



## Guru Ghasidas Vishwavidyalaya Social aspects of Sustainability

Guru Ghasidas Vishwavidyalaya (GGV), Bilaspur, actively promotes education and training on the social aspects of sustainability as part of its commitment to inclusive and equitable development. The university integrates sustainability themes into its academic curriculum across various disciplines, including social sciences, environmental studies, and education. Dedicated training programs, workshops, and seminars are regularly organized to address critical social issues such as gender equality, social justice, community development, and inclusive growth. These initiatives aim to equip students with a deeper understanding of the interconnectedness of society, environment, and development. GGV also collaborates with government bodies and NGOs to conduct outreach activities in rural and tribal areas, fostering community engagement and social responsibility among students. Through these focused efforts, the institution nurtures a socially conscious academic environment that emphasizes ethical values, participatory development, and long-term social sustainability, aligning with national and global goals like the UN Sustainable Development Goals (SDGs).

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2022

# GREEN & ENVIRONMENT AUDIT REPORT

## Guru Ghasidas Vishwavidyalaya, Bilaspur(C.G.)



December 2022

Prepared by:  
**Greenserve Energy Management Solutions**  
Vijay Nagar,  
Durg (C.G.) - 491001





## Acknowledgement

We are thankful to the Management and the Vice Chancellor of the Guru Ghasidas Vishwavidyalaya, Bilaspur for entrusting processes of Green & Environment auditing with us. We thank all the participants of the auditing team especially students, faculty and non-teaching staff who took pain along with us to gather data through survey. We also thank the office staff who helped us during the document verification.

## Audit Team Members

1	Rahul Agrawal	Certified Energy Auditor
2	Jayendra Mohabe	Senior Energy Engineer
3	Bhumesh Jagnit	Energy Engineer

**For Greenserve Energy Management Solutions,**

  
Greenserve Energy  
Management Solutions  
Durg (C.G.)

Rahul Agrawal

Certified Energy Auditor (EA-20984)

Bureau of Energy Efficiency (MoP)



## 1. Executive Summary

The rapid urbanization and economic development at local, regional and global level has led to several environmental and ecological crises. On this background it becomes essential to adopt the system of the Green Campus for the institute which will lead for sustainable development.

Guru Ghasidas Vishwavidyalaya Bilaspur, Chhattisgarh is deeply concerned and unconditionally believes that there is an urgent need to address these fundamental problems and reverse the trends. Being a premier institution of higher learning, the university has initiated 'The Green Campus' program that actively promote the various projects for the environment protection and sustainability.

The purpose of the audit was to ensure that the practices followed in the campus are in accordance with the Green Policy adopted by the institution. The methodology includes: preparation and filling up of questionnaire, physical inspection of the campus, observation and review of the documentation, interviewing key persons, data analysis, measurements and recommendations. It works on the several facets of 'Green Campus' including Water Conservation, Tree Plantation, Waste Management, Paperless Work, Alternative Energy and Mapping of Biodiversity. With this in mind, the specific objectives of the audit are to evaluate the adequacy of the management control framework of environment sustainability as well as the degree to which the departments are in compliance with the applicable regulations, policies and standards. It can make a tremendous impact on student's health and learning University operational costs and the environment. The criteria, methods and recommendations used in the audit are based on the identified risks





## 2. Introduction

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

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

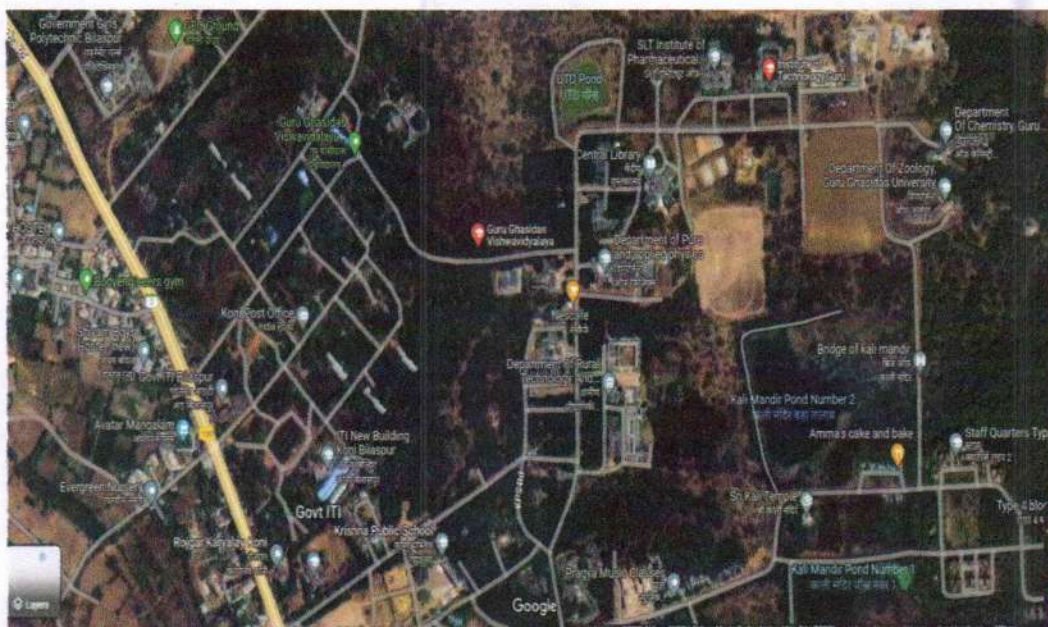
### 2.1 About the University

Guru Ghasidas Vishwavidyalaya (गुरु घासीदास विश्वविद्यालय), is a Central University of India, located in Bilaspur C.G. State, established under Central Universities Act 2009, No. 25 of 2009. Formerly called Guru Ghasidas University (GGU), established by an Act of the State Legislative Assembly, was formally inaugurated on June 16, 1983. GGU is an active member of the Association of Indian Universities and Association of Commonwealth Universities.

Situated in a socially and economically challenged area, the university is appropriately named to honour the great Satnami Saint Guru Ghasidas (born in the 17th century), who championed the cause of the downtrodden and waged a relentless struggle against all forms of social evils and injustice prevailing in the society. The University is a residential institution, having its jurisdiction spread over Bilaspur Revenue Division of the state of Chhattisgarh. It covers almost the entire spectrum of the higher education requirements of the country along with the local people. It has 32 (thirty two) University Teaching Department (UTDs) on its campus under 11 school of studies.



Guru Ghasidas Vishwavidyalaya, Bilaspur and the GPS Coordinates of the university is **22°07'45.7"N 82°08'09.9"E**.



<b>Campus area</b>	<b>2645673 Sq. m.</b>
<b>Total Campus Building Area</b>	<b>258132 Sq. m.</b>
<b>Total campus Smart building area</b>	<b>85084 Sq. m. (32.96% approx.)</b>
<b>Total area on campus covered in Forest vegetation</b>	<b>1954065 Sq. m. (74% approx.)</b>
<b>Total area on campus covered in Planted vegetation</b>	<b>291024 Sq.m. (11% approx.)</b>
<b>Total area on campus for water absorption besides Forest &amp; Planted vegetation</b>	<b>408049 Sq. m. (15.4% approx)</b>
<b>Total population on the campus</b>	<b>10183</b>
<b>Percentage of university's budget for sustainability efforts</b>	<b>15%</b>
<b>Research publication on sustainability practices in university</b>	<b>264</b>





### **3. Pre-Audit Stage**

A pre-audit meeting provided an opportunity to reinforce the scope and objectives of the audit and discussions were held on the practicalities associated with the audit. This meeting is an important prerequisite for the green audit because it is the first opportunity to meet the audit team and deal with any concerns. The meeting was an opportunity to gather information that the audit team can study before arriving on the site. The audit protocol and audit plan were handed over at this meeting and discussed in advance of the audit itself. In the university pre-audit meeting was conducted successfully and necessary documents were collected directly from the University before the initiation of the audit processes. Actual planning of audit processes was discussed in the pre-audit meeting. Audit team was also selected in this meeting with the help of staff and the University management. The audit protocol and audit plan were handed over at this meeting and discussed in advance of the audit itself. The audit team worked together, under the leadership of the lead auditor, to ensure completion within the brief and scope of the audit.

#### **3.1 Management's Commitment**

The university administration has shown the commitment towards the green auditing during the pre-audit meeting. They were ready to encourage all green activities. It was decided to promote all activities that are environment friendly such as awareness programs on the environment, campus farming, planting more trees on the campus etc., after the green auditing. The university administration was willing to formulate policies based on green auditing report.

#### **3.2 Scope and Goals of Green & Environment Auditing**

A clean and healthy environment aids effective learning and provides a conducive learning environment. There are various efforts around the world to address environmental education issues. Green & Environment Audit is the most efficient and ecological way to manage environmental problems. It is a kind of professional care which is the responsibility of each individual who are the part of Economical, financial, social, environmental factor. It is necessary to conduct green audit in university campus because students become aware of the green audit, its advantages to save the planet and they become good citizen of our country. Thus, Green audit becomes necessary at the University level. A very simple indigenized system has been devised to monitor the environmental performance of Guru Ghasidas Vishwavidyalaya, Bilaspur. It comes with a series of questions to be answered on a regular basis. This innovative scheme is user friendly and totally voluntary. The aim of this is to help the institution to set environmental examples for the community, and to educate the young learners.



### 3.3 Benefits of the Green& Environment Auditing

- More efficient resource management
- To provide basis for improved sustainability
- To create a green campus
- To enable waste management through reduction of waste generation, solid- waste and water recycling
- To create plastic free campus and evolve health consciousness among the stakeholders
- Recognize the cost saving methods through waste minimizing and pointing out the prevailing and forthcoming complications
- Authenticate conformity with the implemented laws
- Empower the organizations to frame a better environmental performance
- Enhance the alertness for environmental guidelines and duties
- Impart environmental education through systematic environmental management approach and Improving environmental standards
- Benchmarking for environmental protection initiatives
- Financial savings through a reduction in resource use
- Development of ownership, personal and social responsibility for the university campus and its environment
- Enhancement of University profile
- Developing an environmental ethic and value systems in youngsters.
- Green auditing should become a valuable tool in the management and monitoring of environmental and sustainable development programs of the university.





### **3.4 Target Areas of Green and Environment Auditing**

Green audit forms part of a resource management process. Although they are individual events, the real value of green audits is the fact that they are carried out, at defined intervals, and their results can illustrate improvement or change over time. Green campus concept mainly focuses on the efficient use of energy & water, minimize waste generation or pollution and also economic efficiency.

All these indicators are assessed in process of "Green and Environment Auditing of educational institute". Green campus focuses on the reduction of contribution to emissions, procures a cost effective and secure supply of energy, encourages and enhance energy use conservation, promotes personal action, reduce the institute's energy and water consumption, reduce wastes to landfill, and integrate environmental considerations into all contracts and services considered to have significant environmental impacts. Target areas included in this green auditing are water, energy, waste, green campus and carbon footprint.

### **3.5 Auditing for Water Management**

Water is a natural resource; all living matters depend on water. While freely available in many natural environments, in human settlements potable (drinkable) water is less readily available. We need to use water wisely to ensure that drinkable water is available for all, now and in the future. A small drip from a leaky tap can waste more than 180 liters of water to a day; that is a lot of water to waste enough to flush the toilet eight times! Aquifer depletion and water contamination are taking place at unprecedented rates. It is therefore essential that any environmentally responsible institution should examine its water use practices. Water auditing is conducted for the evaluation of facilities of raw water intake and determining the facilities for water treatment and reuse. The concerned auditor investigates the relevant method that can be adopted and implemented to balance the demand and supply of water. It is therefore essential that any environmentally responsible institution examine its water use practices.

### **3.6 Auditing for Energy Management**

Energy cannot be seen, but we know it is there because we can see its effects in the forms of heat, light and power. This indicator addresses energy consumption, energy sources, energy monitoring, lighting, appliances, and vehicles. Energy use is clearly an important aspect of campus sustainability and thus requires no explanation for its inclusion in the assessment. An old incandescent bulb uses approximately 60W to 100W while an energy efficient Light Emitting Diode (LED) uses only less than 10 W. Energy auditing deals with the conservation and methods to reduce its consumption related to environmental degradation. It is therefore essential that any environmentally responsible institution examine its energy use practices.





### **3.7 Auditing for Waste Management**

Pollution from waste is aesthetically unpleasing and results in large amounts of litter in our communities which can cause health problems. Plastic bags and discarded ropes and strings can be very dangerous to birds and other animals.

