

GREEN AUDIT NILAMANI MAHAVIDYALAYA, RUPSA, BALASORE.

Introduction

This college Nilamani Mahavidyalaya, Rupsa, Balasore was established in the year 1976 under the society Registration Act. 1860, located under Sadar Block of Balasore District of Odisha. The campus is around 11.76 acr. The climatic condition of the areas are influenced by Bay of Bengal. The average wind speed in Balasore is 3.3 m/s with the maximum wind speed of around 10 m/s. The average ambient temperature remains 26.3°C, varies from 12.8°C to 37.7°C. The average relative humidity remains around 78.6%, varies from 31.7% to 98.7%. The soil types and climatic condition influenced following types vegetation. The college has been enriched with a fascinating lush of green ambience comprising gardens, medicinal plants, wood yielding plants and a pond.

MEMBER PRESENT

1. Dr. Ardhendu Kumar Dash (Assist. Professor in Botany)
2. Dr. Santanu Kumar Jena (Assist. Professor in Botany)




1. Ornamental Garden
2. Herbal Garden and Orchard garden
3. Botanical Garden VI (Grass Land)

1. Ornamental Garden : The ornamental Garden, rectangular shape is present at the main entrance of the college. Different seasonal flowering plants along with annual, perennial, herbs and shrubs are planted for the beautification of the college. The ornamental plants are like *Rosa indica*, *R. damascana*, *Ixora sp.*, *Thuja*, *Araucaria* and *Duranta*, *Juniparus sp.*, *Areca sp.*, *Furcraea sp.*, *Agavedes sp.*, *Syzygium sp.*, *Beaucarrea sp.*, *Jasmin sp.*, *Gardenia sp.*, *Euphorbia*

'Pond Ecosystem' containing the biotic components like *Nymphaea*, *Hydrilla* (producer), the crustacean larvae and fishes (the consumers of different order) and bacteria (the decomposers).

2. Herbal and Ornamental Plants: The Herbal Garden is spread over comparatively a larger piece of land in the east side of the science block. The college campus contains different species of widely used medicinal plants, belong to families Fabaceae, Rubiaceae, Euphorbiaceae, Asteraceae, Acanthaceae, Mimosaceae, Verbenaceae, Rutaceae, Casealpinaceae. The medicinal plants like *Rauwolfia tetrafolia*, *Azadirachta indica*, *Ocimum tenuiflorum*, *Pongamia pinnata*, *Phyllanthus embelica*, *Bredelia retusa*, *Dalbergia latifolia*, *Aloe vera*, *Tridax procumbens*, *Nyctanthes arbor-tristis*, *Syzygium cumuni*, *Calotropis procera*, *Adhatoda vasica*, *Murraya paniculata*, *Clerodendrum indicum*, *Psidium guajava*, *Mangifera indica*, *Zyzyphus juguba*, *Mimusops elengi*, *Curcuma indica*, *Cynodon dactylon*, *Cymbopogon martini*, *Abutilinum indicum*, *Asparagus racemosus*, *Elettaria cardamomum*, *Cissampelos pareira*, *Cassia decussata*, *Piper longum*, *Desmodium* sp. etc. are present and having a great contribution to the health of the staff and students of the college. The detail of plants number are presented below.

To conclude, the splendid lush ambience of the college has the greenery of the college that created a congenial & eco-friendly environment for the teaching & learning


