



# Pramukh Swami Science and H D Patel Arts College, Kadi

NAAC Accredited: Grade A (CGPA 3.20), College with Potential for Excellence (CPE) – Awarded by UGC AAA  
Rank 1- Awarded by Gov. of Gujarat

## INCLUSION AND SITUATEDNESS

### 7.1.11 Number of initiatives taken to engage with and contribute to local community during the last five years (Not addressed elsewhere)

Year	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Number of initiatives taken to engage with and contribute to local community	8	13	15	17	16
<b>TOTAL</b>	69				

Number of initiatives taken to engage with and contribute to local community	Date and duration of the initiative	Name of the initiative	Issues addressed	Number of participating students
<b>Year 2013-14</b>				
8	5 Jul. 2013	Herbarium Sheets exhibition for school students	Recognition, Knowledge and economic importance of plants in and around Kadi	65
	14 Sep. 2013	Blood Group Check up	checking of blood group	65
	18-19 Feb. 2014	Science Utsav	Creating awareness for research and Talent hunt for innovative concepts	450
	26 Jan. 2014	Painting Exhibition and Auction	Earning from Hobby	35
	Yearly Activity	Water Analysis	Microbiological water analysis Water	3
	Yearly Activity	Free Library and reading room use for Society	Free availability of educational books and reading space to all	Regularly
	Yearly Activity	Birthday celebration for Hostel Students	Student Encouragement activity	100
	Yearly Activity	Free Soil testing for Farmers	Soil Health Card for farmers for economically promising agriculture	4

## Year 2014-15

13	18 May. 2014	Textiles and ginning industrialist-academia meet and initiation of vocational program in Textile and Ginning Technology	Training, Internship and placement to the students	100
	1 Jul. 2014	Initiation of Vocational program in Pharmaceutical Chemistry	Training Internship and placement to the students	70
	11 Jul. 2014	Herbarium Sheets exhibition for school students	Recognition, Knowledge and economic importance of plants in and around Kadi	65
	11 Sep. 2014	Blood Group Check up	To check blood group	65
	26 Jan. 2015	Painting Exhibition and Auction	Earning from Hobby	35
	22 Feb .2015	GiBION- 2015	State Level Competition of B.Sc. Microbiology and Biotechnology students	850
	26 Mar.2015	Agri industry academia Meet - for Vocational program in Agriculture and Soil Sciences	Training, Visits, Internship and placement to the students	40
	Yearly Activity	Water Analysis	Microbiological water analysis Water	3
	Yearly Activity	Free Soil testing for Farmers	Soil Health Card for farmers for economically promising agriculture	4
	Yearly Activity	Free Library and reading room use for Society	Free availability of educational books and reading space to all	Regularly
	Yearly Activity	Distribution of used clothes and foot wear among poor people	Social Responsibility	15
	Yearly Activity	Birthday celebration for Hostel Students	Student Encouragement activity	150
	Yearly Activity	Availability of Science Laboratories to School children	Create interest in various fields of science	Regularly

## Year 2015-16

15	17 Jul. 2015	Herbarium Sheets exhibition for school students	Recognition, Knowledge and economic importance of plants in and around Kadi	65
	07 Sep. 2015	Blood Group Check up	checking of blood group	50
	26 Jan. 2016	Painting Exhibition and Auction	Earning from Hobby	35
	7 Feb. 2016	Computer & Books Donation to Primary School, Khavad	Social Responsibility	50
	14 Feb. 2016	Kala Kumbh	Theatre activities for students	20
	16 Jun. 2016	Ceramic Industry meet - Initiation of Vocational program of Ceramic Technology	Training Internship and placement to the students in ceramic sector	50
	Yearly Activity	Water Analysis	Microbiological water analysis Water	3
	Yearly Activity	Free Soil testing for Farmers	Soil Health Card for farmers for economically promising agriculture	4
	Yearly Activity	Free Library and reading room use for Society	Free availability of educational books and reading space to all	Regularly
	Yearly Activity	Distribution of used clothes and foot wear among poor people	Social Responsibility	15

	Yearly Activity	Availability of Science Laboratories to School children	Create interest in various fields of science	Regularly
	Twice in a week- Yearly Activity	Aanganwadi Adoption program	Social Responsibility	50
	Yearly Activity	Cycle Donation to needy Students	Social Responsibility	2
	Yearly Activity	Birthday celebration for Hostel Students	Student Encouragement activity	120
	Yearly Activity	Water Analysis	Microbiological water analysis Water	3

