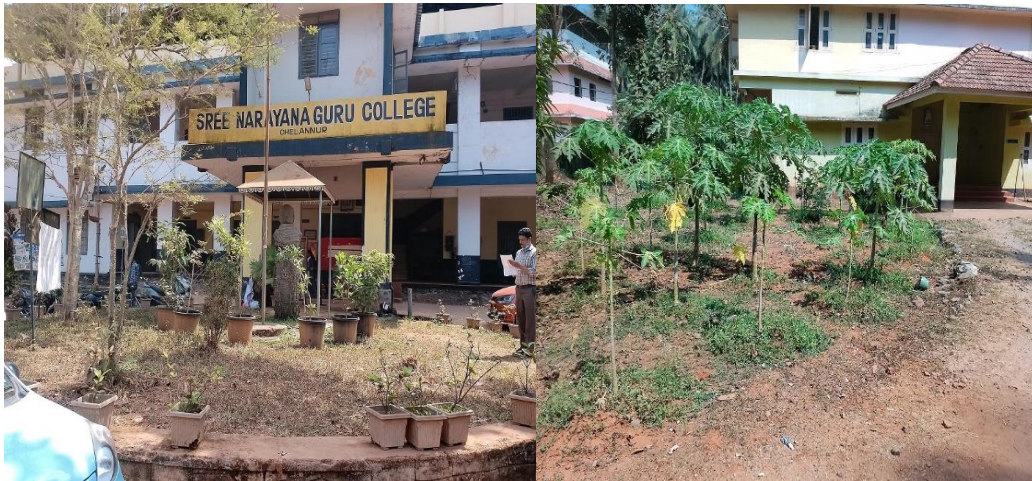


FIGURE 2: CAMPUS VIEW

Scientific studies are proved that the nature can able to cure any diseases and this will reduce the stress among students during theirs studies and also increase the compassion among them and to nature. Ultimately the campus is maintaining natural equilibrium trees, birds and water bodies with human beings. Gardens and landscape are an aesthetic delight and it promotes attentiveness of students. Persons exposed to plants have higher level of positive feelings (pleasant, calm) as opposed to negative feelings (anger, fear).

## SUSTAINABLE CONSTRUCTION OF BUILDINGS

Energy consuming devices installed to achieve the comfort levels for the occupants of the building gives rise to heat generation which adversely affects the environment within the building and in the surrounding. Buildings are thus the major pollutants that affect the urban air quality and contribute to climate change. Buildings are the major consumers of energy during their construction, operation and maintenance.

Sree Narayana Guru College Chelannur has developed an ecological design in their buildings and adopted minimum negative impact on ecosystem. Their approach to the constructional activities consciously is to conserve energy and ecology and avoid the adverse effects of ecological damage.

Sree Narayana Guru College management constructed the building to optimum utilisation of land and classrooms and with abundant light and natural ventilation. Maximum day light ingress and natural ventilation increases the indoor air quality and avoid the sick building syndrome. The whole facility and buildings are designed to maximum and optimum utilisation of land without affecting the natural hill area



**FIGURE 3: BUILDING VIEW**

## CARBON DIOXIDE LEVELS

Air quality is a major area of concern inside a building. The percentage share of oxygen and carbon dioxide should be such that the occupants are able to perform their tasks without any discomfort. This is generally done through a provision of fresh air duct for the air conditioning systems or by providing windows. Numerous factors need to be considered for the design and fabrication of the fresh air supply system like the number of occupants, weather pattern and air quality of the location, and so on. For the human comfort, production of carbon-dioxide (CO<sub>2</sub>) within a building space is the prime area of consideration. This is associated with respiration which produces CO<sub>2</sub>. As a result, the carbon-dioxide levels will increase if ventilations are not provided.

As per various standards (like the ASHRAE Standard 62.1-2016), indoor CO<sub>2</sub> concentrations up to 1200 ppm is considered acceptable. For a typical outdoor condition, this value may change from 300 to 500 ppm.

The measurements were recorded along different locations inside the campus and the peak values are given in the following sections. The key concentration was on the study of carbon dioxide levels.

