



सत्यमेव जयते

D.K.V. ARTS AND SCIENCE COLLEGE

(Government College)

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7.1.6 Environment & Energy Audit

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GREEN AUDIT REPORT

2018-19

SHREE D.K.V ARTS AND SCIENCE COLLEGE, JAMNAGAR



INTERNAL QUALITY ASSURANCE CELL (IQAC)

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2018

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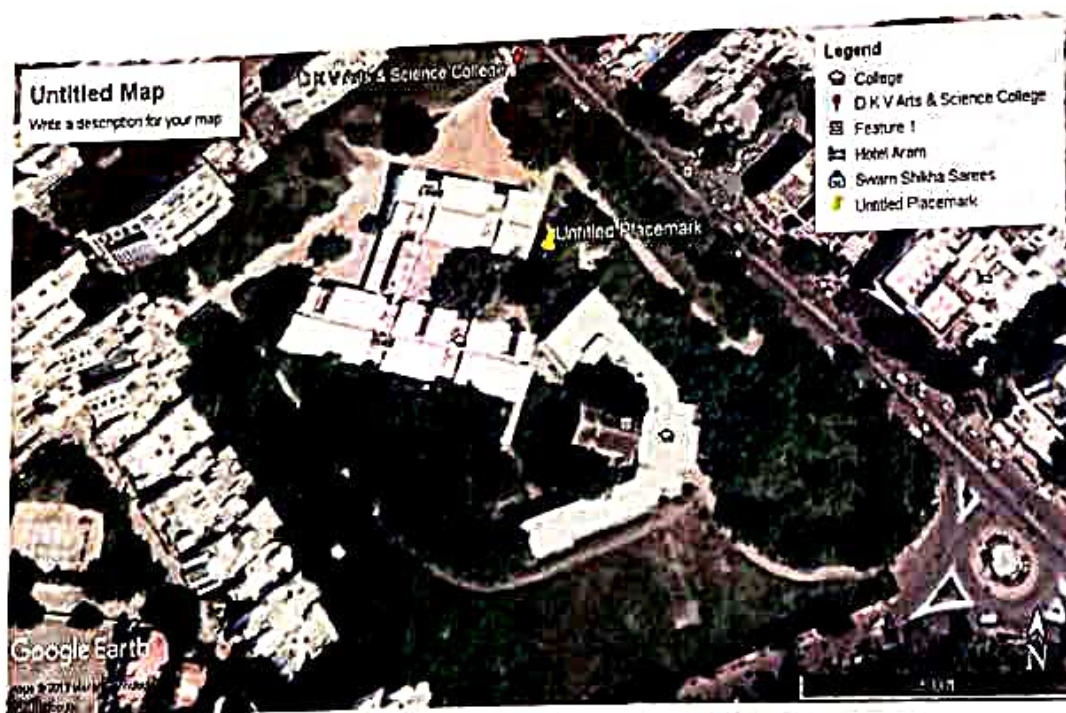
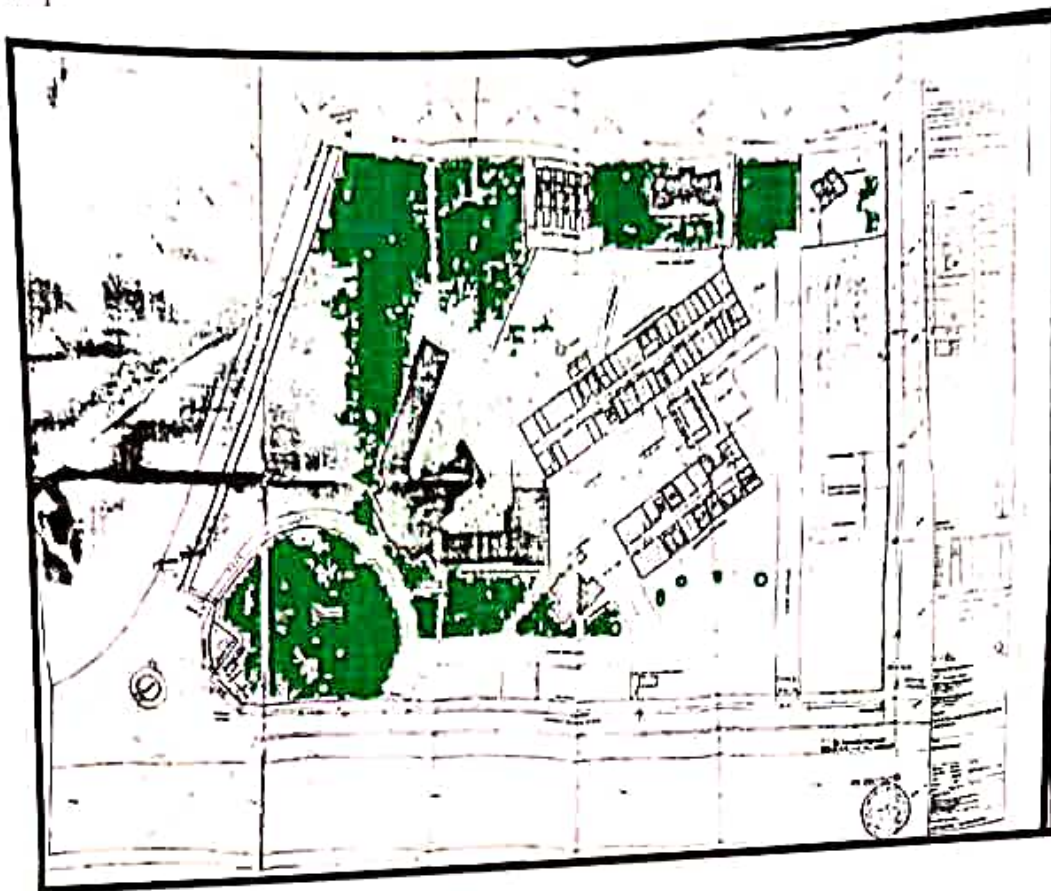
Introduction

