

# OFFICE OF THE PRINCIPAL RABINDRASADAN GIRLS' COLLEGE

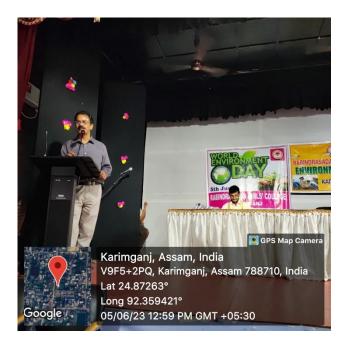
P.O. & DIST KARIMGANJ (ASSAM) 788710

Grade – 'B' (Re-Accredited by NAAC)

Web: http://rabindrasadangirlscollege.in Email: rabindrasadancollege@gmail.com

### **Report on World Environment Day**

Keeping parity with global scenario, the World Environment Day is celebrated on 5<sup>th</sup> June to create awareness among the students about protecting the environment. The speakers spoke on burning issues like global warming, overpopulation, pollution and crime against wildlife which leave devasting mark on ecosystem. To protect environment and to promote the cause of sustainable development, the mankind should put emphasis on environment protection and not to exploit the natural resources. It was followed by a plantation programme where saplings were planted in the college campus. The awareness programme was attended by the stakeholders of the college in large number. The principal thanked everyone for their presence and concluded the day's programme.





Ashok her Das

Principal Rabindrasadan Girls' College, Karimganj

Herran Md Bayhun Noor

Convenor, Environmental Cell Rabindrasadan Girls' College, Karimganj



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On 15<sup>th</sup> August, after the flag hoisting ceremony, the NCC Cell in collaboration with Environmental Cell of R.S. Girls' college undertaken plantation in the college campus as a part of the celebration of 75 years of the Indian independence.







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### Observance of World Environment Day on 5<sup>th</sup> June 2023:

NCC unit of Rabindrasadan Girls' College, Karimganj has observed World Environment Day on 5<sup>th</sup> June, 2023 with letter and spirit. Huge number of cadets was present on that day and participated in various activities under the guidance of CTO Dr. Tapasi Sinha such as cleanliness drive of class rooms and college campus.





Ashok

Principal Rabindrasadan Girls' **Cellege** Karimganj

(Dr. Tapasi Sinha) Convener NCC Cell R.S. College, Karimganj



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### NCC has Organised World Environment Day





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World Environment Day



Ashok her Das

## DECLARATION

This is to certify that Green Audit of Rabindrasadan Girls' College was conducted for the period from 1<sup>st</sup> July, 2022 to 30<sup>th</sup> June 2023. The main objective of this green audit was for cultivating ecofriendly consumer, environment, health and safety and to mitigate pollutants and green house gases by planting trees to increase Carbon sequestration, prudent utilization of water, management of Solid waste and banning of SUP(single use of plastic) within the college premises. However the college fulfilled all the criteria recommended by the concerned department.

Signature with seal Shyamal Prasad Choudhury (Environmentalisi) Author 1) Environment, Ecology Sustainable Day





# Rabindrasadan Girls` College, Karimganj

## A Report on Green Audit/Environmental Audit Assessment year 2020-2021

### Green Audit Assessment Team:

Internal

No • Mr. L.Hmar

Shri S. K.Seal

Safestin Have Py

. Dr. S.N.Roy

Shri H.M.B.Noor

External

• Dr. Pradip Kumar Nath

KARIMGANJ COLLEGE Karimganj, Assam

• Dr. Partha Sarathi Das

• Dr. Aniruddha Sen

Principal Shreebhumi Saraswati Mahavidyalaya Karimganj

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Principal Rabindrasadan Girls' College Karimganj

## Disclaimer

Depending on primary data the Green Audit Team (Internal & External) has prepared a report covering various areas of the college. The report has been prepared by taking proper care in this regard. The data incorporated in the report have been collected with utmost care and good faith and the relevant information provided is true to the best of the knowledge.

Prepared by Sallienzual Imer Sanjon Km. Seal Superdua Nata Py

Hissain Ud. Baylun Noor Audit Team (Internal)

Prepared by Sarathi Dos

Shreebhumi Saraswati Mahavid

Achah her Das

Principal Rabindrasadan Girls' Callege Karimganj

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### Acknowledgement

We acknowledge the assistance provided by the Internal and External Audit members in preparation of the Green Audit Report. Extensive survey of the college campus was done by the Internal and External members of the Audit team. Thorough investigation was made before the suggestions/recommendations. The identification of the plants was done by consulting with the External audit members. We are ever grateful to the cooperation received from the teaching and non-teaching staff and students of the college in preparation of the report.

Ashok In Das Principal 30/3/2021

R.S.Girls' College Karimganj

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Principal Rabindrasadan Girls' College Karimganj

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#### 1.Introduction

The Green Audit is a systematic effort for identification, quantification, recording, reporting and analysis of components of environmental diversity that prevails in the college campus.

Green audit takes care to determine how the natural resources such as water and other resources are properly utilized with necessary changes and saving of resources to cater to the need of the day. It stands for health consciousness and promote environmental awareness, values and ethics. The Staff and students are provided by the institution for better understanding of green impact inside the campus.

As the importance of environmental sustainability is a burning issue and emerges as an important issue for maintaining ecological balance, the role of higher educational institutions is becoming more effective to maintain environmental sustainability.

The growth of urbanization and economic activities at all levels viz. local, regional and global give birth to several issues in connection with degradation of environment and ecological balance.

In this backdrop it is essential to promote the cause of Green Campus for the institute which will bring tangible result in the direction of sustainable development.

#### 2. About the college

Rabindrasadan Girls' College was founded in 1962 through the efforts of a group of civil servants, educationists, philanthropists and patrons of learning when a part of surplus fund generated to celebrate the birth-centenary of the Nobel-laureate and great educationist Rabindranath Tagore was set aside to establish a girls' college. The founders were not only inspired by the lofty ideals of Tagore, but also visualized the advisability of establishing an exclusive seat of learning for girls with the aim to impart education in this remote region. From a humble beginning the college has progressed to add graduate programmes that are in demand in the arts and commerce streams. The college being situated in the heart of the town provides an ideal ambience and secure environment for girls not only of the district but also to others coming from neighboring states. The college's 100+ capacity hostel with adequate infrastructure and management has been a boon and incentivizes admission to the institution to many even from distant places. The college is also equipped with air-conditioned central library and reading rooms, smart class rooms, an auditorium, and teachers' common room.

