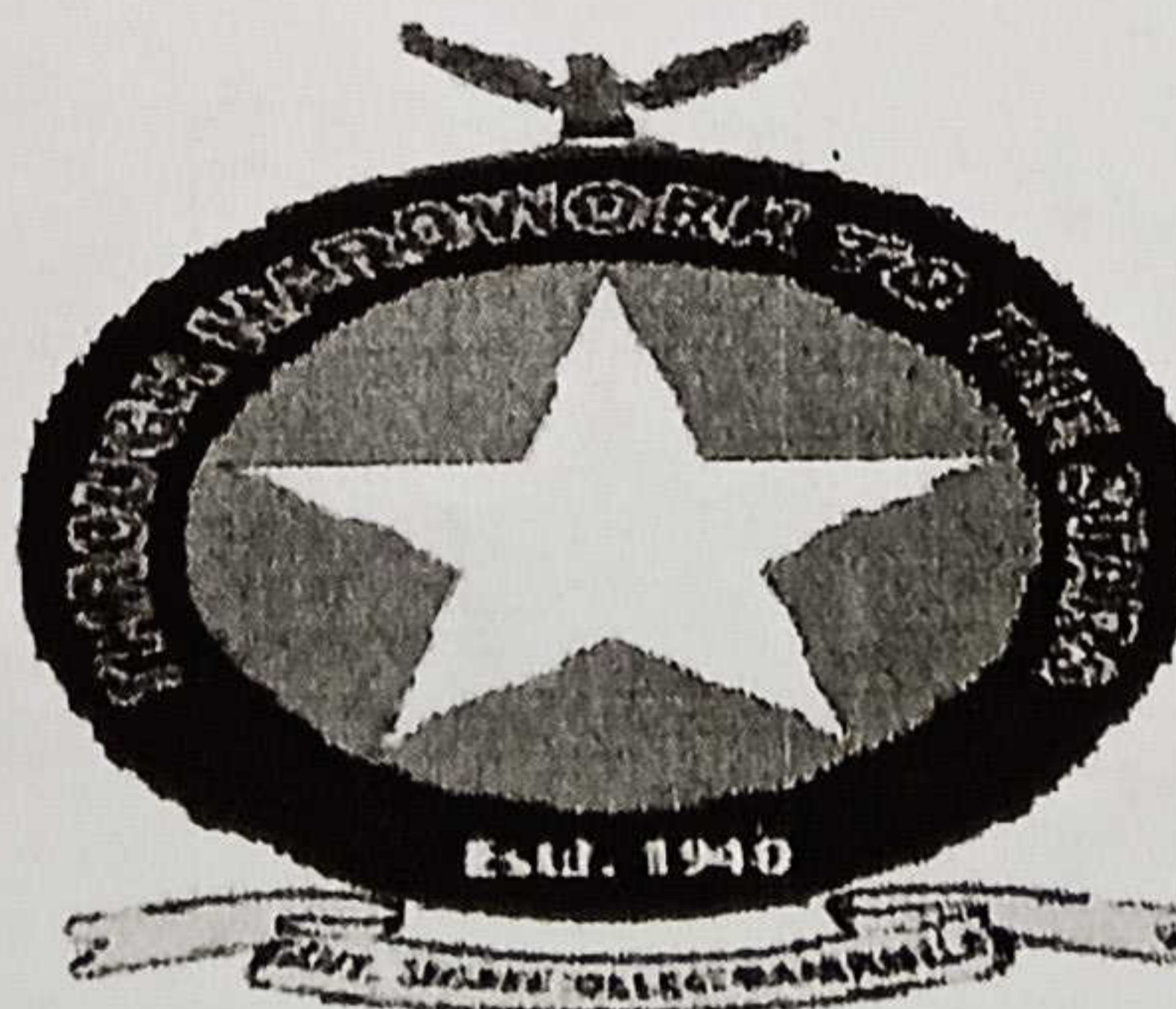




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ENVIRONMENTAL AUDIT REPORT
(2019-2020)

OF
GOVERNMENT DEGREE COLLEGE
BARAMULLA JAMMU AND KASHMIR
(UT), INDIA.



Government Degree College Baramulla

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[Signature]
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Executive Summary

The rapid environmental degradation at local, regional and global level is leading us to global "Environmental poverty". Stabilization of human population, adoption of environmentally sound and sustainable technologies, reforestation and ecological restoration are crucial elements in creating an equitable and sustainable future for all humans in harmony with nature and natural resources. Thus, academic leaders must initiate and support mobilization of internal and external resources and knowledge so that their institutions respond to environmental challenges. As an Institution of higher learning and research Government Degree College Baramulla is deeply concerned and unconditionally believes that there is an urgent need to address these fundamental problems and reverse the trends of environment degradation. We



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deeply subscribe to the fact that humans should be stewards of Mother Nature and that we all have a profound responsibility to protect the earth's resources in perpetuity.

Being a premier institution of higher learning, Government Degree College Baramulla is aware of its responsibilities towards environmental issues and therefore has resolved to play a major role in the education, research, policy formation and information exchange necessary for a sustained environmental campaign. This report is based on the approaches and interventions done on part of the College to address the environmental concerns of the Government Degree College Baramulla. The current environmental audit represents the first stage in our efforts to build environmental sustainability on the campus. The audit was conducted by a team of faculty and students with support from various stake holders of Government Degree College Baramulla. It is indeed the reflection of Government Degree College Baramulla endeavour to exercise leadership in promoting sustainability and an institutional obligation to instill among all students and each of us, and those in the broader community a sense of environmental stewardship. This commitment of Government Degree College Baramulla has lead to actions whose reflection is visible remarkably on ground. This environmental audit conducted is not only significant for the institution, but also for the other institutions to emulate and adopt as a model and therefore contribute regionally as well as nationally in this endeavour of sustainable environment for all.



