

INSTITUTION



St Aloysius College (Autonomous) is a Jesuit educational Institution with a rich heritage having a history of 138 years.



The institution has 3 main campus -
SAC Main campus, Mangalore = 37 acres
AIMIT, Beerli = 16 acres
Aloysius Boys Home, Ullal = 10 acres

ECO -FRIENDLY INITIATIVES

Green Cover - Plant and Animal Diversity

Water harvesting

Energy Conservation

Renewable energy (Green Energy)

Carbon neutrality

Waste management

Other initiatives

The background features abstract, overlapping geometric shapes in various shades of green, ranging from light lime to dark forest green. The shapes are primarily triangles and polygons, creating a dynamic, layered effect. The central text is set against a white background that is framed by these green shapes.

GREEN COVER - PLANT & ANIMAL DIVERSITY

MAIN CAMPUS ARBORETUM- ALVANA

- ▶ College maintains a Arboretum of 1.5 acres called ALVANA with all its natural fauna and flora. Has 70 different species of plants (40 species of trees among which 3 are RET species, 20 shrubs, the remaining are herbs & climbers).



Main campus Greenery:

- ▶ There are about 1500 flowering and shade trees in the main campus belonging to 100 different species which are identified and recorded in the Biodiversity Register .



TISSUE CULTURE AVENUE

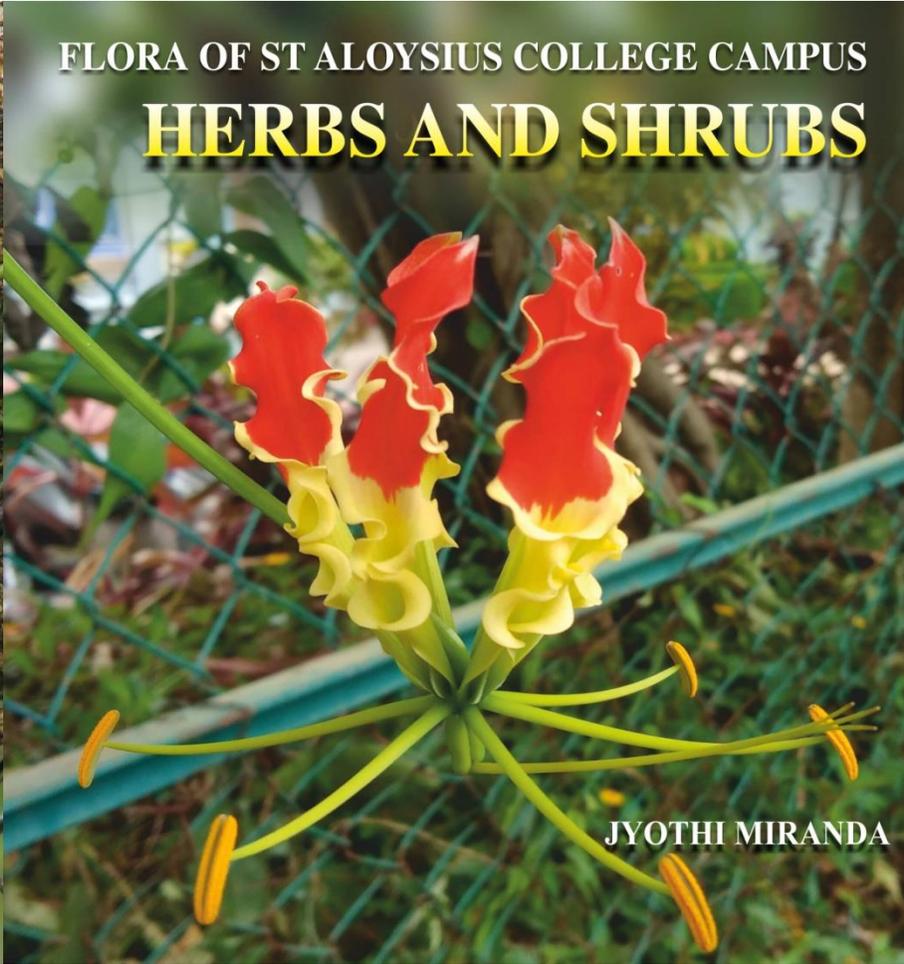
- ▶ Saplings of red listed and endangered plant species obtained through tissue culture, from the Laboratory of Applied Biology of the college, are planted in the campus & some of which have grown into full fledged trees.
- ▶ *Coscinium fenestratum* red listed climber
- ▶ *Ailanthus triphysa*
- ▶ *Hylocereus costaricensis* (Dragon fruit cactus)
- ▶ *Millingtonia hortensis*
- ▶ *Butea frondosa*
- ▶ *Lagerstroemia f*
- ▶ *Gnetum ula*