At the outset the college was affiliated to the Gauhati University which was transferred in 1994 to the newly created Assam University, Silchar. At present the college offers courses in Arts and Commerce streams in the Higher Secondary and Graduate levels. Peripheral courses on Mass Communication and Computers have been opened, with some more on the anvil.

Due to its optimum location the college both manages and serves as a venue for governmental activities like recruitment examinations and election-related activities; regularly hosts important functions managed by the district administration in its well equipped and spacious auditorium, especially related to education; and being conscious of its social obligations also hosted hundreds of affected families in

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Ashoh the Day

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The college is dedicated to provide a healthy environment for the all-round development of girls and strives to equip them with essential skills to face challenges in a fast-changing world. It endeavours to translate into practice the noble ideals that inspired the founders and strives to instill the sense of responsibility in the students so that they become model citizens of the nation and responsible members of the society.

#### 3. Objectives:

The objectives of a green audit are to promote the Environmental Management and Conservation in and around the college campus.

The main objectives undertaken in the present work are:

- To bring awareness amongst the students about the real concerns of environment and sustainability.
- To preserve the environment and mitigate the threats paused to the health of living beings.
- To bring out a status report on environmental compliances.

#### 4. Methodology:

The methodology of green audit includes different tools such as physical inspection of campus, observation and review of the documentation, interviewing stake holders, measurements, data analysis and recommendations. The study covered the following areas:

- Energy conservation
- Water management
- Waste management.
- E waste management.
- Green area management.

#### 5. Observation

#### 5.1 Energy conservation

#### **Observation:**

The college is entirely dependent upon APDCL, Govt of Assam for supply of electricity. 1300units of electricity is consumed each month amounting to Rs12500/-(Nearly). During power shut, 03 numbers of generators of two number of 25 KVcapacity and one number of 5KV capacity are being used for generation of electricity. Electricity was used for lighting purposes, operating Air coolers, Fans, PCs, printers, water pumps etc. in college and hostel. Non CFL/LED tubelights, bulbs etc. had been replaced with LED and CFL bulbs for lessening the electric load. It had been seen that during the months from May to September the consumption of electricity was maximum in average.

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#### **Recommendations:**

- The main switch of the electricity supply might be shut off after administrative hours.
- Rechargeable bulbs and light sources can be installed for lessening dependence upon generation.
- Installation of solar panels might be undertaken for production of green energy.
- Students and teachers might be made aware to switch off the power supply in class rooms after the classes are over.

#### 5.2 Water management

#### Observation:

The college is solely dependent upon PHE, Govt of Assam for supply of potable water in college campus. There are 7 numbers of overhead tanks for water storage which can contain 5700 litres. Average water consumption per day in summer months was seen to be 15000litres while in winter it averaged to 12000litres. UV and RO filters had been installed in college for purifying the drinking water.

#### Recommendations:

- Water harvesting can be practiced in college campus as the region experiences heavy rainfall during the months from April- September.
- Overhead tanks might be fitted with indicators which would help to check overflow.
- Washrooms might be equipped with jet taps to minimize water misuse.
- Water testing might be carried out every year to keep an watch on the water quality of the campus and protect the college from facing the danger of water borne diseases.

#### 5.3 Waste management

#### Observation:

The wastes generated in the college was seen to be non hazardous in nature as science laboratories were not present. The main wastes generated were papers, sewage from college washrooms and hostel and wastes from the kitchen of college hostel and canting. Most of the wastes were biodegradable. Waste disposal system included burning, disposal in municipality bins, periodical emptying of septic tanks and disposal of night soil in municipality dumping sites etc.

#### **Recommendations:**

- Separation of biodegradable and non biodegradable wastes and recycling the plastics, metals etc through agencies.
- Establishing vermicompost pit for converting the biodegradable wastes into manure to be used in college campus.
- Lessening the use of onetime plastics by creating awareness amongst the students.
- Use of paper cups, earthen glass, sal leaf plates etc. in college canting.

Principal Rabindrasadan Girls' College

- Reuse the papers for handicraft and other pulp based artifacts.
- Small scale biogas plant might be established for using the biodegradable wastes.

#### 5.4 E waste management:

#### Observation:

The amount of e waste generated in college campus was very negligible. It included a few broke PCs, some CD and floppies etc. The E-wastes were generally disposed off to the vendors who traded in such items.

#### Recommendations:

- Annual maintenance contract could be made with the suppliers and authorized dealers for lengthening the span of PC's, laptops etc.
- Proper earthing might be done in the computer laboratory for protection of the computers, printers etc.

#### 5.5 Green area management

#### Observation:

The college has a campus of about5124.54 square meter, out of which 5000square meter was under construction leaving 125 square meter only for plantation and gardening. The college observed the World Environment Day, workshop on environment and sustainabilityetc. to create awareness amongst the students. Eminent personalities were invited to deliver popular talks on environment and pollution control. A total of 4 invited lectures were arranged from the period of August toJune. Apart from this, the college campus was adorned with different types of trees, shrubs and herbs collected from the Dept. of Social Forestry, Govt. of Assam as well as from private donors. Most of the plants were highly medicinal and had ornamental values. A few were also used locally as vegetables. The garden was seen to be maintained in however little space available inside the college campus and the plants were found to be well looked after. Provisions for seasonal flowers were also seen. Some of the most important flora in the college campus had been tabulated with their details of scientific names and uses (Table 1).

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Rabindrasadan Girls' College Karimganj Table 1: Table showing the scientific names, family, local names, uses and habit of the plants found in the college campus during survey.