This indicator addresses waste production and disposal, plastic waste, paper waste, food waste, and recycling. Solid waste can be divided into two categories: general waste and hazardous waste. General wastes include what is usually thrown away in homes and schools such as garbage, paper, tins and glass bottles. Hazardous waste is waste that is likely to be a threat to health or the environment like cleaning chemicals and petrol. Unscientific landfills may contain harmful contaminants that leach into soil and water supplies, and produce greenhouse gases contributing to global climate change. Furthermore, solid waste often includes wasted material resources that could otherwise be channelled into better service through recycling, repair, and reuse. Thus, the minimization of solid waste is essential to a sustainable university. The auditor diagnoses the prevailing waste disposal policies and suggests the best way to combat the problems. It is therefore essential that any environmentally responsible institution examine its waste processing practices.

### **3.8 Auditing for Green Campus Management**

Unfortunately, biodiversity is facing serious threats from habitat loss, pollution, over consumption and invasive species. Species are disappearing at an alarming rate and each loss affects nature's delicate balance and our quality of life. Without this variability in the living world, ecological systems and functions would break down, with detrimental consequences for all forms of life, including human beings. Newly planted and existing trees decrease the amount of carbon dioxide in the atmosphere. Trees play an important ecological role within the urban environment, as well as support improved public health and provide aesthetic benefits to cities. In one year, a single mature tree will absorb up to 48 pounds of carbon dioxide from the atmosphere, and release it as oxygen. The amount of oxygen that a single tree produces is enough to provide one day's supply of oxygen for people. So, while you are busy studying and working on earning those good grades, all the trees on campus are also working hard to make the air cleaner for us. Trees on our campus impact our mental health as well; studies have shown that trees greatly reduce stress, which a huge deal is considering many students are under some amount of stress.

### **3.9 Auditing for Carbon Footprint**

Commutation of stakeholders has an impact on the environment through the emission of greenhouse gases into the atmosphere consequent to burning of fossil fuels (such as petrol). The most common greenhouse gases are carbon dioxide, water vapour, methane, nitrous oxide and ozone. Of all the greenhouse gases, carbon dioxide is the most





prominent greenhouse gas, comprising 402 ppm of the Earth's atmosphere. The release of carbon dioxide gas into the Earth's atmosphere through human activities is commonly known as carbon emissions. An important aspect of doing an audit is to be able to measure your impact so that we can determine better ways to manage the impact. In addition to the water, waste, energy and biodiversity audits we can also determine what our carbon footprint is, based on the amount of carbon emissions created. One aspect is to consider the distance and method travelled between home and institute every day. It undertakes the measure of bulk of carbon dioxide equivalents exhaled by the organization through which the carbon accounting is done. It is necessary to know how much the organization is contributing towards sustainable development. It is therefore essential that any environmentally responsible institution examines its carbon footprint.

### **3.10 Methodology of Green and Environment Auditing**

The purpose of the audit was to ensure that the practices followed in the campus are in accordance with the Green Policy adopted by the institution. The criteria, methods and recommendations used in the audit were based on the identified risks. The methodology includes: preparation and filling up of questionnaire, physical inspection of the campus, observation and review of the document, interviewing responsible persons and data analysis, measurements and recommendations. The methodology adopted for this audit was a three-step process comprising of:

**3.10.1. Data Collection** – In preliminary data collection phase, exhaustive data collection was performed using different tools such as observation, survey communicating with responsible persons and measurements.

Following steps were taken for data collection:

- The team went to each department, centres, Library, canteen etc.
- Data about the general information was collected by observation and interview.
- The power consumption of appliances was recorded by taking an average value in some cases.

**3.10.2. Data Analysis** - Detailed analysis of data collected include: calculation of energy consumption, analysis of latest electricity bill of the campus, understanding the tariff plan provided by the Chhattisgarh State Electricity Board (CSEB). Data related to water usages were also analysed using appropriate methodology.

**3.10.3. Recommendation** – On the basis of results of data analysis and observations, some steps for reducing power and water consumption were recommended. Proper treatments for waste were also suggested. Uses of fossil fuels have to be reduced for the sake of community health. The above target areas particular to the university was evaluated through questionnaire circulated among the students for data collection. Five categories of questionnaires were distributed.





#### 4. Post-Audit Stage

##### 4.1 Energy Usage:

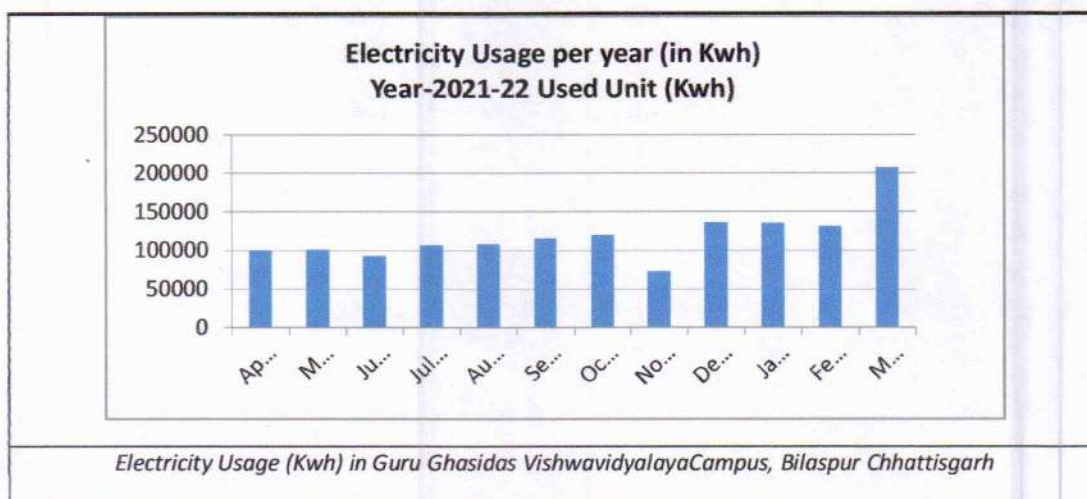
##### DETAILS OF ENERGY CONSUMPTION (building wise):

No.	Building Name	Consumption (kWh)
1	Chanayak Prashasanik Bhawan ( Administrative building)	540
2	Rajat Jayanti Sabhagar (Auditorium Building)	272
3	Annapurna Cafe (Cafeteria Building)	134
4	Satyendra Nath Bose Bhawan (Dept. of Pure & Applied Physics Building)	827
5	GGV Swabhimani Thali Building	11
6	Swami -Vivekanand Boys Hostel	154
7	Raj Mohini Devi Kanya chhatrawas (Girls Hostel)	213
8	Bilasa Devi Balika Chhatrawas (New Girls Hostel - B)	133
9	Minimata Balika Chhatrawas (New Girls Hostel - A)	133
10	Samrat Samudragupt Antarrastriya Atithi Grih (International Guest House)	702
11	Jawahar Sadan- Guest House	230
12	Biotechnology Building	563
13	Department of Rural Technology & Social Development Building	176
14	Department of Forestry Wildlife & Environmental Science (Old building)	145
15	Department of Forestry Wildlife & Environmental Science (New Building)	174
16	UTD Building	411
17	Nalanda Kendriya Granthalay (Central Library Building)	218
18	OLD IT Building (First floor Central Library building)	355
19	Sahid Veer Narayan Singh Balak Chhatrawas (Boys Hostel - I)	219
20	Dr. B. R. Ambedkar Balak Chhatrawas (Boys Hostel - II)	157
21	New IT Building	535
22	Engineering & Technology Workshop	88
23	Pt. Madan Mohan Malviya Shiksha Vibhag Bhawan (Department of Education )	176
24	Dr. Shyama Prasad Mukharji Kala and Samajik Vigyan Bhawan (Department of Arts & Social science)	271
25	Scholar o Studies of Commerce & Management	144
26	School of Law Building	105
27	Aryabhata Bhawan (CSIT Building)	147
28	UGC Department Building	209
29	Nagarjuna Bhawan (Department of Chemistry)	219
30	Zoology Building	183
31	Pharmacy building	403
<b>Total Consumption (kWh)</b>		<b>8248</b>





#### 4.1.1 Electricity Usage per Year (in Kilowatt hour)



#### Total Electricity uses in GGV Bilaspur campus year 2021-22

Electricity Usage per year (in Kwh)Year-2021-22	
Month	Used Unit (Kwh)
Apr-21	99989
May-21	101369
Jun-21	93449
Jul-21	106652
Aug-21	108899
Sep-21	116105
Oct-21	119920
Nov-21	72406
Dec-21	135968
Jan-22	135326
Feb-22	131253
Mar-22	207668
<b>Total</b>	<b>1429004</b>

Ratio of renewable energy production divided by total energy usage per year

S.No.	Conventional energy usage (Kwh)	Renewable energy production(Kwh)	Ratio
1	1429004	3010399.2	2.1





**Description:**

The total electricity usage of Guru Ghasidas Vishwavidyalaya Campus during 2021-2022 was 1429004 Kwh. The University utilizes the demanded electricity on research, lighting, cooling, laboratory appliances, and digital appliances. Recent year the university installed a renewable energy (solar panels) with annual production of 3010399.2 Kwh to meet increasing demand of energy for sustainable development.



22°07'36.2"N 82°08'21.6"E

Solar Roof Top Panels in Guru Ghasidas Vishwavidyalaya Buildings





S.No- 4

Total Electricity uses in GGV Bilaspur campus year 2021-22

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Apr-21	99989
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Jan-22	135326
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Mar-22	207668
<b>Total</b>	<b>1429004</b>

University Engineer  
Guru Ghasidas Vishwavidyalaya  
Bilaspur (C.G.)

S.No-3

Renewable energy sources at GGV Bilaspur campus

S.No	Items	Location	Capacity	Nos	Total watt	Production Capacity (Kwh per year)
1	Solar street light	Various Department, Parking, Street	12W	70	840 W	3679.2
2	Roof top Solar Power Project 2MW (DC)	Various Roof of the at GGV Buildings	2 MW (DC) & 1.79 MW (AC) Approx	2MW (DC)	2 MW (DC), 1.79 MW (AC) Approx	1.6MW (DC) / 1.43 MW (AC)

Note:- 2MW roof top on-grid solar power plant (1.79MW AC)  
Order no- 227/Engg/CPSU/GGV/2019 Dated 06.12.2019

University Engineer  
Guru Ghasidas Vishwavidyalaya  
Bilaspur (C.G.)





#### 4.2 Water Usage:

#### 4.2.1 Water Storage Tank Capacity in Litre

Sl No.	Location	No.of Tank	Tank Capacity (Ltr)	Storage Capacity (Ltr)	Total Storage (Ltr)
1	University Building	3	150000	450000	646000
		89	2000	178000	
		13	1000	13000	
		1	5000	5000	
	<b>Total Water Storage</b>				<b>646000</b>

#### 4.2.2 Water Supply in Campus (in Litre/ Day)

S. No.	Source Of Water	kW Rating	Location	Under Control	Rated Flow (LPM)	Pump Running Minute /Day	Supply Ltr/Day	% age of Supply Water
1	Submersible Pump (5 HP x 30 Nos.)	3.7	University Buildings in campus	University premises	15000 (approx)	70	1000000 (approx)	62%
Total Water Supply							620000	



**4.2.3 University building water Consumption (Litre / Day)**

Sl.No.	Parameter	Information
1	No. of Well	NIL
2	No. of Motor Pump used	30 Nos.
3	Horse power - motor	2HP - 02 Nos., 3HP – 06 Nos., 5HP – 19 Nos., 7.5 HP – 03 Nos.
4	Capacity of Over Head Tank	3,80,000 L
<b>WATER USED IN DIFFERENT SECTION OF THE CAMPUS</b>		
	SECTIONS	WATER USE (L/DAY)
1	Hostel	148500
2	Residential Quarters	169200
3	Administrative Block	15000
4	Construction Work	200000
5	Canteen	10000
6	Urinals and Toilet	75000
7	Departments	80000
8	Gardens	25000
9	Laboratories	12000
10	Drinking	26000
11	Leakages	12000
12	Main purpose of water use in campus	Drinking, Cooking, Laboratories, Gardens, Toilets, Construction etc.
13	Numbers of water tap excluding house-hold and residential quarters	1000 nos.
14	Water Cooler and Drinking water filtration facilities	55
15	Number of urinals and toilets (excluding	115





	house-hold and residential quarters)	
16	Number of Waterless / Bio toilets	NIL
17	Any water wastage / Why?	Yes, Leakage from pipe and tank, leaving of taps open at times
18	Waste water sources	Leakage from pipe and tank, overflow of tanks from residential quarters, toilets, laboratories, hostels
19	Uses of waste water	Nil
20	The fate of waste water from Labs	Discharge into soak pit in case of contamination and natural discharge
21	Any waste water treatment for lab water	No
22	Whether any green chemistry method practised in Labs	No
23	Rain Water Harvesting	Rain water harvesting is maintained by the water body within the premises which also help in maintaining the ground water level and there is no reusable rainwater which is harvested. Lake serves the main purpose of rain water harvesting

#### 4.2.4 Existing water management methods installed in the campus

Sl No.	Source of ground recharger	Location
1	Rain water harvesting	In all buildings (New + Old) in campus
2	Rain Water of forest cover area	Three ponds in campus & Three annicuts

As Guru Ghasidas University is located in the area which has 74% forest cover due to which rain water goes to natural ponds and is leached to water table. All buildings of the





University have a separate sewerage system. Rain water is collected from the roofs of the buildings and then discharged into the underground tanks.