TISSUE CULTURE AVENUE



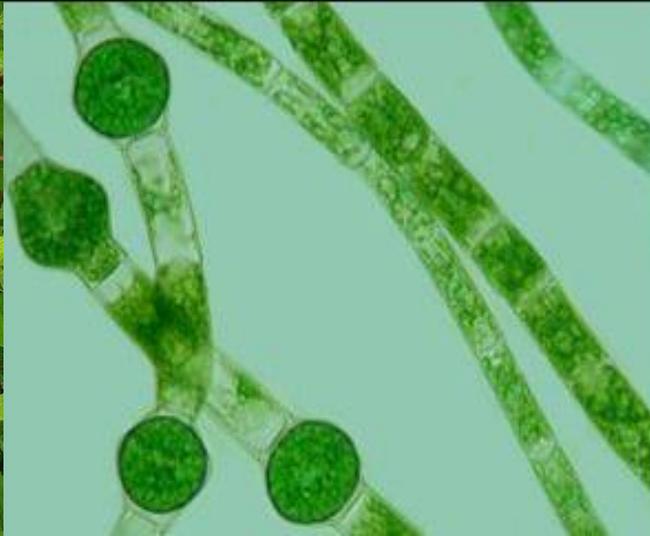
Flora of St Aloysius College Campus - Herbs and Shrubs



The book includes description and photographs of **200 species of Herbs & Shrubs** recorded from the St. Aloysius College Campus.

Diversity of Cryptogams of the Campus

ALGAE
MACRO FUNGI
PTERIDOPHYTES



CAMPUS FAUNA

- ▶ Ants
- ▶ Spiders
- ▶ Moths
- ▶ Honey bees
- ▶ Birds
- ▶ Butterflies



Concept by
Mr. Vineeth Kumar K.

Photographs by
Mr. Vineeth Kumar K.
Mr. Deepak Naik



ST ALOYSIUS COLLEGE (AUTONOMOUS)
Mangaluru

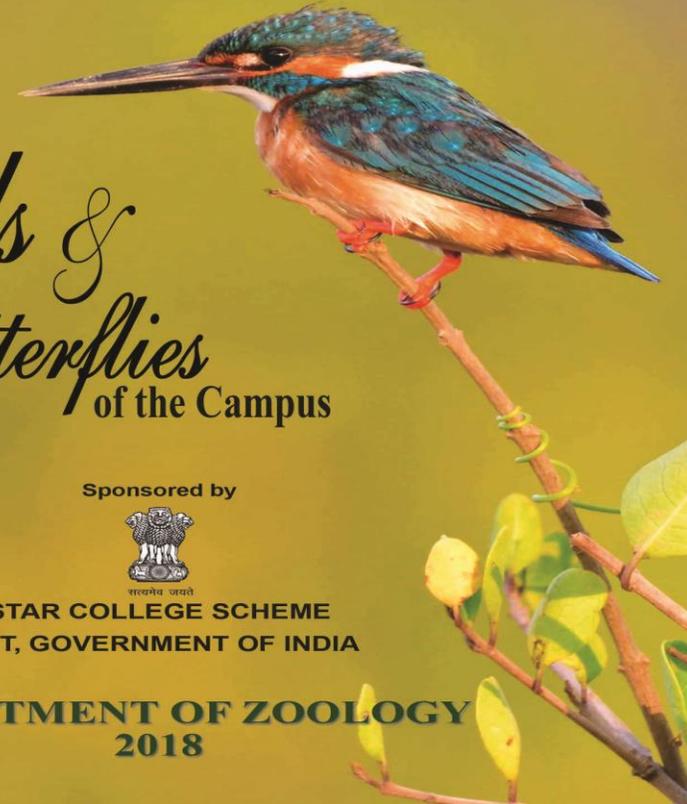
*Birds &
Butterflies*
of the Campus

Sponsored by



STAR COLLEGE SCHEME
DBT, GOVERNMENT OF INDIA

DEPARTMENT OF ZOOLOGY
2018



Book on **Birds and Butterflies of the Campus**

The book is a compilation of data from projects students of Dept. of Zoology. This document is maintained by Dept. of Zoology. It includes description and photographs of **45 species of Birds and 25 species of Butterflies** recorded from the St. Aloysius College Campus.