SI no	Scientific name	Family	Local names	Use	Habit
1.	Mangifera indica L.	Anacardiaceae	Aam	Edible fruit, leaves and seed pulp medicinal	Tree
2.	Saraca indica L.	Fabaceae	Ashok	Medicinal	Tree
3.	Acacia auriculoformis Benth.	Fabaceae	Akashmoni	Ornamental	Tree
4.	Psidium guajava L.	Myrtaceae	Peyara	Edible	Tree
5.	Elaeocarpus serratus L.	Elaeocarpeaceae	Jolpai	Edible	Tree
6.	Thevetia peruviana (Pers.) K. Schum.	Apocynaceae	Kolke/Korobi	Ornamental	Tree
7.	Anthocephalus cadamba (Roxb.) Miq.	Rubiaceae	Kodom	Medicinal	Tree
8.	Artrocarpus heterophyllus Lam.	Moraceae	Kathal	Edible	Tree
9.	Delonix regia (Bojer.) Raf.	Fabaceae	Krishnachura	Ornamental	Tree
10.	Spathodea campanulata P. Beauv.	Bigoneaceae	Rudrapalash, African tulip tree	Ornamental	Tree
11.	Samanea saman (Jacq.) Merr.	Fabaceae	Rain tree	Ornamental	Tree
12.	Albizia chinensis (Osbeck) Merr.	Fabaceae		Medicinal	Tree
13.	Calotropis gigantea (L.) Dryand.	Apocynaceae	Akanda	Medicinal	Shrub
14.	Datura stramonium L.	Solanaceae	Dhutra	Medicinal	Herb
15.	Nyctanthes arbor-tristis L.	Oleaceae	Sheuli	Ornamental, medicinal	Herb
16.	Azadirachta indica A. Juss.	Meliaceae	Neem	Medicinal	Tree
17.	Kalanchoe pinnata (Lam.) Pers.	Crassulaceae	Patharkuchi	Medicinal	Herb
18.	Canna indica L.	Cannaceae	Sarbajaya	Ornamental	Herb
19.	Ocimum sanctum L.	Lamiaceae	Tulasi	Medicinal	Herb
20.	Citrus limon(L.) Burm.f.	Rutaceae	Lebu	Edible	Shrub
21.	Syzigium cumini (L.) Skeels	Myrtaceae	Kalojam	Edible	Tree
22.	Ficus racemosa L.	Moraceae	Yaggadumur	Medicinal	Tree
23.	Dracaena reflexa Lam.	Dracenaceae		Ornamental	Shrub
24.	Baleria cristata L.	Acanthaceae	Kundo	Ornamental	Shrub
25.	Allamanda cathartica L.	Apocynaceae	Alakananda	Ornamental	Shrub
26.	Colocasia esculentumL.	Araceae	Kalo kochu	Edible	Herb
27.	Acmella paniculata (Wali. ex. DC.) R.K. Jansen	Asteraceae	Ghaful	Medicinal	Herb
28.	Cynodon dactylon (L)	Poaceae	Durba	Medicinal	Herb

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	Pers.				
29.	Jacaranda mimosifolia D. Don.	Bigoniaceae	Jarul	Ornamental	Tree
30.	Phyllanthus emblicaL.	Phyllanthaceae	Amla	Medicinal	Tree
31.	Capsicum annuum L.	Solanaceae	Lonka	Medicinal, edible	Shrub
32.	Chrysanthemum indicum L.	Asteraceae	Chandra mallika	Ornamental	Herb
33.	Potrulaca grandiflora Hook.	Potrulacaceae	Nine o` clock plant	Ornamental	Herb
34.	Kalanchoe blossfeldiana Poelln.	Crassulaceae		Ornamental	Herb
35.	Aegle mermelos (L.) Correa	Rutaceae	Bael	Medicinal	Tree
36.	Vinca rosea L.	Apocynaceae	Nayan tara	Ornamental, medicinal	Shrub
37.	Hibiscus rosa-sinensis L.	Malvaceae	Jobaful	Ornamental, medicinal	Shrub
38.	Solanum nigrum L.	Solanaceae	Kakmachi	Medicinal	Herb
39.	Tabernaemontata divaricata R. Br.exRoem. &Schult.	Apocynaceae	Dudhful/togor	Ornamental	Shrub
40.	Zinnia elegans Jacq.	Asteraceae	Zinnia	Ornamental	Herb
41.	Rosa sp.	Rosaceae	Golap	Ornamental	Shrub
42.		Amaranthaceae	Bishalyakarani/ katapata	Medicinal	Herb
43.		Musaceaea	Kola	Edible	Tree
44.		Asteraceae	Gada ful	Ornamental, medicinal	Herb
45.	Cucurbita maxima Duchesne	Cucurbitaceae	Misti kumra	Edible	Annual climber
46	Abelmoschus esculentus (L.) Moench	Malvaceae	Vendi	Edible	Herb
47		Verbenaceae	Hedge plant	Ornamental	Shrub
48	Clitoria ternetea L.	Fabaceae	Aparajita	Ornamental, medicinal	Herbaceou: climber
49	Annona reticulata L.	Annonaceae	Nona fol	Edible fruit	Tree
50		Oxiladaceae	Kamranga	Edible fruit	Tree
51		Rahmnaceae	Boroi	Edible fruit	Tree

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#### **Recommendation:**

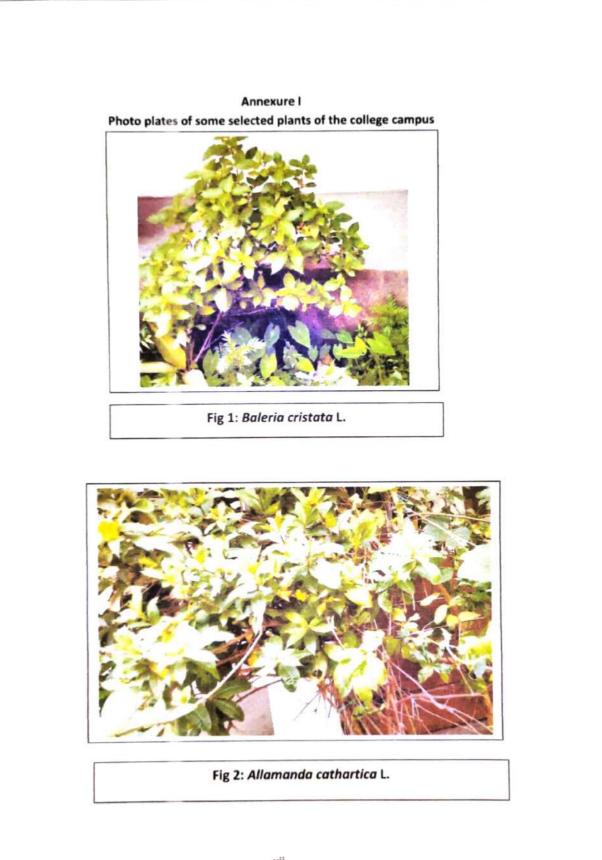
- A garden of locally available medicinal plants might be established in college campus.
- · The students can be entrusted with looking after the garden.
- The environment cell of the college can be requested to look after the garden.
- Green audit can be conducted every year during the rainy seasons for collection of more herbaceous medicinal plants.