#### 4.2.5 Water Efficient Appliances Usage (e.g. hand washing taps, toilet flush, etc.)



*Water Efficient Appliances Usage in Guru Ghasidas Vishwavidyalaya*

22°07'35.8"N 82°08'21.6"E

#### **Description:**

Guru Ghasidas Vishwavidyalaya has adopted several efficient water conservation measures which includes, toilets (automatic control of urinal flushing), low flush WC's and low flow taps and automatic taps.

Appliance	Total Number	Total number water Efficient appliances	Percentage
Toilet	900	720	80
Low flow taps	650	100	100
Float valve	450	450	100
		<b>Average Percentage</b>	<b>93</b>





#### 4.2.6 Consumption of treated water



##### Description:

Treated drinking water facilities provided by university to students, faculties and staff. Guru Ghasidas Central University is covered with 74% natural forest and constructed (building area) is too less approximately 11%, therefore water quality of university is very good.

#### 4.3 Waste measure and its disposal

##### 4.3.1 MONTHLY PAPER USAGE DETAILS:

Sl No.	Details of Paper		New Paper	Waste Paper
	Paper	Unit	A4 size	Waste Paper
1	Paper Packet (A4 Size)	No.	3000	90
2	Weight Per Packet (Kg)	Kg / Packet	2.20	2.20
	<b>Total Weight</b>	<b>Kg</b>	<b>6600</b>	<b>198</b>





#### 4.3.2 Recycling Program for University Waste



#### Descriptions

The university has developed a well established mechanism for the disposal of waste on the campus. The solid waste disposal mechanism has three phases

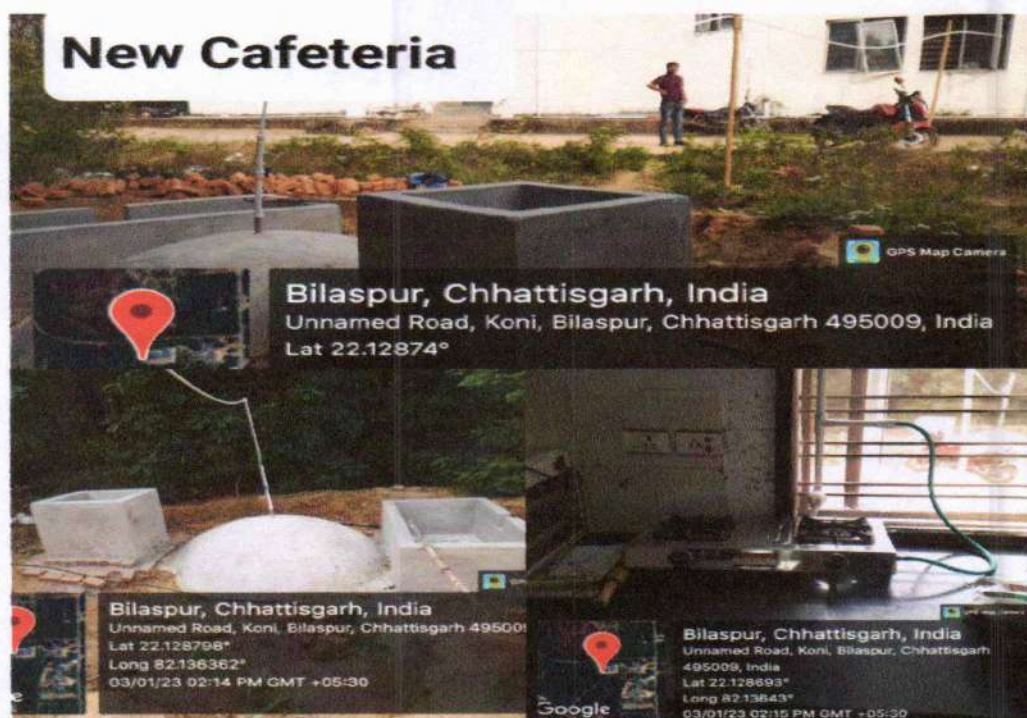
- (i) Waste collection
- (ii) Waste segregation
- (iii) Final disposal/transformation into manure (manure /biogas)

The university has placed blue & green dustbins in several common areas across the campus. The waste collected from academic, administrative and residential area of the campus is collected and segregated into degradable & non-degradable waste.





Three Bio gas plants have been setup in the university to produce bio-gas from food waste, decomposable organic material and kitchen waste. The gas produced is used in the kitchens of the university Cafeteria, Boys Hostel and Girls hostel respectively. The digested slurry from the bio-gas unit is used as organic manure in the garden.



BIOGAS PLANT IN CAMPUS





BIOGAS PLANT IN CAMPUS

The remaining bio-degradable waste collected from the campus is used to prepare organic manure, which is utilised in the university nursery for seedlings production etc. and also is sold by the department.

#### 4.3.3 Program to Reduce the Use of Paper and Plastic on Campus

	
<p>1. Single use plastic banned in the campus 22°07'30.0"N 82°08'04.3"E</p>	<p>2. No to plastic posters 22°07'34.1"N 82°08'13.2"E</p>
<p>Program to Reduce the Use of Paper and Plastic in Campus</p>	





Conduction of Cleanliness drive and campaign by Guru Ghasidas Central University students on 12/02/2022.



Cleanliness awareness campaign 'Say no to plastic' awareness program by Guru Ghasidas Central University on 27<sup>th</sup> Feb 2022(Sunday), telecasted in local news channel "News 36"

#### 4.4.4 Existing waste management methods practiced

- Cleaning the campus on daily basis.
- Waste bin's placed in corridors, office and staff rooms.
- Segregation of waste into degradable and non-degradable by the cleaning staff.
- Organic waste used in biogas plant and compost
- Bio-degradable waste collected from the campus is used to prepare organic manure.
- Inorganic waste is collected and put in a trench from where it is transported to a location identified by Bilaspur Municipal Corporation for disposal.
- In the University girls hostel sanitary pads are disposed by the incineration machine.



- The liquid wastes are disposed off through septic tank / soak pits associated with the buildings / STPs.
- Recycled water flowing out of these STP's are presently delivered on the open land for absorption, further planned for use in gardens etc.
- Campaigns for reduce, reuse and recycle.
- Special arrangement for exit of waste water from chemical lab.
- E-waste disposed as per university e-waste disposal policy







21/10/2021, 12:21      GRIHA registration cum rating details for the Institutional Campus of Guru Ghasidas Vishwavidyalaya - veggdsop@gmail.co...

**Gmail**      Search mail

Compose

Inbox 627

Starred

Snoozed

Sent

Drafts 101

More

Meet

New meeting

Join a meeting

Hangouts

University Engr +

No Hangouts contacts

### GRIHA registration cum rating details for Vishwavidyalaya

**Kamal Kishor** <kamal.kishor@grihaindia.org>  
to Ankit, me, rk.dutta, standardinfotechbilaspur

Dear Sir/Madam,

Greetings from GRIHA Council!

We have received your online registration form for GRIHA for Instit

You are just one step away from registration.

The total registration cum rating fee for the project is INR 426485 /  
cheque/DD in favour of GRIHA Council or through NEFT/RTGS. PI

**This is non-refundable one-time fee and needs to be paid v**

Registration cum rating fee structure (excluding taxes) is as follows:

Size of the project (total built up are
≤ 5,000 m <sup>2</sup>
> 5,000 m <sup>2</sup>

Green Building Implementation -Copy of the Griha Registration





<a href="http://www.grihaonline.org">http://www.grihaonline.org</a>	<b>GRIHA Council</b>		
S/S/03/2008 Registration in India with societies registration at GO of INDIA	C/o TERI (The Energy and Resources Institute) Case 18, 3rd Floor India Habitat Centre, Lodhi Road New Delhi - 110 003 Tel: (+91 11) 46444530/24329906-08		DATED: 18, 2021 PAN No: AADYAA69PM GST ID: 07AADYAA69PM1Z9 PU2021-22-0183
Plot No: 16 1st Floor of 1st Mount Kailash, New Delhi India - 110 001	Mecon Limited Guru Ghasidas Vishwavidyalaya, Bilaspur Chhattisgarh GST - 22AACCM2119B1ZC		<b>Preforma Invoice</b>
Towards GRIHA registration cum rating fee for Institutional	1,61,428/-		
Campus of Guru Ghasidas Vishwavidyalaya, Bilaspur built up area 17647.41 sq.m. under V-2015	1,61,428/-		
IGST 18%	29,117.04		
<b>Total</b>	<b>4,76,485/-</b>		
Amount in words: Rupees Four Lakh Twenty Nine Thousand Four Hundred Eighty Five Only			
(Authorized Signatory)			
This is a preforma invoice and a final tax invoice will be raised on final acceptance with retention.			
<b>Made of payment:</b> Bank details for remitting the payment: Name of the Ac. Holder: GRIHA Council Account Number: 62122842789 Name of the Bank: State Bank of India Full address of the bank: Scheme Complex, Lodhi Road, New Delhi - 110002 Code of Branch: 20511 IFSC Code: SBIN0020511 Type of Account: SAVING MICR code: 110002658			
<small>GRIHA (Green Rating for Integrated Habitat Assessment) is a voluntary initiative of TERI, an Institute for Energy, Environment and Policy Studies, New Delhi, India. It is a part of TERI's Green Rating (GRIHA) initiative.</small>			

**Example of Green Building Implementation Griha Registration cum Rating for  
Institutional campus of Guru Ghasidas University**



**Description:**

- Green Building Implementation GRIHA Registration cum Rating for Institutional campus of Guru Ghasidas University – also attached.

**The basic features of GRIHA**

The system has been developed to help 'design and evaluate' new buildings (buildings that are still at the inception stages). A building is assessed based on its predicted performance over its entire life cycle – inception through operation. The stages of the life cycle that have been identified for evaluation are:

Pre-construction stage: (intra- and inter-site issues like proximity to public transport, type of soil, kind of land, where the property is located, the flora and fauna on the land before construction activity starts, the natural landscape and land features).

- Building planning and construction stages: (issues of resource conservation and reduction in resource demand, resource utilization efficiency, resource recovery and reuse, and provisions for occupant health and well-being). The prime resources that are considered in this section are land, water, energy, air, and green cover.
- Building operation and maintenance stage: (issues of operation and maintenance of building systems and processes, monitoring and recording of energy consumption, and occupant health and well-being, and also issues that affect the global and local environment).

The benefits

- On a broader scale, this system, along with the activities and processes that lead up to it, will benefit the community at large with the improvement in the environment by reducing GHG (greenhouse gas) emissions, reducing energy consumption and the stress on natural resources.

Some of the benefits of a green design to a building owner, user, and the society as a whole are as follows:





- Reduced energy consumption without sacrificing the comfort levels
- Reduced destruction of natural areas, habitats, and biodiversity, and reduced soil loss from erosion etc.
- Reduced air and water pollution (with direct health benefits)
- Reduced water consumption
- Limited waste generation due to recycling and reuse
- Reduced pollution loads
- Increased user productivity
- Enhanced image and marketability





#### 4.6 Biodiversity in campus

Conservation: plant, animal, and wildlife, genetic resources for food and agriculture secured in either medium or long-term conservation facilities

	
22°07'33.4"N 82°08'18.3"E	22°07'35.4"N 82°08'15.8"E
Glass House	Forestry Nursery
	
22°07'31.0"N 82°08'31.9"E	22°07'34.4"N 82°08'36.3"E
Lac Cultivation Unit	Biodiversity Zone
Medium or long-term conservation facilities at Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh	

#### Description:

- Glass House for plant propagation
- Forestry Nursery
- Lac Cultivation Unit
- Biodiversity Zone





<i>Biodiversity</i>	<i>No. of Species</i>
<i>Total tree species</i>	: 61
<i>Number of birds</i>	: 144
<i>Migratory birds species</i>	: 64
<i>Snakes</i>	: 17
<i>Lizards</i>	: 03
<i>Amphibians species</i>	: More than 10
<i>Mammals</i>	: 10 (Golden jackal, Wild boar, Indian fox, Asian palm civet, Jungle cat, Indian hare, Indian grey mongoose, Grey langur, Indian palm squirrel and Fruit fox)
<i>Butterfly, dragonfly and damselfly:</i>	: More than 30 species



Biodiversity in Campus





## 4.7 Carbon Footprint

### 4.7.1 Sustainability Practices



Examples of Events Related to Sustainability (Guru Ghasidas Vishwavidyalaya)









Examples of Events Related to Sustainability Guru Ghasidas Vishwavidyalaya)





## 4.7.2 Transportation

	
22°07'40.0"N 82°08'16.6"E	22°07'30.1"N 82°08'04.4"E
Shuttle Services (Guru Ghasidas Vishwavidyalaya)	
	
Bus stop for Shuttle Services 22°07'41.5"N 82°08'17.2"E	Free Bicycle services
	
22°07'30.1"N 82°08'04.4"E	22°07'51.3"N 82°08'17.1"E
Shuttle car of Guru Ghasidas Vishwavidyalaya	E-Rickshaw for transport inside the Guru Ghasidas Vishwavidyalaya



**Description:**

No.	Vehicle	Total Number
1	Car managed by the university	15
2	Cars entering the university	425
3	Motor cycles entering the university	528
	Total	968

The total number of vehicles (cars and motorcycles) =  $968 / 10184$  (population) = 0.095  
divided by total campus' population

Total Carbon foot print ( $\text{CO}_2$  emission in the last 12 months = 1533.69 metric tons

Total carbon foot print divided by total population = 0.15 metric ton

## 5. Conclusion and Recommendations

Green and Environment Audit is the most efficient way to identify the strength and weakness of environmental sustainable practices and to find a way to solve problem. Green Audit is one kind of professional approach towards a responsible way in utilizing economic, financial, social and environmental resources. Green audits can "add value" to the management approaches being taken by the university and is a way of identifying, evaluating and managing environmental risks (known and unknown). There is scope for further improvement, particularly in relation to waste, energy and water management. The university in recent years considers the environmental impacts of most of its actions and makes a concerted effort to act in an environmentally responsible manner. Even though the university does perform fairly well, the recommendations in this report highlight many ways in which the university can work to improve its actions and become a more sustainable institution.