Green Audit is a process of systematic identification, quantification, recording, reporting and analysis of diversity of environmental components of particular location. It aims to analyze environmental practices within and outside the particular sites, which have an impact on the eco-friendly ambience. It is a useful tool to assess the quality of environmental conditions as well as energy expenditure of the particular college. It also gives the information about the utilization of electricity power, water, production of waste etc. It can be helpful for water and waste management to overcome the environmental issues. It provides understanding to staff and students to conserve the nature and natural resources of their surroundings. It creates health consciousness, environmental awareness, values and ethics in teachers and students of an institution.

Objectives

- ✓ To map the Geographic location of the college
- ✓ To document infrastructure facilities of college
- ✓ To document diversity of flora of the college
- ✓ To document diversity of Fauna of the college
- ✓ To estimate the energy requirement of the college
- ✓ To aware student about their concern for sustainable environment management

Map



Infrastructure

- Total area of college= 64750 sq. mt
- Built up area= approx. 4500 sq. mt
- Open space= 60250 sq. mt
- Green Belt of the Campus= approx. 50% of total area

Diversity of Flora in D.K.V ARTS AND SCIENCE COLLEGE

The D.K.V College is located in the geographic position between latitude 22° 28'51.34"N and longitude in 70° 03'33.02" E Jamnagar, Gujarat, India. It covers an area of about 16.00 acre. The campus is full of diversity with variety of trees, herbs, shrubs and grasses. Most of the trees are planted in different period of time through various plantation programmes organized by college. It improves the quality of atmosphere of college as well as surroundings by producing maximum amount of oxygen, help in reducing pollution (air as well as sound), makes the land more fertile, provides shelter to the students and also provide home for many birds and insects.

