

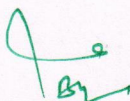
GREEN ENVIRONMENT AUDIT REPORT

2018-19



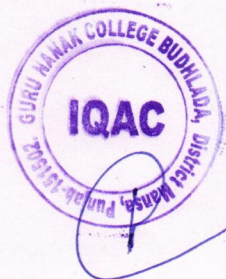
GURU NANAK COLLEGE, BUDHLADA

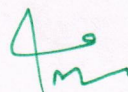



Principal,
Guru Nanak College
BUDHLADA

Content

Sr. No	Title/topic	Page No.
	Summary and Teem Member	3-4
1	Introduction	5
1.1	Objective of green Audit	5
1.2	About the college	6
1.3	Motto, Vision, Mission and Objectives	6
2	Audit Methodology	7
2.1	Survey action plan	7
2.2	Data Evaluation	8
3	Land data observation and analysis	8
3.1	Greenery Analysis and Recommendation	8-11
3.1.1	Carbon Foot print	11-12
3.2	Water and Water Wastage Management Analysis and Recommendation	12-13
3.3	Waste Management Analysis and Recommendation	14-15
	Greenery practices, Water consevation by micro wtering method and Garbage collection practices and dispose of practices common college transport	16-18




 Principal
 Guru Nanak College
 BUDHLADA

Summary:

As per recommendation of previous yearly audit report institution planned to add some new strategy to control the environment degradation that leads many harms full effect in nature as well human kind like climate changes and global warming etc within campus. Our Institution taken new initiative for the adoption a sustainable eco-friendly practices and latest available technique for all humans in harmony with nature and natural resource.

Guru Nanak College Budhlada is situated in green area mostly surrounding of the college is having green vegetation though out the year. Institution has planned to conduct green audit for the known of exact natural climatic status of the college premises. After implementation of suggested points further field work survey and other formalities was done, the report was finally sent for approval to the authority (principal and IQAC).

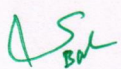
Purpose of audit

For assurance of green audit process, team has prepared this report for Guru Nanak College; Budhlada, Mansa, Punjab is based on input data submitted by the representatives of College complemented with the best judgment capacity of the expert team.

While all reasonable care has been taken in its preparation, details contained in this report have been compiled in good faith based on information gathered.

It is further informed that the calculations are arrived following best estimates and no representation, warranty or undertaking, express or implied is made and no responsibility is accepted by Audit Team in this report or for any direct or consequential loss arising from any use of the information, statements or forecasts in the report

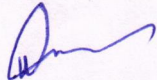
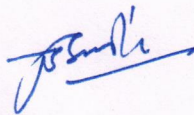


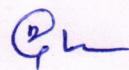



Principal
Guru Nanak College
BUDHLADA

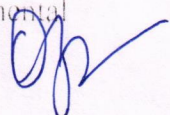

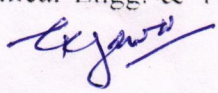
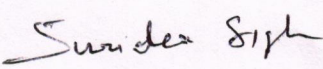
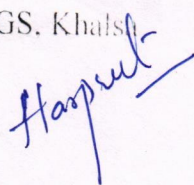
Green Audit Team

Session 2018-19

Member of Internal Committee for Green and Environment Audit

1. Dr. Narinder Singh, Coordinator IQAC 
2. Sri. Bikramjeet Singh, Associate professor and Head Chemistry Department 
3. Mr. Dharminder Singh, Assistant Prof. Department of Mathematics 
4. Dr. Jatinder Singh Assistant. Prof. Department of Chemistry 
5. Mr. Dilip Kumar Ojha, Assistant. Prof. Department of Agriculture 