### 5.1 Major Audit Observations

- More notice boards and signs may be placed to sensitize students on over exploitation of natural resources.
- Programs on green initiatives have to be increased. Campus is declared plastic free, stringent actions are being taken to maintain this.
- Existing Rain water harvesting systems, solar power generation, environmental education programs are adequate. However, these may be strengthened.



- 
- iv. Display boards against the misuse of water use are adequate. However, these may be strengthened.
  - v. Display boards for awareness in relation to energy conservation are adequate. However, these may be strengthened.
  - vi. Energy efficient fans may be placed in place of non- energy efficient fans in a phase out manner.
  - vii. Solid waste management systems established can be improved by reusing materials that would otherwise be discarded, by recycling materials and by using recycled materials.
  - viii. Display boards to all plants & trees identified, should be increased.
-





## **5.2 Recommendations**

### **5.2.1 Water**

- i. Replace non-sensor type taps with sensitive taps if possible.
- ii. Awareness programs on water conservation to be conducted.
- iii. Install display boards to control over exploitation of water.

### **5.2.2 Environment**

Arrange training programmes on environmental management system and nature conservation. .

### **5.2.3 Energy**

- i. Establish a purchase policy that is energy saving and eco-friendly.
- ii. Replace incandescent and CFL lamps with LED lights.
- iii. Conduct more seminars, workshops and exhibitions on environmental education.
- iv. Establish more water, energy and waste management systems.
- v. Increase the number of display boards on environmental awareness such as – save water, save electricity, no wastage of food/water, no smoking, switch off light and fan after use, plastic free campus etc.
- vi. Replace old fans with energy efficient fans.
- vii. Replace Window AC with Split AC

### **5.2.4 Waste**

- i. Conduct exhibition of recyclable waste products.
- ii. Conduct more seminars and group discussions on environmental education.
- iii. Replace non-sensor type taps with sensitive taps if possible.
- iv. Practice of waste segregation to be initiated.
- v. Avoid plastic/thermocool plates and cups in the university level or department level functions.
- vi. Establish an E-waste collection center in campus.



### **5.2.5 Green Campus**

- i. All trees in the campus should be named scientifically.
- ii. Create more space for planting.
- iii. Grow potted plants at both verandah and class rooms.
- iv. Create automatic drip irrigation system during summer holidays.
- v. Not just celebrating environment day but making it a daily habit.
- vi. Beautify the university buildings with more indoor plants.
- vii. Conducting competitions among departments for making students more interested in making the campus green.

### **5.2.6 Carbon footprint**

- i. Establish a system of car pooling among the staff to reduce the number of four wheelers coming to the University.
- ii. Encourage students and staff to use cycles.

### **5.2.7 Commitments after Green and Environment Auditing**

In the light of green and environment audit the university should, adopt some additions in the vision and mission statements promoting compliance with environmental laws and regulations for sustainable existence of the university.







### CERTIFICATION

This is to certify that Green & Environment audit for the year 2021- 2022 has been conducted for Guru Ghasidas Vishwavidyalaya Bilaspur for maintenance of sustainable and healthy environment for education in the campus. It is also certified that: -

- i. The data collection has been carried out diligently and truthfully.
- ii. All data monitoring devices are in good working condition and have been calibrated or certified by approved agencies authorized and no tampering of such device has occurred.
- iii. All reasonable professional skill, care and diligence had been taken in preparing the Green & Environment Audit Report and the contents thereof are a true representation of the facts.
- iv. Adequate training provided to personnel involved in daily operation after implementation of recommendation.

Signature:

Name of the Certified Energy Auditor:  
Certification Detail:

  
22/12/2022  
Mr. Rahul Agrawal  
EA-20984  




*Guru Ghasidas Vishwavidyalaya*

## **Green University Policy**



## Introduction

Global environmental and climatic changes affect the ecosystem functioning, which in turn are responsible for the loss of biodiversity, changes in hydrological systems, disruption in supply of freshwater, land degradation, intrusive urbanization, and stresses on food-producing systems. A Green Policy is a statement about the commitment to sustainability and effective management of natural resources that any organization is prepared to make and a declaration about the commitment to green and clean environment. A significant economic benefit of going **green** is that it helps lower costs and saves money. For example, the use of renewable energy helps to reduce energy costs.

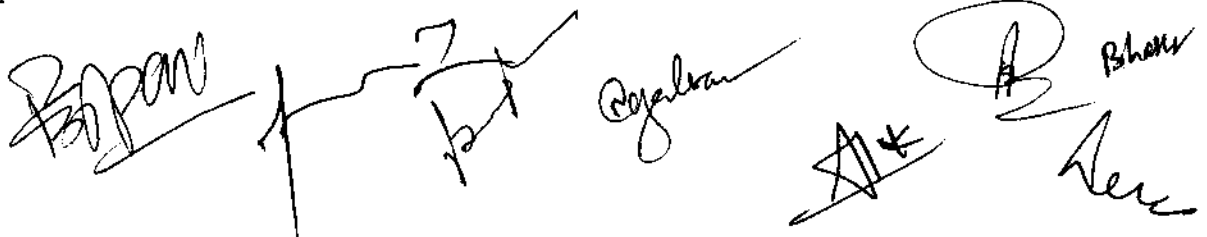
A sustainable university has been defined as one that addresses, involves, and promotes, on a regional or global scale, the reduction of negative environmental, economic, societal, and health effects associated with the use of its resources in order to fulfill its functions of teaching, research, outreach and partnership, and stewardship in ways that assist society in making positive changes. The Green University Policy is crafted to transform the institution as a sustainable one, using multiple approaches in order to promote bio-diversity, clean environment and reduce carbon credit through efficient use of energy so as to provide a conducive academic ambiance to learners.

The green policy encompasses the promotion and protection of bio-diversity, initiating efforts towards clean environment and implementing efficient energy processes to reduce carbon credit on campus.

## Policy Objective

To develop and maintain a clean, green, plastic free and low carbon foot prints sustainable campus at Guru Ghasidas Vishwavidyalaya, Bilaspur. The Vishwavidyalaya is committed to following efforts:

- To maximize the wider positive impact of the university's environmental sustainability actions at local, national and international level through communication, collaboration and partnership.
- To create a culture where the University community is engaged, empowered and supported in improving their personal and collective efforts for green and clean campus



The block contains five handwritten signatures in black ink. From left to right, the signatures are: 1. A stylized signature that appears to be 'Rajwan'. 2. A signature that appears to be 'Rajwan' with a large 'Z' or '3' above it. 3. A signature that appears to be 'Rajwan'. 4. A signature that appears to be 'Rajwan' with a large 'A' and a star above it. 5. A signature that appears to be 'Rajwan' with the name 'Bhans' written above it.

- To promote use of low-cost and energy efficient electrical devices for reducing the power consumption.

To establish clean development mechanisms for conservation of biodiversity, reduction of carbon emission and creating a green environment.

## Policy Areas

- **Bio-diversity**

- **Biodiversity Conservation and Eco-system management**

To be a sector leader in mitigating negative impacts and, where possible, enhancing direct and indirect benefits to biodiversity and natural ecosystems. The university is taking the following steps:

- The campus has ample green cover of over more than 50 percent which is a refuge for different kinds of flora and fauna.
- Regular monitoring of campus biodiversity is being done by the university students/staff.
- Habitat loss is kept in mind while constructing new buildings so that anthropogenic pressure can be minimized on fauna and flora.
- Plantation programs are promoted through various environmental days, special occasions where students and staff are encouraged to participate in planting of saplings.
- Encouragement is given to develop medicinal plants garden, miscellaneous forest plantation areas, road side plantations, and horticulture garden to conserve flora and fauna of the campus.

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Signature 1: *[Illegible]*

Signature 2: *[Illegible]*

Signature 3: *[Illegible]*

Signature 4: *[Illegible]*

Signature 5: *[Illegible]*





Water bodies on campus help in conserving water as well as a habitat for fauna.

Photo by: Fergus Mark Anthony

#### •Water Conservation

The following measures are being taken:

- Newly constructed buildings are being equipped with roof water harvesting systems.
- Water harvesting systems have been made available throughout the campus to minimize surface runoff and to store maximum amount of rain water.
- Stone walls and check dams are also constructed to reduce water loss.
- Proper management of available water bodies through deepening, stone pitching, raising the bund height etc. within the campus.
- Checkdams have been erected in few places in order to conserve the overflow of water from the available water bodies.

#### • Paperless work:

- The university has adopted purchase of the goods and services through E-tendering using GeM portal, Government of India, and has been continuing the declaration of results through Integrated University Management System (IUMS), PFMS for Financial Management to reduce the file/paper work.

*[Handwritten signatures and initials]*

- University is providing all support services to both teaching and non-teaching departments in various forms so as to ensure paper less works.

- To collaborate with suppliers to develop an ecosystem that promotes sustainable resource supply.

- **Clean Environment**

- **There will be a focus on clean environment with thrust on the following:**

**Energy Efficient Process**

To reduce consumption of conventional energy while supporting the University's plans for growth in research activity, staff and student numbers. The university is implementing measures to conserve energy by:

- Promoting the replacement of conventional light bulbs with LED's in administrative, teaching and residential buildings.

- Promoting '*Switch off when not in use*', where students, teachers and staff members are advised to switch off electrical appliances after use.

- Newly constructed buildings to be fitted with solar system compulsorily.

- Promoting the setting up of solar power plant in the campus to reduce its dependency on conventional energy.

- Waste management**

- Promoting the 3-R (Reduction, Reuse and Recycling) concept throughout the university.

- Setting up of a waste management plant for safe disposal of solid and liquid waste in the campus.

- Promoting vermi-composting for disposal of biodegradable waste.

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*[Handwritten signature]* *[Handwritten signature]* *[Handwritten signature]* *[Handwritten signature]*



- Continuing the disposal of E-waste through buyback policy of various electronic components.

- Partnership, engagement, awareness and training**

To enable staff and students to develop and share their knowledge, skills, and experience in order to effectively engage with and contribute to the University's environmental sustainability aspirations, the following steps are being taken:

- Spreading awareness about environment conservation and sustainable development among students and staff through different programmes sponsored by Ministry of Education and UGC.

- University has a curriculum for undergraduate students with environmental education as a part of creating awareness and training of students.

- Regular trainings and workshops are being organized for empowering and educating students towards environmental management and energy efficiency.

- Formal and informal collaborative partnerships are encouraged with regional, national and international stakeholders.

- Digitalization is in practice for minimizing the use of paper in official work in the university.

- **Reduction of Carbon Footprint**

- Sustainable construction and refurbishment of university estate**

To increase the environmental sustainability and to reduce the impacts of our construction and refurbishment projects, the following steps are taken:

- No construction, refurbishment or maintenance work on campus has a net negative impact on biodiversity, which reflects the possible net positive impact.

- University has constructed three buildings viz., Department of Forestry, Wildlife and Environmental Sciences, Department of Biotechnology, Department of Botany, and Department of Rural Technology & Social Development, which are energy efficient in order to reduce the non-renewable energy recourse. Furthermore, six other energy

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efficient buildings are under construction as per the Green Rating for Integrated Habitat Assessment (GRIHA) guidelines.

•**Transport system**

To provide viable and accessible sustainable transportation options for faculty, staff, and students to and from work, as well as intra-campus travel, thereby reducing carbon emissions.