Table : List of Plant species of D.K.V Arts and Science college

Sr. no	Scientific name	Family	Common name
1.	<i>Azadirachta indica</i>	Meliaceae	Neem
2	<i>Ficus religiosa</i>	Moraceae	Peepal
3	<i>Ficus benghalensis</i>	Moraceae	Banyan tree
4	<i>Cassia fistula</i>	Fabaceae	Golden rain tree
5	<i>Corymbia citriodora</i>	Myrtaceae	Nilgiri
6	<i>Agelmarmalose</i>	Rutaceae	Bael
7	<i>Moringa olifera</i>	Moringaceae	Saragavo
8	<i>Gemelina arborea</i>	Verbenaceae	Savan
9	<i>Peltophorumpterocarpum</i>	Ceasalpiniaceae	Copper pod
10	<i>Delonix regia</i>	Ceasalpiniaceae	Gulmohar
11	<i>Vitex negundo</i>	Verbenaceae	Nagod
12	<i>Acacia nilotica</i>	Mimosaceae	Baval
13	<i>Santalum album</i>	Santalaceae	Sndal wood
14	<i>Punica granatum</i>	Lythraceae	Dadam
15	<i>Tamarindus indica</i>	Ceasalpiniaceae	Amli
16	<i>Samanea saman</i>	Mimosaceae	Ratoshirish
17	<i>Thespesia populnea</i>	Malvaceae	Paras Pipalo
18	<i>Prosopis juliflora</i>	Mimosaceae	Gandobaval
19	<i>Calotropis procera</i>	Asclepiadaceae	Aankado
20	<i>Pongamia pinnata</i>	Ceasalpiniaceae	Karanj
21	<i>Antigononleptopus</i>	Polygonaceae	Ice-cream vel
22	<i>Sylibumzylanicum</i>	Plumbaginaceae	Chitrak

23	<i>Salvadora persica</i>	Salvadoraceae	Piludi
24	<i>Morus alba</i>	Moraceae	Shetur
25	<i>Pithecellobium dulce</i>	Mimosaceae	Vilaytiarli
26	<i>Tectona grandis</i>	Verbenaceae	Sag
27	<i>Ficus racemosa</i>	Moraceae	Umaro
28	<i>Capparis deciduas</i>	Capparidaceae	Kerda
29	<i>Polyalthia longifolia</i>	Anonaceae	Asopalav
30	<i>Jatropha gossypifolia</i>	Euphorbiaceae	Vilayatiarandi
31	<i>Albizia lebbek</i>	Mimosaceae	Kaloshirish
32	<i>Tecoma stans</i>	Bignoniaceae	Yello bell
33	<i>Albanthus excels</i>	Simarubaceae	Arduso
34	<i>Ziziphus mauritiana</i>	Rhamnaceae	Bor
35	<i>Ziziphus jujube</i>	Rhamnaceae	Chain bor
36	<i>Pueraria rubra</i>	Apocynaceae	Champo
37	<i>Canna indica</i>	Cannaceae	Canna
38	<i>Aloe barbadensis</i>	Liliaceae	Kunvarpathu
39	<i>Nerium indicum</i>	Apocynaceae	Lal karen
40	<i>Hibiscus rosa-sinensis</i>	Malvaceae	Jasud
41	<i>Tabernaemontana divaricata</i>	Apocynaceae	Tagar
42	<i>Thevetia peruviana</i>	Apocynaceae	Yellow Karen
43	<i>Cordia myxa</i>	Boraginaceae	Vadgundo
44	<i>Mamillaria zapota</i>	Sapotaceae	Chiku
45	<i>Clitoria ternata</i>	Papilionaceae	Butterfly pea
46	<i>Achyranthus aspera</i>	Amaranthaceae	Anghedi
47	<i>Commalinabenghalensis</i>	Commalinaceae	Motu shishmulyu
48	<i>Cynodon dactylon</i>	Poaceae	Durva grass
49	<i>Carica papaya</i>	Caricaceae	Papaya
50	<i>Leucaena leucocephala</i>	Mimosaceae	Pardeshibaval
51	<i>Cassia tora</i>	Cesalpiniaceae	Kunvadio
52	<i>Alstonia scholaris</i>	Apocynaceae	Saptarni
53	<i>Beutia monosperma</i>	Papilionaceae	Kesudo