### Year 2016-17

17	Yearly Activity	Free Soil testing for Farmers	Soil Health Card for farmers for economically promising agriculture	4
	15 Jul. 2016	Herbarium Sheets exhibition for school students	Recognition, Knowledge and economic importance of plants in and around Kadi	65
	20 Sep. 2016	Blood Group Check up	To check blood group	65
	26 Jan. 2017	Painting Exhibition and Auction	Earning from Hobby	35
	8-9 Feb. 2016	Science and Technology Exhibition	Creating awareness for research and Talent hunt for innovative concepts	450
	14 Feb. 2016	Kala Kumbh	Theatre activities for students	15
	9 Dec. 2016	Green Audit at Uma Arty & Nathiba Commerce, Mahila College, Gandhinagar	Measurement of emission and absorption of Carbon Dioxide	15
	19 Dec. 2016	Green Audit at Smt. M M Shah Mahila Arts College, Kadi	Measurement of emission and absorption of Carbon Dioxide	15
	21 Feb. 2017 & 27 Feb. 2017	Training of Repairing and Maintenance of Home Appliances	Skill development among students	50
	27 Mar. 2017	Economically sustainable LED Lights manufacturing and distribution	Save Energy and SSIP	45
	Yearly Activity	Free Library and reading room use for Society	Free availability of educational books and reading space to all	Regularly
	Yearly Activity	Distribution of used clothes and foot wear among poor people	Social Responsibility	15
	Yearly Activity	Availability of Science Laboratories to School children	Create interest in various fields of science	Regularly
	Twice in a week- Yearly Activity	Aanganwadi Adoption program	Social responsibility	50
	Twice in a week- Yearly Activity	Availability of Virtual class room for GEB training programs	Resource sharing	150
	Yearly Activity	Birthday celebration for Hostel Students	Student Encouragement activity	100
Yearly Activity	Free Soil testing for Farmers	Soil Health Card for farmers for economically promising agriculture	4	

### Year 2017-18

16	13 Jul. 2017	In house manufacturing of Toy train and donated to campus school	Fun ride for preschool kids and SSIP	45
	14 Jul. 2017	Herbarium Sheets exhibition for school students	Recognition, Knowledge and economic importance of plants in and around Kadi	65

	20 Sep. 2017	Blood Group Check up	To check blood group	120
	9-10 Jan. 2018	Science and Technology Exhibition	Creating awareness for research and Talent hunt for innovative concepts	450
	26 Jan. 2018	Painting Exhibition and Auction	Earning from Hobby	35
	14 Feb. 2018	Kala Kumbh	Theatre activities for students	15
	25 Apr. 2018	Setting up operational Biogas plant in Gaushala	Energy and Fertilizer generation from gobar	20
	Yearly Activity	Water Analysis	Microbiological water analysis Water	3
	Yearly Activity	Free Library and reading room use for Society	Free availability of educational books and reading space to all	Regularly
	Yearly Activity	Availability of Science Laboratories to School children	Create interest in various fields of science	50
	Twice in a week- Yearly Activity	Aanganwadi Adoption program	Social responsibility	50
	Yearly Activity	Availability of Virtual class room for GEB training programs	Resource sharing	
	Yearly Activity	Utilization of Infrastructure for Local community services	Social Responsibility	100
	Yearly Activity	Distribution of used clothes and foot wear among poor people	Social Responsibility	15
	Once in a week- Yearly Activity	Plantation of Drum stick in Gaushala	Better Economic gains from agriculture	50
	Once in a week- Yearly Activity	Plantation of Stevia in Gaushala	Better Economic gains from agriculture	50

## Some Stills



*Blood Checkup Group Activity*



*Computers Donations to Village School*



*Chairman, SVKM during Birthday Celebration of Hostel Students*



*Books Donation to Village School*



*Cloths and Footwear donation to needy people*



*During BT-CBC Crash Workshop*





*Cycle Donation to needy students*



*Polio Eradication Activity*



*Chairman SVKM, Dr. Ajay S Gor (Principal, PSSHDA) and other guests during Science & Technology Exhibition*



*Students performing Play "Dim light" in Kalakumbh program*



*Green Audit at Smt. Maniben M. P. Shah Mahila Arts College, Kadi*



*Anganwadi Adoption Program*





*Chairman SVKM and other dignitaries in Inaugural Ceremony of 26th GiBioN*



*Drumstick Plantation at Gaushala*



*Toy Train Project for school children*



*Stevia plantation by Students at Gaushala*



*Students working on Toy Train Project*



*Toy Train Manufactured*



## Drinking Water Analysis Report



Sarva Vidyalaya Kelavani Mandal's

**Pramukh Swami Science and H D Patel Arts College, Kadi**

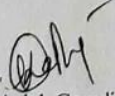
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AAA Rank 1 - Awarded by Government of Gujarat