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Rupsa, Balasore

	Common Name of the plant	Scientific Name of the plant	Full Grown
1.	Acacia	<i>Acacia delbata</i>	25
2.	Bakul	<i>Mimusops elengi</i>	15
3.	Jamun	<i>Syzygium cumin</i>	03
4.	Sirisha	<i>Albiza julibrissin</i>	07
5.	Betel	<i>Piper sp.</i>	07
6.	Piper plant	<i>Piper nigrum</i>	02
7.	Neem	<i>Azadirachta indica</i>	10
8.	Simili	<i>Bumbax cieba</i>	07
9.	Radhachuda	<i>Caesalpinia pulcherrima</i>	10
10.	Arjuna	<i>Terminalia arjuna</i>	01
11.	Orange(batapi)	<i>Citrus sinensis</i>	01
12.	Coconut	<i>Cocos nucifera</i>	04
13.	Banyan	<i>Ficus bengalensis</i>	01
14.	Mango	<i>Mangifera indica</i>	15
15.	Champa	<i>Michelia champaca</i>	02
16.	Nageswar	<i>Mesua ferrea</i>	01
17.	Debadaru	<i>Monoon longifolia</i>	15
18.	Guava	<i>Pyrus commnui</i>	02
19.	Chakunda	<i>Senna tora</i>	01
20.	Euqualipatas	<i>Euqualipatas globulus</i>	10
21.	Arica Plam	<i>Arica Plam</i>	03
22.	Plam	<i>Borassus fiabellifer</i>	02
23.	Kadamba	<i>Neolamarckia cadamba</i>	011
24.	Alvora	<i>Aloe barbadensis</i>	20
25.	Rose	<i>Rosa rubiginosa</i>	10
26.	Thuja	<i>Thuja occidentalis</i>	20
27.	Tagara	<i>Tabernaemo orientalis</i>	30
28.	Cycas	<i>Cycas circinalis</i>	04
29.	Arcaria	<i>Chrysalidocarpus lutescens</i>	05
30.	Amla	<i>Emblica officinalis</i>	01
31.	Barakuli	<i>Zizipnus jujuba</i>	01
32.	Khejura	<i>Phoenix dactylifera</i>	04
33.	Au (chalta)	<i>Dillenea indica</i>	04
34.	Banana	<i>Musa paradisiacal</i>	20

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35.	Atta	<i>Annona squamosa</i>	01
36.	Mehegani	<i>Swietenia macrophylla</i>	01
37.	Karbari	<i>Nerium indicum</i>	03
38.	Tulsi	<i>Ocimum sanctum</i>	25
39.	Satabari	<i>Aspergus racemus</i>	10
40.	Gujurati	<i>Elettaria candamomum</i>	20
41.	Golmaricha	<i>Piper nigrum</i>	02
42.	Haldi	<i>Curcuma longa</i>	20
43.	Guaa	<i>Arcea catechu</i>	50
44.	Chandan	<i>Pterocarpus santalinus</i>	02
45.	Kamini	<i>Muraya paniculata</i>	20
46.	Dhutura	<i>Datura stramonium</i>	10
47.	Menjuaati	<i>Lawsonia inermis</i>	02
48.	Arka plant	<i>Calotropis procera</i>	10
49.	Gongasimli	<i>Nyctanthes arbor-tristis</i>	05
50.	Sizu	<i>Euphorbia sp.</i>	02
51.	Bela	<i>Aggle mawmoleus</i>	04
52.	Lembu	<i>Lemon citrus</i>	02
53.	Jamrul	<i>Syzygium samarangense</i>	01


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**Quality Audits on Environment
Clean & Green Campus Initiatives
&
Beyond the Campus Environmental Promotion Activities
Nilamani Mahavidyalaya, Rupsa, Balasore**



Best Educational Institution Award-2021 for Plantation



Receiving Best Educational Institution Award-2021 for Plantation



Best Educational Institution Award-2021 in News



Green College Campus



College Botanical Garden



**(Plantation beyond the Campus)
Plantation at Govt. High School,
Hirapur**

ENERGY AUDIT REPORT

NILAMANI MAHAVIDYALAYA
RUPSA, BALASORE



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ABOUT THE COLLEGE

Nilamani Mahavidyalaya, Rupsa, is situated on the side of NH-60, At-Rupsa, Sadar Block of Balasore. The college bears a solitary look most befitting for a centre of Higher Education. Though late, with the popular will and craze for Higher Education, the college was established in the year 1976. On one side of the town stands the temple of learning in sylvan surrounding, sprawling around more than 05 acres of land.

OBJECTIVES AND METHODOLOGY

With increasing population and demand for energy resources, negative impact on environment has been increasing too. The level of population has increased and the resources that the natural world has to offer to humans has decreased because of its overuse and misuse, and in a decade or two, the world will be facing severe energy crisis. It is not possible to abandon the existing energy sources as they have become fundamental ingredient in human life but, it is absolutely possible to use it in a controlled manner in away that its impact on the environment can be reduced and energy can be conserved, and adopt more renewable sources of energy for everyday use. Majority of the primary energy is used as electricity and in transportation sector. It is very essential to cut down on the usage of on the environment and save it for the future generation.