INSECT COUNT IN CAMPUS

Team members: Dr Vineeth , Mr Kiran- Department of Zoology, Joel, Akshar and Mahim- students of B.Sc. Biological science.

Duration: September 2018- September 2019

150 different types of insects of different groups like butterflies, dragonflies, beetles, bugs, ants, bees, aphids etc. were recorded from the campus

A CD named **'An inventory on insects of the campus'** was released during national seminar on **'Current trends in Entomology and plant-insect interaction'** organized by Departments of botany and zoology on 11-12th of September.

Insect count team





Lime butterfly



Weaver ant



Ground skimmer



Danaid eggfly



Aspidomorpha furcata
(Tortoise beetle)



Chrysomelidae bug



Conogethes punctiferalis
yellow peach moth



Blue-banded bee



Miresa bracteata



Stingless bee- *Tetragonula*

CAMPUS BIRD COUNT

2019: February 15-18

Participants: 38. Total number of species recorded: 38

2020: February 14-17

Participants: 35. Total number of species recorded: 35



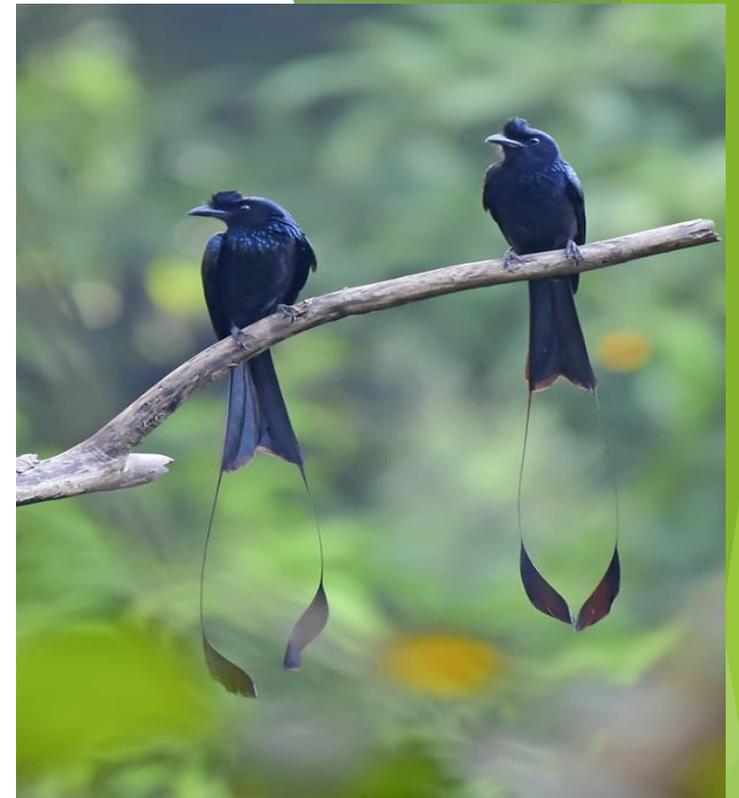
Campus bird count 2020 team



Feral pigeon



Black kite



Racket-tailed drongo



Pale billed flowerpecker



Shikra



House crow



Lesser Flame back



Asian Koel

AIMIT, Beeri Campus

- ▶ About 1,000 saplings were planted at Beeri Campus in collaboration with the forest department which have grown into full fledged trees. This is periodically inspected by the forest department.



GREEN AVENUE -ALOYSIUS BOYS HOME



ALOYSIAN BOYS HOME

- ▶ Aloysius Boys Home has a very thick green coverage of more than 1,000 trees. It has a large number of fruit trees, banana plantation, vegetable garden, medicinal plants etc .

GO GREEN PROJECT



-The entire college is involved in clean green campus programme.

-There are 55 co curricular and extra curricular associations.(38 UG and 17 PG). Every association compulsorily conducts at least two eco-friendly activities/year.