Member of External Committee for Green and Environment Audit

1. Dr. Onkar Singh Brraich, Assistant Professor, (Department of Zoology and Environmental Sciences, Punjabi University, Patiala.) 
2. Dr. Sandeep Mohan Ahuja, Professor, (Department of Chemical Engg. & Tech. SLIET, Longowal, Punjab) 
3. Dr. Gulshan Kumar Jawa, Associate Professor (Department of Chemical Engg. & Tech. SLIET, Longowal, Punjab) 
4. Dr. S. S. Bhinder, Assistant Professor (Dr. S.S, B.U.I.C.E.T. Panjab University Chandigarh) 
5. Dr. Harpreet Kaur, Assistant Professor, (PG, Department of Agriculture. GSSDGS. Khalsi College, Patiala) 

05 JUL 2019




Principal
Guru Nanak College
BUDHLADA

1. INTRODUCTION:

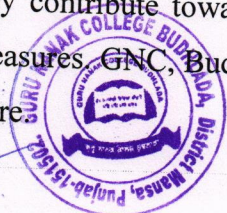
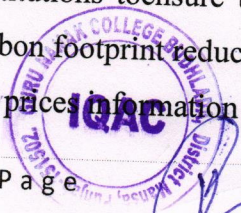
Green audit is a very important steps based on various kinds of evaluations intended to identify environmental related issue and its management system, implementation gaps, along with related corrective actions. It aims to analysed environmental practices within and outside of the concerned sites, which will have an impact on the environment. Green audit is a process of systematic identification, quantification, database of different parameter, reporting and analysis of components of the environmental related operation and practices. It is a general term done for the known of exact status of environment that is based on various kinds of evaluations intended to identify environmental features and its management system. Green audit is a useful to determine status environment in terms of water and carbon foot printsalso to be used to determine the type and volume of waste, which can be used for a recycling project or to improve waste minimization plan. That help to create health consciousness and promote environmental awareness, values and ethics.

As environmental sustainability is becoming an important issue for the human and its surrounding, the role of higher educational institutions in relation to environmental sustainability is more prevalent for the of share information and available technology that reduce of water, energy and carbon footprint and assured sustainability in human and environment welfare.

1.1 Objective of Audit

In recent year many researchers expert given enough proof for the environment degradation related effect like drastic increase in global temperature and variation in climate is really given indication of side effect of this. The aim is of green audit is to observe data of environmental feature help to access the problem and finding its solution that promote practices for sustainability of nature and develop model to adopt this for the reduction of carbon footprint.

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. GNC, Budhlada has fixed the following objective to find the prices information of nature.



Objectives of Green Audit

- ❖ To recognize the initiatives taken towards the green and clean campus by means of gardening and waste management system by the Organization.
- ❖ To identify and provide baseline information to assess threat and risk to the ecosystem.
- ❖ To recognize and resolve different environmental threats of the institution.
- ❖ To ensure proper utilization of resources available in the surrounding areas towards future welfare of the Society.
- ❖ To set a procedure for proper disposal of all kinds of wastes.
- ❖ To assess the greenish nature of a campus in terms of trees, herbs, shrubs, climbers, lawns and reflected in reducing the environmental pollution, biodiversity conservation and landscape management.
- ❖ Skill and knowledge enhancement through practical experience in ecological practices.

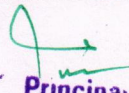
1.2 ABOUT THE COLLEGE

Geography: Guru Nanak College is within the geo-position between latitude 27.20⁰ N and longitude 77.49°E in Budhlada (Mansa), Punjab, India. It encompasses an area of approximate 11 acre. The locality comes under the *Malwa* region of Punjab, which is semi-arid region tapering into cotton fields. The climate is subtropical/semiarid in this region. The average temperature varies from 7°C during winters to 38 °C during summers. The average annual rainfall is 429 mm. Institution had well maintained 4 blocks Science, Computer, Indoor and Bahi Nand Lal Block with hostel facility. Every Department has well aerated and sufficient natural lighting in classroom and hostel. About 40% area is covered under greenery including lawn/garden/Agriculture field and playground

