



**KRUPANIDHI GROUP OF INSTITUTIONS**  
(AICTE Approved | ISO 9001-2015 Certified)

## **Institutional Environment and energy Initiatives**

<b>SR. NO</b>	<b>DETAILS</b>	<b>VIEW</b>
<b>1</b>	<b>GREEN AUDIT REPORT</b>	<b><a href="#">CLICK HERE</a></b>
<b>2</b>	<b>ENVIRONMENT AUDIT CERTIFICATE</b>	<b><a href="#">CLICK HERE</a></b>
<b>3</b>	<b>ENERGY AUDIT CERTIFICATE</b>	<b><a href="#">CLICK HERE</a></b>
<b>4</b>	<b>BEYOND THE CAMPUS ENVIRONMENT PROMOTIONAL ACTIVITIES</b>	<b><a href="#">CLICK HERE</a></b>

# GREEN AUDIT REPORT 2019-20 FOR THE KRUPANIDHI GROUP OF INSTITUTIONS

CHIKKABELLANDURU VILLAGE,  
CARMELARAM POST  
VARTHUR ROAD, BENGALURU.

**Prepared By:**

**Sateesh G Muttagi** M.Tech (Environment)  
Environment Consultant

GM Synergy  
#205,12<sup>th</sup> B Main Road Rajaji Nagar 6<sup>th</sup> Block  
Bangalore 560010  
Mob: 9632917186



*Sateesh*  
**Principal**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

## Table of Contents

Executive Summary	Page No
1. Introduction	3
1.1 About the College	3
1.2 Infrastructure	5
2. Objectives of the Study	6
3. Methodology	6
4. Observations and Recommendations	8
4.1. Water Use	8
a) Observations	8
b) Recommendations	8
4.2. Energy Use and Conservation	9
a) Observations	9
b) Recommendations	9
4.3. Waste Generation	10
a) Observations	10
b) Recommendations	10
4.4. E-Waste Generation	11
a) Observations	11
b) Recommendations	11
4.5. Green Area	12
a) Observations	12
b) Recommendations	12
5. Carbon Foot print	24
5.1 Oxygen Released	24
6 Environmental Awareness Program	26
7. Conclusions	26
8. Acknowledgement	27
Photos Gallery	Annexures



*(Handwritten Signature)*

**Principal**

Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

## Executive Summary

The rapid urbanization and economic development at local, regional and global level has led to several environmental and ecological crises. On this background it becomes essential to adopt the system of the Green Campus for the institute which will lead for sustainable development. The colleges under the umbrella of Krupanidhi Group of Institutions include Krupanidhi Degree College and Krupanidhi college of Pharmacy, Krupanidhi college of physiotherapy, krupanidhi nursing college and Krupanidhi Group of Institution (MBA) Bangalore, is deeply concerned and unconditionally believes that there is an urgent need to address these fundamental problems and reverse the trends. Being a premier institution of higher learning, the college has initiated 'The Green Campus' program that actively promote the various projects for the environment protection and sustainability.

The purpose of the audit was to ensure that the practices followed in the campus are in accordance with the Green Policy adopted by the institution. The methodology include: preparation and filling up of questionnaire, physical inspection of the campus, observation and review of the documentation, interviewing key persons and data analysis, measurements and recommendations. It works on the several facets of 'Green Campus' including

Water Conservation, Tree Plantation, Waste Management, Paperless Work, Alternative Energy and Mapping of Biodiversity. With this in mind, the specific objectives of the audit are to evaluate the adequacy of the management control framework of environment sustainability as well as the degree to which the Departments are in compliance with the applicable regulations, policies and standards. It can make a tremendous impact on student health and learning college operational costs and the environment. The criteria, methods and recommendations used in the audit were based on the identified risks.



  
Principal

Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035



## 1. Introduction

Green Audit can be defined as systematic identification, quantification, recording, reporting and analysis of components of environmental diversity. The 'Green Audit' aims to analyze environmental practices within and outside the college campus, which will have an impact on the eco-friendly ambience. It was initiated with the motive of inspecting the work conducted within the organizations whose exercises can cause risk to the health of inhabitants and the environment. Through Green Audit, one gets a direction as how to improve the condition of environment and there are various factors that have determined the growth of carrying out Green Audit.

Green audit is assigned to the criteria 7 of NAAC, National Assessment and Accreditation Council which is a self governing organization of India which declares the institutions as Grade A, B or C according to the scores assigned during the accreditation.

### 1.1 About the College

Krupanidhi College is one of the leading colleges of Bangalore city. Our college expresses its commitment to sustainability by carrying out a number of activities which has a positive impact on the environment. We always strive to maintain a co-friendly atmosphere on the campus. Know green and think green is promoted on the campus.

Krupanidhi College is a Christian institution managed by Krupanidhi Educational Trust. Krupanidhi is an educational dream that started out as a small structure in Koramangala in Bangalore some 30 years ago and is a huge, renowned, 11-acre campus today. The college was founded by three eminent educationists, Dr. Prof. Suresh Nagpal (M.Pharma, Ph.D), Mrs. Geetha Nagpal (MBA), and philanthropist Sunil Samson Dhamanigi (M.Pharma), making them the pioneers in the field of pharmacy education. It is also the first college to start Physiotherapy in Bangalore.

Krupanidhi Group of Institutions is a multiple award-winning institution, with a national reputation for excelling in many diverse educational fields. The college is affiliated to various national universities and academic institutions



*Suresh*  
Principal

Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

including the Rajiv Gandhi University of Health Sciences, and Bangalore University. The ISO 9001-2015 certified institution is recognized by the Government of Karnataka, is approved by UGC and AICTE, New Delhi, and is accredited by NAAC. The institution is a member of the European Council of Business Education. Krupanidhi is also affiliated to various national organizations including the Pharmacy Council of India, the Indian Nursing Council, New Delhi, the Karnataka Nursing Council & the Association of Physiotherapists.

Krupanidhi Group of Institutions, its faculty and its students have won many awards and accolades in various fields. At the prestigious WCRC leaders Asian Education Excellence Summit and Awards ceremony in 2012-13, Krupanidhi College received honours of 'Asia's Fastest Growing Private Education Institute' in the Business Schools category. The process advisors and evaluators for the survey were KPMG. The business school of Krupanidhi has also been ranked as one of the best upcoming B-schools in Bangalore by Brands Academy Consultancy and has been ranked 5th in a 'Top 10 Placement Survey' conducted by Silicon India. The institution also received the awards for 'Educational Institution with the Best Infrastructure' and 'Educational Institute with Best Academic and Industrial Interface' from the World Education Congress in the year 2013. The institution's pharmacy college has also been ranked as the 'Best Pharmacy College' in the state of Karnataka by The Week Magazine.

The leadership of Krupanidhi College Chairman and educationist Dr. Suresh Nagpal has also won many awards for his contribution to the field of education, inspiring the faculty and generations of students. Dr. Suresh Nagpal, known as the inventor of the modern Gurukul system, has been the recipient of the Kempegowda Award and the WCRC Academic Visionary Award in 2014 for excellence in educational innovation and leadership in 2014. He was awarded the Vidya Ratna Award by the World Peace Council and the Mother Teresa Award in 2004, as well as the Distinguished Alumni Award from the College of Pharmaceutical Sciences Manipal in 2002. The faculties of the college, too, have received awards for their research work and teaching.

We at Krupanidhi strive for excellence, which is evident from the many awards and accolades that the college has garnered over the years.