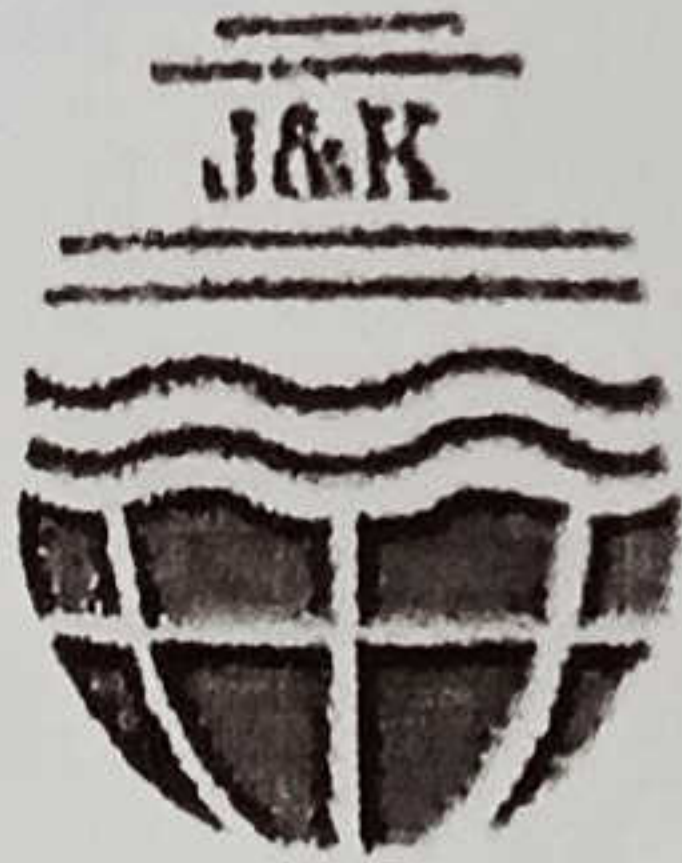
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Environmental audit or Green audit is a general term that reflects various kinds of evaluations intended to identify environmental compliance and management system, implementation gaps, along with related corrective actions. It aims to analyze environmental practices within and outside of the concerned sites, which will have an impact on the eco- friendly ambience. Green audit is a useful tool to determine how and where the most energy or water resources are being used; and can then considerations be given on how to implement changes and make savings. It can also be used to determine the type and volume of waste, which can be used for a recycling project or to improve waste minimization plan. It can create health consciousness and promote environmental awareness, values and ethics. It imparts a better understanding of Green impact on campus to staff and students.

Need for environmental audit.

If self-enquiry is a natural and necessary outgrowth of a quality education, it could also be stated that institutional self-enquiry is a natural and necessary outgrowth of a quality educational institution. Thus, it is imperative that Government Degree College Baramulla evaluates its own contributions toward a sustainable future. As environmental sustainability is becoming an increasingly important issue for the nation, the role of higher educational institutions in relation to environmental sustainability is more prevalent. 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 imperative to adopt the system of the "Green Campus" for the Institutes which will lead to sustainable development and at the



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same time reduces a sizable amount of atmospheric carbon dioxide from the environment.

The National Assessment and Accreditation Council, New Delhi (NAAC) has made it mandatory that all Higher Educational Institutions should submit an annual Green Audit

Report. Moreover, it is part of Corporate Social Responsibility of the Higher Educational Institutions to ensure that they contribute towards the reduction of global warming through Carbon Footprint reduction measures.

Objectives of environmental audit

Concern about environmental degradation and realization of values of environment are logical consequences of scholarly research, teaching and learning process. In its pursuit for improving environmental quality and to maintain a pristine environment for the future generations of students, Government Degree College has made a self-inquiry on environmental quality of the campus with the following objectives to achieve:

- i. Establishing a baseline of existing environmental conditions with focus on natural and physical environment;
- ii. Understanding the current practices of sustainability with regard to the use of water and energy, generation of wastes, purchase of goods, transportation, etc:



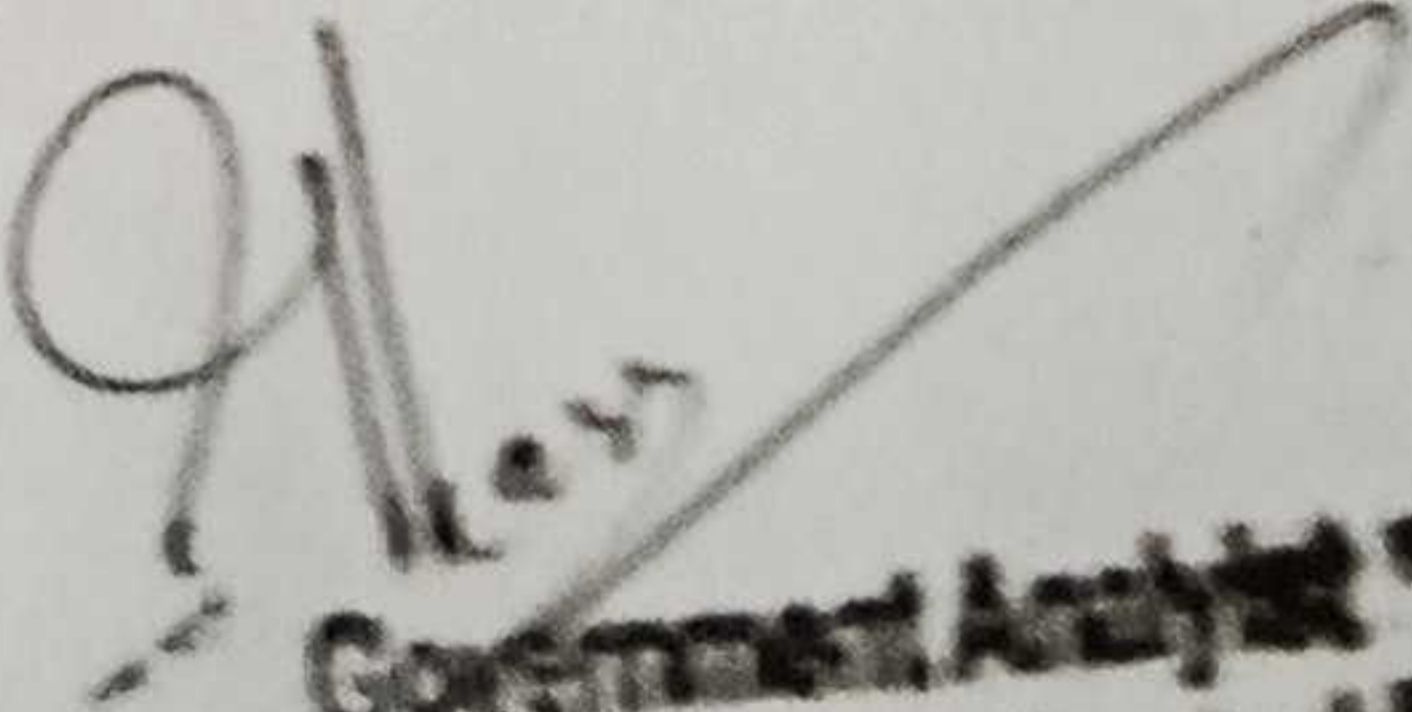
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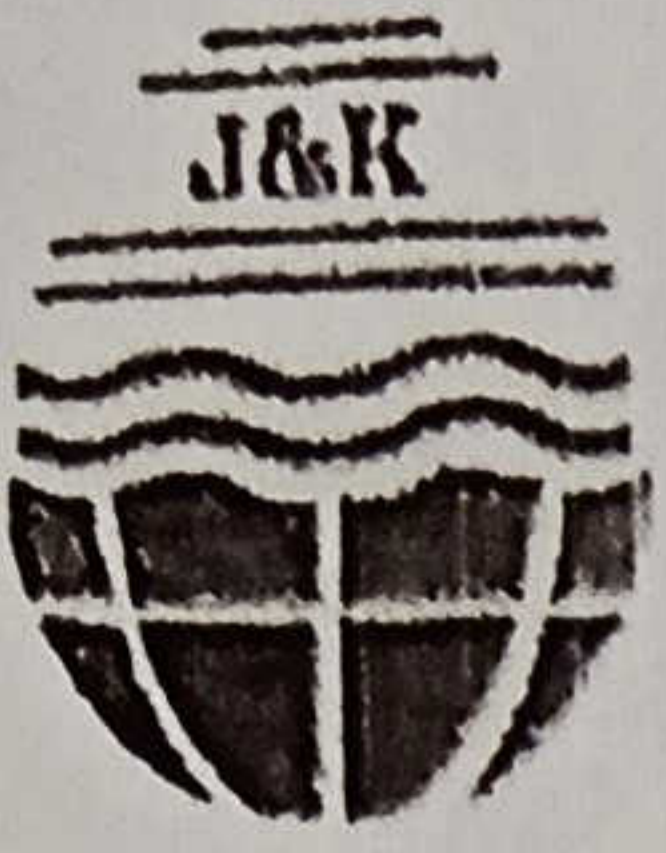
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- iii. Awareness generation among students concerning real issues of environment and its sustainability
- iv. Promotion of environmental awareness through participatory auditing process;
- v. To create a report that document baseline data of good practices and provide strategies and action plans towards improving environmental quality for future. "Steady onward march for human development through science and technology on one hand and our national ethos on the other" and the mission is "Work towards preparing men and women who are intellectual adventurers and not camp followers; who are architects of the future and not curators of the past".