Guru Nanak College, affiliated to Punjabi University, Patiala (listed in 12(b) & 2(i) sections of UGC Act 1956) is situated in Budhlada city - a small town of Mansa district in Punjab. To tribute the 500th birth anniversary of "Sri Guru Nanak Dev Ji", it was started in 1971 by some eminent personalities of the region keeping in mind the noble cause to make affordable education accessible to all the people of this backward, rural and remote area. In the beginning, it was functioning under the local management but later on handed over to SGPC (Shiromani Gurdwara Parbandhak Committee, Sri Amritsar Sahib) an apex and philanthropic body of the Sikhs committed to serve the humanity, on 09 November 1994 due to meager financial resources and some other executive problems. It was followed by some significant reforms in both college functioning and infrastructure.

1.3 MOTTO, VISION, MISSION AND OBJECTIVES:




Principal
Guru Nanak College
BUDHLADA

MOTTO

Learning with Perseverance; Rising with Honour

VISION

'Enlightening Human Minds and Social Empowerment through Education'

MISSION

Transforming the youth into a productive asset of society through value-based quality education focusing on their all-round development so that they are able to contribute to the progress of society to their utmost potential.

OBJECTIVES

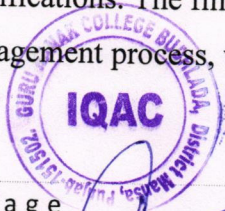
- To achieve excellence in teaching and learning.
- To inculcate social, moral and spiritual values among the students.
- To sensitise the students towards social issues and make them responsible citizens.
- To make the students skilled and productive.
- To groom the students intellectually with a scientific temper, providing congenial ambience.
- To enable the youth to become tomorrow's leaders of change.
- To provide educational opportunities for the under-privileged sections of society.
- To ensure all round development of the students through extra-curricular activities.

2. Audit Methodology

The purpose of the green audit of Guru Nanak College Budhlada is to ensure that the practices followed in the institution are in accordance with the Green Policy of the country. The methodology includes: collection of data, physical inspection of the campus, observation and review of the documentation and data analysis.

2.1 Survey action Plan

Institution plans different questionnaire formats with different combinations and modifications. The final sets of questionnaires were prepared based on green area, solid waste management process, water conservation, hazardous wastes management strategy.



Principal
Guru Nanak College
BUDHLADA

The questionnaires contained the general information of the related section, including name of the section, total number of students and employees, number of buildings along with the area under green, open and build up etc.

2.2 Data evaluation

The information of all related data gathered during the surveys was compiled for the further analysis. It consists of the audit protocol, documentation shown by institution/ administration, the auditor's own recordings, results of the sampling and monitoring photographs, records, plans, maps, audit findings and reviewing documentation against standards and action plan and policy.

3. Land Data observation and analysis

Land Area: Our Institution has mostly wide-open area for diverse purposes so that proper place is provided to all concerned for the smooth functioning and working. Institution covers an area of 88 Kanals approximate 11 acer. Institution has wide greenery site about 42 present land including lawn, open field and road side area and well ventilated and natural light oriented building infrastructure.

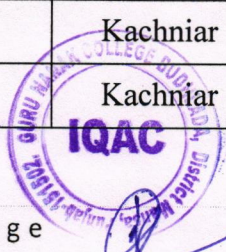
Greenery Analysis:

Institution has full of greenery with proper landscape in premises and set a model to learn and follow beautifulness of greenery in sustainable manner. Institution is very much concern for nature conservation and reduction of carbon foot print and plan extensive plantation drives periodically for the save of environment. Due to this campus is turned into a lush green vegetation spot with all type of plants in including tree herbs, shrubs and indoor plants. More than 1000 plants are available in campus mentioned in **table: 1 & 2.**