**Table 2 CO<sub>2</sub> LEVELS IN BUILDING**

Sl. No.	AREA	Measured CO <sub>2</sub>	Standard CO <sub>2</sub> level (Range)	Remarks
<b>Main Block</b>				
1	Class room Physics	550	300-500	<b>Good</b>
2	Corridor	625	300-500	<b>Good</b>
4	HOD room Botany	600	300-500	<b>Good</b>
1	Class room Mathematics	550	300-500	<b>Good</b>
2	Corridor	550	300-500	<b>Good</b>
3	HOD Room Mathematics	530	300-500	<b>Good</b>
4	Principal Office	480	300-500	<b>Good</b>
5	Office	460	300-500	<b>Good</b>
<b>Miscellaneous and others</b>				
1	Canteen	550	300-500	<b>Good</b>
2	Sports Hostel	560	300-500	<b>Good</b>

## 1. HERBAL GARDEN

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The literal meaning of Ayurveda is “science of life,” because ancient Indian system of health care focused on views of man and his illness. It has been pointed out that the positive health means metabolically well-balanced human beings. Ayurveda is also called the “science of longevity” because it offers a complete system to live a long healthy life. It is an interactive system that is user-friendly and educational. It teaches the patient to become responsible and self-empowered. It is a system for empowerment, a system of freedom, and long life. A significant part of knowledge and tradition is currently being eroded due to modernization, acculturation and availability of alternatives. Therefore, it is urgent to inculcate young minds to realize the fascinating knowledge and tradition associated with these resources, and help them understand the immense potentials the Kerala medicinal plants possess for the future.

The “Promoting Herbal Gardens in Schools and colleges” has been a fun-filled learning activity for the students where they got the opportunity to learn about the medicinal plants by actually planting the medicinal herbs and watching them grow in their gardens, and by exploring information about them from various sources.



**FIGURE 4: PROPOSED AREA FOR HERBAL GARDEN IN SNG COLLEGE**

The task of making the garden itself has been enriching in terms of making students realize the importance of teamwork such as detailed planning, and allocation of tasks within a team. For the teachers, herbal garden project has been useful in terms of ease with which they could integrate the concept with other subject matter activities, such as writing essays, poems and stories, making posters, drawing and painting, making herbariums, and even preparing food recipe using some of the culinary herbs students have planted in their gardens. Kerala Government is also making lot of initiatives to developing and inculcating the herbal gardens in schools and colleges.

## 2. STAR GARDEN (NAKSHTHRAVANAM)

In Vedic astrology, the zodiac is divided into 27 Nakshatras or stars. An individual is born under a particular star, known as his or her birth star. From ancient times, particular trees have been associated with birth stars. The concept of a Nakshatra Vanam involves the planting of these trees in a grove and nurturing them, to help develop a place of sanctity. Gardening can provide students with hands-on learning opportunities while increasing environmental awareness and vital experience in problem-solving.

**Every student and staff has a birth star which is related to a tree, animal and bird in Nature.**

Gardens are a wonderful way to use the college campus as a classroom, reconnect students with the natural world and the true source of their food, and teach them valuable gardening and agricultural concepts and skills that integrate with several subjects, such as math, science, art, health and physical education, and social studies, as well as several educational goals, including personal and social responsibility

Star plants are planted on the way to ladies hostel. All these plants are having name boards with star, vernacular and botanical names.

Sl No:	Star name	Vernacular Name	Botanical Name
1	Aswathy	Kanjiram	<i>Strychnos nux-vomica</i> ]
2	Bharani	Nelli	<i>Emblica officinalis</i> ]
3	Karthika	Aathi	<i>Ficus racemosa</i>
4	Rohini	Njaval	<i>Syzygium cumini</i> ]
5	Makayiram	Karngali	<i>Acacia catechu</i> ]
6	Thiruvathira	Karimaram	<i>Diospyros ebenum</i> ]
7	Punartham	Mula	<i>Bambusa bambos</i> ]
8	Pooyam	Arayal	<i>Ficus religiosa</i> ]
9	Ayilyam	Nangu	<i>Mesua ferrea</i> ]
10	Makam	Plassu	<i>Butea monosperma</i> ]
11	Uthram	Ithi	<i>Ficus tinctoria</i> ]
12	Atham	Ambazham	<i>Spondias pinnata</i>
13	Chithira	Koovalam	<i>Aegle marmelos</i>
14	Chothi	Nerr maruthu	<i>Terminalia arjuna</i>
15	Visakham	Vayam Kaitha	<i>Flacourtia jangomas</i>
16	Anizham	Elanji	<i>Mimusops elengi</i> ]