Green Mapping of the campus - Sequestration of CO₂

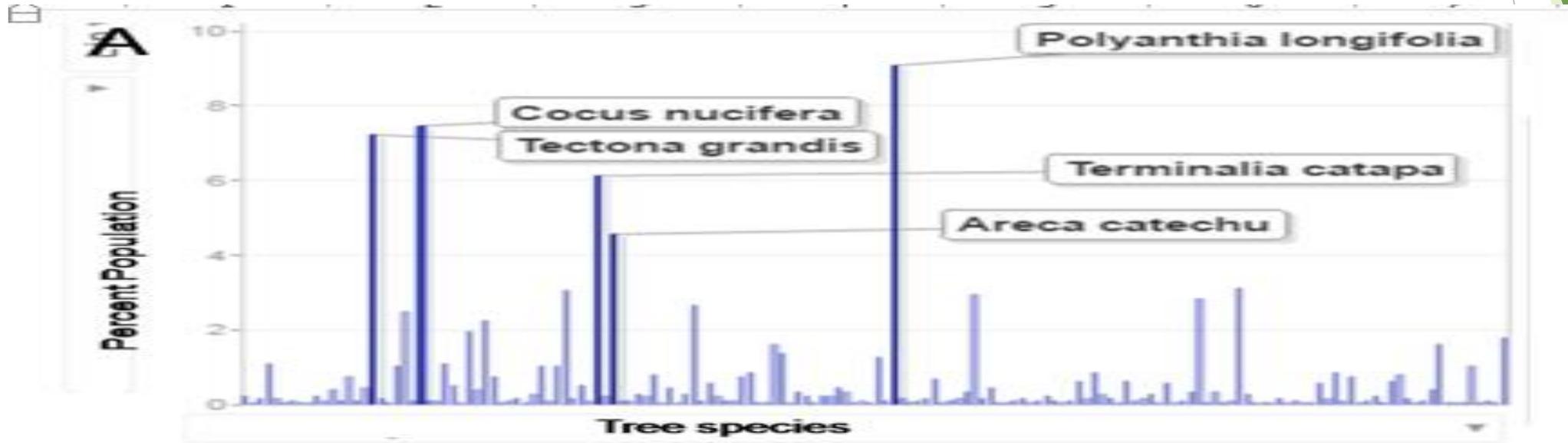


List of Tree species of St Aloysius college campus

- *Acacia auriculiformis*
- *Acer palmatum*
- *Adenanthera pavonina*
- *Ailanthus malabaricus*
- *Albizia saman*
- *Alistonia scholaris*
- *Anacardium occidentale*
- *Annona squamosa*
- *Araucaria columnaris*
- *Areca catechu*
- *Artocarpus gomezianus*
- *Artocarpus heterophyllus*
- *Artocarpus hirsutus*
- *Artocarpus incisus*
- *Averrhoa carambola*
- *Azadirachta indica*
- *Bambusa ssp*
- *Bauhinia purpurea*
- *Bombax ceiba*
- *Borassus flabellifera*
- *Bougainvillea spectabilis*
- *Bridelia retusa*
- *Butea monosperma*
- *Caesalpinia pulcherrima*
- *Canthium dicoccum*
- *Carallia brachiata*
- *Carica papaya*
- *Caryota urens*
- *Cassia siamea*
- *Casuarina equisetifolia*
- *Cinnamomum sulphuratum*
- *Cocos nucifera*
- *Cycas revoluta*
- *Dalbergia ssp*
- *Delonix regia*
- *Dendrocalamus strictus*
- *Dyosides lutescens*
- *Ficus auriculata*
- *Ficus benhalensis*
- *Ficus beniamina*
- *Ficus elastica*
- *Garcinia indica*
- *Gliricidia sepium*
- *Hamelia patens*
- *Holopterna ferruginea*
- *Hopea pinnata*
- *Lannea coramandelica*
- *Leucaena leucocephala*
- *Macaranga peltata*
- *Mangifera indica*
- *Manihot esculenta*
- *Manilkara zapota*
- *Michelia champaca*
- *Millettia hortensis*
- *Mimosaas elenai*
- *Morinda oleifera*
- *Muntingia calabura*
- *Musa ssp*
- *Mussaenda philippica*
- *Olea dioica*
- *Olea europaea*
- *Ornamental Areca*
- *Oraxylum indicum*
- *Peitophorum atherocarpum*
- *Phyllanthus emblica*
- *Plumeria obtusa*
- *Polyanthia lonaifolia*
- *Pongamia pinnata*
- *Psidium guajava*
- *Pterocarya alata*
- *Punica granatum*
- *Roystonea regia*
- *Saccharum officinarum*
- *Santalum album*
- *Sapindus trifoliatus*
- *Saraca indica*
- *Schefflera actinophylla*
- *Senna siamea*
- *Sesbania ssp*
- *Spathodea campanulata*
- *Spondias mangleifera*
- *Swietenia macrophylla*
- *Syzgium aromaticum*
- *Syzgium cumini*
- *Tabeutia ssp*
- *Tamarindus indica*
- *Tectona arandis*
- *Terminalia catappa*
- *Terminalia paniculata*
- *Thuia occidentalis*
- *Vateria indica*
- *Zizyphus mauritiana*
- others