#### 6. Conclusion:

It can be concluded that the green audit of the college campus was highly beneficial in assessment of the impact of college in the field of environmental protection. Being the hub of higher education, environment friendly steps with respect to energy conservation and production of green energy, water reuse, waste disposal and recycle etc. could impart long term benefits by making aware of the students who form an important part of the society. Maintenance of trees protected the college from heat and provided safe harbor to different birds. This could also exemplify the actual role of the college community in environment protection.

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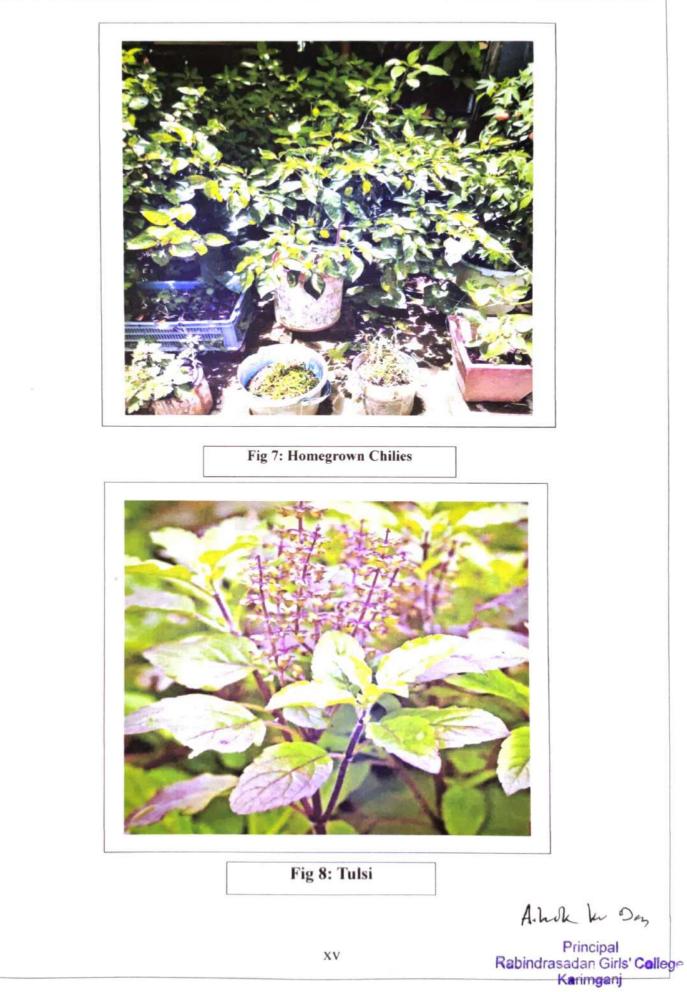


Fig 5: Thevetia peruviana (Pers.) K. Schum.



Fig 6: Canna indica L.

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# **RABINDRASADAN GIRLS' COLLEGE**

## A REPORT ON GREEN AUDIT/ENVIRONMENTAL AUDIT



# Rabindrasadan Girls` College, Karimganj

## A Report on Green Audit/Environmental Audit Assessment year 2021-2022

### Green Audit Assessment Team:

Internal

• Mr. L.Hmar



Stresha Kar Py . Dr. S.N.Roy

Shri H.M.B.Noor

External

 Dr. Pradip Kumar Nath Hob. Bolany & Biotechnology Kartwany College Kartimganj, Assam

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Prepared by Lattenguk Umer Danjoy Km. Seal Superior Net M

Husain N.A. Bajhun Noor Audit Team (Internal)

Prepared by Pradip Kumar Nath Botany & Biotechnology RIMGANJ COLLEGE Kaymgani, Assam Audit Team 12/4/2 Principal Shreebhumi Saraswati Mahavidvalava

Karimganj

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Principal Rabindrasadan Girls' College Karimganj

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#### 5.1 Energy conservation

#### **Observation:**

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- Rechargeable bulbs and light sources can be installed for lessening dependence upon generation.
- Installation of solar panels might be undertaken for production of green energy.
- Students and teachers might be made aware to switch off the power supply in class rooms after the classes are over.

#### 5.2 Water management

#### Observation:

The college is solely dependent upon PHE, Govt of Assam for supply of potable water in college campus. There are 7 numbers of overhead tanks for water storage which can contain 5700 litres. Average water consumption per day in summer months was seen to be 15000litres while in winter it averaged to12000litres. UV and RO filters had been installed in college for purifying the drinking water.

#### **Recommendations:**

- Water harvesting can be practiced in college campus as the region experiences heavy rainfall during the months from April- September.
- Overhead tanks might be fitted with indicators which would help to check overflow.
- Washrooms might be equipped with jet taps to minimize water misuse.
- Water testing might be carried out every year to keep an watch on the water quality of the campus and protect the college from facing the danger of water borne diseases.

#### 5.3 Waste management

#### Observation:

The wastes generated in the college was seen to be non hazardous in nature as science laboratories were not present. The main wastes generated were papers, sewage from college washrooms and hostel and wastes from the kitchen of college hostel and canting. Most of the wastes were biodegradable. Waste disposal system included burning, disposal in municipality bins, periodical emptying of septic tanks and disposal of night soil in municipality dumping sites etc.

#### Recommendations:

- Separation of biodegradable and non biodegradable wastes and recycling the plastics, metals etc through agencies.
- Establishing vermicompost pit for converting the biodegradable wastes into manure to be used in college campus.
- Lessening the use of onetime plastics by creating awareness amongst the students.
- Use of paper cups, earthen glass, sal leaf plates etc. in college canting.

Ashik Principal Rabindrasadan Girls' College Karimgani

- Reuse the papers for handicraft and other pulp based artifacts.
- Small scale biogas plant might be established for using the biodegradable wastes.

#### 5.4 E waste management:

#### **Observation:**

The amount of e waste generated in college campus was very negligible. It included a few broke PCs, some CD and floppies etc. The E-wastes were generally disposed off to the vendors who traded in such items.

#### Recommendations:

- Annual maintenance contract could be made with the suppliers and authorized dealers for lengthening the span of PC's, laptops etc.
- Proper earthing might be done in the computer laboratory for protection of the computers, printers etc.

#### 5.5 Green area management

#### Observation:

The college has a campus of about5124.54 square meter, out of which 5000square meter was under construction leaving 125 square meter only for plantation and gardening. The college observed the World Environment Day, workshop on environment and sustainabilityetc. to create awareness amongst the students. Eminent personalities were invited to deliver popular talks on environment and pollution control. A total of 4 invited lectures were arranged from the period of August toJune. Apart from this, the college campus was adorned with different types of trees, shrubs and herbs collected from the Dept. of Social Forestry, Govt. of Assam as well as from private donors. Most of the plants were highly medicinal and had ornamental values. A few were also used locally as vegetables. The garden was seen to be maintained in however little space available inside the college campus and the plants were found to be well looked after. Provisions for seasonal flowers were also seen. Some of the most important flora in the college campus had been tabulated with their details of scientific names and uses (Table 1).