17	Triketta	Vetti	Aporusa lindleyana
18	Moolam	Vella Pine	Vateria indica
19	Pooradam	Vanchi	Salix tetrasperma
20	Uthradam	Plavu	Artocarpus heterophyllus
21	Thiruvonam	Erukku	Calotropis gigantea
22	Avittam	Vanni	Prosopis juliflora
23	Chathayam	Kadambu	Anthocephalus cadamba
24	Pooruttathy	Mavu	Mangifera indica
25	Uthrottathy	Karimbana	Borassus flabellifer
26	Revathi	Elippa	Madhuca longifolia



**Figure 5 LOCATION FOR NAKSHTRAVANAM**

### 3. KUTTIVANAM (SMALL FOREST)

Sree Narayana Guru College Chelannur developed an untouched and protected version of forest in their premises. This is maintaining in the form of old tradition such as Kavau, the small untouched forest which we can able to see in most parts Kerala. Kavau is maintained as forest areas that human beings are mostly prohibited and considered a sacred place in the Keralite. The location of Kuttivanam is behind the college area. Which is an untouched and silent zone in the college.





**Figure 6 KUTTIVANAM**

Such a place can have following benefits to the ecosystem.

1. **Maintain the equilibrium of air and food:** Humans and animals need food and oxygen and excrete carbon dioxide and water. The plants, algae, etc, in the Kuttivanam use carbon dioxide and water and release or produce oxygen and food.
2. **Filter and store water, and drastically reduce storm-water runoff:** Forests filter and regulate the flow of water. The litter over the forest floor acts as a sponge which filters, stores and gradually releases the water to natural channels and ground water.
3. **Conserve valuable topsoil and reduce soil erosion:** A forest is like a protective green cloth over Mother Earth's fragile body.
4. **Conserve biodiversity and balance ecology:** In a natural environment, the populations of species are balanced to an optimum minimum level
5. **Reduce pollution:** Plants can remove and/or Phyto remediate pollutants and contaminants from soil and water.
6. **Arrest or reverse global warming:** Global warming can cause extinction of species, tropical cyclones, extreme weather, tsunamis, abrupt climatic change, sea level rise, increased human stress resulting in violence, etc. These are just a few of its catastrophic effects. Plants can lock CO<sub>2</sub> in their bodies to save our planet and the life on it.

#### 4. VEGETABLE GARDEN

It is a garden that exists to grow vegetables and other plants useful for human consumption. Gardening can provide students with hands-on learning opportunities while increasing environmental awareness and vital experience in problem-solving. The vegetable gardens are changing the eating habits of the students

Gardens are a wonderful way to use the college campus as a classroom, reconnect students with the natural world and the true source of their food, and teach them valuable gardening and agriculture concepts and skills that integrate with several subjects, such as math, science, art, health and physical education, and social studies, as well as several educational goals, including personal and social responsibility. They gain self-confidence and a sense of "capableness" along with new skills and knowledge in food growing — soon-to-be-vital for the 21st century students become more fit and healthy as they spend more time active in the outdoors and start choosing healthy foods over junk food.



Figure 7 VEGETABLE GARDEN

## **MURINGA (DRUM STICK) GARDEN**

The rich culinary tradition of our country has helped us to relish and taste several types of vegetables fruits and Muringa as one of the vegetable. Sambhar or avial or any meat curry, soups, pickles etc drum stick renders its unique flavour to the dishes. Drum stick( *Moringa oleifera*) is a fast growing tree and widely cultivated for its tender seed pod, leaves used as vegetable heaped with vital nutrients and as medicine in Siddha .for its indispensable medicinal properties. It is finest source of calcium, iron, zinc selenium and magnesium. Fresh pods and seeds are great source of oleic acid, healthy fatty acid. College planted more than 250 samplings of Muringa in the back of college.