Fig 2: Distribution of all the species present in the campus. |

Green Mapping - The amount of carbon dioxide is sequestered per year by the green cover of St Aloysius College is significantly more than what is emitted by the individuals in the campus



WATER HARVESTING

Water Harvesting



Aloysius Boys Home.

- In the Aruppe , LCRI & Xavier block of main campus Water from roof top is collected , flowing rain water is directed through pipes into a huge well to elevate the water table.
- Large scale Rain Water harvesting technology is practiced at **Boys Hostel** of main campus and **Aloysius Boys Home**. Water from roof top is collected , processed and let into a huge well and is used through out the year for all practical purposes



XAVIER BLOCK

WATER HARVESTING



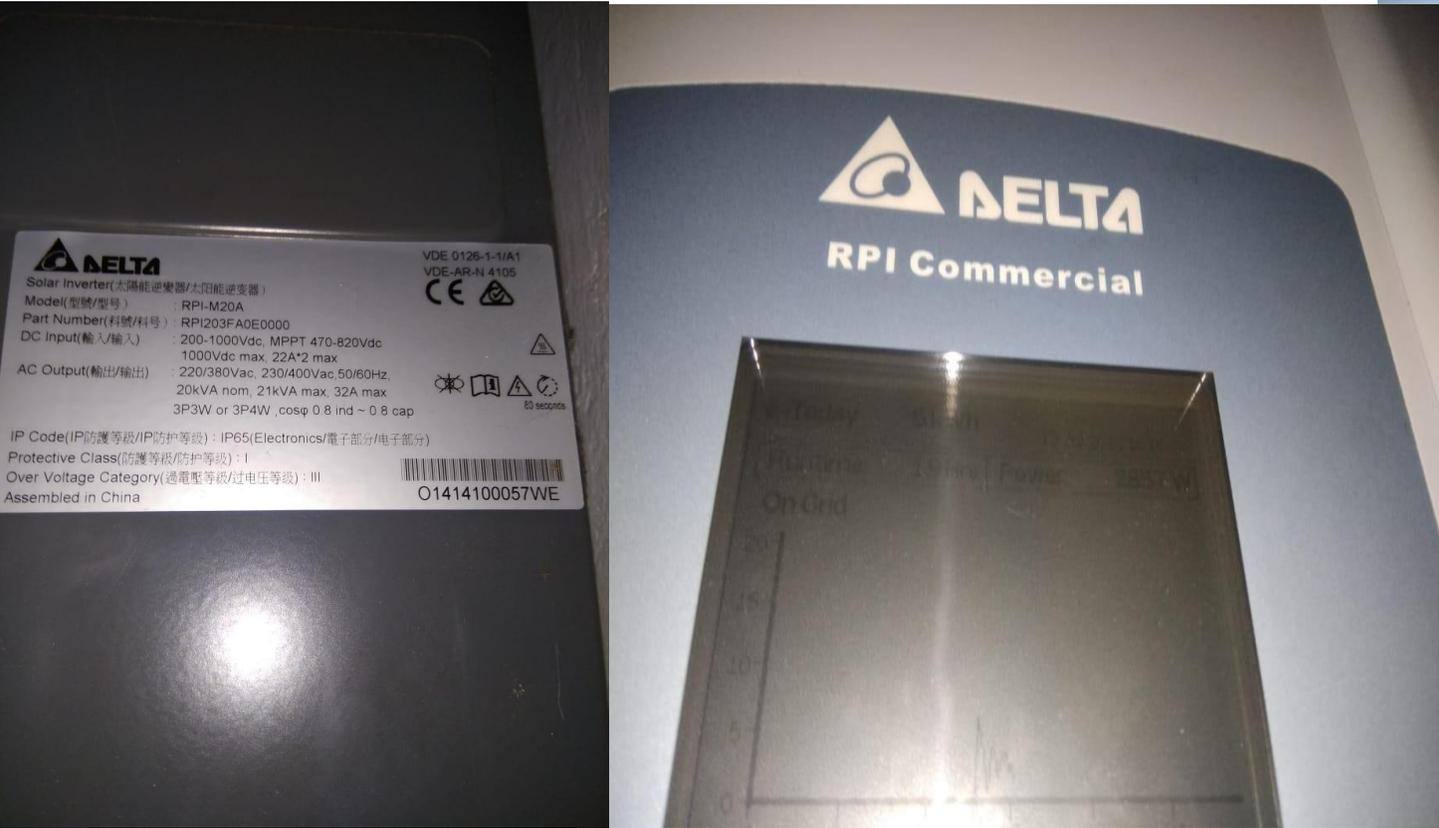
- The implementation of this technology has led to increase in the water table to appreciable level in and around the campus area