*Suresh*  
Principal

Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

## 1.2 SALIENT FEATURES -Infrastructure:

### a) Basic Information

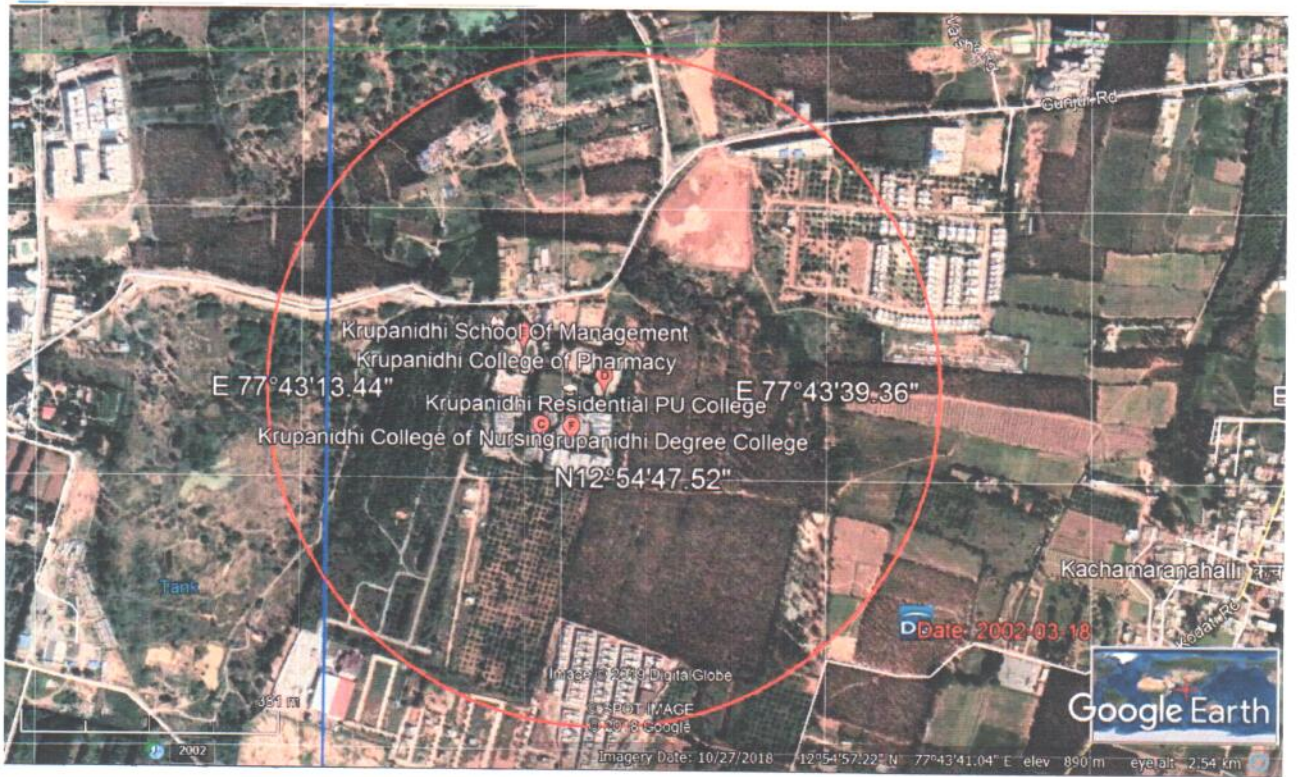
S. No.	Particulars	Details
1.	site co-ordinates	Latitude: 12.544988 Longitude: 77.432571
2.	site topography	Project site slopes towards Northern direction
3.	Nearest Highway	SH- 35
4.	Nearest Railway station	Kranthiveera railway station 14.7 Km
5.	Nearest Airport	Kempegowda International Airport – 33.4 km
6.	Nearest Lakes	Gunjur Lake – 1.5 Km
7.	Nearest Town/City	City - Bengaluru

College name	Krupauidhi Group of Institutions, Bangalore
Date of Establishment	01/04/2004
Address	12/1 ChikkaBellandurCarmelaram post yarthurhobli, sarjapura road, Bengalure, Karnataka, 560035
Contact Details	080-65973261, info@krupanidhi.edu.in
Scope of audit	Green Auditing
Number of Students	Male:3500 Female:1500 Total:4500
Courses offered	BA, MA, BCom, MCom ,Pharmacy, M.B.A
College Key Members	
Executive Director	Mr. Akash Nagpal
Director	Dr. Samuel Paul Issac
Quality Director	Dr. Badrunnisa S



  
Principal  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

**AERIAL VIEW COVERING 500m FROM THE CAMPUS**



*Praveesh*  
**Principal**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035



## b) Campus Infra Glance

Total campus area	4,43,278 square feet
Built up area	3,88,067 square feet.
Ground area	40,000 square feet
Green area	2,66,996 square feet
Road/Paved	30,000 square feet
Terrace area	1,06,282 square feet
Number of Class Rooms	128
Number of Laboratories	16
Water filters with aqua guard	6
Water coolers	2
Number of fire Extinguishers	15
Number of AC's	16

## 2. Objectives of the Study

The main objective of the green audit is to promote the Environment Management and Conservation in the College Campus. The purpose of the 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 introduce and aware students to real concerns of environment and its sustainability
- To secure the environment and cut down the threats posed to human health by analyzing the pattern and extent of resource use on the campus.
- To establish a baseline data to assess future sustainability by avoiding the interruptions in environment that are more difficult to handle and their corrections requires high cost.
- To bring out a status report on environmental compliance

## 3. Methodology

In order to perform green audit, the methodology included different tools such as preparation of questionnaire, physical inspection of the campus, observation and review of the documentation, interviewing key persons and data analysis, measurements and recommendations. The study covered the following areas to summarise the present status of environment management in the campus:



*[Signature]*  
Principal

Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

- Water management
- Energy Conservation
- Waste management
- E-waste management
- Green area management

## 4. Observations and Recommendations

### 4.1. Water Use

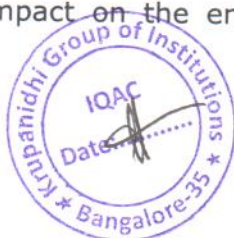
This indicator addresses water consumption, water sources, irrigation, storm water, appliances and fixtures. A water audit is an on-site survey and assessment to determine the water use and hence improving the efficiency of its use.

#### a) Observations

The study observed that Well and Muncipal Corporation are the two major sources of water. Water is used for drinking purpose, canteen, toilets, laboratory and gardening. During the survey, no loss of water is observed, neither by any leakages, nor by over flow of water from overhead tanks. The data collected from all the departments is examined and verified. On an average the total use of water in the college is 2,00,000 L/day, which include 1,95,000 L/day for domestic purposes, 10,000 L/day for gardening and 5,000 L/day for different laboratories. Two rain water harvesting units are also functional for storing and reuse. Gardens are watered by using drip/sprinkler irrigation system to save water. This is one of the unique steps towards greening practices.

#### b) Recommendations

- Need of monitoring, controlling overflow is essential and periodically supervision drills should be arranged.
- Minimize wastage of water and use of electricity during water filtration process, if used, such as RO filtration process and ensure that the equipment's used for such usage are regularly serviced and the wastage of water is not below the industry average for such equipment's used in similar capacity.
- Ensure that all cleaning products used by college staff have a minimal detrimental impact on the environment, i.e. are biodegradable and non-



*Bearesh*

**Principal**

8 | Page

Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli

560 025

toxic, even where this exceeds the Control of Substances Hazardous to Health (COSHH) regulations.

## 4.2. Energy Use and Conservation

This indicator addresses energy consumption, energy sources, energy monitoring, lighting, appliance, natural gas and vehicles. Energy use is clearly an important aspect of campus sustainability and thus requires no explanation for its inclusion in the assessment.

Type of renewable energy	Solar Energy (Existing) Wind power Energy (Existing) Biogas (setting up this year)
--------------------------	--

### a) Observations

Energy source utilized by all the departments and common facility centre is solar electricity only. Total energy consumption is determined as 23308 KWH/Year by major energy consuming equipments. All the departments and common facility centers are equipped with LED& CFL lamps. Approximately 650 LED & 320 CFLs (Capacity) are counted during survey. Besides this, photovoltaic cells are also installed in the campus as an alternate renewable source of energy. Equipments like Computers are used with power saving mode. Also, campus administration runs switch -off drill on regular basis. In science department like Physics, Chemistry, Mathematics, Botany and Zoology electricity was shut down after occupancy time is one of green practices for energy conservation.

#### *solar power*

A total of 40 solar panels have been installed in boys and girls hostel of our college which has the capacity of heating about 8000L of water/day energy generation. This will help reduce power consumption and adopt the use of renewable resources.

***Terrace area of the college building has been utilized for solar PV plant. It's a 210 kwp grid connected roof-top solar photovoltaic and small solar power plants in RESCO model and they are generating solar power, with***



**Principal**

Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

**that they are using all across the campus and excess is 30%,is supplied back to the BESCO grid.**

#### **b) Recommendations**

- Support renewable and carbon-neutral electricity options on any energy purchasing consortium, with the aim of supplying all college properties with electricity that can be attributed to renewable and carbon-neutral sources.
- Appreciate that it is preferable to purchase electricity from a company that invests in new sources of renewable and carbon-neutral electricity.
- Installation of LED lamps instead of CFL for further energy saving.

### **4.3. Waste Generation**

This indicator addresses waste production and disposal of different wastes like paper, food, plastic, biodegradable, construction, glass, dust etc and recycling. Furthermore, solid waste often includes wasted material resources that could otherwise be channeled into better service through recycling, repair, and reuse. Solid waste generation and management is a burning issue. Unscientific handling of solid waste can create threats to everyone. The survey focused on volume, type and current management practice of solid waste generated in the campus. The different solid wastes collected as mentioned above.