Ainte her Das Principal Rabindrasadan Girls' College Karimgani

Table 1: Table showing the scientific names, family, local names, uses and habit of the plants found in the college campus during survey.

SI no	Scientific name	Family	Local names	Use	Habit
1.	Mangifera indica L.	Anacardiaceae	Aam	Edible fruit, leaves and seed pulp medicinal	Tree
2.	Saraca indica L.	Fabaceae	Ashok	Medicinal	Tree
3.	Acacia auriculoformis Benth.	Fabaceae	Akashmoni	Ornamental	Tree
4.	Psidium guajava L.	Myrtaceae	Peyara	Edible	Tree
5.	Elaeocarpus serratus L.	Elaeocarpeaceae	Jolpai	Edible	Tree
6.	Thevetia peruviana (Pers.) K. Schum.	Apocynaceae	Kolke/Korobi	Ornamental	Tree
7.	Anthocephalus cadamba (Roxb.) Miq.	Rubiaceae	Kodom	Medicinal	Tree
8.	Artrocarpus heterophyllus Lam.	Moraceae	Kathal	Edible	Tree
9.	Delonix regia (Bojer.) Raf.	Fabaceae	Krishnachura	Ornamental	Tree
10.	Spathodea campanulata P. Beauv.	Bigoneaceae	Rudrapalash, African tulip tree	Ornamental	Tree
11.	Samanea saman (Jacq.) Merr.	Fabaceae	Rain tree	Ornamental	Tree
12.	Albizia chinensis (Osbeck) Merr.	Fabaceae		Medicinal	Tree
13.	Calotropis gigantea (L.) Dryand.	Apocynaceae	Akanda	Medicinal	Shrub
14.	Datura stramonium L.	Solanaceae	Dhutra	Medicinal	Herb
15.	Nyctanthes arbor-tristis L.	Oleaceae	Sheuli	Ornamental, medicinal	Herb
16.	Azadirachta indica A. Juss.	Meliaceae	Neem	Medicinal	Tree
17.	Kalanchoe pinnata (Lam.) Pers.	Crassulaceae	Patharkuchi	Medicinal	Herb
18.	Canna indica L.	Cannaceae	Sarbajaya	Ornamental	Herb
19.	Ocimum sanctum L.	Lamiaceae	Tulasi	Medicinal	Herb
20.	Citrus limon(L.) Burm.f.	Rutaceae	Lebu	Edible	Shrub
21.	Syzigium cumini (L.) Skeels	Myrtaceae	Kalojam	Edible	Tree
22.	Ficus racemosa L.	Moraceae	Yaggadumur	Medicinal	Tree
23.	Dracaena reflexa Lam.	Dracenaceae		Ornamental	Shrub
24.	Baleria cristata L.	Acanthaceae	Kundo	Ornamental	Shrub
25.	Allamanda cathartica L.	Apocynaceae	Alakananda	Ornamental	Shrub
26.	Colocasia esculentumL.	Araceae	Kalo kochu	Edible	Herb
27.	Acmella paniculata (Wall. ex. DC.) R.K. Jansen	Asteraceae	Ghaful	Medicinal	Herb
28.	Cynodon dactylon (L.)	Poaceae	Durba	Medicinal	Herb

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	Pers.				
29.	Jacaranda mimosifolia D. Don.	Bigoniaceae	Jarul	Ornamental	Tree
30.	Phyllanthus emblicaL.	Phyllanthaceae	Amla	Medicinal	Tree
31.	Capsicum annuum L.	Solanaceae	Lonka	Medicinal, edible	Shrub
32.	Chrysanthemum indicum L.	Asteraceae	Chandra mallika	Ornamental	Herb
33.	Potrulaca grandiflora Hook.	Potrulacaceae	Nine o` clock plant	Ornamental	Herb
34.	Kalanchoe blossfeldiana Poelln.	Crassulaceae		Ornamental	Herb
35.	Aegle mermelos (L.) Correa	Rutaceae	Bael	Medicinal	Tree
36.	Vinca rosea L.	Apocynaceae	Nayan tara	Ornamental, medicinal	Shrub
37.	Hibiscus rosa-sinensis L.	Malvaceae	Jobaful	Ornamental, medicinal	Shrub
38.	Solanum nigrum L.	Solanaceae	Kakmachi	Medicinal	Herb
39.	Tabernaemontata divaricata R. Br.exRoem. &Schult.	Apocynaceae	Dudhful/togor	Ornamental	Shrub
40.	Zinnia elegans Jacq.	Asteraceae	Zinnia	Ornamental	Herb
41.	Rosa sp.	Rosaceae	Golap	Ornamental	Shrub
42.	Alternanthera brasiliana (L.) Kuntze	Amaranthaceae	Bishalyakarani/ katapata	Medicinal	Herb
43.	Musa paradisiaca L.	Musaceaea	Kola	Edible	Tree
44.	Tagetes erecta L.	Asteraceae	Gada ful	Ornamental, medicinal	Herb
45.	Duchesne	Cucurbitaceae	Misti kumra	Edible	Annual climber
46.	Abelmoschus esculentus (L.) Moench	Malvaceae	Vendi	Edible	Herb
47.	Duranta erecta L.	Verbenaceae	Hedge plant	Ornamental	Shrub
48.	Clitoria ternetea L.	Fabaceae	Aparajita	Ornamental, medicinal	Herbaceous climber
49.	Annona reticulata L.	Annonaceae	Nona fol	Edible fruit	Tree
50.	Averrhoea carambola L.	Oxiladaceae	Kamranga	Edible fruit	Tree
51.	Zizyphus mouritiana Lam.	Rahmnaceae	Boroi	Edible fruit	Tree

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#### **Recommendation:**

- A garden of locally available medicinal plants might be established in college campus.
- The students can be entrusted with looking after the garden.
- The environment cell of the college can be requested to look after the garden.
- Green audit can be conducted every year during the rainy seasons for collection of more herbaceous medicinal plants.