The background features abstract, overlapping geometric shapes in various shades of green, ranging from light lime to dark forest green. The shapes are primarily triangles and polygons, creating a dynamic, layered effect. The central area is white, providing a clean space for the text.

RENEWABLE ENERGY (Green Energy)

USE OF RENEWABLE ENERGY -MAIN CAMPUS MAFFEI BLOCK - SOLAR ROOF TOP PHOTO VOLTAIC PLANT- 100 solar panels with total capacity of 25 KWp with a bidirectional meter supplied to power grid



Use of Renewable Energy



Aloysius Boys home

Solar Units

Installed at Boys home and College hostels to minimize energy consumption

Unit with four panels is in usage at Boys home, and hostels of college campus as an alternate source of energy used for bathing and electricity.



Boys Home



Gents hostels

Renewable Energy (Green Energy)

	BLOCKS	NUMBER	BENEFICIARIES	PURPOSE
SOLAR PHOTO VOLTAIC PLANT	St. Aloysius main campus -Maffei Block	100 panels Bidirectional meter of 25 KWp	Used by college & surplus supplied to power grid	Pollution free Green Energy
	Beerli campus - Ladies and Gents hostels	100 panels Bidirectional meter of 25 KWp	Used by college & surplus supplied to power grid	
	St. Aloysius main campus Ladies and Gents U G and PG hostels	20 panels	500	
	Boys Home	20 panels	135	

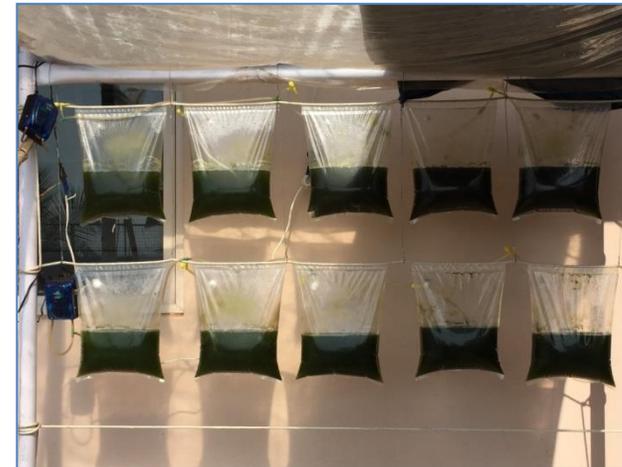
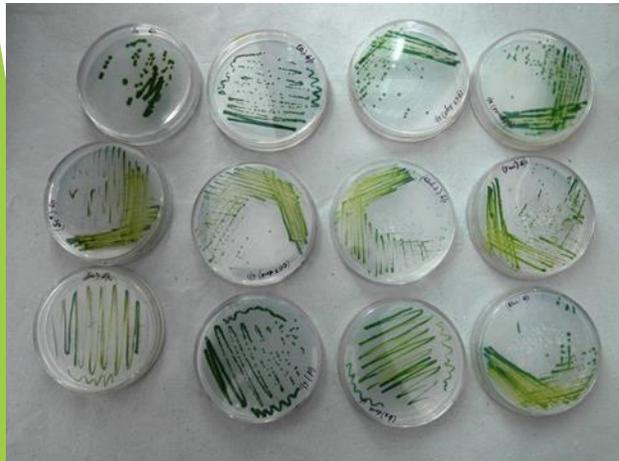
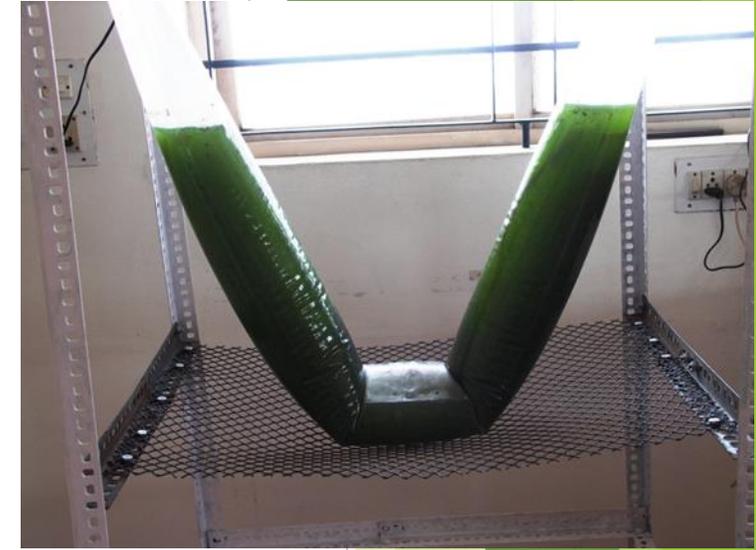
ENERGY CONSERVATION