#### **a) Observations**

The total solid waste collected in the campus is 21 Kg/day. Waste generation from tree droppings and lawn management is a major solid waste generated in the campus. The waste is segregated at source by providing separate dustbins for Bio-degradable and Plastic waste. Segregation of chemical waste generated in chemistry and zoology laboratories is also practiced. Single sided used papers reused for writing and printing in all departments. Important and confidential reports/ papers are sent for pulping and recycling after completion of their preservation period. Very less plastic waste (0.1Kg/day) is generated by some departments, office, garden etc but it is neither categorized at point source nor sent for recycling. Metal waste and wooden waste is stored and given to authorized scrap agents for further processing. Few glass bottles are reused in the



*Beavesh*  
Principal

Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

laboratories. The food waste from main canteen and mess is used or sent for vermin composting.

The institute has adopted vermin culture composting in culture house on 135 sqft. land. The main purpose of this is to reduce disposable waste in the college campus. After complete process of vermin composting, it is used as manure in the garden and lawns. and plan to have 11 more composting pits in our college campus has been proposed.

**Hazardous waste management:** The department of biotechnology and microbiology dispose the hazardous chemicals used during practical's and Research projects safely as per the standard methods given in literature.

The department of chemistry has implemented microscale techniques and postgraduate, second and third year B.Sc/Msc/Mpharm/Bpharm students. The small quantities at 300-500 mg help for clearer reactions. In addition, The Green chemistry approach added in the practical course at PG level as further enlighten the students towards environmental pollution issues and makes them more responsible in their approach towards environment. The department has brought rotavapor for distillation and recovery of solvents. It has been easier to recover the organic solvent and prevent hair loss in the environment does minimizing the damage. Use of dilute solutions and double burette method for titration has helped considerably in minimizing the loss of chemicals in effluent form the laboratories.

#### **b) Recommendations**

- Reduce the absolute amount of waste that it produces from college staff offices.
- Make full use of all recycling facilities provided by City Municipality and private suppliers, including glass, cans, white, colored and brown paper, plastic bottles, batteries, print cartridges, cardboard and furniture.
- Provide sufficient, accessible and well-publicized collection points for recyclable waste, with responsibility for recycling clearly allocated.
- Single sided papers to be used for writing and photocopy
- Important and confidential papers after their validity to be sent for pulping.



*[Handwritten Signature]*

**Principal**

Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

#### 4.4. E-Waste Generation

E-waste can be described as consumer and business electronic equipment that is near or at the end of its useful life. This makes up about 5% of all municipal solid waste worldwide but is much more hazardous than other waste because electronic components contain cadmium, lead, mercury, and Polychlorinated biphenyls (PCBs) that can damage human health and the environment.

##### a) Observations

E-waste generated in the campus is very less in quantity. The cartridges of laser printers are refilled outside the college campus. Administration conducts the awareness programmes regarding E-waste Management with the help of various departments. The E- waste and defective item from computer laboratory is being stored properly. The institution is hand hovering to Vendor-, approved & certified by karnataka State Pollution Control Board.

##### b) Recommendations

- Recycle or safely dispose of white goods, computers and electrical appliances.
- Use reusable resources and containers and avoid unnecessary packaging where possible.
- Always purchase recycled resources where these are both suitable and available.

#### 4.5. Green Area

This includes the plants, greenery and sustainability of the campus to ensure that the buildings conform to green standards This also helps in ensuring that the Environmental Policy is enacted, enforced and reviewed using various environmental awareness programs.

##### a) Observations

Campus is located in the vicinity of approximately 825 trees. Various tree plantation programs are being organized during the month of July and August at college campus and surrounding villages through NSS unit in October 2017. This



*[Signature]*  
Principal

program helps in encouraging eco-friendly environment which provides pure oxygen within the institute and awareness among villagers. The plantation program includes various types of indigenous species of ornamental and medicinal wild plant species.

### Efforts for Carbon Neutrality: Tree List

S.No	Plant Name	Numbers	Location
1	Royal Palm	80	Around all blocks
2	Areka Palm	168	In front of Hostel
3	Bamboo	135	Canteen
4	Guava	5	Campus
5	Cicus	15	Opposite to PU Block
6	Christmas Tree	23	Pump House & Hostel
7	Millingtonia Hortensis	33	Opposite to Pharmacy
8	Fishtail Palm	15	Main Gate
9	Coconut tree	3	Next to MBA
10	Pritchardia Pacifica	32	Next to MBA
11	Picus	56	MBA entrance & Basket ball court
12	Phoenix Palm	29	Around MBA Block
13	Travellers Palm	2	MBA Library
14	Neem	5	Campus
15	Thabebuia Pallida	56	Opposite to Chairperson office
16	Callistemon Lanceolatus	52	Main Gate Pathway
17	Spathodea Companulate	58	Two wheeler Parking
18	Goose berry	1	Opposite to PUC Block
19	Caryota Verns	1	Around Basket Ball Court
20	Lime	2	Campus
21	Champaka	1	Near DG
22	Bauhinia Purpareca	5	Behind PUC Block
23	Brassia Actinophylia	5	Behind Pharmacy
24	Jamun Fruit	1	Behind BPT

### Medicinal plant Species

SI No	Medicinal Plant	numbers
1	Agnimantha	1
2	Aloe	1
3	Alfalfa	1
4	All-Spices	1
5	Amla	1
6	Annatto	1
7	Aromatic Ginger	1
8	Arjuna	1
9	Ashoka	1
10	Ashwagandha	1
11	Artemisia	1

  
Principal  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035



12	Ayapana Tree	1
13	Bael	1
14	Basella	1
15	Basmati	1
16	Bergamot Mint	1
17	Betel	1
18	Borage	1
19	Brahmi	1
20	Bringaraj	1
21	Bursera	1
22	Castor	1
23	Champa	1
24	Chaste Tree	1
25	Cinnamon	1
26	Citronella	1
27	clove	1
28	Coleus	1
29	Coriander	1
30	Curry Tree	1
31	Datura	1
32	Devil's Backbone	1
33	Garden Rue	1
34	Geranium	1
35	Gigantic Swallow Wort	1
36	Ginger	1
37	Guggul	1
38	Gymnema	1
39	Henna	1
40	Hibiscus	1
41	Indian Acalypha	1
42	Indian Trumpet Plant	1
43	Indigo	1
44	Insulin Plant	1
45	Jal Brahmi	1
46	Japanese Mint	1
47	Jasmine	1
48	Kalmegh	1
49	Konkan Moringa	1
50	Lavang Tulsi	1
51	Lavender	1
52	Lemon	1
53	Lemon Grass	1
54	Liquorice	1
55	Long Pepper	1

*Ramesh*  
Principal  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035





56	Mango Ginger Plant	1
57	Marjoram	1
58	Mountain Sweet Flag	1
59	Multivitamin Plant	1
60	Neem	1
61	Night Blooming Jasmine	2
62	Noni	1
63	Nutmeg	1
64	Oleander	1
65	Papaya	2
66	Patchouli	1
67	Peepal Plant	1
68	Phyllanthus	1
69	Pippali	1
70	Pomogranate	1
71	Pudina	1
72	Rasna	2
73	Rauwolfia	1
74	Rosemary	1
75	Safed Chitrak	1
76	Sage	1
77	Sappan Wood	1
78	Santolina	1
79	Shankhapushpi	1
80	Shatavari	1
81	Snakeweed	1
82	Stevia	1
83	St. Thomas Lidpod	1
84	SwallowRoot Plant	1
85	Sweet Basil	1
86	Thai Basil	1
87	Thyme	1
88	Tincture Plant	1
89	Tinospora	1
90	Touch Me Not	1
91	Tree Turmeric	1
92	Tulsi	2
93	Vanamugali	1
94	Vasaka	1
95	Vetiver	1
96	Vinca	1
97	Vishnukranthi	1

*Ramesh*  
Principal

Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035



## b) Recommendations

- Reviews periodically the list of trees planted in the garden, allot numbers to the trees and keep records. Give scientific names to the trees.
- Promote environmental awareness as a part of course work in various curricular areas, independent research projects, and community service.
- Create awareness of environmental sustainability and takes actions to ensure environmental sustainability.
- Establish a College Environmental Committee that will hold responsibility for the enactment, enforcement and review of the Environmental Policy. The Environmental Committee shall be the source of advice and guidance to staff and students on how to implement this Policy.
- Ensure that an audit is conducted annually and action is taken on the basis of audit report, recommendation and findings.
- Celebrate every year 5<sup>th</sup> June as 'Environment Day' and plant trees on this day to make the campus Greener.

### 4.5.1 total green area per capita of the campus in square meters

National building code (NBC) prescribes that a person should be given at least three square meters of organized green space.

Total Population in the campus is 4500, total garden space required is.  $4500 \times 3$  sqmtr = 13,500 sqmtr. and campus is having 24804.74 sqmtr Green area which is sufficient for the campus.

### 4.5.2 Lawn (Grass) area in square meters

Lawn area:3158.70

Tree cover (wooded area):2111.58

### 4.5.3 Shrubs and hedges in square meters

**Using hoops:** To do counts, used a hoop with an inside diameter of 56 cm. This is equivalent to 0.25 of a square metre. Count the number of plants inside the hoop, and multiply by 4 to get plants per square metre.