22/10/17

### REPORT ON BACTERIOLOGICAL EXAMINATION OF WATER SAMPLE

Sample Code: CBSE-1

Name and Address of Sender BHAVKUNJ SCHOOL S.V. CAMPUS, BEHIND RAILWAY STATION KADI	Sender's Name	Principal
	Date of Collection	21/10/17
	Date of Receipt at Lab	21/10/17
	Sample collected by	sender
Date of Commencing Examination	21/10/17	
Source of the water Sample	R.O. WATER	
Source details	BHAVKUNJ SCHOOL	
Village	KADI	
Taluka	KADI	
District	MEHSANA	
pH (Range 6.7 to 7.8)	7.2	
MPN of Total Coliforms per/100 ml of sample at 37° C	1.0	
MPN of Total <i>E.Coli</i> per/100 ml of sample at 44° C	0.0	
OPINION FOR POTABILITY AS PER THE BIS:10500:2012	<b>POTABLE</b>	
<b>Bacteriological Standards of drinking Water(BIS:10500:2012)</b>		
i) All water intended for drinking: a) <i>E. coli</i> or thermotolerant coliform bacteria shall not be detectable in any 100 ml sample		
ii) Treated water entering the distribution system: a) <i>E. coli</i> or thermotolerant coliform bacteria shall not be detectable in any 100 ml sample b) Total coliform bacteria Shall not be detectable in any 100 ml sample.		
iii) Treated water in the distribution system: a) <i>E. coli</i> or thermotolerant coliform bacteria shall not be detectable in any 100 ml sample. b) Total coliform bacteria shall not be detectable in any 100 ml sample.		

  
Water Analysis Lab Coordinator

  
Principal  
**H. D. Patel Arts College**  
Kadi (N.G.)

Sarva Vidyalaya Campus, b/h. Railway Station, Kadi - 382 715 (Gujarat)  
Phone : (02764) 262634 • Website : [www.psshda.org](http://www.psshda.org) • e-mail : [mail@psshda.org](mailto:mail@psshda.org)



## Free Soil Analysis / Testing for farmers (a sample copy)



Sarva Vidyalaya Kelve Mandali, Kadi Sanchalit  
PRAMUKH SWAMI SCIENCE & H.D.PATEL ARTS COLLEGE, KADI  
"College with potential for excellence" - awarded by UGC  
Accredited A by NAAC  
(Affiliated to Hemchandracharya North Gujarat University, Patan)  
Sarva Vidyalaya Campus, B/h Railway Station, KADI - 382 715  
Dist : Mehsana. (Gujarat) India. Tele.FAX : (02764) 262634  
Website : [www.psshda.org](http://www.psshda.org). E-mail : [psshdpa@yahoo.co.in](mailto:psshdpa@yahoo.co.in)



Ref. No. : Biotech / 35 / 2016-17

Date: 16 / 09 / 2016

To,  
Patel Jagdishkumar Natvarlal  
Village - Sarsav  
Ta-Kadi  
Dist-Mehsana

### Soil Analysis Report

Sr. No.	pH	EC	Carbon %	Phos. Kg/hector	Potash Kg/hector	Sulpher ppm	Mn ppm	Zn ppm	Fe ppm	Cu ppm
J1	7.9	0.27	0.518	38.92	230.60	2.3961	10.64	0.38	7.12	1.2
J2	7.8	0.34	0.657	34.17	276.17	2.7384	9.28	0.22	5.9	0.84
J3	7.9	0.34	0.572	46.70	299.21	2.5428	15.68	0.28	6.2	0.63
J4	7.8	0.26	0.625	38.04	297.94	2.2494	19.28	0.60	7.0	0.68

J1- સર્વે નંબર ૫૭૨/૨  
J2- સર્વે નંબર ૫૮૭  
J3- સર્વે નંબર ૫૮૮  
J4- સર્વે નંબર ૫૯૦

Sr. No.	Test Name	Normal Range
1	pH	Natural : 6.5 to 8.2
2	EC	Normal : Below 1
3	Carbon	Medium : 0.51 to 0.75
4	Phosphorous	Medium : 26 to 60
5	Potash	Medium : 151 to 300

  
Co-ordinator  
Soil Analysis Programme  
S Science & H D. Patel Arts College  
Kadi.