Table: 1 List of tree/shrubs/herbs

Sr.No	Name of Plant	Botanical Name	Family	No. of plants
1	Ficus	<i>Ficus sp.</i>	Moraceae	167
2	Alstonia	<i>Alstonia scholaris</i>	Apocyanaceae	03
3	Amaltas	<i>Acacia fistula</i>	Fabaceae	07
4	Amla	<i>Phyllanthus emblica</i>	Phyllanthaceae	06
5	Arjun	<i>Terminalia arjuna</i>	Combretaceae	12
6	Ashoka Tree	<i>Sarcococa</i>	Caesalpiniodae	42

7	Bohad/ Banyan	<i>Ficus benghalensis</i>	Moraceae	03
8	Hibiscus	<i>Hibiscus sp.</i>	Malvaceae	30
9	Ber	<i>Ziziphus mauritiana</i>	Rhamnaceae	07
10	Araucaria	<i>Araucaria sp.</i>	Araucariaceae	02
11	Bottlebrush	<i>Callistemon viminalis</i>	Myrtaceae	04
12	Bottle Palm	<i>Hypophorbelagenicaulis</i>	Arecaceae	42
13	Areca palm	<i>Dypsis lutescens</i>	Arecaceae	05
14	Date palm (Phoenix plam)	<i>Phoenix sp.</i>	Arecaceae	33
15	Cheeku	<i>Manilkara zapota</i>	Asparagaceae	02
16	Lantana (West Indian Lantana)	<i>Lantana camara</i>	Verbenaceae	14
17	Cycas	<i>Cycas revoluta</i>	Cycadaceae	12
18	Dek	<i>Melia azadirachta</i>	Meliaceae	10
19	China palm	<i>Livistona chinensis</i>	Arecaceae	01
20	Golden shower tree	<i>Cassia fistula</i>	Fabaceae	01
21	Chandni	<i>Tabernaemontana divaricata</i>	Apocynaceae	04
22	Double Chandni	<i>Tabernaemontana divaricata</i>	Apocynaceae	04
23	Guava	<i>Psidium guajava</i>	Myrtaceae	32
24	Rose (Gulab)	<i>Rosa indica</i>	Rosaceae	40
25	Kadam (Burflower Tree)	<i>Neolamarckia cadamba</i>	Rubiaceae	03
26	Gulmohar	<i>Delonix regia</i>	Fabaceae	09
27	Harshingar	<i>Nyctanthes arbor-tristis</i>	Oleaceae	02
28	Cheel tree (Narrow leaved paperbark)	<i>Melaleuca alternifolia</i>	Myrtaceae	01
29	Jamun	<i>Syzygium cumini</i>	Myrtaceae	02
30	Jatropha	<i>Jatropha curcas</i>	Euphorbiaceae	01
31	Kachniar	<i>Bauchinia variegata</i>	Caesalpiniaceae	02
31	Kachniar	<i>Bauchinia variegata</i>	Caesalpiniaceae	01



Guru Nanak College
BUDHLADA

32	Nolina (Ponytail palm)	<i>Beaucarnearecurvata</i>	Asparagaceae	04
33	Washingtonia tree (Mexican Fan plam)	Washingtoniarobusta	Arecaceae	42
34	Lasuda	<i>Cordiamyxa</i>	Boraginaceae	01
35	Mango	<i>Mangiferaindica</i>	Anacardiaceae	03
36	Neem	<i>Azadirachtaindica</i>	Meliaceae	30
37	Peepal	<i>Ficusreligiosa</i>	Moraceae	03
38	Rabishpalms	<i>Rhapisexcelsa</i>	Arecaceae	09
39	RubberPlant	<i>Ficuselastica</i>	Moraceae	01
40	Safeda	<i>Eucalyptusobliqua</i>	Myrtaceae	12
41	Sarien	<i>Albegialebeck</i>	Fabaceae	01
42	Sukhchain	<i>Millettiapinnata</i>	Fabaceae	39
43	Tahli	<i>Delbergiasisso</i>	Fabaceae	16
44	Tecona	<i>Tecona sp.</i>	Bignoniaceae	09
45	Cupressus	Cupressus sp.	Cupressaceae	01
46	Ixora (West Indian Jasmine)	<i>Ixora sp.</i>	Rubiaceae	03
47	Furcraea	<i>Furcraea sp.</i>	Asparagaceae	02
48	White Marigold	<i>Caltha sp.</i>	Ranunculaceae	100
49	Baheda	<i>Terminalia bellirica</i>	Combretaceae	14
50	Coral tree	<i>Erythrina variegata</i>	Fabaceae	02
51	Graps	<i>Vitis vinifera</i>	Vitaceae	02
52	Pear	Pyrus	Rosaceae	10
53	Pomegranate	<i>Punica granatum</i>	Lythraceae	10
54	Peach	<i>Prunus persica</i>	Rosaceae	01
55	Lemon	Citrus limon	Rutaceae	04
56	Phalsa	<i>Grewia asiatica</i>	Malvaceae	10
57	Bougainvillea	<i>Bougainvillea sp.</i>	Nyctaginaceae	10