*Seenu*  
Principal  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

### *Introduction:*

Hedge is an important adjunct to every garden. It is necessary to demarcate the garden from public road and from adjacent gardens particularly in flat gardens. Besides its utility as screens, hedge is necessary between flower and vegetable garden, to provide a background for annuals if shrubbery does not exist and also to enclose a rose garden or a children's corner in a park or public garden. A windscreen is also wanted when strong breezes, hot or cold blow from one direction during certain seasons of the year and frosts. It is useful to screen the manure pit, potting area, servants' quarters and other unsightly views.

### Growing the hedges:

The majority of hedges are propagated by cuttings but where seed can be obtained the cost of raising a large number of plants in their delicate stage is difficult. If this cannot be carried out sow at the following rates per 100 metres; Duranta 1 kg, Inga dulcis 1kg, Joint (Sesbania) 150 gms, Mendi (Lawsonia) 250 gms, Dodonea (Sanatta) 250 gms. Hard seed such as that of Acacia modesta should be soaked in warm water for 24 hours.

### Selection of plants

#### *Shrubs*

A hedge of Breynia rhamnoides is often seen in gardens and is very ornamental when in berry. Bauhinia acuminata in spite of its large leaves makes an effective display of white flowers even when brought to a shape. Caesalpinia pulcherrima ages fast when severely pruned but if trimmed slightly it provides tall hedge. Clerodendron inerme forms neat hedge or edge of varying height for m20 cm to 2 metres. It forms a compact hedge between 20-120 cm. C.inerme is not touched by cattle and white ants leave it alone.

Duranta in its many varieties holds first place in Bengal, D.variegata being very ornamental. Next comes Lawsonia (Mendhi) which is better in dry localities than in lower Bengal. Dodonea viscosa (Sanatta) is also an up country hedge but this latter should not be cut back as it is liable to die off in three or four years. Nerium and Tecoma are two others that might be used. Dracaena



*Principal*  
**Principal** 17 | Page  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

fragrans and D.sticta are good hedges for a shady spot. Hibiscus of several kinds form excellent hedges but H.liliflorus and H.schizopetalus are chiefly used.

Ehretia buxifolia as well as Serissa foetida and Malpighia coccigera are small leaved evergreens for shady situations. Polyscias (Aralia) of many kinds. Codiaeum (Croton) Eranthemum and Graptophyllum are ornamental shade loving hedge plants. Crotons of the narrow leaved and small foliage varieties are better hedges than those with large foliage. Plumbago capensis and P.zeylancia, Meyenia (Thumbergia) erecta and M.affinis are dwarf types of flowering shrubs that can be used for a hedge. In Bangalore we have seen Plumbago capensis cut down to 15 cm and in bloom. Other shrubs that can be used for hedges are Caryopteris, Mussaenda, Rhapsiolepis and Rondeletia.

Euphorbia pulcherrima, if backed or having a supporting hedge in front can provide a fine mass of colour in the cold months. The last pruning should be done in August –September. Jacquinia ruscifolia is an evergreen hedge with orange red flowers and needled-tipped leaves and ideal hedge but difficult to propagate. Justicia gendarussa can be clipped to 15 cm and allowed to grow upto a metre. Lagerstroemia indica in many colour variations, though bare in the cold weather, is a fine flowering hedge in April-June and if two colours are planted alternately provides a pretty effect when in bloom.

Ligustrum neilgherriensis, one of the privets, is not to be despised and the Lantana, though so frightful a weed, can be retained as a dwarf plant with frequent clipping though the non-seeding types are recommended. Malyaviscus can be cut back to form a 1 metre hedge or allowed to grow 2-3 metres high. When in bloom it is very effective.

Murraya (Kamini) and Tropis aspera (Sheora) are slow growing but clip well. Jasminum pubescens, Coffea bengalensis, Barleria (Jhati), Ixora especially I.ragoosula, I.coccinea and I.strica. Daedalacanthus and Strobilanthes are flowering hedges that are well known and easily grown. Roses form excellent hedges and many of the cacti such as Cereus, Opuntia as well as Euphorbia antiquorum, E.trigona and E.tirucalli are used in exposed positions for hedge work. Pedilanthus tithymaloides will be found as hedges surrounding village huts. Being poisonous to cattle it is left severely alone.



*Prakash*

Principal

18 | Page

Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

*Sesbania aegyptiaca* (Joint) is a fast-growing hedge reaching a height of 2 metres in a couple of months; it must be grown from seed and is a great favourite in the drier parts of India for a tall temporary boundary hedge. After two years it commences to become rugged and should be replaced. Another quick hedge is *Cajanus indicus* (Arhar) but this grows too rapidly in Bengal.

*Thuja orientalis* is an excellent evergreen hedge, 2-3 metres in height. At an elevation of over 1000 metres a different type of plant is cultivated for hedges. Here are some varieties: *Spirea*, *Kerria japonica*, *Berberis* (Barberry), *Habrothamnus elegans*, *Fuchsia*, *Heliotrope*, *Euonymus*, *Ligustrum* (Privet), *Buxus* (Box) *Hydrangea*, *Philadelphus*, *Hibiscus syriacus*, *Cupressus* and *Ancuba*.

### *Trees*

For very tall hedge several trees lend themselves to pruning: *Polyalthia longifolia* is one of the best, *Putranjiva roxburghii*, *P.acuminata*, *Anogeissus*, *Diospyros embryopteris* *Grevillea robusta* and *Pithecolobium* are others that can be recommended *Pongamia glabra* and *Inga dullics* are also used. *Thevetia nerifolia*, *Erythrina* of many kinds, *Haematoxylon campechianum*, *Schinus terebinthifolius*, *Cryptomeria*, *Cupressus* and other conifers are considered good when cut back to a height of 3-4 metres.

*Casuarina equisetifolia* if pruned before large trunk forms, makes a very neat hedge. *Acacia farnesiana* and *Parkinsonia aculeata* are both useful but do better in dry situations. *Pisonia alba* (tree lettuce) which forms hedges of pale coloured foliage, is grown in South India and Ceylon but not elsewhere to any extent. Commence cutting back when the seedlings are 20 cm high and repeat when the shoots are 40 cm a quick thick hedge from the very beginning is then ensured. *Thevetia nerifolia* is poisonous to cattle and goats and make a neat-clipped hedge 3-4 metres high.

### *Climbers*

On a wire fencing *Jacquemontia violacea* is ideal, *Ipomea palmata* (Railway Creeper) and *I.sincrata* and *Antigonon* (Sandwich Island Creeper), *Clerodendron splendens*, *Ficus repens*, *Passiflora pruinosa*. *Tristellatia australis*, *Thunbergia*



*Principal*  
Principal  
19 | Page  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

fragrans and T. alata and Vallaris hynei are good for screening. For a very shady situation Rhycospermum jasminoides, Asparagus plumosus and Lygodium scandens are suggested.

### *Palms*

Ptychosperma mcArthuri will grow 4-6 metres and not spread more than 1.5 to 2.0 m in width. Rhapsis flabelliformis, on the other hand, while growing form 2-3 m in height, sends out runners, which must be constantly removed. Areca lutescens grows as tall as the Kentia but bushes out more.

### *Planting Distance:*

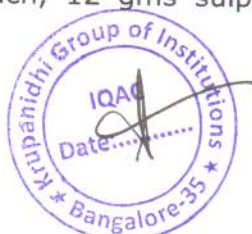
This depends on the size of the plant. Trees should be planted 2-3 m apart, shrubs 15-50 cm apart and Alternanthera, etc., (edging) 2 cm apart if planted in a single row but when staggered double the distances. Duranta, Lawsonia etc. can be thickened when the hedge has grown up, by having the pruned cuttings, planted in between or on either side of the growing bushes. For hedge planting calculate 9 plants per mete row of planted singly 10 cm apart and 12 in a double row if planted 15 cm apart staggered.

### *Care of hedges*

The first requirement for a hedge is impenetrability and the next neatness. Any prickly plant, such as Inga dulcis or the thorny type of Duranta, will not ensure an absolute cattle or thief proof hedge in its earlier stages, so run a barbed wire through the bushes form the ground or plant a row of pineapple, Agave, prickly cactus or thorny Euphorbia at the base and the case is altered. Always keep jungle away from the roots of a hedge. In the dry season fork up the soil and flood' when Mendhi (Lawsonia) or Duranta are pruned, during the wet weather, plant the cuttings so as to fill gaps.