# Green Audit Report

**2016-2017**

**Of**



**MANIBEN M. P. SHAH MAHILA ARTS  
COLLEGE, KADI**

**Audit Carried Out  
By**

**Department of Botany**

**PRAMUKH SWAMI SCIENCE & H. D. PATEL ARTS COLLEGE, KADI**

**NAAC Reaccredited 'A' Grade (CGPA 3.20)  
College with Potential for Excellence by UGC  
AAA Rank 1 by Govt. of Gujarat**





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*Background information of campus*

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## Background information of Campus

Smt. Maniben M. P. Shah Mahila Arts College, Kadi aims at the upliftment of the society, by providing higher education to the girls along with culture. In order to fulfil the standards of excellence the college times its level best to the quality and content in education in every discipline, we strine to keep pace with the progress of knowledge. In the year of 1991 Smt. Maniben M. P. Shah Mahila Arts College, Kadi was established our trust wants to teach each daughter of Kadi and every village surrounding it. To come out of their houses, be away from their chores and take advantage of education which is rightly theirs qualify if we educate our daughter, they will be independent. A new life begins for them with every second. Let us go forward joyously to meet it we must parents to impart education to their daughters. It is a great opportunity for women students. This is the only college for women in Kadi Taluka.

The college has four principal subjects Economics, Psychology, Sanskrit and Gujarati same subject are running as a first subsidiary subject and we follow the university prescribed syllabus. The Institute shares the resources with its sister college C.N. Arts & B.D. Commerce College which are well equipped Library, a Sports Room, a Psychology Laboratory, Language Lab, a Faculty Reading Room with computer with internet facility, a NSS office, an auditorium with a capacity of four hundred students, a Ladies Room, an Administrator office, Principal's office, a Management office, College Women Development Cell, Network Resource Center was setup from the grant of UGC of Rs. 1.45 Lakhs and a separate building for Dr. Baba Saheb Ambedkar Open University Study Center.

The college has mission to ensure that no girl should be deprived of college education in this area; To provide "state-of-art" education system in rural area at an affordable cost; To promote total personality development of students by increasing their active participation in such activities; To solve problems in self development of students and train them to realize their potentiality for solving problems by themselves and; To produce such volunteers as can lead educationally deprived classes to college and to become the role model.





## Objectives

The objective of the green audit of campus is to identify the trees and to estimate the carbon storage capacity of available each tree species. To achieve this goal the following objectives are set forth:

- ♣ **To identify available each tree species of campus,**
- ♣ **To examine biomass allocation in each tree species of campus,**
- ♣ **To estimate the potentiality of carbon sequestration by each tree species,**
- ♣ **To identify trees with high carbon sequestration capacity,**
- ♣ **To evaluate the carbon footprint of campus,**
- ♣ **To compare the carbon footprint of campus with regional level as well as at global level.**

## Methodology

Green audit in the campus is conducted by non destructive method. Height and girth of trees were taken into consideration for the measurement of biomass and carbon content. The height of tree was measured by using laser rangefinder and diameter of tree was measured using DBH tape with consideration of diameter > 10 cm of tree (figure 1). Total biomass and total organic carbon has been determined and compared with allometric model. The equation was used in the present investigation

$$Y = \text{Exp. } \{-2.4090 + 0.9522 \ln (D^2 \times H \times S)\}$$

Where, Exp. {...} means the “raised to the power of {...}”,

Y is the above ground biomass (kg),

H is the height of the trees (meter),

D is the diameter at breast height in cm and

S is the wood density (gm/cm<sup>3</sup>).