Nilamani Mahavidyalaya, rupsa, is an educational institution that believes in maintaining a green campus status and has taken every possible measures to benefit the environment and safe guard it. It has formed an Energy Audit team of four members who examine the energy consumed by the college and suggests methods to reduce the amount of energy used by the institution.

The energy audit team surveys the college campus, including Hostels, its building structure, equipment used by the institute, its maximum capacity of usage, energy consumed and how much the college saves. They study the pattern in which the college consume energy. The team walk around the campus and examine the authenticity of the data they received through survey. They examine if the college has implemented any energy efficient equipment and it has opted for any alternative source of energy as a method of energy conservation. The audit team, then, give their necessary suggestions and recommendations to the college on how can reduce energy consumption and conserve more.

ENERGY AUDIT REPORT – 2021- 2022

Nilamani Mahavidyalaya, Rupsa, Balasore has provision for the usage of 470 electrical and electronics appliances as required. Total power supply due to these electrical appliances of the college is around 27.26kW. The college has following appliances where electrical energy is used:

- LED-56(9W)
- LED TUBE-61(20W)
- FAN-181(70W)
- TUBE LIGHT-20(40W)
- BULB-100(1W)
- WATER PUMP-01(1/2 HP)
- A.C-4(150W)
- WATER PURIFIER-6(40W)
- STAND FAN-1(125W)
- FRIDGE-3(125W)
- PRINTER-12(100W)
- PRINTER-1(300W)
- COMPUTER-23(120W)

Therefore, the total number of appliances that may be used by the institute is 470. The college uses around 200 appliances on working days and around 50 appliances on non working days. Appliances, like sound box, LCD TV, Air Conditioners, are used occasionally.

DATA ANALYSIS:

We study the details of the 12 months electricity bills.

Sl no	Month	No. of units in Kwh
1	Jan, Feb-22	324
2	March-22	367
3	April-22	270
4	May-22	475
5	June-22	238
6	July-22	346
7	Aug, Sept-22	1644
8	October-22	1542
9	November-22	1253
10	December-22	1502
11	January-23	419

Average energy usage is around 645kWh/month (average of 13 months). The college has recently established solar panels so as to lessen the consumption of energy (power

consumption is 120 units in Jan and Feb 23).The connection of solar panels and the use of more number of LEDs has lessen the energy consumption during the last month.

Existing features for energy savings:-

1. Staff Vigilance
2. Incandescent bulbs are nowhere used.
3. Maximun use of natural light.
4. Cross ventilation is provided in laboratory and class rooms which reduce the use of number of fans.
5. Walls are painted with off white colour to have sufficient brightness.
6. Computers and printers are shared in LAN.

SUGGESTION AND RECOMMENDATIONS

- Reduce the usage of conventional light sources.
- Make provision for more alternative sources of energy.
- Purchase appliances with five stars.
- Replace old appliances.
- Use computers in power saving mode.
- Lessen the use of vehicles, running on traditional petroleum fuels, by staff and students coming from nearby places to college.
- To make usage of more solar panels functional soon.

The energy audit team aims at reducing energy wastage within the college campus because natural resources are limited and it is required to be saved for the future generation. The audit team guides the institution on ways to save more energy by reducing energy consumption.

The college has conducted awareness programs on the deteriorating State of the natural resources and environment and encourages its Staff and students to use either walk to the campus or use bicycles or battery operated vehicles.

THE ENERGY AUDIT TEAM

- **Mr. Jayakrushna Sahu**
Lecturer in Physics
- **Mr. Ramesh Kumar Behera**
Lecturer in physics
- **Mr. Sraban Naik**
Lecturer in Math
- **Miss Karisma Sahoo**
Lecturer in Chemistry

(6)

J. Sahu *S. Behera*

T. S.
Principal
Sri Mani Mahavidyalaya
Rupsa, Balasore

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