Santalum album



Antigonium



Ficus banghalensis



Embelica officinalis



Peltoforum



Albezialabbac

Diversity of Fauna in D.K.V College

Category	Common name	Scientific name
Reptiles	1. Monitor lizard (Gho)	<i>Varanus bengalensis</i>
	2. Common sand boa (dhudkhayo)	<i>Gongylophis conicus</i>
	3. Indian cobra (naag)	<i>Naja naja</i>
	4. Garden lizard (kachindo)	<i>Calotes versicolor</i>
Aves	1. Rose ringed parakeet (popat)	<i>Psittacula krameri</i>
	2. Indian rock pigeon (Rock dove)	<i>Columba livia</i>
	3. House crow	<i>Corvus splendens</i>
	4. House sparrow	<i>Passer domesticus</i>
	5. Indian robin	<i>Saxicoloides fulicatus</i>
	6. Magpie robin	<i>Copsychus saularis</i>
	7. Purple sunbird	<i>Cinnyris asiaticus</i>
	8. Black drongo	<i>Dicrurus macrocercus</i>
	9. Grey francolin	<i>Francolinus pondicerianus</i>
	10. Cattle egret	<i>Bubulcus ibis</i>
	11. Red watted lapwing	<i>Vanellus indicus</i>
	12. White throated kingfisher	<i>Halcyon smyrnensis</i>
	13. Indian peafowl	<i>Pavocristatus</i>
	14. Greater coucal	<i>Centropus sinensis</i>
	15. Ashy prinia	<i>Priniasocialis</i>
	16. Tailor bird	<i>Orthotomus sutorius</i>
	17. Jungle babbler	<i>Turdoides striata</i>
	18. Spotted owlet	<i>Strix occidentalis</i>
	19. Common myna	<i>Acridotheres tristis</i>
	20. Bank myna	<i>Acridotheres ginginianus</i>
	21. Brahminy myna	<i>Sturnia pagodarum</i>
	22. Collared dove	<i>Streptopelia decacincta</i>
	23. Green bee eater	<i>Merops orientalis</i>
	24. House swallow	<i>Hirundo rustica</i>
	25. House swift	<i>Apus nipalensis</i>
	26. Laughing pigeon	<i>Spilopelia senegalensis</i>
	27. Rufous tree pie	<i>Dendrocitta vagabunda</i>
	28. Shikra	<i>Accipiter badius</i>
	29. Coppersmith barbet	<i>Megalaima haemacephala</i>
	30. White wagtail	<i>Motacilla alba</i>
Mammals	1. Indian squirrel	<i>Funambulus palmarum</i>
	2. Indian porcupine	<i>Hystrix indica</i>
	3. Wroughton's free tail bat	<i>Otomops wroughtoni</i>
	4. Indian grey mongoose	<i>Herpestes edwardsii</i>
Insects	Mosquitoes, silverfish, housefly, fruit flies, water bug, spider, wasps, ants, butterflies, beetle, grass hoppers, mole cricket, dragonfly, moth,	



sand boa



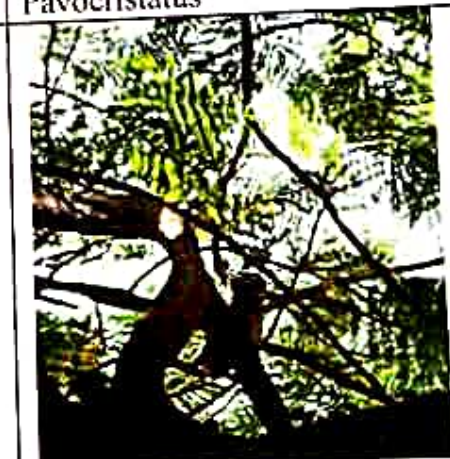
Psittaculakameri



Pavocristatus



Turdoides striata



Strix occidentalis

- Annual Power required (Electric bills) (KWH) -6,801.6 KWH
- Annual lighting power requirements (KWH) met by LED – 4,068KWH

- **Number of LED Bulbs - 48**
- **Expenditure on Green Initiatives**

Audited Commissioner of Higher Education

- **Green Practices** (Describe efforts towards green practices on the campus within a maximum of 500 words)

Public Transport - The College is located in the center of Jamnagar District. Hence it is well connected by public transport buses viz., the state owned Road Transport Corporation (GSRTC), Indian Railways and private operators. Most of the students, teachers and non-teaching staff utilize public transport system to reach the college. Majority of students come from villages using public transportation means, mostly by bus and train. Few teachers who use their cars for commuting has successfully implemented carpooling as a part of adopting sustainability.

Pedestrian Friendly Roads - There are pedestrian's roads around the campus which are used by the students.