### *Fertilisers*

Usually hedges receive little attention till they become thin. The plants are pruned heavily in the rains, add manure at the close of the Monsoon. Feed hedges, especially those that are clipped regularly by giving superphosphate of lime and bone meal 50 gms each, 12 gms sulphate of potash and 50 gms sulphate of



ammonia per two metres row, every six months. Once a year dig in cow manure as the rains break. This might seem superfluous but the results will amply repay the attention given

### *Pruning of hedges*

Some varieties have to be left to grow as in nature, i.e. Pandanus, Euphorbia, etc but kept within bounds by the removal of side growth or the central head. In Euphorbia and Opuntia, the taller portions broken off can be replanted in the gaps to thicken the hedge. For low hedges, 50 cm to 1.0 metre high, clip frequently during the rains but once a year cut back the old wood below the maximum height to restart a new top do this in May or June.

Use a sharp pair of pruning shears for small twigs but a secateur will be necessary for larger stems. It is best to stick to a simple shape instead of attempting battlements, turrets, balls, columns, etc. arches can be grown on an iron rod bent to shape, the shrub kept in position by being loosely tied with strong wire to the rod.

### *Shapes of hedges*

A hedge is apt to become wedge-shaped the top widening out, if not carefully clipped square. A rounded top is difficult to keep unless the type of hedge is slow, compact growing and small leaved. Hedges are also cut on a slope but here too the Mali often makes a mess of the shape. It is best to have wooden or iron stakes painted green, sunk in the hedge at intervals on which string can be tied and used as a guide. Stick to a square cut hedge.

### *Topiary*

Topiary is practised only in few traditional gardens. The plants that have small foliage and are of slow growth are good for using in topiary. The results required takes years to attain and one careless clipping will spoil the entire design. Starting with a ready-grown plant, stems are bent and held in position with wire if they do not naturally grow at the required angle. A rough clipping to get the general outline follows and as new shoots develop these are either trained to fit in with the design or removed. Simple shapes, a ball, spiral, table, cube etc., are not so



*Principals*  
Principal

21 | Page  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

difficult to obtain, it is when birds or beasts or even man is to be moulded that the topiarist tackles a tough proposition. Topiary work gives an old world appearance to a garden but these clipped bushes should not be scattered aimlessly all over the garden. A formal garden is best suited to topiary work. For simple shapes the following can be used Hibiscus, Thuja and Cupressus, Putranjiva and Polyalthia but for the more intricate Murraya exotica, Duranta repens, Ehretia buxifolia and Tropis aspera are used.

When using wire to model the bus hor tree to the rough outline care should be taken that this does not cut too deeply into the bark. Stoppage of sap will mean poor growth or death of a stem.

#### 4.5.4 potted plants in square meters

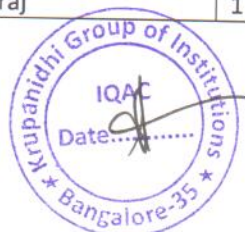
Campus has planted 400 potted plants in 241.5479 sqmtrs.

#### 4.5.5 Medicinal plants species .

Campus has planted 97 Medicinal plants in 241.5479 sqmtrs.

#### Medicinal plant Species

SI No	Medicinal Plant	Numbers
1	Agnimantha	1
2	Aloe	1
3	Alfalfa	1
4	All-Spices	1
5	Amla	1
6	Annatto	1
7	Aromatic Ginger	1
8	Arjuna	1
9	Ashoka	1
10	Ashwagandha	1
11	Artemisia	1
12	Ayapana Tree	1
13	Bael	1
14	Basella	1
15	Basmati	1
16	Bergamot Mint	1
17	Betel	1
18	Borage	1
19	Brahmi	1
20	Bringaraj	1



*Principals*  
**Principal**  
 Krupanidhi Group of Institutions  
 12/1 Chikkabellandur Village,  
 Carmelaram Road Post Varthur Hobli  
 Bangalore - 560 035



21	Bursera	1
22	Castor	1
23	Champa	1
24	Chaste Tree	1
25	Cinnamon	1
26	Citronella	1
27	clove	1
28	Coleus	1
29	Coriander	1
30	Curry Tree	1
31	Datura	1
32	Devil's Backbone	1
33	Garden Rue	1
34	Geranium	1
35	Gigantic Swallow Wort	1
36	Ginger	1
37	Guggul	1
38	Gymnema	1
39	Henna	1
40	Hibiscus	1
41	Indian Acalypha	1
42	Indian Trumpet Plant	1
43	Indigo	1
44	Insulin Plant	1
45	Jal Brahmi	1
46	Japanese Mint	1
47	Jasmine	1
48	Kalmegh	1
49	Konkan Moringa	1
50	Lavang Tulsi	1
51	Lavender	1
52	Lemon	1
53	Lemon Grass	1
54	Liquorice	1
55	Long Pepper	1
56	Mango Ginger Plant	1
57	Marjoram	1
58	Mountain Sweet Flag	1
59	Multivitamin Plant	1
60	Neem	1
61	Night Blooming Jasmine	2
62	Noni	1
63	Nutmeg	1
64	Oleander	1

*Praveesh*

**Principal**

Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

23 | Page



65	Papaya	2
66	Patchouli	1
67	Peepal Plant	1
68	Phyllanthus	1
69	Pippali	1
70	Pomogranate	1
71	Pudina	1
72	Rasna	2
73	Rauwolfia	1
74	Rosemary	1
75	Safed Chitrak	1
76	Sage	1
77	Sappan Wood	1
78	Santolina	1
79	Shankhpushpi	1
80	Shatavari	1
81	Snakeweed	1
82	Stevia	1
83	St. Thomas Lidpod	1
84	SwallowRoot Plant	1
85	Sweet Basil	1
86	Thai Basil	1
87	Thyme	1
88	Tincture Plant	1
89	Tinospora	1
90	Touch Me Not	1
91	Tree Turmeric	1
92	Tulsi	2
93	Vanamugali	1
94	Vasaka	1
95	Vetiver	1
96	Vinca	1
97	Vishnukranthi	1

## 5.0 carbon footprint

Commutation of stakeholders has an impact on the environment through the emission of greenhouse gases into the atmosphere consequent to burning of fossil fuels (such as petrol). The most common greenhouse gases are carbon dioxide, water vapour, methane, nitrous oxide and ozone. Of all the greenhouse gases, carbon dioxide is the most prominent greenhouse gas, comprising 402 ppm of the Earth's atmosphere. The release of carbon dioxide gas into the Earth's atmosphere through human activities is commonly known as carbon emissions.



*Principal*  
Principal

Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

An important aspect of doing an audit is to be able to measure your impact so that we can determine better ways to manage the impact. In addition to the water, waste, energy and biodiversity audits we can also determine what our carbon footprint is, based on the amount of carbon emissions created. One aspect is to consider the distance and method traveled between home and college every day. It undertakes the measure of bulk of carbon dioxide equivalents exhaled by the organization through which the carbon accounting is done. It is necessary to know how much the organization is contributing towards sustainable development. It is therefore essential that any environmentally responsible institution examine its carbon footprint.

The KRUPANIDHI GROUP OF INSTITUTIONS is in the chikkabellanduru village, Carmelaram post Varthur road, bengaluru, its global average population (students, faculty and staff) was around 4500 people. Campus policies include sustainability as one of its main aims. To evaluate and eventually reduce the environmental impact of the campus, its greenhouse gas (GHG) inventory was assessed and the carbon footprint was calculated, using the GHG protocol (GHGP): Scope 1: direct GHG emissions; Scope 2: indirect GHG emissions; and Scope 3: other indirect GHG emissions, on a calendar year basis. Scope 1 includes mobile and stationary sources and leakage of refrigerants; Scope 2 includes electrical energy usage; Scope 3 includes consumption of paper, food, water, gases, cleaning products, solvents, wastewater treatment, municipal and hazardous wastes and academic travel. In 2019-20, the campus produced around 3000 tons of CO2 equivalent, with Scope 1, 2 and 3 accounting for 4%, 24% and 72%, respectively. Emissions analysis by activity indicated 51% for commuting; 24% for electricity usage; 14% for academic travel; 11% for other activities. The inventory will aid the establishment of policies for reduction and mitigation of GHG, resulting in environmental and potential economic benefits.

### 5.1 Oxygen Released

vegetation in KRUPANIDHI GROUP OF INSTITUTIONS campus has released 20742.76 tons of oxygen in their lifetime till date. Released oxygen is directly proportional to CO2 sequestrate in the ratio of 32/12. Thus, it is supposed to release 783.23 tons of oxygen annually. A single tree supports oxygen demand of



*Prakash*  
Principal

Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

two people for their life. Thus, 1,473 trees on the KRUPANIDHI GROUP OF INSTITUTIONS campus are supporting 26,946 people on and around the campus.

## 6 Environmental Awareness Program

The department of Degree block of our college conducts regular lectures to create awareness on important environmental issues like air, water, soil and sound pollution, global warming extra.

The Degree block Association of a college has organised posters and street play competitions on "Swatch Bharat Abhiyan" to emphasize the importance of cleanliness and hygiene.

