OFFICE OF THE PRINCIPAL,
GOVERNMENT GIRLS COLLEGE, CHITTORGARH (RAJ)

Green Audit Report

Internal Quality Assurance Cell (IQAC)
Govt. Girls College Chittorgarh (Rajasthan)

OFFICE OF THE PRINCIPAL,
GOVERNMENT GIRLS COLLEGE, CHITTORGARH (RAJ)

Acknowledgement

IQAC and Green Audit Assessment Team thanks to the Principal, Government Girls College Chittorgarh, for giving us the task of an environmental audit at this college. Thanks to all the teachers and students that have helped us during this whole process, we appreciate their cooperation. Thanks to our Principal Dr. Mamta Sharma for his unconditional support and encouragement, we thank you very much. It's been going on since the very beginning to the end helped us in collecting different data and analyzing them.

(Dr.C. L. Mahawar)
Director, IQAC
Govt. Girls College
Chittorgarh, (Rajasthan).

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Certificate

This is to certify that green Audit has been conducted by the following members of the college along with two External members, the report is attached herewith.

Internal Members

1. Dr. Lokesh Jasoria- Associate Professor in Mathematics
2. Dr. Anju Chouhan- Assistant Professor in Zoology
3. Jayshree Kudal- Assistant Professor in Physics
4. Shankar Bai Meena- Assistant Professor in History

External Members

1. Dr. K.S. Kang
   Retd. Professor
   Govt. M. P. P.G. College, Chittorgarh

2. Dr. Bharti Veerwal
   Associate Professor in Zoology
   Govt. M. P. P.G. College, Chittorgarh

3. Dr. Sanju Balot
   Assistant Professor in Botany
   Govt. M. P. P.G. College, Chittorgarh

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Contents

Introduction

The process of conducting a "green audit" entails systematically identifying, quantifying, recording, reporting, and analyzing many aspects of an organization's environmental diversity. Its goal is to examine environmental practices both inside and outside the subject area that may have an effect on the environment. A green audit is an effective way for a college to identify the areas and processes where the most energy, water, or other resources are being used. The college can then think about how to make improvements and save money. It can spread environmental awareness, ethical standards, and a sense of environmental responsibility. It helps employees and students understand the effects of going green on campus.

It may be said that institutional self-enquiry is a natural and necessary outgrowth of a quality educational institution if self-enquiry is a natural and necessary offshoot of a quality education. The college must thus assess its own contributions to a sustainable future. The importance of higher education institutions in regard to environmental sustainability is on the rise as it becomes a national issue that affects the entire country.

Numerous environmental and ecological problems have been brought on by the fast urbanisation and economic development at the local, regional, and global levels. In light of this, it is crucial that educational institutions implement the "Green Campus" approach in order to promote sustainable growth and significantly cut atmospheric CO_2 emissions.

Objectives

The Green Audit of an institution is now of utmost importance for the institution's self-evaluation, as it represents the institution's contribution in reducing the current environmental issues. Since its foundation, the college has made attempts to maintain a clean atmosphere. As a result, the current green audit's goal is to identify, quantify, explain, and prioritise the environmental sustainability framework in accordance with the relevant laws, policies, and standards. The following are the main objectives of conducting Green Auditare:

1. To Map the college's geographic location.
2. To record college's floral and faunal diversity.
4. Documentation of the ambient environmental conditions of the college'sweather, air, water and noise.
5. Documenting the waste management system,
6. Estimating the college's energy needs and reporting the cost of green initiatives during the previous five years.
7. To suggest best protocols for sustainable development

Methodology

The green audit of Government Girls College Chittorgarh ensures that the practices followed in the campus are in accordance with the Green Policy of the country. The methodology included different tools such as collection of data, physical inspection of the campus, observation and review of the documentation, interviewing key persons and data analysis. The study emphasizes following areas to summarise the present status of environment management in the campus.

1. Documentation of flora and fauna of College
2. Water management
3. Energy Conservation
4. Waste Management

About The College

Government Girls College, Chittorgarh, (Rajasthan) which started functioning in 1995-1996 academic year affiliated to M.L.S University Udaipur. Initially this college was opened to teach and train young minds in the faculties of Arts and Commerce at the Graduation levels and in 2010Science at graduation level was also introduced. Post Graduate studies were introduced in this college from 2018 on words. This College over the years has become a multi-faculty college with more than 900 students on an average enrolled every year and during this academic session college has the enrollment of 912 students.