•Promoting reduction of carbon footprint through measures like walking on foot, use of bicycles, and minimal use of automotive vehicles within the campus premises.

•Promoting the battery operated vehicle in the campus.

•Promoting and motivating less generation of waste in offices and residential areas.

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(28)

Balbir Kumar Pandey

(A)



गुरु घासीदास विश्वविद्यालय, बिलासपुर

**Guru Ghasidas Vishwavidyalaya, Bilaspur**

A Central University Established by the Central University Act 2009

**Waste Management Policy for Guru Ghasidas Vishwavidyalaya**

*Promoting Sustainable Practices and Responsible Waste Management*

(Guidelines for Effective Waste Management and Stakeholder Engagement)



Submitted to:

**IQAC, GGV, Bilaspur**

Prepared by:

**Prof. D.K Patel, Convener**

**&**

**Dr. Balbir Kumar Pandey, Member**

**2023**

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## 1 Preamble

The university's commitment to a clean environment led to the creation of the "Waste Management" policy. The university is aware of the importance of a sustainable approach to environmental protection as well as ensuring a secure and healthy working environment for students, non-teaching staff, and other workers. The university focuses on proper waste segregation at the source and, if practical, the conversion of waste into other usable products before disposal.

It has been realized that eco-friendly practices and technologies should be used to cut down on waste. This would be in accordance with the Sustainable Development Goals (SDGs) and any government-imposed environmental rules and policies. This policy's mission is to set goals and deadlines for appropriate action plans and to make it easier for them to be implemented from time to time.

## 2 Introduction

*Balraj Kumar*

*Subal*



Guru Ghasidas Vishwavidyalaya (A Central University) is committed to transforming lives and serving society through the pursuit of excellence in teaching, innovation, lifelong learning, cultural enrichment, and outreach services. The university recognizes the environmental impact of the products and services we use, our ecological footprint, and the waste impact on our local and global environment. This waste management policy is designed to provide guidelines for sustainable and holistic waste management at Guru Ghasidas Vishwavidyalaya, which will help in reducing its environmental footprint and provide a safe and healthy work environment for teaching and non-teaching employees, students, and visitors. The full range of waste-related operations, such as their generation, sorting, storage, handling, and transportation from their point of origin to their final disposal site, are included in waste management.

The Vishwavidyalaya's Waste Management Policy is based on a 'waste management hierarchy' which emphasizes a 5R's approach, which stands for Refuse, Reduce, Reuse, Repurpose, and Recycle. The Vishwavidyalaya accord top priority to waste reduction at source and encourage cyclical use of resources with disposal as the last resort. The '6Rs' principle, elaborated in the Waste Management Guidelines, is adopted with reference to the developments in waste management that are relevant to a university setting. We are committed to putting in place effective waste management that exceeds the legislative and regulatory requirements. We emphasize implementing procedures to prevent immediate and future pollution or harm to health and continually improving our performance.

### **3 Policy Statement**

- 3.1 It is the establishment of a campus that is environmentally sustainable and has clear adoption and trash management policies.
- 3.2 When providing waste management services on campus, the University will adhere as closely as is practical to the best environmental practices.
- 3.3 This policy's objective is to promote the idea of "Zero Waste" with the goal of reducing the impact of the numerous wastes produced on campus using the 5R's approach, which stands for Refuse, Reduce, Reuse, Repurpose, and Recycle.
- 3.4 The University will inform all students, faculties, staff members, stakeholders, etc. of this policy.
- 3.5 This policy is in effect for all waste-producing operations, including those of the personnel, canteens, guest house, etc.

### **4 Policy Objectives**

*Back Porov*

*Subtel*

- 4.1 **Minimize waste generation:** Promote waste reduction strategies, including awareness campaigns, education, and the adoption of sustainable practices, to minimize waste generation within Guru Ghasidas Vishwavidyalaya.
- 4.2 **Facilitate proper waste segregation:** Establish a comprehensive waste segregation system to ensure the separation of biodegradable waste, recyclable dry waste, sanitary waste, and hazardous waste at the point of generation.
- 4.3 **Promote recycling and resource recovery:** Encourage the implementation of recycling programs to maximize resource recovery from recyclable dry waste and minimize its disposal in landfills.
- 4.4 **Ensure safe and environmentally friendly disposal of sanitary waste:** Establish protocols for the safe collection, treatment, and disposal of sanitary waste to prevent any health or environmental hazards.
- 4.5 **Implement proper handling and disposal of hazardous waste:** Develop protocols for the safe handling, storage, transportation, and disposal of hazardous waste generated within the university premises.
- 4.6 **Involve stakeholders:** Engage students, faculty, staff, waste management authorities, and the local community in waste management initiatives, fostering a sense of responsibility and collective action.

## **5 Waste Segregation and Management**

In order to proper segregation and management of waste, the generated waste was divided into different categories. The segregation and management plan for each has been deliberated in detail below.

### **5.1 Biodegradable Waste**

- i. Encourage the implementation of an on-site composting facility to manage biodegradable waste generated within the university.
- ii. Provide separate bins or containers for the collection of biodegradable waste and educate stakeholders on the importance of proper segregation.
- iii. Utilize the compost produced for campus gardening or donate it to local farmers or community gardens.

### **5.2 Recyclable Dry Waste**

- i. Establish a system for separate collection, storage, and recycling of dry waste, including paper, plastics, metals, and glass.

*Balraj Kumar*

*Dr. Anshu*



- ii. Install clearly labelled and colour-coded bins for different types of recyclable dry waste at convenient locations across the campus.
- iii. Collaborate with authorized recycling agencies or establish tie-ups with local recycling units to ensure proper dry waste recycling.

### 5.3 Sanitary Waste

- i. Provide separate bins for sanitary waste collection in restrooms and other relevant areas.
- ii. Ensure the proper disposal of sanitary waste using eco-friendly and hygienic methods, such as sanitary waste incineration or approved sanitary waste disposal systems.
- iii. Conduct regular awareness programs to educate stakeholders on the safe disposal of sanitary waste and the importance of maintaining proper hygiene.

### 5.4 Hazardous Waste

- i. Develop protocols for the identification, segregation, and proper storage of hazardous waste, such as chemicals, batteries, and electronic waste.
- ii. Collaborate with authorized agencies or recyclers to handle the collection, transportation, treatment, and safe disposal of hazardous waste.
- iii. Conduct regular training sessions to educate stakeholders on the proper handling and disposal of hazardous waste.

Table 1 below may be used as a guideline for waste segregation and management.

**Table 1.** Waste Segregation and management plan

Category	Description	Disposal method	Pick-up timings
Biodegradable waste	<ul style="list-style-type: none"> <li>Vegetable and fruit peels.</li> <li>Leftover food.</li> <li>Tea leaves, coffee powder.</li> <li>Fruit kernels and seeds.</li> <li>Pencil shavings, match sticks.</li> <li>Flowers and leaves</li> </ul>	Collect in the bin for biodegradable waste.	Collection every morning. (Biodegradable waste)
Non-biodegradable /Recyclable (Dry)	<ul style="list-style-type: none"> <li>Plastic, Paper, Glass.</li> <li>Thermocol, Cardboard.</li> <li>Metal, Fabric, Leather.</li> <li>Packaging materials.</li> </ul>	<ul style="list-style-type: none"> <li>Collect in the bin for non-biodegradable waste.</li> <li>Keep bin outside door.</li> </ul>	Collection every morning. (Non-biodegradable waste)
Sanitary waste	Diapers, Sanitary Napkins.	Securely wrap in brown/plastic bag or	Collection every morning.

	<ul style="list-style-type: none"> <li>• Condoms.</li> <li>• Any material contaminated with blood.</li> </ul>	newspaper and mark red cross. <ul style="list-style-type: none"> <li>• Collect in the SAME bin as recyclable waste.</li> </ul>	(Non-biodegradable waste)
Hazardous waste	<ul style="list-style-type: none"> <li>• Bulbs, CFLs, tube lights.</li> <li>• Batteries, Electronics.</li> <li>• Broken Glass, blades, scissors.</li> <li>• CDs, mobiles, chargers, USB.</li> <li>• Medical Waste, Chemicals, etc</li> </ul>	Keep them in your house separately.	<ul style="list-style-type: none"> <li>• Collected once a month through special drives by Engineering Section (ES)</li> <li>• Personally dispose of in ES designated areas.</li> </ul>

## 6 Action Plan

- 6.1 Establish a Waste Management Committee comprising representatives from different departments, faculty, students, staff and persons associated with waste management to oversee waste management activities and ensure policy implementation. The duration of the abovementioned committee shall be fixed for two years.
- 6.2 Conduct regular waste audits to assess waste generation patterns, identify areas for improvement, and track progress.
- 6.3 Develop a waste management plan outlining specific targets, responsibilities, and timelines for waste reduction, segregation, recycling, and disposal activities.
- 6.4 Conduct awareness campaigns, workshops, and training programs to educate stakeholders about waste management practices and their roles in implementing the policy.
- 6.5 Implement a system for monitoring and reporting on waste management practices, including the establishment of metrics to measure the university's performance in waste reduction, recycling rates, and proper waste disposal.
- 6.6 Foster collaborations with waste management authorities, NGOs, and local community organizations to exchange knowledge, share best practices, and support waste management initiatives.

## 7 Stakeholder Engagement

- 7.1 Encourage active participation of students, faculty, and staff in waste management initiatives through student clubs, eco-clubs, and other community engagement activities.

*Bal K. Joon*

*Dubtal*



- 7.2 Conduct regular awareness campaigns, seminars, and workshops to sensitize stakeholders about waste management, sustainable practices, and their role in implementing the policy.
- 7.3 Involve the local community in waste management efforts through collaboration, awareness programs, and joint clean-up drives.

## **8 Policy Review**

This waste management policy should be reviewed periodically, at least annually, to assess its effectiveness, consider stakeholder feedback, and incorporate any regulatory changes or emerging best practices in waste management.

## **9 Conclusion**

This waste management policy for Guru Ghasidas Vishwavidyalaya outlines guidelines for effective waste management, including the management of biodegradable waste, recyclable dry waste, sanitary waste, and hazardous waste. By implementing these measures and actively engaging stakeholders, the university can contribute to environmental sustainability, promote a culture of responsible waste management, and create a cleaner and healthier campus environment.

*Pradyumn*

*Shubhal*

**Guru Ghasidas Vishwavidyalaya**  
(A Central University)  
**Bilaspur, Chhattisgarh**



**Plastic Free Policy**

Plastic Free Policy

*Amrit Jain*

*DB Law*



## Plastic Free Policy

Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh following the global push for sustainable environment and sustainable development, has highly discouraged the use of plastic in the Vishwavidyalaya campus. This policy applies to all areas and activities of the Vishwavidyalaya.

The use of single-use plastic items by stakeholders is harmful to the environment, public health, and the well-being of society. The distribution of single-use plastic items requires the use of natural resources and results in the generation of greenhouse gas emissions. Single-use plastic items contribute to environmental problems, including pollution of landscapes, sewers, rivers and streams, and oceans. Single-use plastic items impose invisible costs on stakeholders, local governments, the state, and the environment, and are a public nuisance.

Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh therefore discourage the use of single use plastic items. For this purpose, the following measures are taken:

- ❖ Vishwavidyalaya do not appreciate the use of single-use plastics in the entire campus.
- ❖ Entire GGV family (students, faculty, and administrators) to be encouraged not to bring non-biodegradable plastic items to the Vishwavidyalaya campus.
- ❖ Students are encouraged to make their respective households aware of the harmful effects of plastic and to make their households 'plastic free'.
- ❖ All departments/offices are advised to avoid the use of plastic item (like water bottles, carry bags etc.) and encourage the use of alternative solutions such as jute bags, paper folders, cloth bags, paper bags, etc.
- ❖ All the departments of Vishwavidyalaya ensure the use steel water bottles, paper cups and plates for serving food at programmes organised by various clubs and associations in the campus.
- ❖ The Vishwavidyalaya conducted various campaign in its adopted villages to transform it into "plastic-free villages" by promoting awareness and encouraging switching to alternative products.