#### 6. Conclusion:

It can be concluded that the green audit of the college campus was highly beneficial in assessment of the impact of college in the field of environmental protection. Being the hub of higher education, environmental friendly steps with respect to energy conservation and production of green energy, water reuse, waste disposal and recycle etc could impart long term benefits by awaring the students who form an important part of the society. Maintenance of trees protected the college from heat and provided safe harbor to different birds. This could also exemplify the actual role of the college community in environment protection.

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Annexure I Photo plates of some selected plants of the college campus

Fig 1: Baleria cristata L.



Fig 2: Allamanda cathartica L.

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Fig 3: Cucurbita maxima Duchesne



Fig 4: Alternanthera brasiliana (L.) Kuntze

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Fig 5: Thevetia peruviana (Pers.) K. Schum.



Fig 6: Canna indica L.

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# Rabindrasadan Girls` College, Karimganj

## A Report on

# Green Audit /Environmental Audit

Assessment year 2022-2023



# Rabindrasadan Girls` College, Karimganj

### A Report on Green Audit /Environmental Audit Assessment year 2022-2023

#### Green Audit Assessment Team:

Internal

•Shri S. Seal

Suprove Nett by •.Dr. S.N.Roy

•Shri H.M.B.Noor

•Mr. L.Hmar Co-ordinator, IQAC R.S. Girls' College Karimganj

External

• Dr. Pradip Kumar Nath

Dept. of Botany & Biotechnology Karimganj College Karimganj

 Dr. Partha Sarathi Das Head of the Department Botany & Biotechnology KARIMGANJ COLLEGE Karimganj, Assam

whether ferr

 Dr. Aniruddha Sen Principal Shreebhumi Saraswati Mahavidyalaya Karimganj

### Disclaimer

Depending on primary data the Green Audit Team (Internal & External) has prepared a report covering various areas of the college. The report has been prepared by taking proper care in this regard. The data incorporated in the report have been collected with utmost care and good faith and the relevant information provided is true to the best of the knowledge.

Prepared by Co-ordinator, IQAC R.S. Girls' College **Karimgan**j

Audit Team<sup>P</sup> (Internal)

Dept. of Botany & Biotechnology Karimganj College Karimganj

Prepared by auathe stas. autha

Head of the Department Botany & Biotechnology KARIMGANJ COLLEGE Autunt Team

(External)

Principal Shreebhumi Saraswati Mahavidyalaya Karimganj

### ACKNOWLEDGEMENT

We acknowledge the assistance provided by the Internal and External Audit members in preparation of the Green Audit Report. Extensive survey of the college campus was done by the Internal and External members of the Audit Team. Thorough investigation was made before the suggestions/recommendations. The identification of the plants was done by consulting with the External Audit members. We are ever grateful to the cooperation received from the teaching and Non-teaching staff and students of the college in preparation of the report.

Principal

R.S.Girls' College Karimganj Principal Rabindrasadan Girls' College Karimganj



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#### 1.Introduction

The Green Audit is a systematic effort for identification, quantification, recording, reporting and analysis of components of environmental diversity that prevails in the college campus.

Green audit takes care to determine how the natural resources such as water and other resources are properly utilized with necessary changes and saving of resources to cater to the need of the day. It stands for health consciousness and promote environmental awareness, values and ethics. The Staff and students are provided by the institution for better understanding of green impact inside the campus.

As the importance of environmental sustainability is a burning issue and emerges as an important issue for maintaining ecological balance, the role of higher educational institutions is becoming more effective to maintain environmental sustainability.

The growth of urbanization and economic activities at all levels viz. local, regional and global give birth to several issues in connection with degradation of environment and ecological balance.

In this backdrop it is essential to promote the cause of Green Campus for the institute which will bring tangible result in the direction of sustainable development.

#### 2. About the college

Rabindrasadan Girls' College was founded in 1962 through the efforts of a group of civil servants, educationists, philanthropists and patrons of learning when a part of surplus fund generated to celebrate the birth-centenary of the Nobel-laureate and great educationist Rabindranath Tagore was set aside to establish a girls' college. The founders were not only inspired by the lofty ideals of Tagore, but also visualized the advisability of establishing an exclusive seat of learning for girls with the aim to impart education in this remote region. From a humble beginning the college has progressed to add graduate programmes that are in demand in the arts and commerce streams. The college being situated in the heart of the town provides an ideal ambience and secure environment for girls not only of the district but also to others coming from neighboring states. The college's 100+ capacity hostel with adequate infrastructure and management has been a boon and incentivizes admission to the institution to many even from distant places. The college is also equipped with air-conditioned central library and reading rooms, smart class rooms, an auditorium, and teachers' common room.

At the outset the college was affiliated to the Gauhati University which was transferred in 1994 to the newly created Assam University, Silchar. At present the college offers courses in Arts and Commerce streams in the Higher Secondary and Graduate levels. Peripheral courses such as UG Course on Mass Communication and certificate Course on Computers have been opened, with some more on the anvil.

Due to its optimum location the college both manages and serves as a venue for governmental activities like recruitment examinations and election-related activities; regularly hosts important functions managed by the district administration in its well-equipped and spacious auditorium, especially related to education; and being conscious of its social obligations also hosted hundreds of affected families in the form of a relief camp within the college campus in 2022, totally managed by teaching and non-teaching staff.

The college is dedicated to provide a healthy environment for the all-round development of girls and strives to equip them with essential skills to face challenges in a fast-changing world. It endeavors to translate into practice the noble ideals that inspired the founders and strives to instill the sense of responsibility in the students so that they become model citizens of the nation and responsible members of the society.

#### 3. Objectives:

The objectives of a green audit are to promote the Environmental Management and Conservation in and around the college campus.

The main objectives undertaken in the present work are:

- To bring awareness amongst the students about the real concerns of environment and sustainability.
- To preserve the environment and mitigate the threats paused to the health of living beings.
- To bring out a status report on environmental compliances.

#### 4. Methodology:

The methodology of green audit includes different tools such as physical inspection of campus, observation and review of the documentation, interviewing stake holders, measurements, data analysis and recommendations. The study covered the following areas:

- Energy conservation
- Water management
- Waste management.
- E waste management.
- Green area management.

#### 5. Observation

#### 5.1 Energy conservation

#### **Observation:**

The college is entirely dependent upon APDCL, Govt of Assam for supply of electricity. 1300units of electricity is consumed each month amounting to Rs12500/-(Nearly). During power shut, 03 numbers of generators of two number of 25 KV capacity and one number of 5KV capacity are being used for generation of electricity. Electricity was used for lighting purposes, operating Air coolers, Fans, PCs, printers, water pumps etc. in college and hostel. Non CFL/LED tube lights, bulbs etc. had been replaced with LED and CFL bulbs for lessening the electric load. It had been seen that during the months from May to September the consumption of electricity was maximum in average.