Our college firmly believes that no educational institution can be academically rich if its library is poor or poorly equipped. With the financial support of the UGC and State Grants

college established its Library with separate sections for text books, reference books and a reading room for students.

Our college has encouraged maintaining the Quality in all dimensions of education. The provision of scholarships for SC /ST/ OBC and minorities is an important aspect of this College as per state government policy. Teachers and other staff members are encouraged to participate in all possible college programmers for vertical and horizontal growth of students and staff. The College provides a unique opportunity of for all round personality development of students through the platform of NSS, Rangering, Women Cell, Cultural Cell, Litrary Cell. The college is actively engaged in research activities also. The students are involved in a large number of such activities like Community Development, Health and Hygiene awareness, Adult Education, AIDS Awareness, Social Work, Environmental Awareness and Blood Donation.

Geographical location of College by Google Earth

Floristic Diversity of the campus

The campus is rich in floristic diversity, a survey was carried out to document the flora. A total of 111 different species of plants are found to be growing in the campus and these plants were categorized on the basis of growth forms as: Climbers (06 species), Grasses (05 species), Shrubs (14 species), Herbs (41 species) and Trees (43 species). The following are the plant species to whom we are attached.

Climbers

S.no	Scientific Name	Vernacular Name	Family
1.	*Cocciniagrandis*	Tindori	Cucurbitaceae
2.	*Cocculushirsutus*	Jaljamini	Menispermaceae
3.	*Ipomoea cairica*	Neelibel	Convulvulaceae
4.	*Ipomoea obscura*	Pan bel	Convulvulaceae
5.	*Tinosporacordifolia*	Giloy	Menispermaceae
6.	*Tylophoraindica*	Damabel	Asclepidaceae

Grasses

S.no	Scientific Name	Vernacular Name	Family
1.	*Cynodondactylon*	Doobghass	Poaceae
2.	*Cyperusrotundus*	Metha	Cyperaceae
3.	*Dicathiumannulatum*	Shedaghass	Poaceae
4.	*Dactlocteniumaegypticum*	Makraghass	Poaceae
5.	*Phalaris minor*	Gulidanda	Poaceae

Shrubs

S.no	Scientific Name	Vernacular Name	Family
1.	*Annonasquamosa*	Sitaphal	Annonaceae
2.	*Calotropisgigantea*	Safedaak	Apocynaceae
3.	*Calotropisprocera*	Aak	Apocynaceae
4.	*Cascabelathevetia*	Peelikaner	Apocynaceae

5.	*Codiaeumvariegatum*	Croton	Euphorbiaceae
6.	*Durantaerecta*	Nilkanta	Verbanaceae
7.	*Hibiscus rosa-sinensis*	Gurhal	Malvaceae
8.	*Justiciaadhathoda*	Adulsa	Acanthceae
9.	*Lantana camara*	Jarmari	Verbenaceae
10.	*Lawsoniainermis*	Henna	Lythraceae
11.	*Nerium oleander*	Kaner	Apocynaceae
12.	*Thujaoccidentalis*	Morphankhi	Cupressaceae
13.	*Wthaniasomnifera*	Ashwagandha	Solanaceae
14.	*Ziziphusnummularia*	Jharberi	Rhamnaceae

Herbs

S.no	Scientific Name	Vernacular Name	Family
1.	*Abutilon indicum*	Kanghi	Malvaceae
2.	*Acalyphawilkesiana*	Copperleaf	Euphorbiaceae
3.	*Achyranthesaspera*	Apamarga	Amaranthaceae
4.	*Alternantherasessilis*	Garundi	Amaranthaceae
5.	*Aloe barbadenis miller*	Aloevera	Asphodelaceae
6.	*Amaranthusspinosus*	Kantachulai	Amaranthaceae
7.	*Amaranthusvirdis*	Junglichulai	Amaranthaceae
8.	*Ammaniabaccifera*	Agnibuti	Lythraceae
9.	*Argemonemexicana*	Satyanashi	Papaveraceae
10.	*Blumealacera*	Junglimuli	Asteraceae
11.	*Blumeasinuata*	Sow thistle blumea	Asteraceae
12.	*Boerhaaviadiffusa*	Punarnava	Nyctaginaceae
13.	*Cassia tora*	Chakunda	Fabaceae
14.	*Convolvulus prostrates*	Shankhpushpi	Convolvulaceae
15.	*Daturainnoxia*	Safeddhatura	Solanaceae
16.	*Daturastramonium*	Jimson weed	Solanaceae
17.	*Euphorbia heterophylla*	Wild spurge	Euphorbiaceae
18.	*Euphorbia hirta*	Bara dudhi	Euphorbiaceae
19.	*Euphorbia prostrata*	Red euphorbia	Euphorbiaceae
20.	*Indigoferalinifolia*	Pandarphali	Fabaceae
21.	*Indigoferalinnaei*	Hamsapadi	Fabaceae