Plastic Free Policy

*Amigam*  
*BBlaub*

# Rainwater Harvesting



## Rain Water Harvesting





## Rain Water Harvesting in Campus

 <p>Rainwater harvesting Primary Health Centre, GGV BSP</p> <p>Bilaspur, Chhattisgarh, India 44GQ+93H, Konl, Chhattisgarh 495009, India Lat 22.126128° Long 82.137736° 07/02/22 01:25 PM</p>	 <p>Rainwater harvesting Jawahar Sadan, GGV BSP</p> <p>Bilaspur, Chhattisgarh, India 44FP+QWF, Konl, Chhattisgarh 495009, India Lat 22.124388° Long 82.137558° 07/02/22 01:30 PM</p>
<p style="text-align: center;"><b>Rain Water Harvesting @ Health Centre</b></p>	<p style="text-align: center;"><b>Rain Water Harvesting @ Jawahar Guest House</b></p>
 <p>Rainwater harvesting Girls Hostel, GGV BSP</p> <p>Bilaspur, Chhattisgarh, India GG vishwavidyalaya Girls Hostel, Konl, Bilaspur, Chhattisgarh 495009, India Lat 22.123996° Long 82.13781° 07/02/22 01:35 PM</p>	 <p>Rainwater harvesting UGC HRDC, GGV BSP</p> <p>Bilaspur, Chhattisgarh, India 44FQ+57J, Konl, Chhattisgarh 495009, India Lat 22.122939° Long 82.138241° 07/02/22 01:52 PM</p>
<p style="text-align: center;"><b>Rain Water Harvesting Girls Hostel</b></p>	<p style="text-align: center;"><b>Rain Water Harvesting @ UGC HRDC</b></p>
 <p>Rainwater harvesting Deptt. of Physics, GGV BSP</p> <p>Bilaspur, Chhattisgarh, India Unnamed Road, Konl, Bilaspur, Chhattisgarh 495009, India Lat 22.126794° Long 82.138842° 07/02/22 02:06 PM</p>	 <p>Rainwater harvesting Administrative building, GGV BSP</p> <p>Bilaspur, Chhattisgarh, India Unnamed Road, Konl, Chhattisgarh 495009, India Lat 22.126184° Long 82.137436° 07/02/22 02:29 PM</p>
<p style="text-align: center;"><b>Rain Water Harvesting @ Physics Department</b></p>	<p style="text-align: center;"><b>Rain Water Harvesting @ Administrative Building</b></p>





**Rain Water Harvesting @ Administrative building**



**Rain Water Harvesting @ Jawahar Guest House**



**Rain Water Harvesting @ Physics Department**



**Rain Water Harvesting @ New Boys Hostel – A**



**Rain Water Harvesting @ New Boys Hostel – A  
(Back Side)**



**Rain Water Harvesting @ New Boys Hostel – B**





Anicut Near university main gate



Anicut near International Guest House



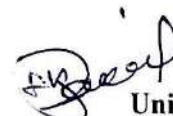
7.1.4- Water conservation facilities available in the institution:

1. Rainwater Harvesting

It is certified that Rainwater Harvesting systems are installed in the following buildings and are functional:

S. No.	Location
1	Pure & Applied Physics Building
2	UTD 'A' Wing Building
3	Administrative Building
4	Jawahar Sadan Guest House Building
5	Biotechnology Building
6	Girls Hostel Building
7	UGC Human Resource Development Centre(HRDC) Building
8	CSIT Building
9	Cafeteria Building
10	Auditorium Building
11	Primary Health Centre Building
12	Rural Technology Building

  
[Signature]



University Engineer  
GGV, Bilaspur (C.G)




University Engineer  
Guru Ghasidas Vishwavidyalaya  
Bilaspur (C.G.)

TDAC-1500  
22/02/22

Borewell / Openwell  
recharge



## Borewell in the Campus

 <p>Borewell Dr. B R Ambedkar Boys Hostel, GGV BSP</p> <p>Birkona, Chhattisgarh, India 44QV+67Q, Birkona, Chhattisgarh 495009, India Lat 22.138284° Long 82.143675° 25/05/22 10:27 AM</p>	 <p>Borewell Deptt. of Botany, GGV BSP</p> <p>Bilaspur, Chhattisgarh, India 44GQ+VP8, Koni, Bilaspur, Chhattisgarh 495009, India Lat 22.127483° Long 82.138957° 07/02/22 01:58 PM</p>
<p style="text-align: center;"><b>Dr. B R Ambedkar Boys Hostel</b></p>	<p style="text-align: center;"><b>Department of Botany</b></p>
 <p>Borewell Deptt. of CSIT, GGV BSP</p> <p>Bilaspur, Chhattisgarh, India 44GP+CRG, Koni, Bilaspur, Chhattisgarh 495009, India Lat 22.125966° Long 82.137009° 07/02/22 01:20 PM</p>	 <p>Borewell Deptt. of Forestry (New building), GGV BSP</p> <p>Bilaspur, Chhattisgarh, India 44GQ+VP8, Koni, Bilaspur, Chhattisgarh 495009, India Lat 22.126803° Long 82.139822° 07/02/22 02:01 PM</p>
<p style="text-align: center;"><b>Department of CSIT</b></p>	<p style="text-align: center;"><b>Department of Forestry</b></p>
 <p>Borewell near main gate, GGV BSP</p> <p>Bilaspur, Chhattisgarh, India 44GP+98P, KPS Rd, Koni, Chhattisgarh 495009, India Lat 22.12551° Long 82.136862° 07/02/22 01:14 PM</p>	 <p>Borewell Deptt. of Physics, GGV BSP</p> <p>Bilaspur, Chhattisgarh, India Unnamd Road, Koni, Chhattisgarh 495009, India Lat 22.129536° Long 82.139566° 07/02/22 02:11 PM</p>
<p style="text-align: center;"><b>Near Main Gate</b></p>	<p style="text-align: center;"><b>Department of Physics</b></p>



Department of Zoology



Girls Hostel

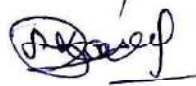


7.1.4- Water conservation facilities available in the institution:

2. Bore well/ Open Well

It is certified that Bore wells are installed in the following buildings and are functional:

S. No.	Location	Capacity	Nos.
1	Near Main Gate	7.5 HP	1
2	CSIT department	5 HP	1
3	V. C. bungalow	3 HP	1
4	International Guest House	3 HP	1
5	Old Guest House	5 HP	1
6	Girls Hostel	2 HP	1
7	Near D-Type Quarters	5 HP	1
8	New Residential Colony	5 HP	1
9	Registrar Bungalow	2 HP	1
10	Near Type-2 E Block	5 HP	1
11	In front of Type-3 Quarters	5 HP	1
12	Overhead Tanks(Residential)	7.5 HP	1
13	Near New Zoology/Chemistry Building	3 HP	1
14	Overhead Tank (Near Deptt. Of Education)	5 HP	1
15	New I.T workshop	3 HP	1
16	Shaheed Veer Narayan Singh Boys Hostel	5 HP	2
17	Dr BR Ambedkar Boys Hostel	5 HP	1
18	New I.T Building	5 HP	1
19	Pharmacy Building	5 HP	1
20	Near U.T.D Building	5 HP	1
21	Near Sports Ground	5 HP	1
22	Near Accelerator Building	5 HP	1
23	Auditorium	5 HP	1
24	Cafeteria Building	3 HP	1
25	Swami Vivekananda Boys Hostel	5 HP	2
		3 HP	
26	Rural Technology	5 HP	1
		<b>Total</b>	<b>28</b>





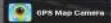




University Engineer  
GGV, Bilaspur (C.G)

Chief Engineer  
Guru Ghasidas Vishwavidyalaya  
Bilaspur

# Construction of tanks and bunds



## Overhed Tanks in Campus

 <p>Overhead tank near Deptt. of Education, GGV BSP</p>   <p><b>Bilaspur, Chhattisgarh, India</b> Department Of Pharmacy GGV Rd, Koni, Bilaspur, Chhattisgarh 495009, India Lat 22.132896° Long 82.143391° 12/02/22 05:00 PM</p>		 <p>Overhead tank near Vice-Chancellor bungalow, GGV BSP</p>   <p><b>Bilaspur, Chhattisgarh, India</b> 44GQ+93H, Koni, Chhattisgarh 495009, India Lat 22.125341° Long 82.137856° 12/02/22 04:52 PM</p>
<p><b>Near Department of Education</b></p>		<p><b>Near Vice-Chancellor Bungalow</b></p>
	 <p>Overhead tank near Type-IV Staff Quarter, GGV BSP</p>   <p><b>Bilaspur, Chhattisgarh, India</b> Type 3 Block D, Staff Quarters Type 3, Koni, Chhattisgarh 495009, India Lat 22.125418° Long 82.149129° 12/02/22 04:31 PM</p>	
<p><b>Near Type IV Staff Quarter</b></p>		

7.1.4- Water conservation facilities available in the institution:

3. Construction of Tanks & Bunds


It is certified that following Overhead Tanks & Bunds are Located in the University Campus:

**(A) Overhead Tanks Details (03 Nos) -**

S. No.	Overhead Tanks	Capacity (in litres)
1	In front of Vice Chancellor Bungalow	80,000
2	Behind Type-IV Staff Quarter	1,50,000
3	Behind Deptt. Of Education	1,50,000
	Total Capacity	3,80,000.00 Liters

**(B) Bunds Details(03 Nos) -**

S. No.	Bunds	Area (in sqm)
1	Near UTD Pond	10806.00
2	Near Sport Ground Pond	39010.00
3	Near Mandir Pond	23521.00



University Engineer  
GGV, Bilaspur (C.G)

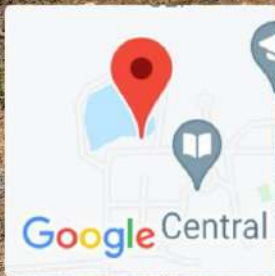
University Engineer  
Guru Ghasidas Vishwavidyalaya  
Bilaspur (C.G.)



# UTD Pond, GGV BSP



GPS Map Camera



**Bilaspur, Chhattisgarh, India**

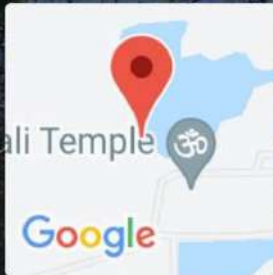
Unnamed Road, Koni, Bilaspur, Chhattisgarh 495009, India

Lat 22.13122°

Long 82.13868°

25/05/22 11:05 AM

# Pond near Barrier, GGV BSP



**Bilaspur, Chhattisgarh, India**

44GV+45V, Koni, Bilaspur, Chhattisgarh 495009, India

Lat 22.126227°

Long 82.142055°

12/02/22 04:41 PM

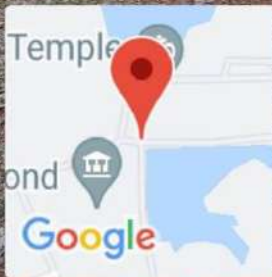




## Pond near Shri Kaali Temple, GGV BSP



GPS Map Camera



**Bilaspur, Chhattisgarh, India**

44GV+45V, Koni, Bilaspur, Chhattisgarh 495009, India

Lat 22.124702°

Long 82.142619°

12/02/22 04:46 PM

# Geo-tagged photograph

(Waste water recycling)





**STP Near Rajmohini Devi Girls hostel**



**STP behind Department of Education**

40

30

# **Policy for Laboratory Waste Management**

**Guru Ghasidas Vishwavidyalaya**

---

Biomedical  
Toxic chemical  
Disposal Policy



## FROM THE DESK OF VICE CHANCELLOR

---



Guru Ghasidas Vishwavidyalaya is a leading institution in Research and Development. Despite the fact that research and development is an essential component of our educational institution, laboratories can be risky places to work because of the myriad of possible dangers they provide not only to the people conducting the study but also to the surrounding community. The protection of students, faculty, and the surrounding community from potentially harmful laboratory byproducts is our first priority as responsible citizens. When it comes to advancing scientific inquiry, this policy marks a major turning point. I extend good wishes.

## **Policy for Laboratory Waste Management**

---

- Research, teaching and clinical laboratories produce a variety of waste chemicals that may be subject to regulatory management standards.
- If improperly managed in the laboratory, waste chemicals could pose a risk to human health and the environment.
- Hazardous chemicals down the drain can lead to pollution of ground water, lakes, rivers, etc.
- Plants and animals will die if they are exposed to hazardous chemical waste.
- Serious health problems will become present in people if hazardous waste finds its way into drinking water.
- **It mandates a proper management of such wastes.**

### **(A) Waste Identification**

#### **(i) Solid Waste & Hazardous Waste**

- Solid Waste: A solid, semi-solid, liquid, sludge, or contained gas, that is no longer needed, to be discarded, or has served its useful purpose.
- Hazardous Waste: A solid waste that is listed by the Pollution control board or exhibits one or more of four characteristics: Ignitable, Corrosive, Reactive and Toxic.
  - Hazardous Waste is only a small portion of the waste generated in the workplace, but by far the most harmful to the nature and the environment.
- Rechargeable batteries
- Spill cleanup materials: (PPE, absorbent pads, etc.)
- Silica gel, resin, zeolites etc.



Handwritten signature and initials in blue ink. The initials "W" are circled, and the signature "faising" is written next to it.



(ii) **Liquid Wastes**

Solvents: (non-halogenated, halogenated, aqueous), Unknowns

Waste chemical mixtures: Aqueous, Acidic, Basic

Unused chemicals (surplus-able?)