About the Government Degree College Baramulla.

Government College, Baramulla, situated at a distance of 51 Km towards north-west from the summer capital of Srinagar, is emerging as a premiere institution of higher


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learning in Kashmir, which over the last six decades has been imparting higher education to the people of this region. Over the years the college has produced men and women of eminence who have been contributing towards upliftment of the society in various spheres of its activities.

An English medium school, founded by the Catholic Missionaries at Baramulla, by Father

Ignatius Brower and Rev. Father Simmons in 1905 and was upgraded to High School in 1913 and then gradually upgraded to the status of Intermediate College in 1938 and eventually to Degree College in 1943. Government College Baramulla was affiliated to Punjab University Lahore. It was closed on 27th Oct. 1947, re-opened on 28th June, 1954, as Intermediate college, affiliated to the then University of Jammu and Kashmir and further upgraded to Degree college in 1956. The college was subsequently taken over by the State government on the 1st of April, 1963.

Government College Baramulla attributes much of its success to the rich cultural heritage of Baramulla district in general and Baramulla town in particular. The college is located in the lap of a hillock, 4 Km ahead of main town on Srinagar-Uri National Highway road Baramulla. The high literacy rate in the town, its multi-ethnic character, tolerance and intercommunity brotherhood has had its impact on the healthy growth of this institution which has proved a beacon of light for others to emulate. The college offers Bachelors general courses in Science, Humanities, and business studies.



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The institution apart from the routine teaching activities has a lot to offer to its students for all round development of their personality. Students are encouraged to participate in curricular, co-curricular and extra-curricular activities. Symposia, debates, discussions, seminars, dramas and competitions on different areas of social, cultural and academic importance are organized. Inter and Intra-college competitions are conducted, wherein the students are exposed to multi-fold cultures and ideas. Add-on-courses are available to the bonafide students in Apiculture, Data Care Management, Social work and Still Photography. Students participate in inter-house, inter-college sports activities which offer them a chance to play in inter-university sports activities. Adequate library with internet facilities are available. Hostel accommodation is available to off-station male and female students. The college is connected to EDUSAT on the national beam maintained by ISRO and state EDUSAT also.

The College offers Post-Graduate Course in Mathematics, Masters in Computer Applications and Psychology affiliated to University of Kashmir.

Career Counselling Cell of the college provides literature and counselling for various career advancement opportunities. Under-Graduate courses in media offered by the college give the institution a mark of distinction. The courses involve project work which highlight current issues prevalent in the state. Study centres of IGNOU and MANUU (Maulana Azad



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National Urdu University) provide education through distance mode to students studying various under-graduate and post-graduate courses.

Students get themselves registered with NCC and NSS units for varied in-campus and outcampus activities of great educational importance.

Land Use

Government Degree College Baramulla is using land for diverse purposes so that facilities are provided to all concerned for the smooth functioning and working. The College covers an area of 211 kanal and the area occupied by the various land uses.

Table 1. Area Under various land uses in the College Campus



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Staff Quarter	06	12
Boys Hostel PG/UG	40	80
Girls Hostel PG/UG	18	36

Energy audit

Energy audit is the key to systematic approach for decision making in the sphere of energy management. It attempts to balance the total energy inputs with its use, and serves to identify all the energy streams in a facility. It quantifies the energy usage according to its discrete functions. The energy is utilized in the Campus for lighting, space heating and cooling, running of laboratory instruments, appliances, water heating and ground water pumping.

Table 3. Total energy consumption of the Government Degree College.

S.No	Energy Sources		Consumption (annual)
1	Electricity	Hydropower	1200 KW
		Solar	24 KW
2	Fuel	LPG	360 approx
3	Fuel Oil	Petrol	800 litres approx



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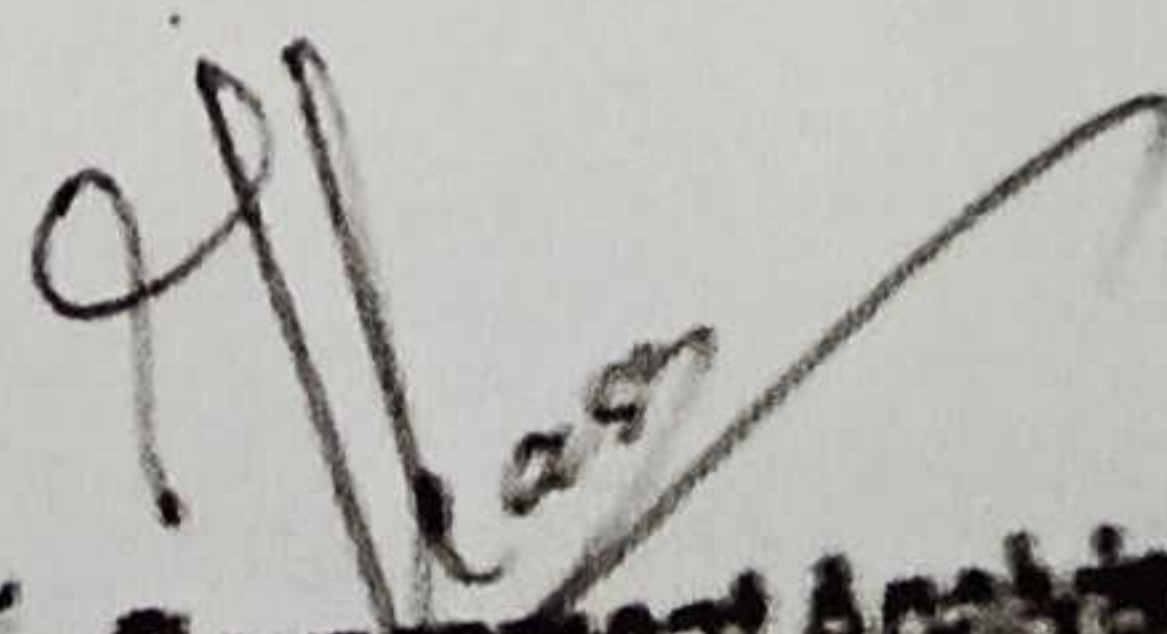
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		Diesel	3000 litres approx
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The data in Table 3 indicated that the College utilizes renewable as well as nonrenewable energy sources to meet its energy needs. Most of the energy requirement of the College is met by hydropower electricity supplied by the State Government (Pic 2). Some amount of energy requirement is met out of the power generated by the Solar

Power Plant commissioned in the College (Pic 1)

Government Degree college have installed two diesel generator having capacity of 25 kw and 40 kw respectively is used for meeting requirement during electricity curtailment off and on (Pic 3). It is an acoustic enclosure generator, CPCB approved having long chimney, soundproof and installed on concrete bed of suitable height.