22.	*Justiciaprocumbens*	Pitpapda	Acanthaceae
23.	*Launaeaprocumbens*	Jangligobi	Asteraceae
24.	*Malvastrumcoramandelianum*	Khareti	Malvaceae
25.	*Ocimumbasalicum*	Ramtulsi	Lamiaceae
26.	*Ocimumtenuflorum*	Tulsi	Lamiaceae
27.	*Oxalis corniculate*	Khatibuti	Oxalidaceae
28.	*Partheniumhysterophorus*	Gazzarghass	Asteraceae
29.	*Physalis minima*	Rasbhari	Solanaceae
30.	*Portulicaoleracea*	Lunia	Portulaceae
31.	*Ruelliaprostrata*	Neelambram	Acanthaceae
32.	*Sidacordata*	Bhumibala	Malvaceae
33.	*SolanumAmericanum*	American night shade	Solanaceae
34.	*Solanumnigrum*	Makoi	Solanaceae
35.	*Solanumxanthocarpum*	Kantkari	Solanaceae
36.	*Sonchusoleraceus*	Dudhi	Asteraceae
37.	*Tradescantiapallida*	Purple heart	Commelinaceae
38.	*Tridaxprocumbens*	Kanphuli	Asteraceae
39.	*Verbascumchinense*	Kulahal	Scrophulariaceae
40.	*Veroniacineria*	Sahadevi	Compositae
41.	*Xanthium strumarium*	Chotagokhru	Asteraceae

Trees

S.no	Scientific Name	Vernacular Name	Family
1.	*Acacia nilotica*	Desi babul	Fabaceae
2.	*Aeglemarmelos*	Billpatra	Rutaceae
3.	*Ailanthus excelsa*	Aradu	Simaroubaceae
4.	*Alstoniascholaris*	Saptaparni	Apocynaceae
5.	*Azadirachtaindica*	Neem	Meliaceae
6.	*Balanitesroxburghii*	Hingot	Zygophyllaceae
7.	*Bauhinia variegate*	Kachnar	Fabaceae
8.	*Bougainvillea spectabilis*	Booganbel	Nytaginaceae
9.	*Cassia fistula*	Amaltas	Fabaceae
10	*Carica papaya*	Papita	Caricaceae

11.	*Dalbergiasissoo*	Sheesham	Fabaceae
12.	*Delonix regia*	Gulmohar	Fabaceae
13.	*Diaospyrosmelanoxylon*	Tendu	Ebenaceae
14.	*Emblica officinalis*	Amla	Euphorbiaceae
15.	*Eucalyptus citriodora*	Safeda	Myrtaceae
16.	*Elaeocarpus ganitrus*	Rudrax	Elaeocarpaceae
17.	*Ficusbenghalensis*	Bargad	Moraceae
18.	*Ficus religiosa*	Peepal	Moraceae
19.	*Ficus carica*	Anjeer	Moraceae
20.	*Holopteleaintegrifolia*	Bandarbati	Ulmaceae
21.	*Leucaenaleucocephala*	Subabul	Fabaceae
22.	*Mangiferaindica*	Aam	Anacardiaceae
23.	*Murrayakoenigii*	Meetha Neem	Rutaceae
24.	*Monoonlongifolium*	Ashapal	Annonaceae
25.	*Moringaoleifera*	Sahjan	Moringaceae00
26.	*Morus alba*	Shahtut	Moraceae
27.	*Musa paradisiaca*	Kela	Musaceae
28.	*Opuntiaelatior*	Nagphani	Cactaceae
29.	*Peltophorumpterocarpum*	PiliGulmohar	Fabaceae
30.	*Plumeria alba*	Champa	Apocynaceae
31.	*Pongamiapinnata*	Karanja	Fabaceae
32.	*Prosopisjuliflora*	Vilayati babul	Fabaceae
33.	*Psidiumguajava*	Amrud	Myrtaceae
34.	*Punicagranatum*	Anar	Lythraceae
35.	*Santalum album*	Chandan	Santalaceae
36.	*Saracaasoca*	Ashoka	Fabaceae
37.	*Syzygiumcumini*	Jamun	Myrtaceae
38.	*Tabernaemontanadivaricata*	Chandni	Apocynaceae
39.	*Tamarind indicus*	Imli	Ceasalpineaceae
40.	*Terminaliaarjuna*	Arjun	Combretaceae
41.	*Terminaliacatappa*	Badam	Combretaceae
42.	*Thaspesiapopulnea*	Paraspeepal	Malvaceae
43.	*Ziziphusmauritiana*	Bor	Rhamnaceae