Used oil

(B) **Collection of Waste Chemicals**

- Waste chemicals collected either during the operation of a process or otherwise accumulated in the laboratory must be placed into **containers** that are in good condition which should be provided by the Lab technician.
- Container must be compatible with the contents to be hold without leaking.
- Every waste container needs to have the words Waste (name of chemical) marked on it. Containers must be marked or labeled at the time waste is first placed in the container.
- Containers must be placed at or near the point of generation.
- Containers must remain closed at all times except when adding waste.
- When the container becomes  $\frac{3}{4}$  full it must be removed within three days.
- Incompatible wastes should never be mixed together.
- Containers must have an open date listed on the container label, and when full or no longer being filled, a fill date. The open date is the earliest date that waste is placed in the container whereas the fill date is the date that the container is filled and will no longer be used to accumulate waste.
- Unused, unwanted, or unopened chemicals that are to be discarded must be labeled with the words Waste (name of chemical) and the date that they were determined to be unwanted or unusable.
- Small or odd shaped containers that are difficult to place a label on must be placed in a larger sealed container and labeled on the outside (zip-lock bags, plastic containers, etc.).
- Containers holding chemicals that cannot be identified by chemical name, chemical constituents, or process generating the waste must be labeled as **Waste Unknown** with the date that they are considered to be no longer needed.
- Waste containers should be kept clean with no visible contamination on the outside of the container.
- Waste labels and markings must be readable and not defaced.

 Sai Singh

- Chemicals identified by the laboratory as an unknown must be removed from the laboratory no later than 30 days after being designated as no longer needed.

**(C) Container Management**

- Areas where waste chemicals are accumulated must have secondary containment sufficient to collect any incidental spills from container failure.
- Waste containers should not be overfilled. Full containers must have at least a 10 headspace to allow for expansion.
- Filled waste containers must be stored in a secure area under the control of the operator.
- Containers used to collect waste chemicals on a frequent, routine basis must be closed when a procedure or experiment has been completed.

*EXAMPLE:* Containers used to collect acetone washes must be kept closed except when actively adding or removing wastes from the container.

- Wastes collected during processes:* Wastes that are collected as part of a continuous process (such as HPLC wastes) must be collected via tubes that are fed through a cap or other container closure to ensure that the container is kept closed. This closure must be a positive closing lid. Parafilm and similar closures will not be acceptable.

*Broken Glasses and Other Trash Waste Containers*

- Only Glass in the glass waste container.
- All other trash in the correct place
- NOT IN THE SINKS!

The following container color code may be adopted for handling the laboratory wastes

Code	Color	Waste Type
1	Orange	Inorganic Acids
2	Yellow	Organic Acids
3	Green	Bases
4	Blue	Oxidizing /Special Handling Inorganic Acids
5	Light Green	Oxidizers
6	Purple	Toxics
7	Red	Flammables

 Sai Singh



8	White	Solid Wastes Sharp Objects
9	Black	Other Solid Wastes
10	Pink	General Chemicals

**(D) Guidelines for Disposal**

- As per the university policy, the waste generated and collected will be disposed as per the Environmental policy of Central Pollution Control Board (CPCB) as well as the Chhattisgarh State Environment Conservation Board (CECB). The detailed SOP for handling of the hazardous waste is available at

CPCB | Central Pollution Control Board (Annexure-I)

or

CECB | Chattisgarh State Environment Conservation Board (Annexure-II)

- The waste collection and safe disposal will be through the companies recognized by CECB or any such company recognized such board either through MoU with any of this company or as decided by the university from time to time as per SOP described by the university for the purpose.

Guru Ghasidas Vishwavidyalaya is a leading institution in Research and Development. Despite the fact that research and development is an essential component of our educational institution, laboratories can be risky places to work because of the myriad of possible dangers they provide not only to the people conducting the study but also to the surrounding community. The protection of students, faculty, and the surrounding community from potentially harmful laboratory byproducts is our first priority as responsible citizens. When it comes to advancing scientific inquiry, this policy marks a major turning point. I extend good wishes.

 Sai Singh



# 10th International Conference on Environment and Ecology (ICEE 2024)

**Date:** September 18- 19- 20, 2024

## VENUE :



Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh  
(A Central University with NAAC A++ accredited)

**Submit your Abstract before 20<sup>th</sup> August, 2024 to : [abstract.icee@gmail.com](mailto:abstract.icee@gmail.com)**

*Jointly Organised by :*



Dept. of Forestry, Wildlife and  
Environmental Science, Guru Ghasidas  
Vishwavidyalaya Bilaspur, Chhattisgarh



International Foundation for  
Environment and Ecology, Kolkata

*In Association with:*



International Academy of  
Science and Research (IASR)

*In Collaboration with:*



Confederation of Indian Universities  
(CIU), New Delhi

## Theme :

*"Forest and Environmental Management towards Sustainable Development"*

## Sub Themes :

- \* Forest and Natural Resource Management
- \* Biodiversity Conservation and Management
- \* Sustainable Land Use and Urban Development
- \* Aquaculture & Fisheries
- \* Climate Change and Environmental Biology
- \* Environmental Pollution & Waste Management
- \* Environmental Health and Hygiene
- \* Environmental Economics and Resource Management
- \* Ecosystem and Climate Action
- \* Environmental Biotechnology, Microbiology, Bioremediation & Nanotechnology
- \* Global Environmental Crises and Environmental Sustainability
- \* Environmental Geography, GIS & Natural Disasters
- \* Agro-technologies, Food Security and Safety under Climate variables
- \* Green Technologies
- \* Wildlife Management

For Award Nominations and  
other information, visit the  
Website : [www.icee.net.in](http://www.icee.net.in)

## REGISTRATION

Delegates and Academicians : INR 2,700  
Research Scholars : INR 2,200  
Students : INR 2,000  
Foreign Delegates : \$ 50  
Accompanying persons/Spouse : INR 2,200  
Members of IFEE/ IASR, Faculties of GGU : INR 2,000  
Research Scholars of GGU : INR 1,200  
Students of GGU : INR 1,000

## FURTHER DETAILS CONTACT

**Dr. Ajay K Singh**, Organising Secretary, ICEE 2024 and Asst. Professor,  
Dept of Forestry, Wildlife and Environmental Science, Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh  
(A Central University with NAAC A++ accredited)



7000591141



[icee.contact@gmail.com](mailto:icee.contact@gmail.com)



[www.icee.net.in](http://www.icee.net.in)





**Guru Ghasidas Vishwavidyalaya**  
(A Central University)  
**Bilaspur, Chhattisgarh**



One-d  
**Cultural H**  
**of Chhatt**  
**A Textile Car**

August 10



Prof. Pawan Sudhir  
NCERT, New Delhi



Prof. Nilambori Devi  
Former Vice-Chancellor, Sourashtra University





**NATIONAL SEMINAR (HYBRID MODE )  
ON  
“STRENGTHENING ENVIRONMENTAL HEALTH :  
ROLE OF SOCIETY, SCIENCE & TECHNOLOGY”**

**September 26 - 27, 2022**

**Department of Rural Technology and Social Development  
Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.)**



**Chief Patron**  
Prof. Anil Kumar Chakravarti  
Hon'ble Vice-Chancellor  
G.V.V. Bilaspur (C.G.)



**Special Guest**  
Prof. D. G. Singh  
Hon'ble Vice-Chancellor  
G.V.V. Bilaspur (C.G.)



**Convener**  
Dr. Pradyumn Singh  
Head and Associate Professor  
Dept. of Rural Technology  
and Social Development



**Co-Convener**  
Dr. Subodh Kumar Nigam  
Assistant Professor  
Dept. of Rural Technology  
and Social Development



**Patron**  
Prof. Mahendra Kumar  
Singh  
Vice-Chancellor (C.G.)



**Organizing Secretary**  
Dr. Bhaskar Chandra  
Assistant Professor  
Dept. of Rural Technology  
and Social Development



**Co-Patron**  
Prof. B. N. Tiwari  
Head  
Dept. of R.T. & S.D., Bilaspur (C.G.)



**Organizing Secretary**  
Dr. Brij Kumar  
Assistant Professor  
Dept. of Rural Technology  
and Social Development







**Department of Chemical Engineering**  
**School of Studies of Engineering & Technology**  
**Guru Ghasidas Vishwavidyalaya**  
**(A Central University)**  
**Bilaspur, Chhattisgarh, INDIA**



Chief Patron  
**Prof. Alok Kumar Chakrawal**  
 Hon'ble Vice-Chancellor



Convener  
**Prof. S. C. Srivastava**  
 Dean, SoS, Engg. & Tech.

Patron  
**Prof. Manish Shrivastava**  
 Registrar



#### Registration Fee

Students (UG/PG)	₹ 500
Research Scholar	₹ 800
Faculty & others	₹ 1000
International Participant	\$ 60



## INTERNATIONAL CONFERENCE ON TRENDS IN ENERGY AND ENVIRONMENTAL RESEARCH FOR SUSTAINABLE DEVELOPMENT (TEERSD-2023)

November 02-03, 2023

#### Important Dates

Abstract Submission	: August 30, 2023
Registration	: Sep. 15, 2023
Full Paper Submission	: October 20, 2023



#### Topics to be Covered (but not limited to)

- ❖ Environmental Pollution
- ❖ Green Energy
- ❖ Pollution Control Technologies
- ❖ New Perspective of Renewable Energy
- ❖ Clean & Sustainable Energy
- ❖ Renewable Fuels
- ❖ Wastewater Treatment
- ❖ Conventional Separation Processes
- ❖ Novel Separation Processes
- ❖ Waste Management Technologies
- ❖ Energy Intensification
- ❖ Energy Audit & Management
- ❖ Energy Conservation
- ❖ Process Intensification
- ❖ Waste to Wealth
- ❖ Miscellaneous topics

Coordinator

**Dr. R. S. Thakur**  
 Head, Chem. Engg. Dept.

Co-Coordinator

**Dr. Anil Kumar Chandraker**  
**Dr. Amit Jain**

Organizing  
 Secretaries

**Dr. Saurabh Meshram**  
**Dr. Sandeep Dharmadhikari**

Organizing  
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**Dr. Gautam Prasad Dewangan**  
**Mr. Vishnu Prasad Yadav**

Selected papers will be published in thematic issue  
 Trends in Bioenergy Research for Sustainable  
 Development of Biochemical Conversion and  
 Biorefinery. Communication with other  
 SCI/Scopus journals for publication is in process.

Submit the Abstract at  
[teersd2023@gmail.com](mailto:teersd2023@gmail.com)



**Guru Ghasidas Vishwavidyalaya**  
**Bilaspur, Chhattisgarh**  
**Internal Quality Assurance Cell**  
*is organizing*  
**Interaction Talk**  
**on**  
**Contribution of Faculty in the**  
**Growth of a University**

**Prof. Alok Kumar Chakrawal**  
**Hon'ble Vice-Chancellor**

Guru Ghasidas Vishwavidyalaya, Bilaspur

*will deliver the Keynote address.*

**Prof. Nilambari Dave**  
**Former Vice-Chancellor**  
Saurashtra University, Rajkot

*will also address the gathering.*

*Your gracious presence is highly solicited.*



March 24, 2025 (Monday)

Vikram Samvat 2081



Chaitra Krishna Paksha Dashami

4:30 PM



Rajat Jayanti Sabhagar



Convener  
**Prof. Amit Saxena**  
Director, IQAC

RSVP  
**Prof. Abhay S. Ranadive**  
Registrar





**Akhil Bhartiya Shaikshik Mahasangh (ABRSM)**  
**GURU GHASIDAS VISHWAVIDYALAYA**  
**(A CENTRAL UNIVERSITY)**  
**BILASPUR, CHHATTISGARH**

# **ABRSM-GGV** **FREE HEALTH CAMP**

**SANJIVANI HOSPITAL & RESEARCH CENTRE**  
**WARE HOUSE ROAD, BILASPUR**

**Date: 20/09/2023**  
**Time 10:00 AM to 2:00 PM**

**Venue: Primary Health Centre, GGV, Bilaspur C.G.**

**Medical experts with free consultations: -**  
**Medicine, Surgery, Dental, Physiotherapy and Psychiatry**

**राष्ट्र के हित में शिक्षा**

**शिक्षा के हित में शिक्षक**

**शिक्षक के हित में समाज**



**Prof. Alok Kumar Chakrawal**  
Vice - Chancellor  
G.G.V., Bilaspur (C.G.)



**Prof. R. Mehta**  
Head, Dept. of Rural Technology  
& Dem. SoS IER  
G.G.V., Bilaspur (C.G.)



**Prof. S.C. Shrivastava**  
Nodal Officer, Skill Development Cell  
G.G.V., Bilaspur (C.G.)



**Dr. Dilip Kumar**  
Organizing Secretary  
School Coordinator of the S. D. C.  
G.G.V., Bilaspur (C.G.)

# स्वावलम्बी छत्तीसगढ़ योजना के अंतर्गत कौशल विकास कार्यशाला

## विषय - प्राकृतिक तत्वों से गुलाल निर्माण विधि

दिनांक - 24 से 25 फरवरी 2025



Organized by - Skill Development Cell & Department of Rural Technology and Social Development, G.G.V. Bilaspur (C.G.)