#### **Recommendations:**

- The main switch of the electricity supply might be shut off after administrative hours.
- Rechargeable bulbs and light sources can be installed for lessening dependence upon generation.
- Installation of solar panels might be undertaken for production of green energy.
- Students and teachers might be made aware to switch off the power supply in class rooms after the classes are over.

#### 5.2 Water management

#### Observation:

The college is solely dependent upon PHE, Govt of Assam for supply of potable water in college campus. There are 7 numbers of overhead tanks for water storage which can contain 5700 litres. Average water consumption per day in summer months was seen to be 15000litres while in winter it averaged to12000litres. UV and RO filters had been installed in college for purifying the drinking water.

#### Recommendations:

- Water harvesting can be practiced in college campus as the region experiences heavy rainfall during the months from April- September.
- Overhead tanks might be fitted with indicators which would help to check overflow.
- Washrooms might be equipped with jet taps to minimize water misuse.
- Water testing might be carried out every year to keep an watch on the water quality of the campus
  and protect the college from facing the danger of water borne diseases.

#### 5.3 Waste management

#### **Observation:**

The wastes generated in the college was seen to be non-hazardous in nature as science laboratories were not present. The main wastes generated were papers, sewage from college washrooms and hostel and wastes from the kitchen of college hostel and canting. Most of the wastes were biodegradable. Waste disposal system included burning, disposal in municipality bins, periodical emptying of septic tanks and disposal of night soil in municipality dumping sites etc.

#### **Recommendations:**

- Separation of biodegradable and non-biodegradable wastes and recycling the plastics, metals etc through agencies.
- Establishing vermicompost pit for converting the biodegradable wastes into manure to be used in college campus.
- Lessening the use of onetime plastics by creating awareness amongst the students.
- Use of paper cups, earthen glass, Sal leaf plates etc. in college canting.
- Reuse the papers for handicraft and other pulp-based artifacts.

Small scale biogas plant might be established for using the biodegradable wastes.

#### 5.4 E waste management:

#### **Observation:**

The amount of e-waste generated in college campus was very negligible. It included a few broke PCs, some CD and floppies etc. The E-wastes were generally disposed off to the vendors who traded in such items.

#### **Recommendations:**

- Annual maintenance contract could be made with the suppliers and authorized dealers for lengthening the span of PC's, laptops etc.
- Proper earthing might be done in the computer laboratory for protection of the computers, printers etc.

#### 5.5 Green area management

#### **Observation:**

The college has a campus of about5124.54 square meter, out of which 5000square meter was under construction leaving 125 square meter only for plantation and gardening. The college observed the World Environment Day, workshop on environment and sustainability etc. to create awareness amongst the students. Eminent personalities were invited to deliver popular talks on environment and pollution control. A total of 3 invited lectures were arranged from the period of August to June. Apart from this, the college campus was adorned with different types of trees, shrubs and herbs collected from the Dept. of Social Forestry, Govt. of Assam as well as from private donors. Most of the plants were highly medicinal and had ornamental values. A few were also used locally as vegetables. The garden was seen to be maintained in however little space available inside the college campus and the plants were found to be well looked after. Provisions for seasonal flowers were also seen. Some of the most important flora in the college campus had been tabulated with their details of scientific names and uses (Table 1).

SI no	Scientific name	Family	Local names	Use	Habit	
1.	Mangifera indica L.	Anacardiaceae	Aam	Edible fruit, leaves and seed pulp medicinal	Tree	
2.	Saraca indica L.	Fabaceae	Ashok	Medicinal	Tree	
3.	Acacia auriculoformis Benth.	Fabaceae	Akashmoni	Ornamental	Tree	
4.	Psidium guajava L.	Myrtaceae	Peyara	Edible	Tree	
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14.	Datura stramonium L.	Solanaceae	Dhutra	Medicinal	Herb	

Table 1: Table showing the scientific names, family, local names, uses and habit of the plants found in the college campus during survey.

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15.	Nyctanthes arbor-tristis L.	Oleaceae	Sheuli	Ornamental, medicinal	Herb
16.	Azadirachta indica A. Juss.	Meliaceae	Neem	Medicinal	Tree
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18.	Canna indica L.	Cannaceae	Sarbajaya	Ornamental	Herb
19.	Ocimum sanctum L.	Lamiaceae	Tulasi	Medicinal	Herb
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23.	Dracaena reflexa Lam.	Dracenaceae		Ornamental	Shrub
24.	Baleria cristata L.	Acanthaceae	Kundo	Ornamental	Shrub
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28.	Cynodon dactylon (L.) Pers.	Poaceae	Durba	Medicinal	Herb
29.	<i>Jacaranda mimosifolia</i> D. Don.	Bigoniaceae	Jarul	Ornamental	Tree
30.	Phyllanthus emblicaL.	Phyllanthaceae	Amla	Medicinal	Tree
31.	Capsicum annuum L.	Solanaceae	Lonka	Medicinal, edible	Shrub
32.	Chrysanthemum indicum L.	Asteraceae	Chandra mallika	Ornamental	Herb
33.	Potrulaca grandiflora Hook.	Potrulacaceae	Nine o` clock plant	Ornamental	Herb
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35.	Aegle mermelos (L.) Correa	Rutaceae	Bael	Medicinal	Tree	
36.	Vinca rosea L.	Apocynaceae	Nayan tara	Ornamental, medicinal	Shrub	
37.	Hibiscus rosa-sinensis L.	Malvaceae	Jobaful	Ornamental, medicinal	Shrub	
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40.	Zinnia elegans Jacq.	Asteraceae	Zinnia	Ornamental	Herb	
41.	Rosa sp.	Rosaceae	Golap	Ornamental	Shrub	
42.	Alternanthera brasiliana (L.) Kuntze	Amaranthaceae	Bishalyakarani/ katapata	Medicinal	Herb	
43.	Musa paradisiaca L.	Musaceaea	Kola	Edible	Tree	
44.	Tagetes erecta L.	Asteraceae	Gada ful	Ornamental, medicinal	Herb	
45.	Cucurbita maxima Duchesne	Cucurbitaceae	Misti kumra	Edible	Annual climber	
46.	Abelmoschus esculentus (L.) Moench	Malvaceae	Vendi	Edible	Herb	
47.	Duranta erecta L.	Verbenaceae	Hedge plant	Ornamental	Shrub	
48.	Clitoria ternetea L.	Fabaceae	Aparajita	Ornamental, medicinal	Herbaceous climber	
49.	Annona reticulata L.	Annonaceae	Nona fol	Edible fruit	Tree	
50.	Averrhoea carambola L.	Oxiladaceae	Kamranga	Edible fruit	Tree	
51.	Zizyphus mauritiana Lam.	Rahmnaceae	Boroi	Edible fruit	Tree	

#### **Recommendation:**

- A garden of locally available medicinal plants might be established in college campus.
- The students can be entrusted with looking after the garden.
- The environment cell of the college can be requested to look after the garden.
- Green audit can be conducted every year during the rainy seasons for collection of more herbaceous medicinal plants.