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Amla (*Emblica officinalis)*

Papita (*Carica papaya)*

Aloevera (*Aloe barbadenis miller*)

Champa (*Plumeria alba)*

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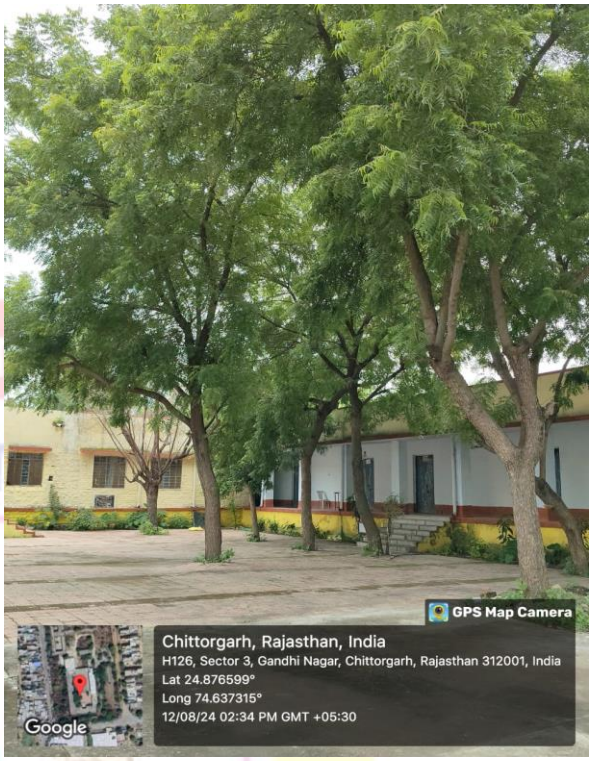
Amrood (*Psidiumguajava)*



Neem (*Azadirachtaindica)*

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Faunal diversity of the Campus

The faunal diversity of campus has been studied and documented as below:

Table: Common and scientific name of birds and animal

S.N	Common name	Scientific name
1.	Black-kneed conehead	*Conocephalusmelaenus*
2.	Silver striped hawkmoth	*Hippotioncelerio*
3.	Lemon pansy	*Junonialemonias*
4.	Common grass yellow	*Euremahecabe*
5.	Silent slantfaced grasshoper	*Acridinae*
6.	Yellow paper wasp	*Polistesversicolor*
7.	Wandering glider	*Pantala flavescens*
8.	Ruddy marsh skimmer	*Crocothemis servilia*
9.	Black stream glider	*Trithemisfestiva*
10.	White tailed skimmer	*Orthetrumalbistylum*
11.	Marmalade hoverfly	*Episyrphusbalteatus*
12.	Common grass yellow	*Euremahecabe*
15.	Parthenium beetle	*Zygogrammabicolorata*
16.	Caterpillar larvae of sawfly	*Nematus miliaris larvae*
17.	Japanese carpenter ant	*Camponotusjaponicus*
18.	Indian palm squirrel	*Funambuluspalmarum*
19.	House crow	*Corvussplendens*
20.	Laughing dove	*Spilopeliasenegalensis*
21.	Red wattled lapwing	*Vanellusindicus*
22.	Pigeon	*Columba Livia*
23	Dog	*Canius lupus*
24.	Common Myna	*Acridotheres tristis*

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Red-wattledLapwing (*Vannelus indicus*)

Common Myna (*Acridotheres tristis*)

Dog (*Canislupus*)