# गुरु घासीदास विश्वविद्यालय कर्मचारी (अध्यापनेत्तर) एशोसिएशन

सचिव (कार्यवाहक) बिलासपुर (छ.ग.)

एस.डी. अवस्थी

पंजीयन क्रमांक 17823

अध्यक्ष  
राजेश सोनी

Mo.: 9827175324

E-Mail: rajeshsoniggu@gmail.com

Mo.: 7987074300, 9300310893

## उपाध्यक्ष

गोपाल सिंह धुर्वे  
9827932240

## सह-सचिव

एस.डी. अवस्थी  
9827175324

## संगठन सचिव

जय प्रकाश एक्का  
9425223867

## कोषाध्यक्ष

राजेश तिवारी  
8319900168

## प्रचार सचिव

प्रताप प्रधान  
9981438684

## कार्यकारिणी सदस्य

अनीष कुमार गौराहा  
9425533043

भूपेन्द्र कुमार गौराहा  
9977710268

गोपाल प्रसाद यादव  
9691053006

लक्ष्मी नारायण पाण्डेय  
7000986882

लव कुमार चौबे  
9993738933

लवकुश पटेल  
9425544067

राजेन्द्र कुमार सोनी  
7880033763

रामलाल ध्रुव  
6264810177

रवीन्द्र नाथ शुक्ला  
9406249212

तेरस राम गोंड  
9713364609

क्रमांक Q

दिनांक : 28.01.2025

## सूचना

समस्त सम्माननीय शिक्षक, अधिकारी एवं कर्मचारियों को हर्ष सहित सूचित किया जा रहा है कि प्रति वर्ष की भांति इस वर्ष भी कर्मचारी सद्भावना खेलकुद प्रतियोगिता का आयोजन किया जा रहा है। अतः अपना/ अपनी टीम का नाम निम्न पदाधिकारियों के पास दिनांक 05.02.2025 तक जमा करने का कष्ट करें :-

### पदाधिकारियों का नाम :-

01. श्री एस.डी. अवस्थी, सचिव(कार्यवाहक), निदेशक कार्यालय (आई.टी)
02. श्री गोपाल सिंह धुर्वे, उपाध्यक्ष, प्रशासन विभाग
03. श्री जय प्रकाश एक्का, संगठन सचिव, बैठक प्रकोष्ठ
04. श्री राजेश तिवारी, कोषाध्यक्ष-भण्डार शाखा
05. श्री प्रताप प्रधान, प्रचार सचिव, गोपनीय विभाग

### महिला वर्ग -

- |      |   |                  |
|------|---|------------------|
| एकल  | - | 1. कुर्सी दौड़   |
|      |   | 2. चम्मच दौड़    |
|      |   | 3. दौड़-(100मी.) |
| समूह | - | 1. डॉज बॉल       |
|      |   | 2. क्रिकेट       |
|      |   | 3. बैडमिंटन यूगल |

### पुरुष वर्ग -

- |      |   |                  |
|------|---|------------------|
| एकल  | - | 1. दौड़-(100मी.) |
|      |   | 2. शतरंज         |
| समूह | - | 1. क्रिकेट       |
|      |   | 2. व्हालीबॉल     |
|      |   | 3. कबड्डी        |
|      |   | 4. बैडमिंटन यूगल |

  
अध्यक्ष  
राजेश सोनी



# गुरु घासीदास विश्वविद्यालय

कोनी बिलासपुर (छ. ग.)

Three - Day Workshop on Mati Kala Art

Date - 26, 27 & 28<sup>th</sup> March 2025



**Prof. Alok Kumar Chakrawal**  
Vice - Chancellor  
G.G.V., Bilaspur (C.G.)



**Prof. A. S. Ranadive**  
Registrar  
G.G.V., Bilaspur (C.G.)



**Prof. C. S. Vazalwar**  
Dean, SoS Education  
G.G.V., Bilaspur (C.G.)



**Prof. S. C. Shrivastava**  
Model Officer, S.D.C.  
G.G.V., Bilaspur (C.G.)



**Prof. Samhit Kumar Padhi**  
Head Department of Education  
G.G.V., Bilaspur (C.G.)



**Dr. Jyoti Verma**  
Workshop Organizing Secretary,  
Department of Education  
G.G.V., Bilaspur (C.G.)



**Mrs. Roshani Bharti**  
Asst. Professor  
(Dept. of Education)  
G.G.V., Bilaspur (C.G.)



Organized by - Department of Education & Skill Development Cell, G.G.V. Bilaspur (C.G.)





# **INVITATION**

**School of Studies of Life Science, Guru Ghasidas  
Vishwavidyalaya**

**Cordially invites you on the occasion of  
One day workshop on  
entrepreneurial skills in medicinal plant research**

**"Medicinal Plant Identification, Uses and  
Business Strategies"**

**Jointly organised by**

**School of Studies of Life Science  
&  
Skill Development Cell  
Guru Ghasidas Vishwavidyalaya,  
Bilaspur (CG)**

**Date:- 24th March, 2025**

**Time :- 10:00 A.M.**

**Venue - Hall No.1, Rajat Jayanti Sabhagar  
Guru Ghasidas Vishwavidyalaya  
Bilaspur (CG)**

**RSVP- Department of Botany,  
School of Studies of Life Science,  
GGV, Bilaspur**





गुरु घासीदास विश्वविद्यालय, बिलासपुर (छग)  
Guru Ghasidas Vishwavidyalaya, Bilaspur (CG)

A Central University established by the Central University Act 2009 No. 25 of 2009



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Department of Electronics and Communication Engineering  
School of Studies of Engineering and Technology

एक  
पेड़  
माँ  
के नाम  
EK PED MAA KE NAAM



25 February 2025 (Tuesday)

विक्रम संवत् - 2081, फाल्गुन कृष्ण पक्ष द्वादशी



Prof. Alok Kumar Chakrawal  
Hon'ble Vice-Chancellor  
GGV, Bilaspur



Prof. A. S. Ranadive  
Registrar  
GGV, Bilaspur



Prof. Shailendra Kumar  
Dean Student Welfare  
GGV, Bilaspur



Prof. S.C. Srivastava  
Dean, SoS(E&T)  
GGV, Bilaspur



Dr. Sudakar Singh Chauhan  
HOD, ECE Department  
GGV, Bilaspur





# रसायन शास्त्र विभाग

एवं

## राष्ट्रीय सेवा योजना प्रकोष्ठ

गुरु घासीदास विश्वविद्यालय, बिलासपुर  
के संयुक्त तत्वावधान में आयोजित

आमंत्रण



बृहद

वृक्षारोपण

कार्यक्रम



श्रीमती कौशल्या विष्णु देव साय जी

कार्यक्रम की मुख्य अतिथि होंगी।

दीदी माँ प्रज्ञा भारती

प्रो. नीलाम्बरी दवे

पूर्व कुलपति

सौराष्ट्र विश्वविद्यालय, राजकोट

प्रो. अभय एस. रणदिवे

कुलसचिव

गुरु घासीदास विश्वविद्यालय, बिलासपुर

प्रो. आलोक कुमार चक्रवाल

कुलपति

गुरु घासीदास विश्वविद्यालय, बिलासपुर

इस कार्यक्रम में आपकी गरिमामयी उपस्थिति प्रार्थनीय है।

डॉ. दिलीप झा

समन्वयक, रा.से.यो. प्रकोष्ठ



05 अगस्त 2024 (सोमवार)



अपराह्न 01:00 बजे



काली मंदिर परिसर, गुरु घासीदास विश्वविद्यालय

प्रो. गौतम कुमार पात्रा

विभागाध्यक्ष, रसायन शास्त्र

सारस्वत अतिथि

विशिष्ट अतिथि

अति विशिष्ट अतिथि

कार्यक्रम अध्यक्ष





गुरु घासीदास विश्वविद्यालय, बिलासपुर, छत्तीसगढ़

# स्नेहिल आमंत्रण

वाणिज्य विभाग का आयोजन

• एक रात •

# तनाव प्रबन्धन

• के लिए •

इस कार्यक्रम  
के

मुख्य वक्ता

**प्रो. आलोक कुमार चक्रवाल**

कुलपति, गुरु घासीदास विश्वविद्यालय, बिलासपुर

होंगे।

आप सभी की उपस्थिति सादर निवेदित है।

९ रजत जयंती सभागार



27 अक्टूबर 2023



शाम 6:00 बजे

कार्यक्रम उपरान्त सायं 7:30 बजे से  
रात्रि 9:00 बजे तक स्नेहिल भोज का  
आयोजन रखा गया है।

उत्तराकांक्षी  
समस्त शिक्षकगण  
वाणिज्य विभाग





NAAC A++  
ACCREDITED



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# Mapping Sustainable Cultural Heritage Through Textile Cartography and Other Forms of Art and Culture

THREE DAY  
INTERNATIONAL CONFERENCE

February 13-15, 2025

## DISCUSSION & INSIGHT

**Sub-theme:** Ethnographic Study of Chhattisgarh, India and World

- Art and culture of Particularly Vulnerable Tribal Groups (PVTGs)
- Ethnographic study of tribes
- Tribal entrepreneurship through Textile Cartography and other forms of art and culture
- Training of small village Artisans for marketing and online sells

**Sub-theme:** Sustainable Development Goal (SDG) through Education and Art Cartography

- Art Education as a Tool for Sustainable Development
- Art integrated pedagogy, Teacher Training, and SDG
- Integration of various art forms into Educational Curricula
- Non-formal Education through Community Engagement and Sustainable Development

**Sub-theme:** Preservation of Traditional Art forms for Sustainability

- Preservation of Ancient Art forms as Cultural Heritage.
- Cross-Cultural Perspectives in Cultural Heritage and Cultural Mapping
- Use of Digital innovations, and other Best Practices for Rural Artisans
- Traditional Art form as a Reflection of Indian Knowledge System

**Sub-theme:** Current Government Policies for promotion of Rural Artisans

- Policy Implications for promotion of rural artisans and SDG
- Impact evaluation of rural development policies
- Community Engagement in Collaborative Projects that Promotes SDG
- Economic Empowerment of rural tribals through government initiatives and programmes.



**Chief Patron**  
Prof. Alok Kumar Chakrawal  
Vice-Chancellor



**Patron**  
Prof. Abhaya S. Ranadiv  
Registrar



**Chairperson**  
Prof. Anupama Saxena  
Professor, Political Science



**Convener**  
Prof. Manish Shrivastava  
Professor, English & Foreign Language

## International Advisory Members



Prof. Nilambari Dave,  
Former Vice-Chancellor,  
Saurashtra University,  
Rajkot



Prof. Pawan Kulkarni,  
Former Head, Department of Education in  
Arts and Aesthetics (DEAA),  
National Council of Educational  
Research & Training, India



Debra Reid, Curator, Agriculture  
and the Environment,  
The Henry Ford, Dearborn,  
Michigan, US and Secretary, ICOM SUSTAIN



Dr. Sudip Datta Banik  
Department of Human Ecology at the  
Center for Research and Advanced Studies of the National  
Polytechnic Institute (Cinvestav-IPN in Spanish acronym) in Merida, Mexico.

## Important Dates

Last date for Abstract Submission: Jan 15, 2025

Last date for full paper submission: Jan 30, 2025

## Registration Fee

Research Scholars: Rs. 1500/- (Indian) & (40 USD Foreign Delegates)

Faculty & Others: Rs. 2000/- (Indian) & (50 USD Foreign Delegates)

Selected Paper Will Be Published in National / International  
Peer Reviewed Journal/Book Chapter/Conference Proceedings

Log in for Registration

[conferint2025@gmail.com](mailto:conferint2025@gmail.com)

For More Information: [ggu.ac.in](http://ggu.ac.in)

## Co-Convenors

Prof. Rajendra Mehta  
Prof. Nilakantha Panigrahi  
Prof. Sambit Kumar Padhi  
Dr. Subal Das

## Organizing Secretary

Dr. Jyoti Verma

Last Date of Registration is Extended till 31st January, 2025



Jungle Tak Presents

# WORLD WETLANDS DAY

2 February, 2024



India's First Forest Based News Channel

Theme: Wetland and Human Wellbeing



MARATHON

TIMING: 6.30 AM



BIRD WATCHING

TIMING: 7.30 AM



PHOTOGRAPHY

TIMING: 8-9 AM



POSTERS MAKING

TIMING: 8-9 AM

**Certificate and Medals For Winners**

**YOU ALL ARE HEARTILY INVITED**

Venue:

Guru Ghasidas Vishwavidyalaya Bilaspur (Chhattisgarh)

Contact Details: 9078536458, 9098698841

Supported By:

**Department of Forestry, Wildlife & Environmental Sciences**