At the annual social gathering of our college, students are motivated to perform dance and fashion show based on the theme 'Go Green' and 'global warming' to spread awareness about the same.

## 7. Conclusions

Considering the fact that the institution is predominantly an undergraduate college, there is significant environmental research both by faculty and students. The environmental awareness initiatives are substantial. The installation of solar panels, paperless work system and vermin composting practices are noteworthy. Besides, environmental awareness programs initiated by the administration shows how the campus is going green. Few recommendations are added to curb the menace of waste management using eco friendly and scientific techniques. This may lead to the prosperous future in context of Green Campus & thus sustainable environment and community development. As part of green audit of campus, we carried out the environmental monitoring of campus includes Illumination, Noise level, Ventilation and Indoor Air quality of the class room. It was observed that Illumination and Ventilation is adequate.



  
Principal  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

## 8. Acknowledgement

We are grateful to the committee members of **KRUPANIDHI GROUP OF INSTITUTIONS** to award this prestigious project and allowed us to enter the new era of Green Audit Green audit in the College Campus.

Further we sincerely thank the college staff for providing us necessary facilities and co-operation during the audit. This helped us in making the audit, a success. Further we hope, this will boost the new generation to take care of Environment and propagate these views for many generations to come. Considering natural light and air velocity present. Noise level in the campus well within the limit i.e. below 50 dB at day time.

**For G M Synergy**



**Sateesh G M M.Tech (Environmental Engineering)**



**Principal**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli

## Photos Gallery

### Photovoltaic Cell



*Srinivasa*

**Principal**

Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

## Green Area of the College



*Seenu*

**Principal**

Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

## Swachh Bharath Program



*Praveesh*  
**Principal**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035



**Environmental Day Awareness and Tree Plantation**



**Sewage Treatment Plant**



*Srinivasa*

**Principal**

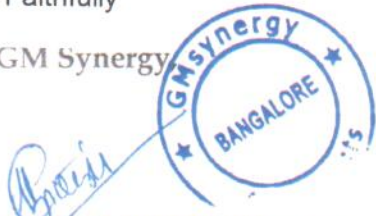
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

## CERTIFICATE

This is to certify that Krupanidhi Group of Institutions has conducted detailed Carbon foot print, Oxygen release and Green Area audit of their campus and has submitted necessary data and credentials for scrutiny. The activities and measures carried out by the college have been verified based on report submitted and was found satisfactory. The efforts taken by the faculty and the students towards environment and sustainability are highly appreciable and commendable.

Thanking you,  
Yours Faithfully

For GM Synergy



**SATEESH G MUTTAGI** MTech (Env)  
Environment Consultant



  
**Principal**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

Ref: GMS/2020-21/82  
15/01/2021

Date:

## CERTIFICATE

This is to certify that Krupanidhi Group of Institutions has conducted detailed waste management and energy conservation audit of their campus and has submitted necessary data and credentials for scrutiny. The activities and measures carried out by the college have been verified based on report submitted and was found satisfactory.

Thanking you,  
Yours Faithfully,

For GM Synergy



**SATEESH G MUTTAGI** MTech (Env)  
Environment Consultant



**Principal**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 025

**KRUPANKDHI GROUP OF INSTITUTIONS**  
**12/1, ChikkaBellandur Carmelaram Post Bangalore-560035**

**ECO CLUB (2019-2020)**

**ACTIVITIES:**

**DATED: 18/09/2019**

**AWARENESS PROGRAM ON PLASTIC WASTE FREE CAMPAIGN.**

The MBA and MCA students of Krupankdhi Group Of Institutions organized a campaign on Plastic Waste Free Environment on 18<sup>th</sup> September 2019 in Government High School Gunjurpalya.

The students of Krupankdhi Group Of Institutions spread the message about effective disposal of collected plastic waste and also spread the awareness about the plastic waste free environment.

The programme was received with great enthusiasm by the students who participated in large numbers from Government High School.



*Seenu*  
**Principal**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

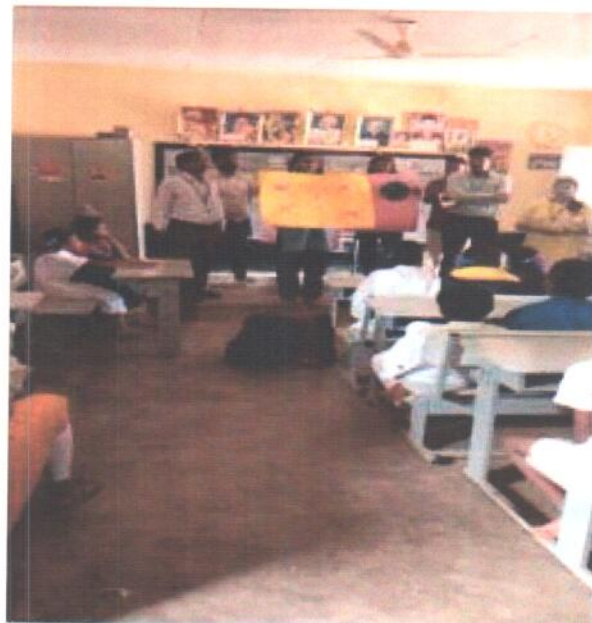
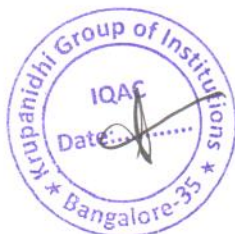
*Praveesh*  
**Principal/Director**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

**KRUPANKDHI GROUP OF INSTITUTIONS**  
**12/1, ChikkaBellandur Carmelaram Post Bangalore-560035**

**ECO CLUB (2019-2020)**



  
**Principal/Director**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035



  
**Principal**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

**KRUPANKDHI GROUP OF INSTITUTIONS**  
**12/1, ChikkaBellandur Carmelaram Post Bangalore-560035**

**ECO CLUB (2019-2020)**

The faculty members spoke to the students on the Importance of preserving the environment and also elaborated the various ways in which students could be involved and encouraged to take active part in both preserving the environment and spreading awareness about the hazards of degradation of environment to the general public and other species on earth by the use of plastic.



*Praveesh*  
**Principal/Director**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035



This activity helped in creating awareness among the students by *insisting* on Reduce, Reuse and Recycle of plastic in day to day life.

*Praveesh*  
**Principal**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

**KRUPANKDHI GROUP OF INSTITUTIONS**  
**12/1, ChikkaBellandur Carmelaram Post Bangalore-560035**

**ECO CLUB (2019-2020)**

The Eco Club Faculty Members of 2019-2020:

Mrs.Richa  
Mrs.Namita Behera  
Ms.Rekha.M  
Mrs. Geetha.

The Eco Club Student Co ordinators of 2019-2020:

Mr.Shanmugha Shetty S S  
Ms.Sonal.G  
Ms.Sudeeshna  
Ms.Nupur kumari  
Ms.Neha Kochar

  
**Principal/Director**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hob  
Bangalore - 560 035



  
**Principal**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

**KRUPANKDHI GROUP OF INSTITUTIONS**  
**12/1, ChikkaBellandur Carmelaram Post Bangalore-560035**

**ECO CLUB (2019-2020)**

**KRUPANKDHI GROUP OF INSTITUTIONS**

**ECO-KRUPA**

**(ECO CLUB)**

  
**Principal/Director**

**Krupanidhi Group of Institutions**  
**12/1 Chikkabellandur Village,**  
**Carmelaram Road Post Varthur Hob**  
**Bangalore - 560 035**



  
**Principal**

**Krupanidhi Group of Institutions**  
**12/1 Chikkabellandur Village,**  
**Carmelaram Road Post Varthur Hobli**  
**Bangalore - 560 035**



**KRUPANKDHI GROUP OF INSTITUTIONS**  
**12/1, ChikkaBellandur Carmelaram Post Bangalore-560035**

**ECO CLUB (2019-2020)**

**ACTIVITIES:**

**DATED: 19/09/2019**

**AWARENESS PROGRAM ON JAL SHAKTI CAMPUS.**

The B.com, BBA and BA students of Krupankdhi Group Of Institutions organized a campaign on Jal Shakti Abhiyan and Jal Shakti Campus on 19<sup>TH</sup> SEPTEMBER 2019 in the lake near to the college.

The students of Krupankdhi Group Of Institutions spread the message about polluted water and also spread the awareness about the saving of water.



The program was received with great enthusiasm by the students who participated in large numbers by the students of various department of MBA and MCA.

*Praveesh*  
**Principal**  
Krupankdhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

*Praveesh*  
**Principal/Director**  
Krupankdhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

**KRUPANKDHI GROUP OF INSTITUTIONS**  
**12/1, ChikkaBellandur Carmelaram Post Bangalore-560035**


**ECO CLUB (2019-2020)**



The faculty members spoke to the students on the Importance of preserving the water and also elaborated the various ways in which students could be involved and encouraged to take active part in both preserving the environment and spreading awareness about the hazards of degradation of environment to the general public and other species on earth by the use of preventive measures.