- ▶ Certain measures are taken to conserve electricity consumption.
- ▶ **Existing energy consuming devices** like tube lights, are replaced by **LED energy saving models**.
- ▶ There is proper monitoring of **unplugging of electrical and electronic devices** like lights, fans, computers, lab equipments, etc to save energy.
- ▶ To bring in awareness, instructions and slogans are put in every class room to save energy and water.

Green energy- BIOFUEL -LABORATORY OF APPLIED BIOLOGY

- ▶ Bioprospecting local algae for their use as potential biofuel candidates
- ▶ Integrating low cost inputs with high biofuel productivities
- ▶ Economically feasible strategies for upscaling algal biomass for biofuel production.



Energy conservation- LABORATORY OF APPLIED BIOLOGY

1. Utilization of solar energy: in order to power the out door experiments solar power panels are used
2. Substitution of fresh water with salt water to minimize the usage of distilled water/ portable water to cultivate algae in large scale.
3. Use of LED lights : To standardize the wavelength requirements of plants and algae, substituting the florescent lights with optimized LED lights.



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[J Photochem Photobiol B](#). 2017 May;170:235-240. doi: 10.1016/j.jphotobiol.2017.04.023. Epub 2017 Apr 20.

Use of light emitting diodes (LEDs) for enhanced lipid production in micro-algae based biofuels.

Severes A¹, Hegde S², D'Souza L¹, Hegde S³.

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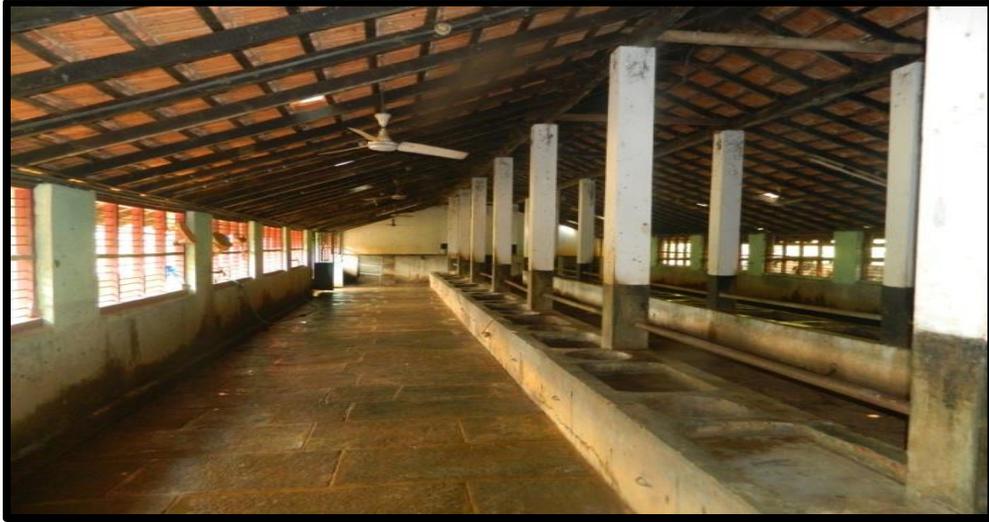
Use of Renewable Energy- Biogas unit :