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Pic. 1. Solar Power Panels installed at College.

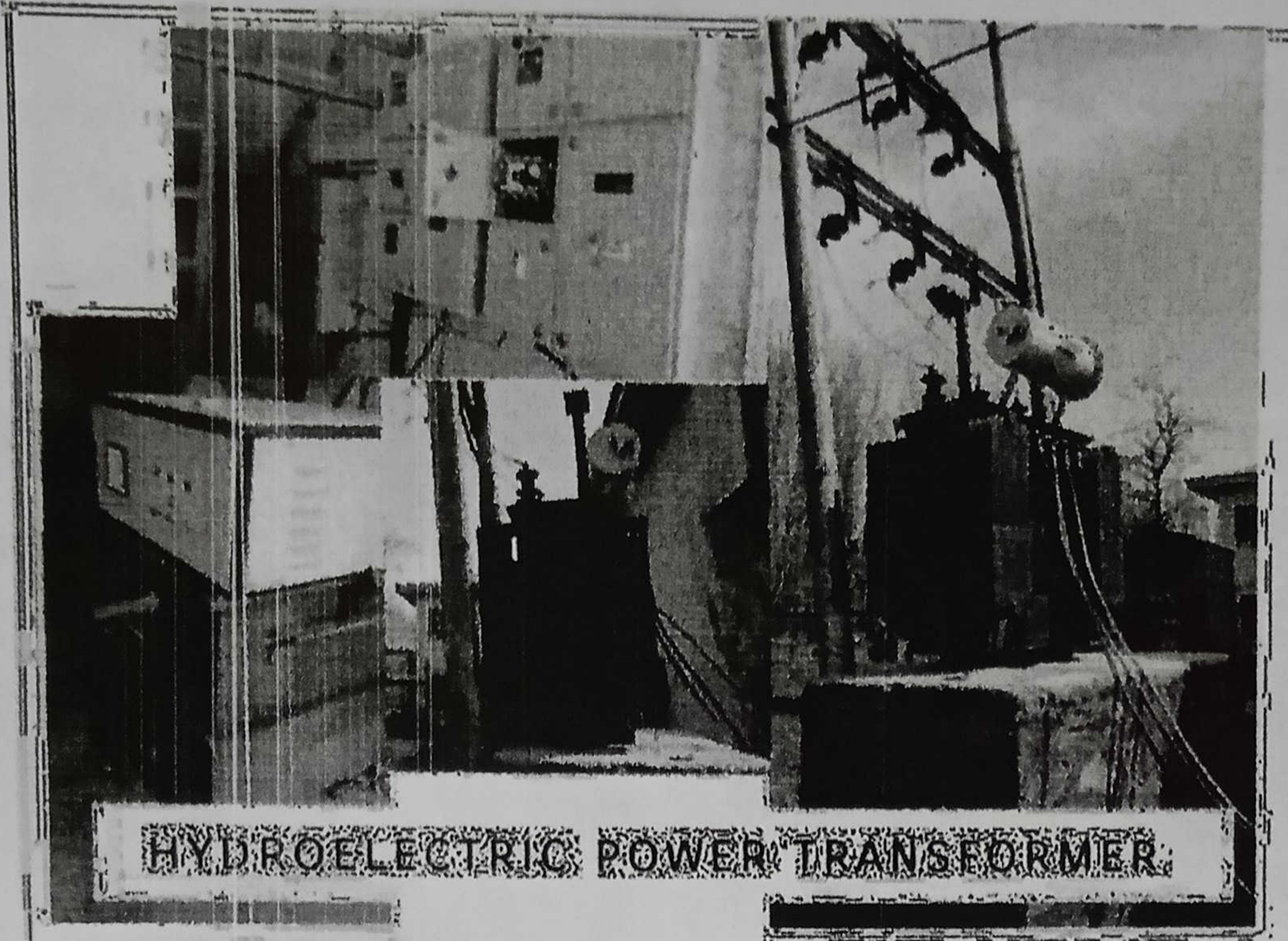


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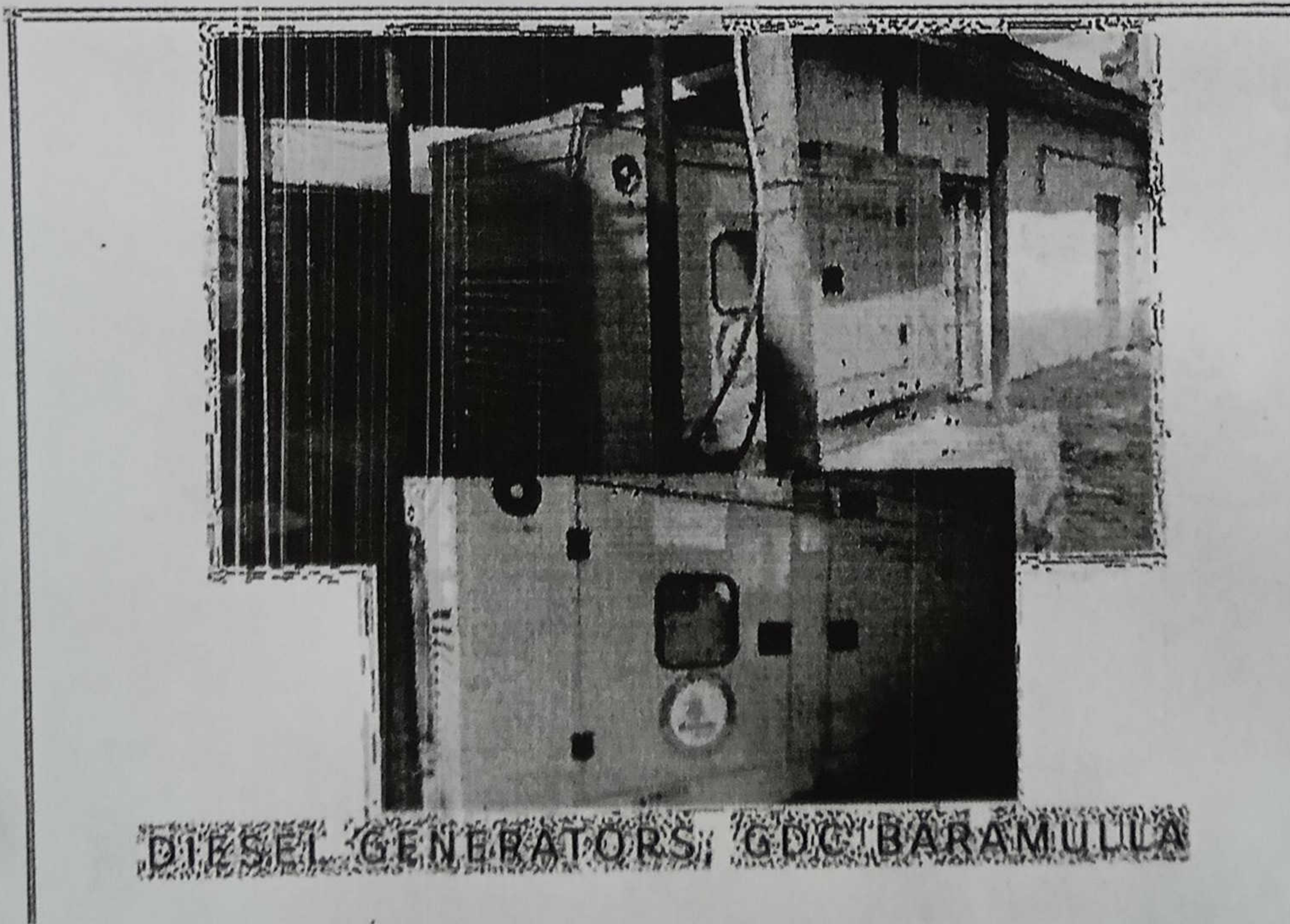