Table-2-Herbal and shrubs Plants

Sr. No.	Name Plants	Number
1	Aloe vera	45
2	Tulsi	--
3	Lemmon Gross	5 locations
4	Cari Patta	05
5	Haldi	nil
6	Ajwain	05
7	Coriander	--
8	Garlic	nil
9	Fennel seed	--
10	Mint (Pudina)	09
11	Giloy	05
12	Shatavari	05
13	Kali tulsi	10

Recommendation:

- Organize awareness programme including poster making, nuked natak on nature conservation by involving student, faculty and local community,
- Do more of plantation drive in campus and outside by involving student, faculty and local community
- Add more indoor plants in campus.
- Involve to students to check and monitor the growth and development of planted plant in campus and outside and arrange to resolve the issue of wilting of plats.
- Do monitor outdoor and indoor activity that herm the environment and prepare plan.
- Develop and implement new idea and concept for nature conservation.

3.1 Carbon Footprint

Intuition is taken new initiative for the reduction of carbon emission and assured nature and human health. Faculty member continually consulting latest update in carbon emission related climate data. Institution taken sufficient measures to reduce carbon foot print that is accomplished with the help following measures like use of fossil fuel in campus area and hostel is strictly prohibited, appreciation for use of bicycle in college premises proper use of

solar based light, any kind of burning is strictly prohibited and promotion of nature conservation activity through different events.

Common Transportation is available in college to bring the student from the nearby areas and avoid use of individual vehicle also use to cut the carbon emission. At present college have 5 buses for comfort convenient transport of student and other extension activity.

Related **table: 3**

Table: 3

Sr. No.	Item	Number
1	No. of Students	5405
	No. of Bus	05
3	No. of Teaching staff	133
4	No. of Non-teaching staff	74
5	No. of Vehicle used by person (Approx.)	28
6	No. of Two-wheeler uses (Approx.)	292

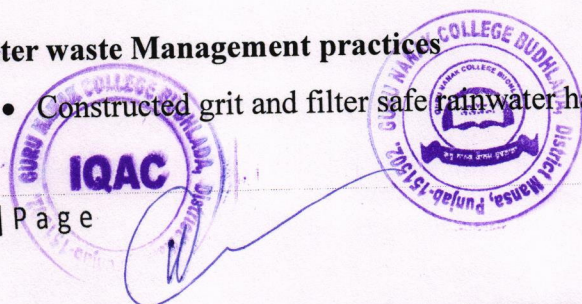
Water and Water Wastage Management Analysis:

Auditing of water is done periodically with team expert to check the following measures i. e. what amount of water used, volume of water abstracted water, storage capacity, water quality. Also team check water harvesting facility/technique used to conserve water within institution. Institution having proper water distribution system and auto cut tap water system to reduce water losses. Waste RO water used to recirculate for flushing point and to clean the area.