  
**Principal/Director**  
**Krupanidhi Group of Institutions**  
**12/1 Chikkabellandur Village,**  
**Carmelaram Road Post Varthur Hob**  
**Bangalore - 560 035**



**Principal**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

**KRUPANKDHI GROUP OF INSTITUTIONS**  
**12/1, ChikkaBellandur Carmelaram Post Bangalore-560035**

**ECO CLUB (2019-2020)**



This activity helped in creating awareness among the students by insisting on conservation, recycle, use less water in day to day life.



*Praveesh*  
**Principal/Director**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

*Praveesh*  
**Principal**

Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

The Eco Club Faculty Members of 2019-2020:

**KRUPANKDHI GROUP OF INSTITUTIONS**  
**12/1, ChikkaBellandur Carmelaram Post Bangalore-560035**

**ECO CLUB (2019-2020)**

Ms.Rekha.M  
Mrs. Geetha.  
Mrs.Richa  
Mrs.Namita Behera

The Eco Club Student Co ordinators of 2019-2020:  
Mr.Shanmugha Shetty S S  
Ms.Sonal.G  
Ms.Sudeeshna  
Ms.Nupur kumari  
Ms.Neha Kochar

  
**Principal/Director**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hob  
Bangalore - 560 035



  
**Principal**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

**KRUPANKDHI GROUP OF INSTITUTIONS**  
**12/1, ChikkaBellandur Carmelaram Post Bangalore-560035**

**ECO CLUB (2019-2020)**

**KRUPANKDHI GROUP OF INSTITUTIONS**

**ECO-KRUPA**

**(ECO CLUB)**



  
**Principal/Director**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hob  
Bangalore - 560 035

  
**Principal**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

**KRUPANKDHI GROUP OF INSTITUTIONS**  
**12/1, ChikkaBellandur Carmelaram Post Bangalore-560035**

**ECO CLUB (2019-2020)**

**ACTIVITIES:**

**DATED:**

**19/09/2019**

**SHRAMADHAN PROGRAM**

The B.com, BBA and BA students of Krupankdhi Group Of Institutions organized a campaign on social service on 19<sup>TH</sup> SEPTEMBER 2019 in Government High School Gunjurpalya.

The students of Krupankdhi Group Of Institutions spread the message about social welfare and also spread the awareness about the saving of the nature.

The programme was received with great enthusiasm by the students who participated in large numbers from Government High School.

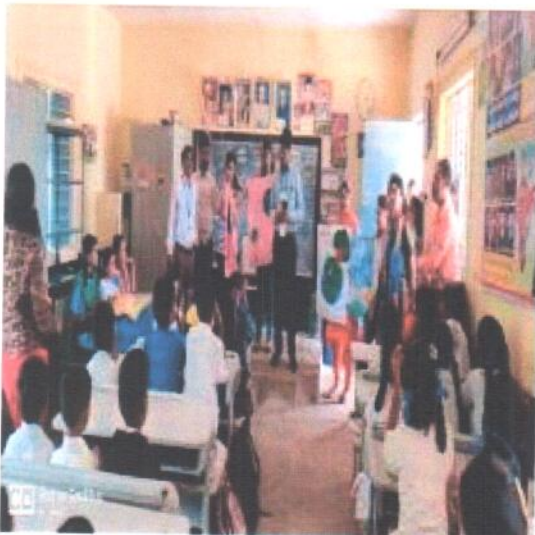
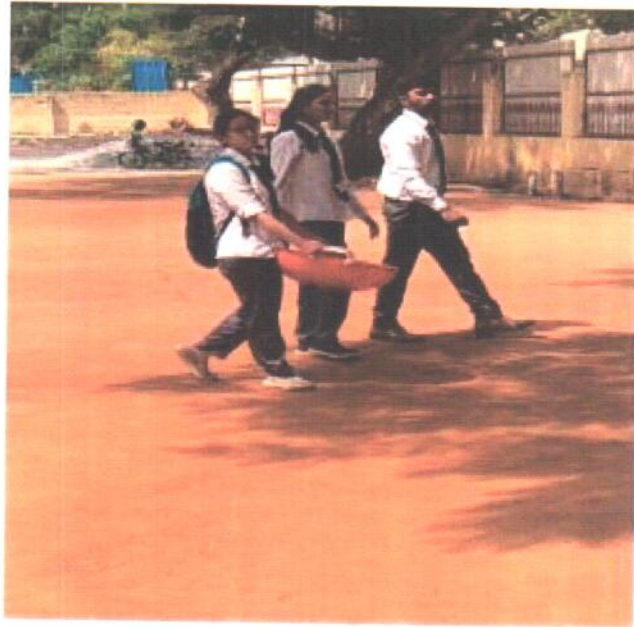


*Seenu*  
**Principal**  
Krupankdhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

*Praveesh*  
**Principal/Director**  
Krupankdhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

**KRUPANKDHI GROUP OF INSTITUTIONS**  
**12/1, ChikkaBellandur Carmelaram Post Bangalore-560035**

**ECO CLUB (2019-2020)**



  
**Principal/Director**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hob  
Bangalore - 560 035

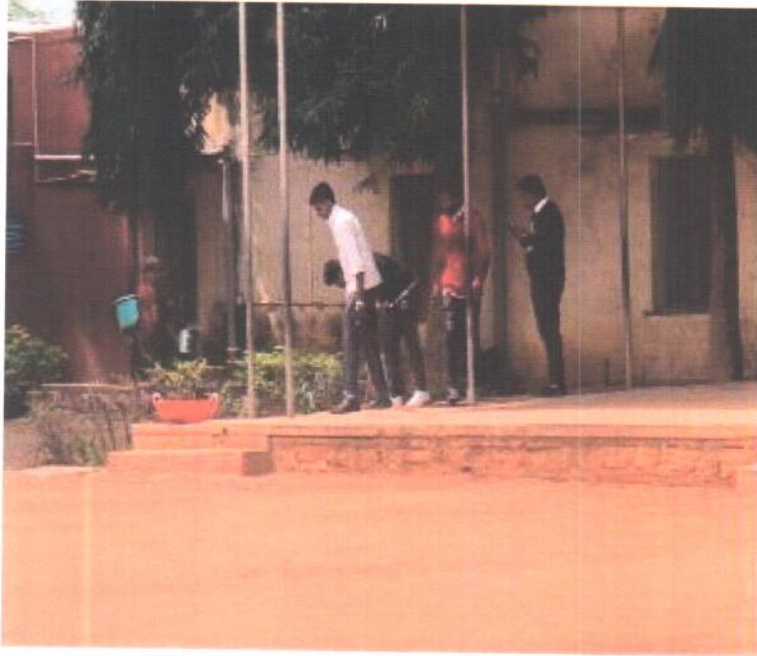
The faculty members spoke to the students on the Importance of preserving the environment and also elaborated the various ways in which students could be involved and encouraged to take active part in both preserving the environment and spreading awareness about the hazards of degradation of environment to the general public and other species on earth by the use of preventive measures.



  
**Principal**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

**KRUPANKDHI GROUP OF INSTITUTIONS**  
**12/1, ChikkaBellandur Carmelaram Post Bangalore-560035**

**ECO CLUB (2019-2020)**



  
**Principal/Director**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hob  
Bangalore - 560 035



**Principal**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035





**KRUPANKDHI GROUP OF INSTITUTIONS**  
**12/1, ChikkaBellandur Carmelaram Post Bangalore-560035**

**ECO CLUB (2019-2020)**


This activity helped in creating awareness among the students by insisting on conservation, recycle, ill effects of it in day to day life.

The Eco Club Faculty Members of 2019-2020:

Mrs.Richa  
Mrs.Namita Behera  
Ms.Rekha.M  
Mrs. Geetha.

The Eco Club Student Co ordinators of 2019-2020:

Mr.Shanmugha Shetty S S  
Ms.Sonal.G  
Ms.Sudeeshna  
Ms.Nupur kumari  
Ms.Neha Kochar

  
**Principal/Director**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035



  
**Principal**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

**A REPORT ON ROLE PLAY on CONSERVATION OF WATER (An Initiation from Jal Shakti Abhiyan, Government of India) on 14th October,2019 in Chikkabellandur Village. UNDER COMMUNITY SERVICE CELL (KRUPA VRUND)**

---

**OBJECTIVES OF THE VISIT**

The objectives of the visit were followed as of proposed by the Jal Shakti Abhiyan, Government of India.

- To bring about Jal Shakti Abhiyan - a campaign for water conservation and water security.
- The focus of the campaign will be on water stressed areas and blocks.
- To bring positive change in students and people for water conservation.
- To aware help people to work for rain water harvesting, maintenance and upkeep of ponds and village tanks and conservation of water.