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Pic 2. 250 KW Hydroelectric power transformer installed at College



Pic 3. 25 KW and 40 KW Diesel Generator installed at College.

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Transport audit

Transportation is an important part of any institution relying on the energy consumption. Government Degree College Baramulla provides transport facility to both students and staff. So Far College owns 02 Operational vehicles of different capabilities which are being used for pick and drop services to distant areas, field surveys and other purposes. College staff members use personal vehicles and their approximate number goes to 50. Students use public transport, indicating lesser carbon foot print of the student community.

Water audit

Water audit is conducted periodically to determine water supplied in the distribution system as well as water lost and/or used within a distribution system. It aims to establish the water consumption pattern in individual sections, so as to realise the consumption levels with respect to exploring various pollution prevention and waste water minimisation opportunities. Water audit also helps to establish the existing water distribution system as well as waste water collection and recycling, if any. The water is supplied in College by Public Health Engineering (PHE) as well as by the ground water supply. The storage capacity of water in the College is shown in Table 6. (Pic 4)

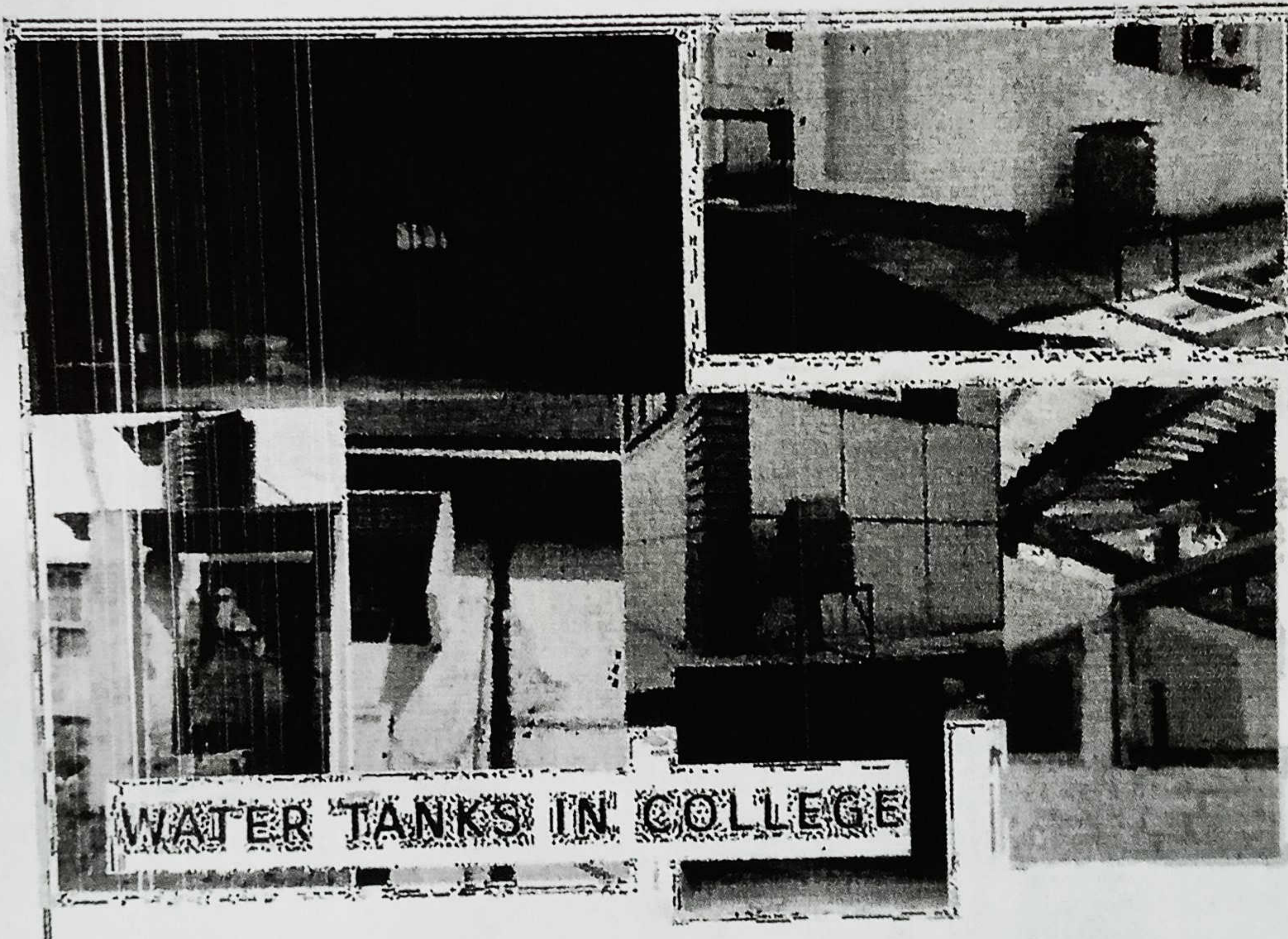
Table 4. Total water storage capacity in the College



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S. No.	Storage Resources	Number	Number Storage Capacity (in litres)
1	Water Tanks	30	1000 litre = 20 500 litre = 20
2	Underground water tanks	Nil	Nil
TOTAL STORAGE CAPACITY		Thirty Thousand litres.	



Pic 4. Water tanks in the College and Borewell/Wells.