Pigeon (*Columba livia*)

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Weather Data of Chittorgarh

The average rainfall of Chittorgarh during monsoon period is about 727.2 mm as per IMD. Summary of the mean monsoon rainfall from year 2018 to 2022 is given below in the table

Table 1: Average rainfall of the Chittorgarh Rain Gauge Station (2018-2022)

Year	Average Rainfall in mm
2018	705.45
2019	1167.27
2020	642.9
2021	758.3
2022	804.4

Temperature and Humidity

The temperature of Chittorgarh is typical of tropical monsoon lands. In most cases the mean monthly temperature exceeds 24.82°C. The monthly average minimum temperature registered is 17.56°C in the month of January and the monthly maximum temperature registered is 32.89°C in the month of May. The mean monthly humidity exceeds 54.46%. The monthly average minimum humidity registered is 25.8% in the month of April and the monthly maximum humidity registered is 82.45% in the month of August (table: 2).

Table 2: Average monthly temperature (°C) and Humidity (%) of Chittorgarhstation, period (2018-2022)

Month	Temperature			Humidity		
	Maximum	Minimum	Mean	Morning	Evening	Mean
Jan	24.41	10.71	**17.56**	72.66	45.22	**58.94**
Feb	27.36	12.89	**20.12**	63.82	35.76	**49.79**

Mar	32.67	17.50	**25.08**	46.51	24.93	**35.72**
April	37.69	21.85	**29.77**	32.89	18.71	**25.8**
May	40.72	25.07	**32.89**	32.66	19.78	**26.22**
June	37.34	23.88	**30.61**	55.11	43.75	**49.43**
July	30.31	21.97	**26.14**	81.88	73.16	**77.52**
August	28.58	21.29	**24.93**	86.45	78.46	**82.45**
Sep	30.03	20.85	**25.44**	82.22	70.81	**76.51**
Oct	31.47	18.60	**25.03**	70.32	50.09	**60.2**
Nov	28.43	15.04	**21.73**	63.61	42.04	**52.82**
Dec	25.30	11.91	**18.6**	70.14	46.27	**58.20**
Mean	**31.19**	**18.46**	**24.82**	**63.19**	**45.74**	**54.46**

Air Quality of the College in Chittorgarh

The College has been continuously conducting awareness programmes for staff, students and society for protecting and maintaining environment. The awareness is also done by arranging programmes, rallies on various issues related to environment and health. The college students and faculty members are involved in the activities through NSS/NCC. Chittorgarh city is surrounded by many cement industries and Zinc plant so air quality is moderate.

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. The college use following energy sources: Electrical, Diesel and LPG.

Electrical power consumption of the College

The college building and hostel draws separate electric connection from AVVNL (Ajmer Vidhut Vitaran Nigam Limited). The sanction load for the same is 40 KW and the connected load is also 40 KW.

S.No.	Financial Year	Power consumption in college Building (KWH units per month)
1	2018-2019	1682
2	2019-2020	4543
3	2020-2021	3833
4	2021-2022	2750
5	2022-2023	2910

The college also contains Power generator DG set of KW – 50, which is used whenever required for electricity. In the Department of Chemistry, LPG gas burners are used instead of gas plants based on coal/wood/diesel/petrol etc, thus reducing carbon emissions.

Saving environment through efficient energy usage as well as saving energy costs for the institution is the major aspect of energy conservation; the college administration took following initiatives to achieve this task.

1. Maintenance of electrical/electronic equipment is done regularly in the campus to optimize the power uses.

2. For energy saving incandescent bulbs, CFL lamps and tube lights are being replaced by LED light.

3. Students and staff members are motivated to switch off lights, fans etc when they leave the room to save the energy.

4. Awareness programs are conducted for students to save the energy. Institute is promoting the use of Star rated Electric/Electronic Appliances like air conditioner, refrigerator etc.

Waste Management and disposal

Waste disposal and management are the activities and actions required to manage waste from its inception to its final disposal. This includes the collection and disposal of waste together with monitoring and regulation of the waste management process. The waste management is being performed in the following steps:

I. Solid waste management

1. Waste bins are positioned across the campus in locations such as lecture halls, faculty offices, administrative offices, computer labs, libraries, corridors, lavatories, communal areas, etc.

3. The college's NSS unit consistently pursues cleanliness. It organizes a Cleaning initiative in campus every week to collect trash and solid waste.