## **PAPPAYA PLANTATION**

Papayas are tropical fruit high in vitamin C and antioxidants. Certain compounds in papayas may have anticancer properties and improve heart health, among other health benefits. Papaya is the fruit of the *Carica papaya* plant. Pappaya is rich in valuable nutrients and has a delicious taste, powerful antioxidants, anti-cancer properties, fight inflammation, improves digestion and protects skin damage. College planted several papaya plants in the college and ladies hostel.

## **KADALI PLANTAIN**

Botanical Name: *Musa paradisiaca* Linn. In Hinduism, Kadali is called the ‘fruit of paradise. The whole plantain plant is considered auspicious in Hindu religion and is used as whole and in part in various pujas, rituals and auspicious functions like marriage, house warming etc. College done devoted certain area for kadali plantain in the college premises. Kadali plantain cultivation is reducing in Kerala . Sree Narayana Guru College is initiated a drive for cultivation of Kadali.



Figure 8 MORINGA, PAPPAYA&KADALI PLAINTANE

## 5. GREENERY IN THE COLLEGE

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Sree Narayana Guru College located in down side of Kalari Hills in the Kozhikode Ballussery road the total area of 67 acres of land mainly covered by trees and it is well protected by management. Educational institutions serve as important incubators for developing a ‘green ‘sense among students and teachers and create a new generation of professionals to drive the future change. Green sense is the sensitivity towards environment that is addressed in our decisions, practices and general lifestyle. In Sree Narayana Guru College teaching sustainability and environment not in books but it is demonstrated in the campus



**FIGURE 9: SCENIC COLLEGE PERIPHERALS**

## 6. LIST OF TREES IN THE CAMPUS

Trees release oxygen when they use energy from sunlight to make glucose from carbon dioxide and water. Like all plants, trees also use oxygen when they split glucose back down to release energy to power their metabolisms. The college campus is divided into various locations for listing out the trees. The college campus contains 2235 trees in 30 varies species in the college campus. Most of the trees are Mahagani. Pana, Kasumavu and Accasia.

**Table 3 LIST OF PLANTS**

Sl.no	Vernacular Name of trees	Botanical name	Quantity
1	Teak	Tectona grandis	58
2	Nelli	Phyllanthus emblica	10
3	Mavu	Mangifera indica	09
4	Plavu	Artocarpus heterophylla	08
5	Suppotta	Manikara zapota	02
6	Perakka	Psidium guajava	04
7	Chambakka	Syzygium aquenum	02
8	Mahagani	Swietenia macrophylla	38
9	Mazha maram	Samanea saman	02
10	Kanikonna	Cassia fistula	05
11	Badam	Terminalia cattappa	07
12	Elanji	Mimosops elengi	05
13	Parakam	Ficus hispida	11
14	Ungu	Pongamia pinnata	04
15	Aryaveppu	Azadirachta indica	08
16	Thanni	Terminalia bellerica	04
17	Chara konna	Peltophorum pterocarpum	42
18	Manja Konna	Senna siamea	32
19	Vatta	Macaranga peltata	134
20	Acacia	Acacia auriculiformis	710
21	Choondapana	Carvota urens	13
22	Thengu	Cocos nucifera	10
23	Manimaruthu	Terminalia arjuna	62
24	Karivetti	Olea dioica	01
25	Kasu mavu	Anacardium occidentale	840
26	Pana	Borassus flabellifer	10
27	Kulamavu	Persea macrantha	02
28	Cheeni	Tetrameles nudiflora	01
29	Maramulla	Murraya paniculata	200
30	Chembakam	Magnolia champaca	01
	Total		2235