The total water consumption in the Campus is 1.24 lac liters per day. Av. per capita utilization of the institution is approx. 21 Liters per capita per day. The retirement of such a huge amount of water include usage for drinking, cleaning, laboratory use, garden use, leakages and overflows sometimes. The waste water generated is disposed of into the underground sewage tanks. Proper designed with grit and filter water harvesting bore well is available to collect roof water and safe dispose off into ground water. Information of respective data in **table: 5**

Water waste Management practices

- Constructed grit and filter safe rainwater harvesting system



[Handwritten Signature]
 Principal
 Guru Nanak College
 BUDHLADA

- Waste water reusable facility
- Awareness event and notices on water management practices are displayed within the campus premises
- Well maintained water distribution system
- Limited water loss through leakages
- Installed RO system for drinking purposes

Water Audit data

Table:5

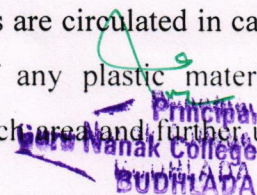
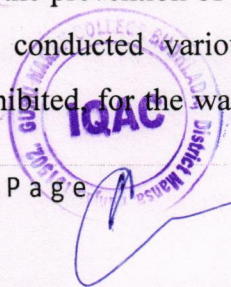
Sr. No.	Item	Number
1	No. of water pump	02 (with Hp of 5 and 3)
2	No. of Water storage tank	27 (with one time storage capacity of 74000 lit.)
3	No. of water harvesting bore well	01
4	Water testing facility	Yes
5	Plumber	02
6	RO water system	04

Recommendation:

- Do more and more awareness programme to aware about how save water in daily life for the future in campus and outdoor in rural and urban area.
- Targeted village/location to regularly to demonstrate about water saving practices.
- Conduct workshop on control of linkage, Overflow and other kind of water wastage.
- Implement water saving practices among student in different way.
- Take new initiative for reduction and recycle and reuse of waste water.

Waste Management Analysis

Intuition has well planned action plan for Prevention Reduce, Recycle and Reuse of wastage. For the prevention of waste generation proper guideline and notices are circulated in campus and conducted various awareness activity. Use and thrown of any plastic material is prohibited for the waste recycling of waste dustbin is placed in each area and further use to



separate into degradable and non-degradable form. From the total waste about 80 percent waste is generated in the form of Biodegradable material like kitchen, hostel waste and plants residue used to convert into compost and reuse in garden to maintain soil fertility. Institution ensure that recyclable and non-recyclable materials are disposed of properly. This protects our environment and helps to reduce r in carbon footprints. Available facility in waste management in **table: 6**

E-waste and non-degradable waste like electric computer/printer mouse etc proper collected and separated for the safe dispose of it to agency.

Source and type of waste Generated

Canteen: Generally major portion is food waste and generated and use to give in Gausala and use to convert into compost. Very less amount of plastic rapper from spice and cream packet is generated.

Garden and lawn: Plant residue waste generated and whole use to convert into compost.

Hostel: Generally major portion is food waste and generated and use to give in Gausala and use to convert into compost. Very less amount of non-degradable plastic rapper from soap rapper, sanitary pad, spice and cream/milk packet is generated.

Labs: Some of hazardous waste generated from lab and safe dispose into decided place. Some of broken glassware generated that collected and sold to agency.

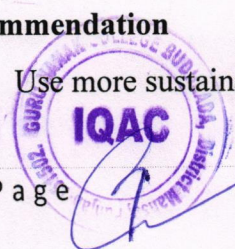
Offices and library: Mostly paper waste is produces from library area and offices that collected into bin and farther use to sale to agencies.