The utilizations of such a huge resource of water include usage for drinking, cleaning, laboratory use, garden use, leakages and overflows sometimes. The waste water generated is disposed off into the underground sewage.



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Moreover, construction of bunds, terraces and drains has led to collection the run off and thus conserving the rainwater as well.

Solid waste audit

The solid waste management is in order with the installation of dust bins and their daily cleaning. The College has its own collection facility that collects the solid wastes daily from Hostels and Departments This helps in maintaining the cleanliness by providing an efficient, safe and regulated management of solid wastes in the Campus. However, at source proper segregation of the waste material takes place during collection and Land filling is the general waste management strategy adopted by the College. However, plastics material is stored and auctioned from time to time. Studies were carried to assess the composition of the waste generated in the College and data showed that the total generation of solid waste in the Campus is 5 kg per day. Out of which nonbiodegradable is 150 gms per day is stored (Pic 6) and buried in landfill site/pit within the campus. It is noteworthy that GDC College has adopted

an environmentally converting generated within the into vermicompost resource (Pic 7). The produced is used in



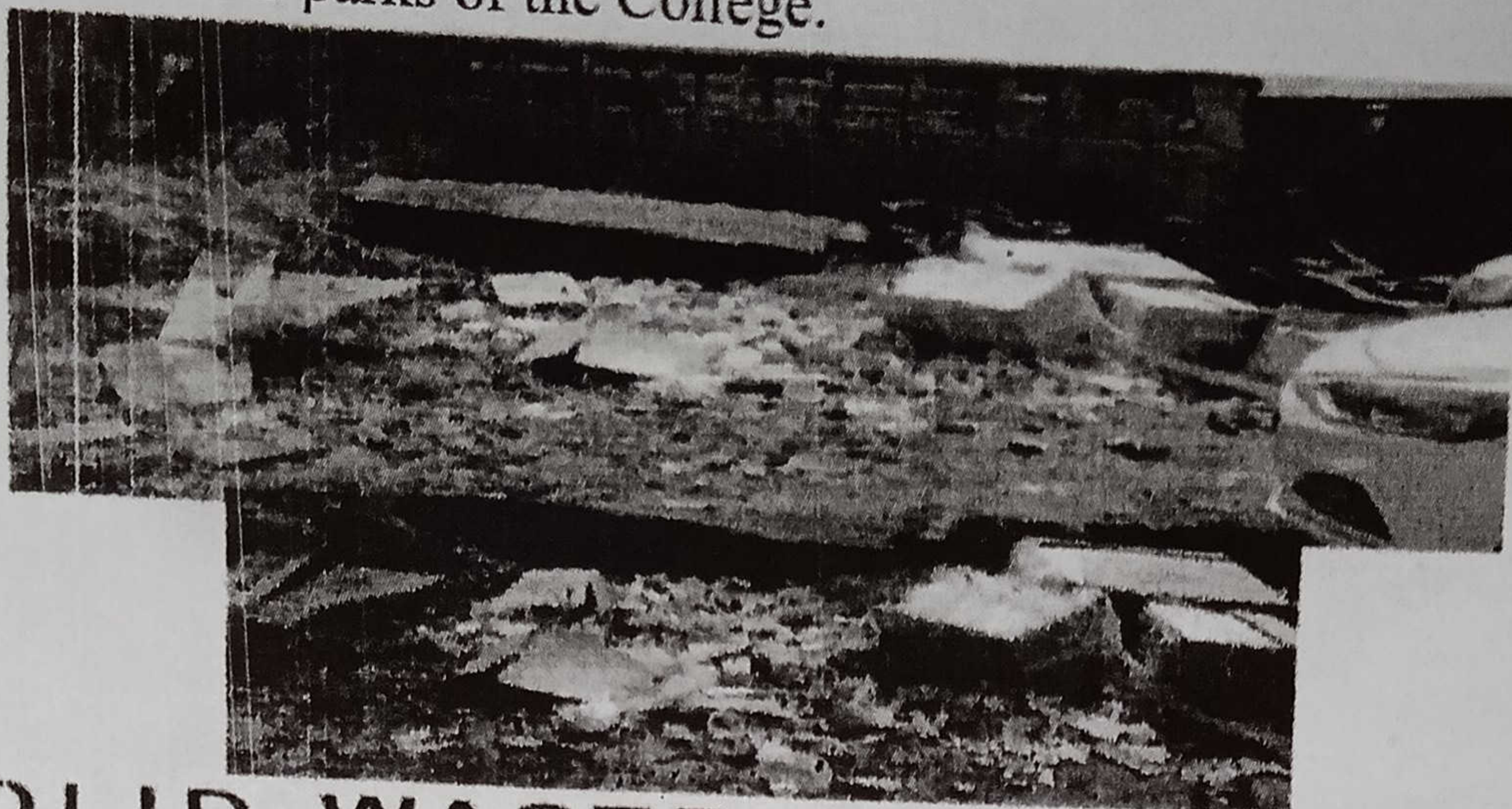
sound practice of biodegradable waste campus is converted which is a useful vermicompost



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the gardens and parks of the College.



SOLID WASTE COLLECTION



Pic 6. Solid waste collection service



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Pic 7. Vermicompost preparation out of Organic Waste in College

The study showed that biodegradable waste constitutes significant component of solid waste in the College. The non biodegradable component of solid waste is recyclable. Among the recyclable materials, paper constitutes the maximum share while glass, cardboard and plastics also make a little share.



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Plantation audit

Departments of Botany maintain gardens and lawns in the college. Due to extensive plantation drives the campus is turned into a lush green spot with fair magnitude of biodiversity (Pic 8). More than 300 saplings planted in the campus. More the 75% area of the campus is green having different species including pines, broad leaved trees, shrubs, and perennial herbs (Pic 9).



Pic 8. Green Spaces and Parks in College

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Pic 9. Plantation drives carried out in Campus

College Botanical Garden:

College has established Botanical Garden and Herbal Garden and fernery with the financial support from different funding agencies of Govt. of India. Botanical garden is the conservatory of more than 50 species belonging to different families (Pic 10)

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Pic 10. Glimpses of Botanical Garden in the Campus