## Advantages of trees

1. **Maintain the equilibrium of air and food:** Humans and animals need food and oxygen and excrete carbon dioxide and water. The plants, algae, etc, in the forest use carbon dioxide and water and release or produce oxygen and food.
2. **Filter and store water, and drastically reduce storm-water runoff:** Forests filter and regulate the flow of water. The litter over the forest floor acts as a sponge which filters, stores and gradually releases the water to natural channels and ground water.
3. **Conserve valuable topsoil and reduce soil erosion:** A forest is like a protective green cloth over Mother Earth's fragile body.
4. **Conserve biodiversity and balance ecology:** In a natural environment, the populations of species are balanced to an optimum minimum level
5. **Reduce pollution:** Plants can remove and/or Phyto remediate pollutants and contaminants from soil and water.
6. **Arrest or reverse global warming:** Global warming can cause extinction of species, tropical cyclones, extreme weather, tsunamis, abrupt climatic change, sea level rise, increased human stress resulting in violence, etc. These are just a few of its catastrophic effects. Plants can lock CO<sub>2</sub> in their bodies to save our planet and the life on it.
7. **Acoustics of the college will gave comfort zone for academic purpose.** : Green coverage around the building reduces the sound by absorption by leaves thus the echo and reverberation of sound will come down.

## 7. PEACE GARDEN

**Peace Garden** is which becomes "a symbol of hope for the future and our college commitment to peace — peace within ourselves and our college community, peace within the global family and peace with the rest of nature".



**Figure 10 PEACE GARDEN**

## 8. OXYGEN PARK

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Green space in the college where you can go for morning and evening walks, as well as for picnics. Oxygen Park is a location where we can rest and release all our stress by nature. In this aesthetic location with ample ventilation take us into heaven in the earth. This park is anything but regular with its many sections for picnic lovers, children, fitness enthusiasts, and just about anyone who wants to spend some quiet time amidst nature. Fitness enthusiasts, get here for some fresh air and undisturbed yoga sessions. Undisturbed nature along with water bodies enhances your creativity due to comfort feeling to mind along with abundant supply of oxygen

In this oxygen park classes are conducted by college which are increasing the creativity and it is practical way of learning methods to understand nature



Figure 11 OXYGEN PARK

## 7. SILENT ZONE

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Now a day's silent zones are getting important in academic institutions. The noise pollution leads to stress and other medical and neurotic problems to children's and also creativity and absorption capacity of knowledge is also going down. For reduction of academic stress level there is space for complete relaxation which gives the importance of silence zone. Sree Narayan Guru College have aerated certain silent zones in the college itself. . Natural silence zones are also crated in the college campus where there is no sound other than natures sound. This area is down side of Kalari hills and it is wet land eco system with different bio diversity in the college



Figure 12 SILENT ZONE

## 8. LATERITE HILL ROCK

Open This Laterite hill rock is a life blood of the college eco system. In this midland eco system having a unique feature having 3 eco systems as hill rocks, valleys and wet land which are rich in bio diversity. This laterite soil is strong enough and also water holding capacity is very good. This water holding in the laterite hill maintaining a continuous stream of water to college back side and hence it is called as **LIFE BLOOD** of college eco system. Sree Narayan Guru College well maintained this eco system as untouchable hill rock its valleys and the wet land in the down side.



Figure 13 LATTERIT HILL ROCK

## 9. OPEN GROUNDS

Education is incomplete without sports and games. Sports and games are **beneficial in teaching us punctuality, responsibility, patience, discipline, and dedication towards our goal**. The importance of games and sports in student's life is immense. It has proved to be very therapeutic in nature. Sports help improve stronger social skills, such as dispute management and sport-based interaction. **Sports inculcate the feeling of fairness in a child and it encourages them to be committed, taking defeat in a positive manner**. It teaches us to be joyful, united, and appreciative in life. Students are the youth



of our Nation, and they need to be energetic, physically active, and mentally fit. By understanding the responsibility to make its students as healthy Sree Narayana Guru College built and maintained football ground, volley and badminton and Kabady court in a greenery surroundings. .



**Figure 14 OPEN PLAY GROUNDS**

## 10. SPECIAL INITIATIVES OF COLLEGE

### ***I. DISABLED FRIENDLY:***

Disability is only disabling when it prevents someone from doing what they want or need to do. Government of India signed the UNCRPD (United Nations Convention on the Right of Persons with Disabilities) on 1st October 2007. In this article 9 says about the requirements of disabled persons on accessibility to buildings. As per the signed UNCRPD Indian Parliament passed an act as RPD (Right to Persons Disability) act on March 2016. As per new act, all buildings should have ramps at the entry, exit, lifts for higher floors, separate toilet with suitable arrangements such as hand rails etc.