Unit at Aloysius Boys Home

- Scientifically designed large Biogas Unit is maintained in Aloysius Boys Home at Nehru Nagar Ullal . Dung source from 25 reared cows is used as raw material for the production of biogas used for cooking and electricity for boys home
- The by products are used as organic manure for fruit and vegetable gardens there and other campus.
- This project is self relaint, self sustainable and renewable to a large extent with zero wastage
-

BIOGAS UNIT -ALOYSIUS BOYS HOME



Biogas unit is maintained in Boys Home and energy generated is used for activities of the entire home .

Asthravolae is used in ladies hostel for cooking and water heating purposes.

WASTE MANAGEMENT

WASTE MANAGEMENT - VERMITECHNOLOGY

- ▶ Vermi technology has been practiced for more than 15 years by the Department of Zoology. Vermiculturing and Vermicomposting hands on training is imparted to institutions, teachers, farmers, general public to popularize green technology in and around Mangalore.
- ▶ Main objective is to convert organic waste into fertilizers
- ▶ Measures taken :
 - ▶ - Public awareness through seminars and workshops
 - ▶ - Regular Vermitech diploma course
 - ▶ - Portable Vermibins-Designed by Dr. Hareesh Joshi, Retired Prof. Dept of Zoology is being utilized by various institutions
- ▶ Organic manure from vermitech unit of the college is used for the college garden.
- ▶ Students are involved in outreach programmes where they go to other schools and institutions and create awareness regarding environment conservation and vermitechology.



VERMIBIN



Vermitechnology UNIT





AL-VERMI BIN of St. Aloysius College, maintained by Dept. of Zoology.

UGC sponsored Vermitechnology Diploma course –DEPT OF ZOOLOGY

I year students



II year students



WASTE MANAGEMENT

Segregation of waste : Segregation of waste is done by placing waste disposal bins at required places and at all the science laboratories

- ▶ DRY WASTE - PLASTICS
- ▶ WET WASTE - ORGANIC
- ▶ GLASS WARES
- ▶ BIOMEDICAL WASTE / BIOHAZARDOUS

Toxic chemicals from lab : are drained through separate channels which reach the concrete pit.

E waste management : Bins have been kept for the segregation and disposal of E waste.

MOU with Ramky Energy & Environment Pvt. Ltd.

Agrowaste management- LABORATORY OF APPLIED BIOLOGY

- ▶ Argo waste based media formulation to cultivate the algae in outdoor conditions
- ▶ Agro-waste based adsorbents to remove excess metals ions from the portable water



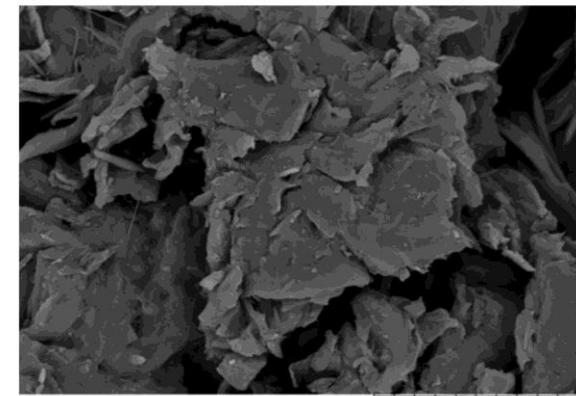
Articles

Equilibrium study of dried orange peel for its efficiency in removal of cupric ions from water

Kiran Kumar, Sachin S. Patavardhan , Saritha Lobo & Richard Gonsalves

Pages 593-598 | Published online: 24 Apr 2018

 Download citation  <https://doi.org/10.1080/15226514.2017.1405379>



TM3030 0927 2017/02/21 17:42 HL D5.6 x2.0k 30 μm

Sewage Treatment Plant (STP)- AIMIT - Beerli

- ▶ Sewage Treatment Plant (STP) -100 KLD capacity
Treated drainage water is used for watering plants and the deposits are used as manure for plants



The background features abstract, overlapping geometric shapes in various shades of green, ranging from light lime to dark forest green. These shapes are primarily located on the left and right sides of the frame, leaving a large white central area. The shapes are composed of triangles and quadrilaterals, some with thin white outlines.

THANK YOU