4. Collected solid waste is handed over to the Chittorgarh municipal council for further processing.

5. Garden waste collected and pours to compost pit present in the campus to make manure.

This manure is utilized in the botanical garden of college

Compost Pit for Garden Waste Management

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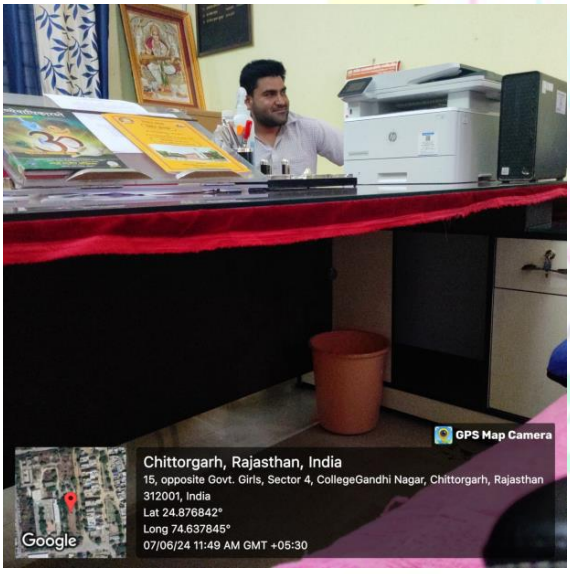
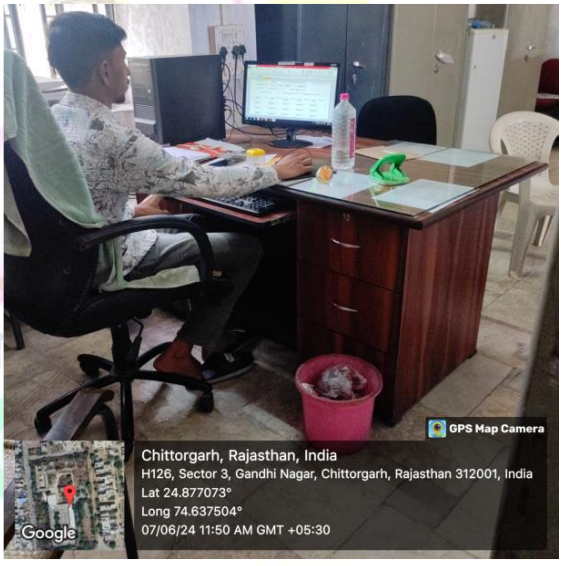
Dust- Bins In College Campus





Dust –Bins In Office and In Different Blocks

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II. Liquid Waste Management:

Washrooms and toilet waste is disposed of in septic tanks at various locations across the campus.

III. E-Waste Management:

1. The college makes use of a variety of technological devices, including computers, printers, LCD projectors, and others. Due to technological improvement, these goods become obsolete within a few years. The institution takes the initiative to dispose of electronic trash properly after becoming aware of its risks.
2. After refilling, inkjet cartridge is also utilized. The amount of e-waste generated is also decreased with this technique.

Water Management

Water is a valuable natural resource for all living organisms. It is freely available depending on the climate and topographic features of a region. Although water is natural freely available but portable (drinkable) water is not available freely for human consumption. In our planet 70% area is covered by water but only 3% of it is fresh water. Around 1.1 billion people of the word face water crisis. Water pollution and wastage plays a vital role in water crisis. Water contaminations are taking place at an alarming rate. Drinking or using contaminated water leads to many diseases or death. That is why it is important to ensure that drinking water is safe, clean and free from bacteria and disease. It is also important to conserve protect and manage the water resources availability and usage so that it is sustainably used. Our college examines the quality and usage of water in the college campus.

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The college has well developed water management system in which water for all other purposes is supplied through another set of distribution pipes. The college has one bore wellsand municipal water connection for water supply. The ground water from the bore well is pumped into the elevated water tanks located at different places in the campus. From these elevated water tanks the water is distributed to entire college campus including the gardens.

Entire water distribution system is well supervised by the college administration to ensure that there are no leakages and wastages of water through leakages in the pipe lines and the water taps. Regular cleaning of the water tanks is supervised by the administrative staff of the college.

Bore well in college

Rain water Harvesting in college

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Plantation Drive in College Campus

Cleaning activity by Students in College Campus

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