**AIM OF THE VISIT**

The aim of the role play was to create awareness on Jal Shakti Abhiyan - a campaign for water conservation and water security

**ABOUT JAL SHAKTI ABHIYAN**

Phase I: 1st July to 15th September 2019 (all States)

Phase II: 1st October to 30th November 2019 (States with retreating monsoon)

Inspired by the Hon'ble Prime Minister's impetus on Jal Sanchay, the Jal Shakti Abhiyan (JSA) is a time-bound, mission-mode water conservation campaign. The JSA will run in two Phases: Phase 1 from 1st July to 15th September 2019 for all States and Union Territories; and Phase 2 from 1st October to 30th November 2019 for States and UTs receiving the retreating monsoon (Andhra Pradesh, Karnataka, Puducherry and Tamil Nadu). During the campaign, officers, groundwater experts and scientists from the Government of India will work together with state and district officials in India's most water-stressed districts\* for water conservation and water resource management by focusing on accelerated implementation of five target intervention. The JSA aims at making water conservation a Jan Andolan through asset creation and extensive communication. \*Water-stressed districts: Districts with critical or over-exploited groundwater levels as per the Central Ground Water Board (CGWB) 2017. For states without critical and over-exploited groundwater levels, districts with the least availability of groundwater in comparison to the rest of the districts in the state have been selected.

**KRUPA VRUND, THE COMMUNITY SERVICE CELL** of Krupanidhi Group Of Institutions organized a **ROLE PLAY on CONSERVATION OF WATER (An Initiation from Jal Shakti Abhiyan, Government of India) on 14th**

**October,2019 in Chikkabellandur Village at 10 AM.**



  
**Principal**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

  
**Principal/Director**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

## ITINERARY

930 AM – Met up at COLLEGE

940 AM – orientation Speech by Dean and Principal

0945 AM – Started from Colleges Bus

10:00 AM – Reached Chikka Bellandur Village

10:15 Am – Gathering of Local Community

10:30 AM to 11.00 AM –ROLE PLAY on CONSERVATION OF WATER (An Initiation from Jal Shakti Abhiyan, Government of India)

11 15 AM: Vote of thanks by Chandhana and Departure to College

11:30: Reached College

## OUTCOME OF THE VISIT

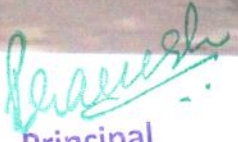
This mission had an interesting theme of motivation and cleanliness in the campaign and continuing this chain until the each and every citizen of India gets involved in this campaign.ROLE PLAY on CONSERVATION OF WATER (An Initiation from Jal Shakti Abhiyan, Government of India) led to an increase in groundwater level, surface water storage capacity, soil moisture in farmlands and increased plant cover.

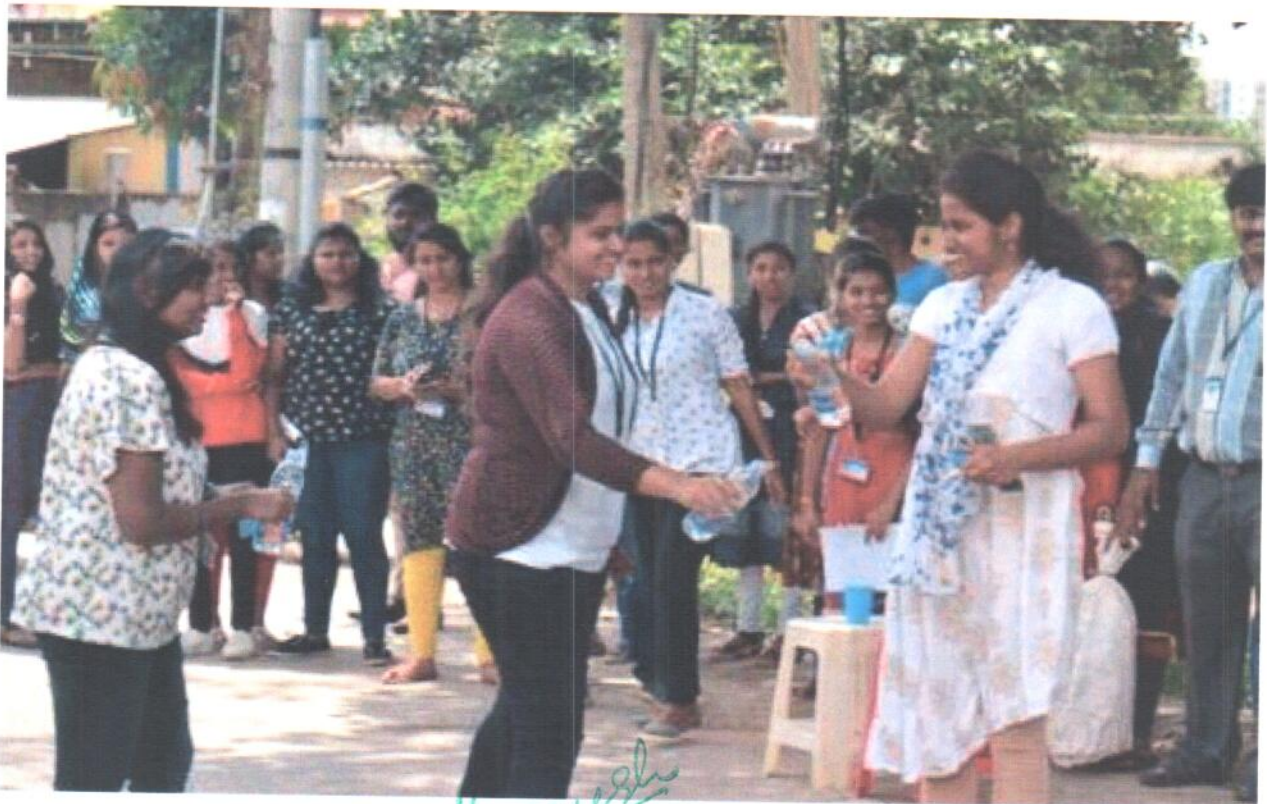
The students and the public were provided with great awareness on Conservation of Water.



  
Principal/Director  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035



  
Principal  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035



*Kranavesh*  
Principal

Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

*Kranavesh*  
Principal Director

Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035



*Shashi*  
**Principal**  
 Krupanidhi Group of Institutions  
 12/1 Chikkabellandur Village,  
 Carmelaram Road Post Varthur Hobli  
 Bangalore - 560 035

*K. Ramesh*  
**Principal/Director**  
 Krupanidhi Group of Institutions  
 12/1 Chikkabellandur Village,  
 Carmelaram Road Post Varthur Hob  
 Bangalore - 560 035

One of our students Athul Gopal from the Batch of 2018-20 was awarded the Business Plan from First Mail, A National Geographic Venture

When it comes to preserving our environment, the grass should definitely be green on all sides. And no one embodies this idea better than our senior MBA student Athul Gopal, who won Nat Geo's event to pitch an idea for making earth greener! His idea is now going to be developed by First Main, an eco-sustainable start-up venture. We are very proud of his achievement! [#EchoesOfEarth2019](#) [#greeninitiatives](#) [#natgeowild](#) [#firstmain](#) [#campusevent](#) [#greenmusicfestival](#) [#campusannouncement](#) [#gogreen](#) [#animalinyou](#) [#krupanidhischoolofmanagement](#) [#krupanidhigroupofinstitutions](#).



Liked by **shilpanwitaghosh** and **326 others**

**krupanidhi\_institutions** When it comes to preserving our environment, the grass should definitely be green o... more



*Praveesh*  
**Principal**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli

*Praveesh*  
**Principal / Director**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore- 560 035



**ACCESS PASS**  
Pre-Incubator

*Pranesh*

**Principal/Director**  
Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035



*Pranesh*  
**Principal**

Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035



# Indian Technology - Innovation & Entrepreneurship Conclave(I-TEC)



REVA UNIVERSITY

3-4 January, 2020 | REVA University, Bangalore

## CERTIFICATE

This is to certify the participation by ATHUL GOPAL of Krupanidhi group of Institutions during the proceedings of the Indian Technology-Innovation & Entrepreneurship Conclave (I-TEC) on 3-4 January, 2020 at REVA University, Bangalore and submission of an innovative research project proposal for the perusal and award consideration by an expert panel. Efforts of the participant are acknowledged and appreciated for the intrinsic keenness and technology innovation manifested during the presentation.

Dr. K. S. Narayana Swamy  
Director - REVA University

Dr. U. Chandrasekhar  
Vice Chairman - NAFEMS India

Dr. K. Venkateswari  
Principal Scientist - CSIR NAL

### Research & Innovation Partners



Principal

Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035

Principal/Director

Krupanidhi Group of Institutions  
12/1 Chikkabellandur Village,  
Carmelaram Road Post Varthur Hobli  
Bangalore - 560 035