Table:6

Sr. No.	Item	Number/amount
1	No of Dustbin	40
2	No of Compost unit	02
3	No of water harvesting bore well	01
4	Waste generated per day	
a	Degradable including plant residue, kitchen waste, canteen waste and tree drops	17.5 kg
b	Non-degradable like plastic/e-waste/other	0.65 kg

Recommendation

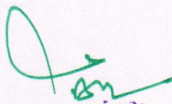
- Use more sustainable technique to recycle waste



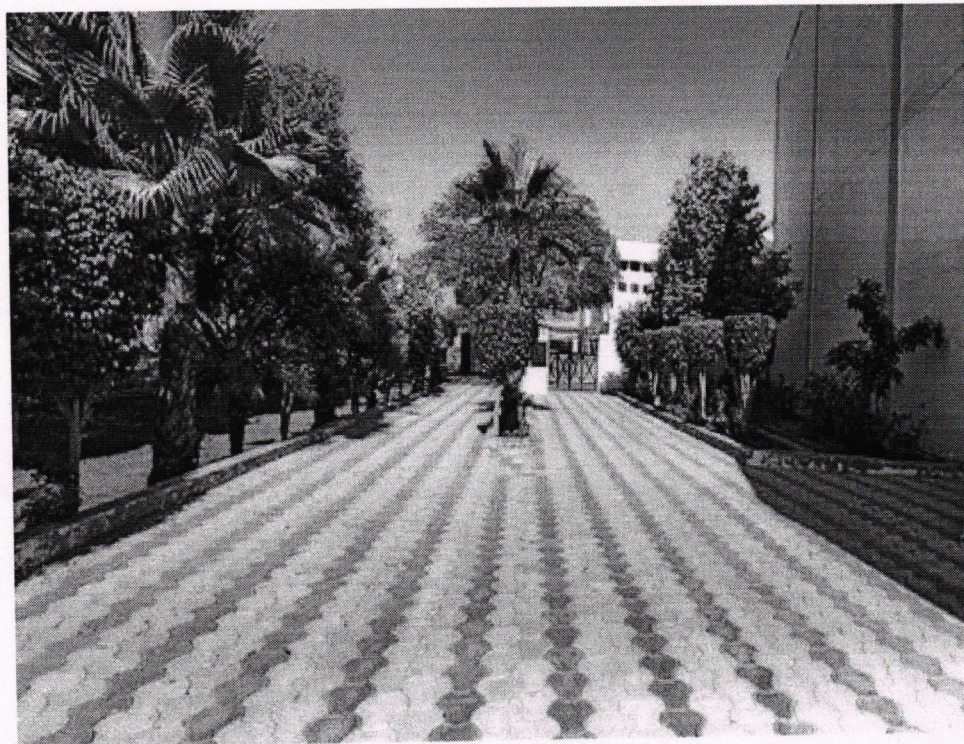
[Signature]
Principal
Guru Nanak College
BUDHLADA

- Assure more categories waste for proper dispose off
- Electronic wastes and hazardous wastes should be handed over to authorized waste collection centers.
- Do more awareness programme publicly indoor and outdoor.
- Enrich the cocurricular activity of student by involving them into waste management task.

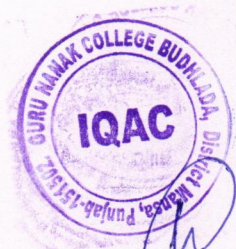


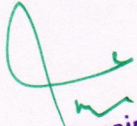

Principal
Guru Nanak College
BUDHLADA

Greenery Practices



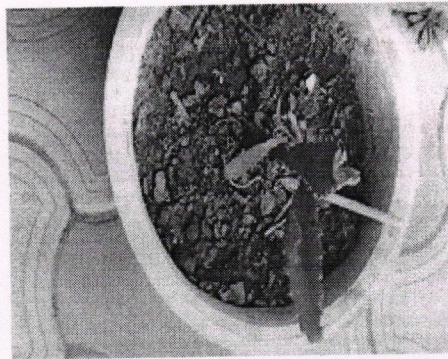
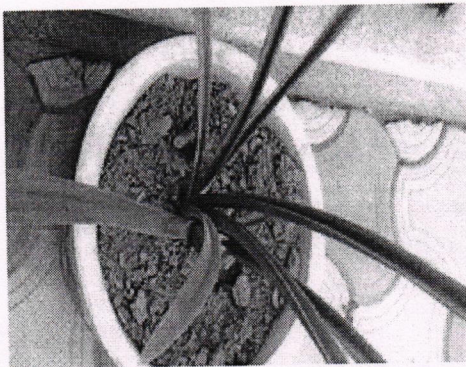
Greenery site in campus