#### 6. Conclusion:

It can be concluded that the green audit of the college campus was highly beneficial in assessment of the impact of college in the field of environmental protection. Being the hub of higher education, environmental friendly steps with respect to energy conservation and production of green energy, water reuse, waste disposal and recycle etc. could impart long term benefits by making aware of the students who form an important part of the society. Maintenance of trees protected the college from heat and provided safe harbor to different birds. This could also exemplify the actual role of the college community in environment protection.



Annexure I Photo plates of some selected plants of the college campus

Fig 1: Baleria cristata L.



Fig 2: Allamanda cathartica L.

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# DECLARATION

This is to certify that the energy audit of Rabindrasadan Girls' College, Karimganj was conducted for the period from 1<sup>st</sup> July, 2022 to 30<sup>th</sup> June, 2023. The main objective of this energy audit was for cultivating humanizing comfort, health and safety. The data collected covered each class room, laboratory, staff room, office, auditorium etc. The main focus of this energy audit was to lessen the consumption of electric energy by using LED lights instead of CFL or other fluorescent lamps and also to ensure safety by replacing open wiring into concealed one.

However, the college fulfilled all the criteria recommended by the concerned department.

Karimgani Electrical Sub-Division L Karimganj Signature with seal

#### ENERGY AUDIT REPORT

Data collection for energy audit of the Rabindrasadan Girls' College, Karimganj was conducted for the period of 1<sup>st</sup> July, 2022 to 30th June; 2023. This audit was over sighted to inquire about convenience to progress the energy competence of the campus. To drop of energy utilization whilst cultivating humanizing comfort, health and safety are prime objective. All data are collected from each class rooms, laboratories, staff rooms, office, auditorium etc. The work is completed by considering, how much tube lights, fans; A.Cs, electronic instruments, etc are installed in each room and the participation of each component in total electricity consumption.

The major activities carried out during the audit are as follow:

- Collection of college's records regarding Electricity power consumption
- Analysis of the Electrical Distribution system

• Data collection of major power consuming equipment in various rooms, such as Laboratory Equipments, Fans, Lights and pumps

• Recommendation of various methods and bringing four the various potential of rectification

Ratan Choudhury Elect. Supervisor Regd. No.-10140 Ports, 1, 2, 3, 4, 5A, 6, 7A, 7B, 9A

Principal Rabindrasadan Girls' Callege Karimganj

### 1, Analysis of Electrical Distribution System

SI No	PARTICULARS	OBSERVATION	REMARKS
1	Is distribution of load	Yes	
	satisfactory?		
2	Condition of electrical wiring	Good	
3	Type of wiring	Casing Capping	
4	Whether electrical equipment's are operating at specified voltage or current(within the tolerance range)	Yes	
5	Rating of Fuses/junction box are as per standards	Yes	
6	Whether single isolating switch is available for the whole premises.	Yes	
7	Earth pits identified	Yes	
8	Condition of earthing	Fair	
9	Earth connection to equipment's-proper/not proper	Proper	
10	Voltage between neutral and earth	0v	
11	Whether DG is provided with neutral earthing	Yes	
12	Cable laying Condition	Good	
13	Cable Terminations	Proper	
14	Meter and Main condition	Good	
15	Panel board Condition	Good	
16	LED Light and energy saving appliances	Fair	
17	Rating of Cables as per standard(Yes/No)	Yes	
18	Generator Capacity & Condition	25 KVA- good 25KVA-good 5KVA-good	

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#### 11 Energy Consumption

Consumers Room description	CC CA me In	T V		LED Light	CFL/ Tube Light	AC(Ton)	Computer	Printer / Scanner	Projector	Fridge	Motor (III')
					Ac	l dministrative Bu	Ilding				
Principal office	2		2	5	1	2 (2 ton &1ton)	1	1		1	
Main office	5	-	14	4	10		4	6			1(1HP)
Computer lab	0	-	4		4		20				
IQAC Room	2	-	4		4	2(2 Ton both)	2	1			
Auditorium	3	-	18	15		7(Each 2 ton)	-	-	1		
		-			Arts	Section					
Dept of Sanskrit,	1	-	2		2						
Education, Mathe matics			1	4							
Dept of English, History			2		2						
Dept of Political science, Economics, philosophy			2		2			<b>1</b> 41			
prinosophy		+	I		Comme	erce section					
Class Room 1	2	1	2	2					1		
Class Room 2	2	t	2	2							
Class Room 3	2	1	2	2							
					Li	brary					
Library 2 <sup>nd</sup> floor	2	2	14		22	4 (2ton & 1.5 ton)	25	3			
					(	Girl's Hostel					
Block -A	1	1	53		47						
Block-B	1	1	18		18						
Hostel Supers quarter			2	5	2					1	
Matrons room			1	2							
Kitchen		1	0	2	2						
Dining room		1	4	2	2						
Toilet		1		18	18						
Cooks Room			01	01	01						
Corridor					15						
						Other rooms					
Teacher's C R		1	G	6	3	3(2ton & 1ton)	1				
Girl's CR			6	8							
Smart CR-1	1		3	2		2			1		

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Smart CR -2			4	4	4				
GYM			2	1					
Mass com CR & studio.			3	4		4	1		
Canteen			1	2					
TDC Exam Zoon			2	2					
Class Room 1- 18	36		7 9	37					
Toilet				10					
New Building	5								
Corridor	6	1	1	5					

#### Recommendation:

- Open Wiring observed is suggested to be replaced with concealed wiring.
- Although 6 earthing pits are installed it may not be sufficient for all the equipments and gadgets used in laboratories and offices. Hence it suggested to integrate more earthing pits. All the earthing connections should be checked periodically.
- Most of the lights used are CFL or florescent lamp and so it is highly recommended to be replaced by LED lights for lesser consumption of electricity.

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