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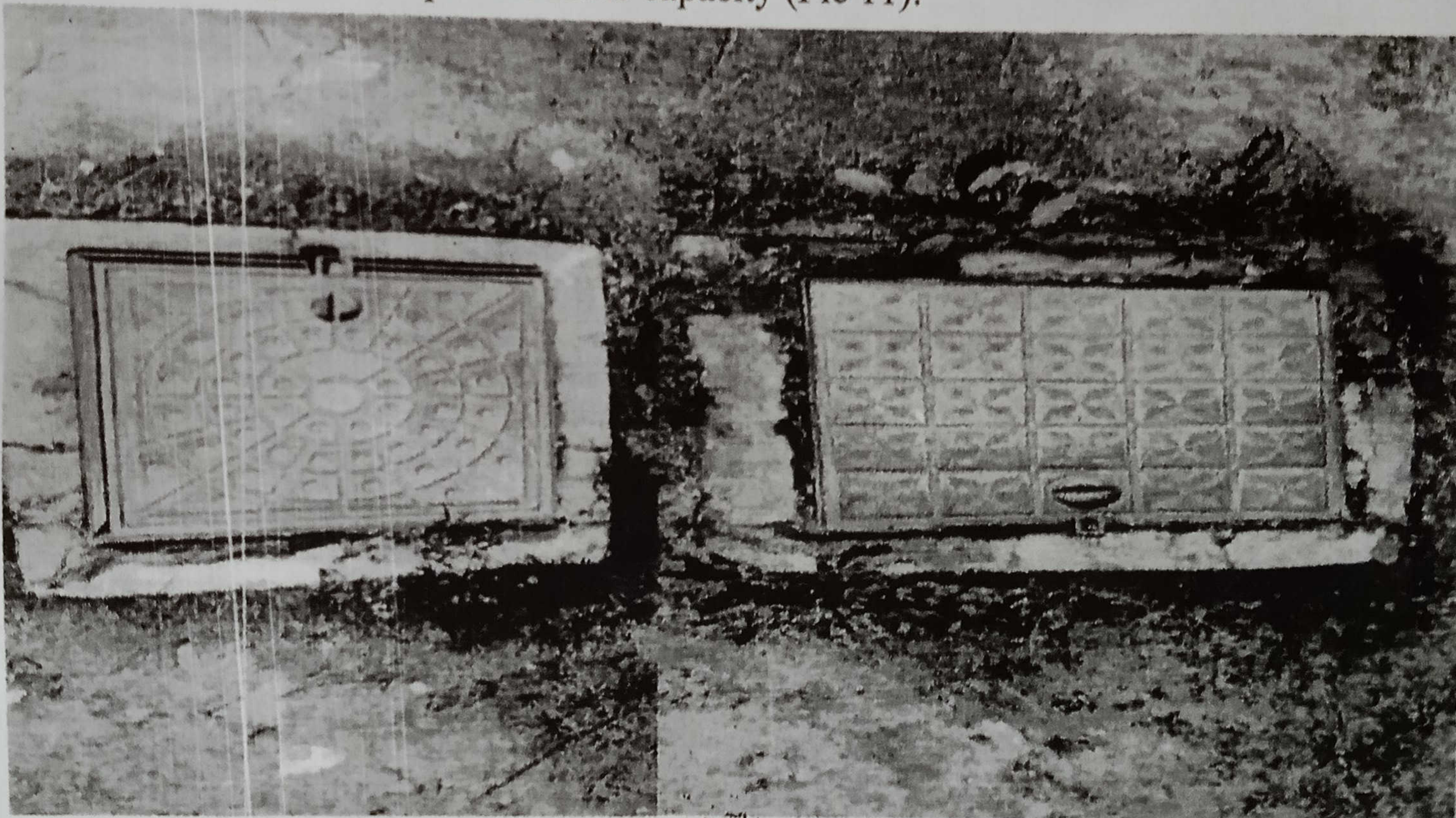
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Waste Water Treatment in the Campus

The waste water and sewage generated from various Departments of the institution, hostels, toilets, canteen etc are discharged and disposed off into septic and soakage pits at

their respective places as per desirable capacity (Pic 11).



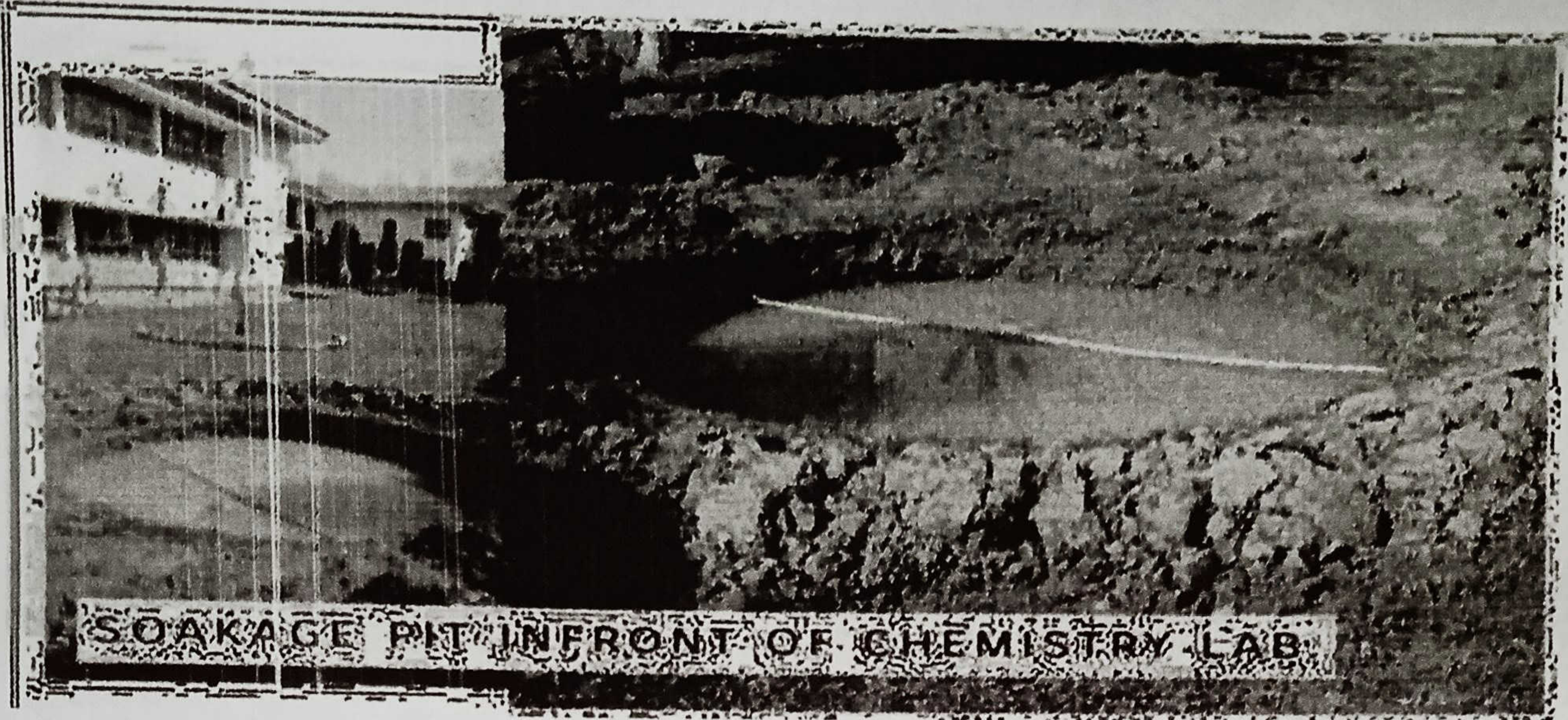
Pic 11 Septic and Soakage pit for sewage waste

The rain water within the campus is harvested through soakage pits for groundwater recharging (Pic 12)



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Pic. 12 Soakage pit for Groundwater Recharging within the Campus
Upgradation of work within the Campus

Rooftop Rainwater Harvesting

- Government Degree College has initiated a project and subsequently commissioned work on Rainwater Harvesting technique within the campus at different locations to harvest, conserve and use rooftop rainwater for watering lawns and gardens.