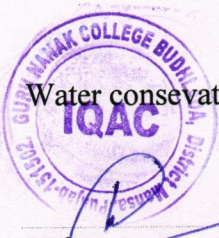

Principal
Guru Nanak College
BUDHLADA



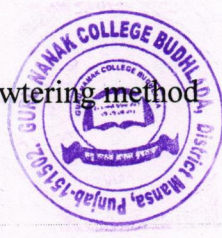
Lawn with greenvegetation



Secfic Shrubs



Water consevation by micro wtering method

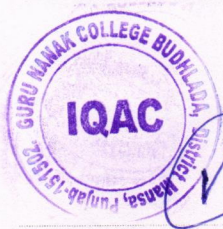
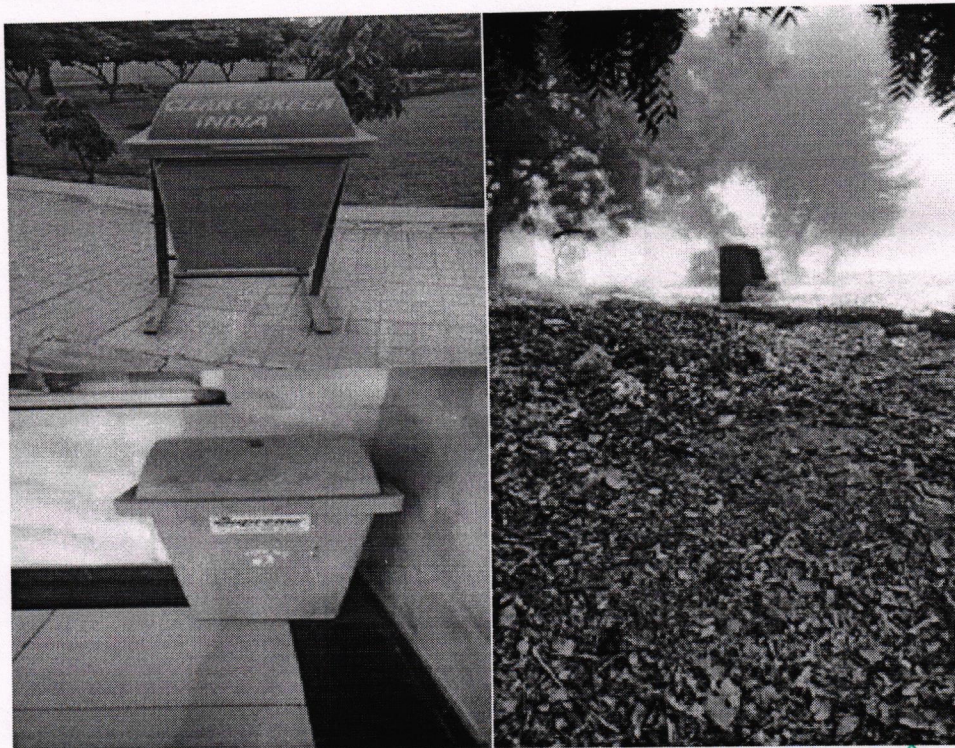


Principal
Guru Nanak College
BUDHLADA



Lawn with Irrigation Conservation Practices

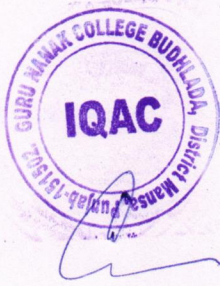
Garbage collections practices and dispose of practices

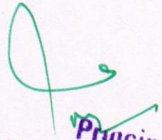


[Handwritten Signature]
Principal
Guru Nanak College
BUDHLADA



Common College Transport




Principal
Guru Nanak College
BUDHLADA