**Figure 15 ENTRANCE FOR GROUND FLOOR**

## WATER AUDIT

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The requirement of water for the college, hostels and gardening etc are met by supply from two OPEN wells. . The water from OPEN wells are collected in two tanks of capacity 50 KL concrete tank 5KL synthetic tank IN women hostel.

The water from different wells are checked in an accredited laboratory in time to time to ensure its portability.

### 1. WATER RESOURCES

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There are two bore well and one well in the college, one well is located near the sports hostel

### WATER UTILITIES

The labs have the highest tap points whereas the toilet accounts for the major consumption. The water outlet points in the college campus and hostel are listed in the following table.

**Table 4 LIST OF WATER TAPS**

Location	No: of taps
Washing area taps	54
Toilets for students	40
College compound and garden	12
Staff rooms	29
Total	125

### 2. GROUND WATER RECHARGING

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Rainwater harvesting (RWH) is a technique of collection and storage of rainwater into natural reservoirs or tanks, or the infiltration of surface water into subsurface aquifers (before it is lost as surface runoff). There are different methods for artificial rain water harvesting. Ground water recharging by different means and collection of rain water for direct use by installation of rain water collection tank. Ground water recharging methods are decided by detailed study of rain fall, geological and hydrogeological mapping of the area etc. Another method of rainwater harvesting is rooftop harvesting. With rooftop harvesting consists of installation of pipes, filtration unit, by pass valve, tanks pumps etc.

**Rainwater harvesting for ground water recharge.****Advantages**

- Conservation of water for future use
- Biological purity of water is good
- It is environment friendly, controls soil erosion and flood and provides sufficient soil moisture even during summer months
- It provides a natural distribution system between recharge and discharge points  
Quality improvement by infiltration through the permeable media
- Water stored underground is relatively immune to natural and man-made catastrophes

**SUGGETIONS FOR WATER CONSERVATION AND GROUND WATER RECHARGING.**

- The rainwater from entire college campus and roof top of building is collected through PVC Pipes, gutters, down pipe, first flush valve, filter unit and tanks. The water collected from roof of from main building, canteen can be used for main buildings or for boy's hostels for their daily use by installing a collection tank or collecting in the present underground tank. This will reduce the energy consumption for pumping and can supply biological pure water.
- The use of biomass in the form coconut shells can be used to cover the foot of the trees which can behave as recharging soak pits
- Suggested to conduct a detailed study on geological and hydrogeological mapping of the area to find out proper sizing of percolation pits, contour trenches, deep well recharging, collection of water passing through road, gutter etc

## STUDENTS INITIATIVES AND OUT REACH ACTIVITIES

### WORLD ENVIRONMENT DAY

In connection with World Environment Day Observation, National service Scheme Volunteers our college conducting various programme in every year to create awareness among students and public

College samplings in the Kalarikunnu the hill area of college almost 500 saplings



### JACK FRUIT TREE SAPLING



Nearly 50 jack fruit samplings are done in the college

### WORLD WILD LIFE DAY

In connection with world wild life day competitions are done in the college on poster making and essay writing.

### INTERNATIONAL FOREST DAY

In connections with international forest day's lot of samplings are done in the college and students houses

## CONCLUSION:

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Green Audit is the most efficient & ecological way to solve such an environmental problem. Green Audit is one kind of professional care which is the responsibility of each individual who are the part of economic, financial, social, environmental factor. Green audits can “add value” to the management approaches being taken by the college and is a way of identifying, evaluating and managing environmental risks (known and unknown). The green audit reports assist in the process of attaining an eco-friendly approach to the development of the college.

The auditors observed during the campus visit and after the conversation with the staff and students of M/s Sree Narayana Guru College, Chelannur, Kozhikdoe that they have taken continuous and considerable effort in several years for nurturing and maintaining the green coverage over the campus which is being well appreciated by us.

ANNEXURE - 1



**GREEN RATING FOR INTEGRATED HABITAT ASSESSMENT**

**GRIHA CERTIFIED PROFESSIONAL CERTIFICATE**

This is to certify that

*Ashok K M P*

has qualified as a **GRIHA** Certified Professional For V. 2015

Date of issue: 19th June 2020

Note : This certification is valid only for GRIHA version 2015.

  
Chief Executive Officer  
GRIHA Council