Plastic free campus - Plastic use is avoided as far as possible by the teachers and students. Lectures on disadvantages of plastic use are organized in the NSS Camps. Teachers and students are advised to use cloth bags instead of plastic bags

Paperless office - To reduce the use of paper as a part of Green Campus campaign, all official communications including university circulars, college notice, etc. are conveyed through mail, text message or social media applications to students and teachers. The college offers admission and collects fees through online system. Staff members are encouraged to reuse the blank side of the used paper

Green landscaping with trees and plants - The campus has a diversity of trees in the campus as well as in botanical garden recently established. Tree Plantation drive is organized every year within and around the campus under the leadership of NSS team. Go green initiatives are taken by SCI-NAT club of College.

- **Waste Management System and Efforts (Description)**

Solid Waste : Solid waste Management is implemented in two ways in the college:

- (i) Dry waste and wet waste. Our college has taken significant initiatives towards waste management. Dry and wet waste are collected and disposed in efficient way. Dried

leaves from the trees are collected and dumped in a pit which could be used as manure. Dustbins are placed in the campus to collect the waste which is then processed with the help of sweepers and helpers. While disposing the waste, environmental care is taken into consideration. College takes help from Municipal Corporation for the disposal of the garbage. The college also digs a pit with the help of NSS volunteers for the disposal of Solid waste. The students are encouraged to bring their lunch in tiffin boxes to eliminate the accumulation of food waste and plastic carry bags. The college also puts maximum efforts to minimize solid waste produced from the laboratories.

(ii) **Source of waste per day**

- Dropping from Tree and Lawn – **maximum**
- Plastic Waste - Not found in the campus. (Students used dustbin)
- From Laboratories - Students used dustbin



Liquid Waste - The major source of liquid waste is from toilets and laboratories. All these waste materials are systematically drawn to drains.

Water Consumption per day

Drinking – 600 lt.

Cleaning – 1000 lt.

Laboratory purpose – 3000 lt.

E-Waste - The e-waste (excluding unusable computers and other dead stock items) from various departments is collected in store room. They are disposed of in the scrap to the agencies involved in recycling of e-waste. The list of non- functional computers including the accessories and other non-functional instruments is prepared. Equipment from various departments need to be write off is prepared. After the approval from development committee of the college, this dump of written off items is further delivered to e-waste

recycling agencies.

• **Pollution Control**

Air Pollution – Not found in the Campus

Water Pollution - Not found in the Campus

Soil Pollution - Not found in the Campus

Noise Pollution - Not found in the Campus

Conclusion: -

- The College is located in the center of Jamnagar District. Hence it is well connected by public transport.
- Majority of students come from villages using public transportation means, mostly by bus and train.
- Use of less paper is initiated by IQAC.
- Online Admission process has reduced use of papers
- College correspondence using internet facility has reduced use of papers
- Plastics free Campus is maintained by staff & Students.
- Solid and liquid wastes are disposed through Municipal Corporation.
- Students of Physics are encouraged to prepare projects using e-waste.
- College is buildin such a way that maximumsun light is been used.
- Rain water harvesting is a good initiative of the college.

Suggestions:

- College may take initiative to reduce the use of papers used in the internal examination and assignments.
- To install solar panels to use alternative energy.
- Students can be aware to switch off light and fans when there is no

user.

- College can increase number of dust bins.
- New dust bins are to be placed in the girls' toilets.
- Use of Tablets provided by the government and internet facility for learning can be increased.
- Cleanliness is to be enhanced.
- Non-usable furniture may be sent to jail.



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सत्यमेव जयते

Date- 8/9/2021

No. DKV/ Eu. Audit Certificate/ 2021/ 860

To,

The Regional Officer,

Gujarat Pollution Control Board,

1st Floor, S.P. Bhavan, Rameshwaram

Jamnagar

Subject: - A request to issue Environment Audit Certificate

Respected Sir,

We are glad to inform you that Shree D.K.V. Arts & Science College, Jamnagar is a Government College and it is free from air pollution and noise pollution. Though, the college is located in the heart of the city yet it has environment friendly atmosphere. We request you to visit and inspect the college campus under the Environment Audit and issue the Environment Audit Certificate as soon as possible. Thank you!

Principal

D.K.V. Arts & Science College,

Jamnagar

J.P. MODI SCHOOL - CBSE

Certificate of Achievement

For

GREEN CAMPUS AWARD

Awarded to

D.K.V. Arts & Science College, Jamnagar

For Exemplary and Continuous Efforts for Initiating Environment Friendly Practices in the College.



Principal

Green Campus Award