Rainwater harvesting technique at Government Degree College will be one of the most promising alternatives for supplying water in the face of increasing water scarcity and escalating demand. The pressure on water supplies or groundwater becoming one of the biggest challenges of the future. Rainwater



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harvesting is an ecofriendly technique to save water and to meet the demands of the institution.

- Government Degree College has constructed soakage pit for the discharge of liquid waste water generated from the different laboratories of the institution for the safe mode of disposal.

Recommendations :

The committee has made short term and long term suggestions to take environment protection to higher levels and it is hoped that this will receive due attention of College authorities and also all stake-holders of the College.

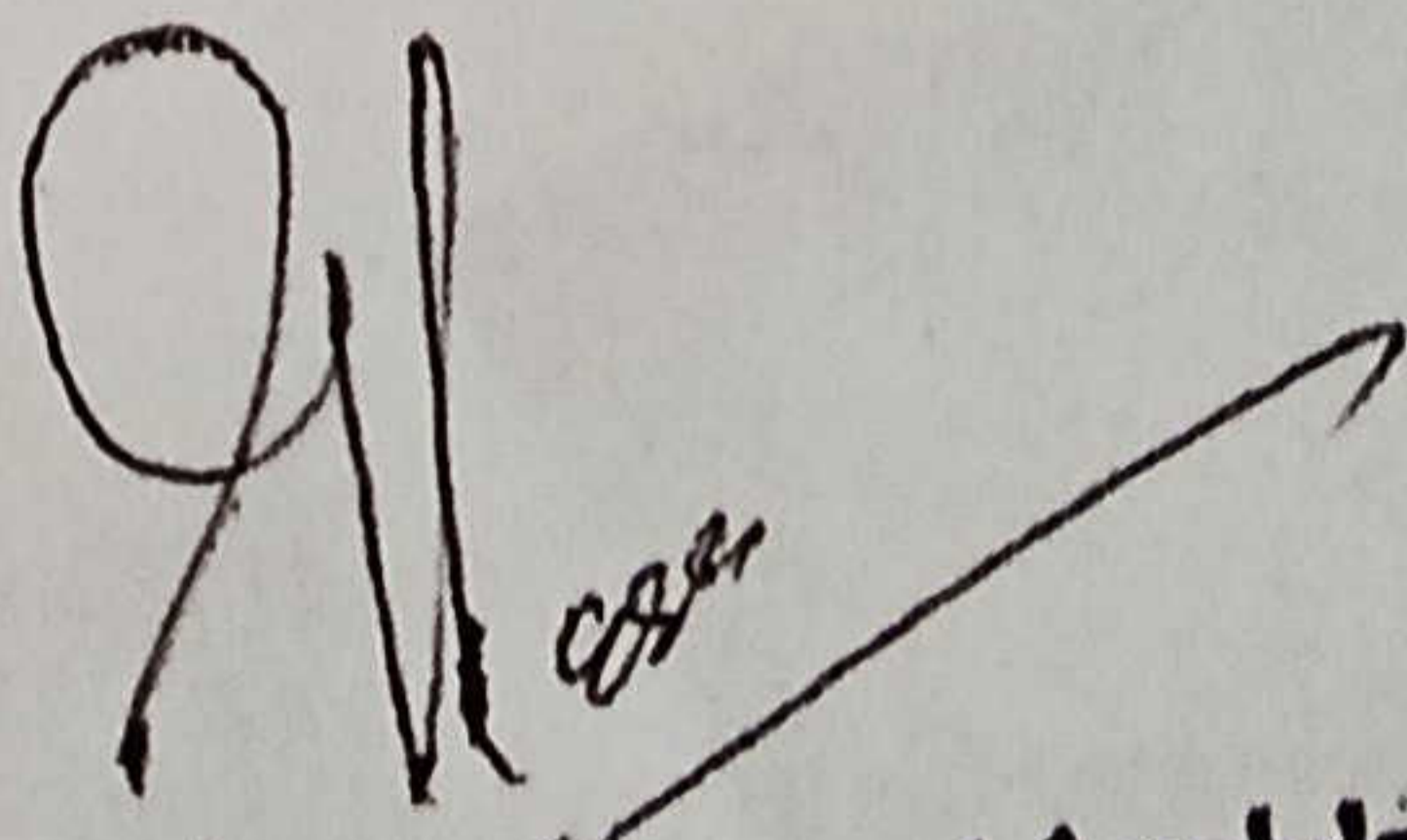
1. Environmental auditing may be conducted by the Colleges annually. The College can also offer consultancy projects on environmental auditing for other academic and research institutions.
2. Specific waste management plans should be adopted to manage solid waste in the campus, with the assistance of State Swachhta Mission and use of plastic carry bags, Thermocol/Plastic plates and flex boards should be banned inside the College.
3. There should be a system for the management of hazardous and e-wastes. The ewaste collected by the institution should be stored in a secured manner till it is sent to authorized dismantler/recycler.



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4. The public lights within the campus may be run with solar panels and the replacement of existing lights should be done with LED lamps.
5. Avenue trees may be planted on the road sides along national highway to minimize noise and dust pollutions.
6. Environment Monitoring i.e (Ambient Air Quality Monitoring, Water monitoring need to be conducted by approved laboratory.
7. Reduction in use of paper work by go digital system.
8. Increase in Environmental promotional activities for spreading awareness at campus.
9. Formation of Environment policy and communication to all faculties and other staff members.
10. Fire extinguisher system (water sprinkler/smoke detector) should be installed in all College buildings to thwart any fire incidents.


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OFFICE OF THE EXECUTIVE ENGINEER ELECTRIC DIVISION
BARAMULLA KASHMIR POWER DISTRIBUTION CORPORATION LTD.
Telephone No. : 01952-234241 (Pin Code: 193101)
e-mail ID: tsedbla@rediffmail.com

The Principal,
Govt. Degree Collage, Baramulla.

EDB/To:- 228-29

Dated:- 10 /04/2021

Subject: - Energy conservation certificate

Reference:- 1. Your office letter No:-GCB/Electric/21-22/19,Dt:-03-04-2021
2. Assistant executive Engineer Electric Sub Division Baramulla 1st
endorsement no:- ESD/1/015,Dt:-08-04-2021

Sir,

Regarding the subject matter, the report was sought from the Electric Sub Division Baramulla 1st and it has been reported that the Degree Collage Baramulla has taken the measure for energy conservation such as replacement of conventional lamps by LED lamps and installation of Solor plant in their complex.

Hence energy conservation certificate is issued in favour of GDC Baramulla.

Yours faithfully

Executive Engineer (KPDCL)
Electric Division Baramulla

Copy to the:-

1. Assistant Executive Engineer Electric Division Baramulla 1st for information. This takes to his reference quoted above.