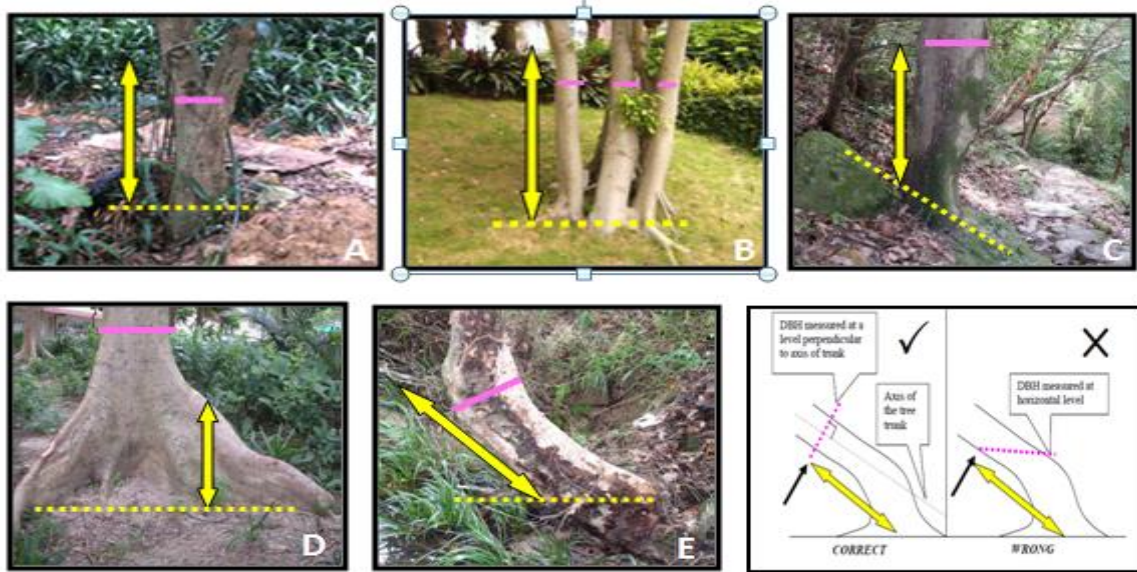



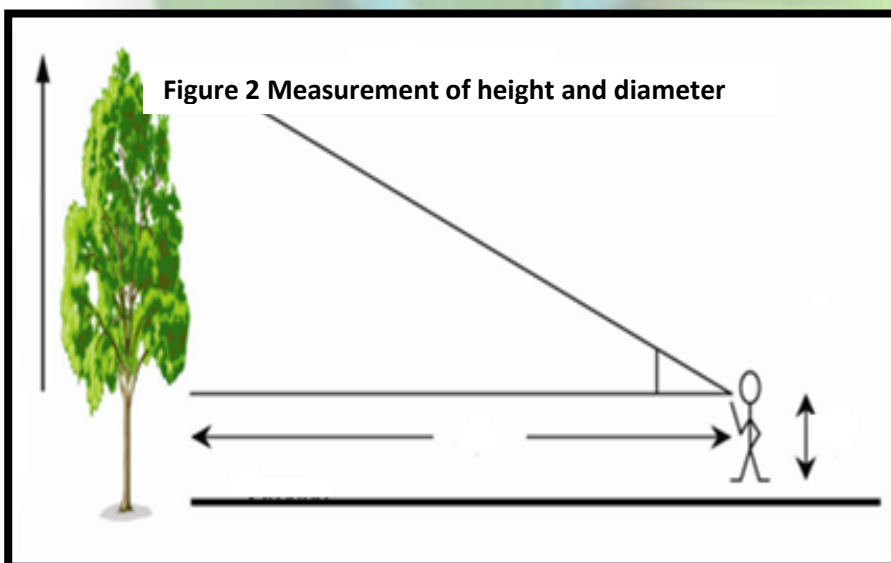


Figure 1: Specifications while measuring tree GBH care should be taken (Nature conservation practice note, 2006). Here, yellow arrows (  ) indicate a height of 1.3 m for GBH measurement; pink solid lines (  ) represent the position of GBH measurement and yellow dotted lines (  ) represent the ground level. Care should be taken in case of (A) part of tree and measure diameter of main trunk below the fork as height of diameter measurement; (B) Measure GBH of each stem separately and consolidate the diameters of various stems into a single index; (C) Measure tree GBH of the trunk on the upper side of the slope; (D) Diameter measurement should be taken just above the buttress (E) Measure tree GBH of the trunk on side that the tree leans towards



Below ground biomass was calculated considering 15% of the above ground biomass. Carbon emission of campus also calculated using carbon footprint calculator which

gives carbon footprint of campus of Kadi.





## RESULT

### INDIVIDUAL TREE SPECIES WITH THEIR CARBON STORAGE CAPACITY:

The diversity of trees in the campus covers approximately 13 acres of land area in which total 101 trees were identified (table 1) from 15 different families (figure 3) to measure the total carbon storage available in Maniben M.P. Shah Mahila Arts College, Kadi. Total organic carbon in trees was observed 302.13 metric tons (table 2).



Figure 3: Map shows location and sampling points of Smt. Maniben M. P. Shah Mahila Arts College, Kadi using Google earth software and geographical positioning system (GPS) instrument.

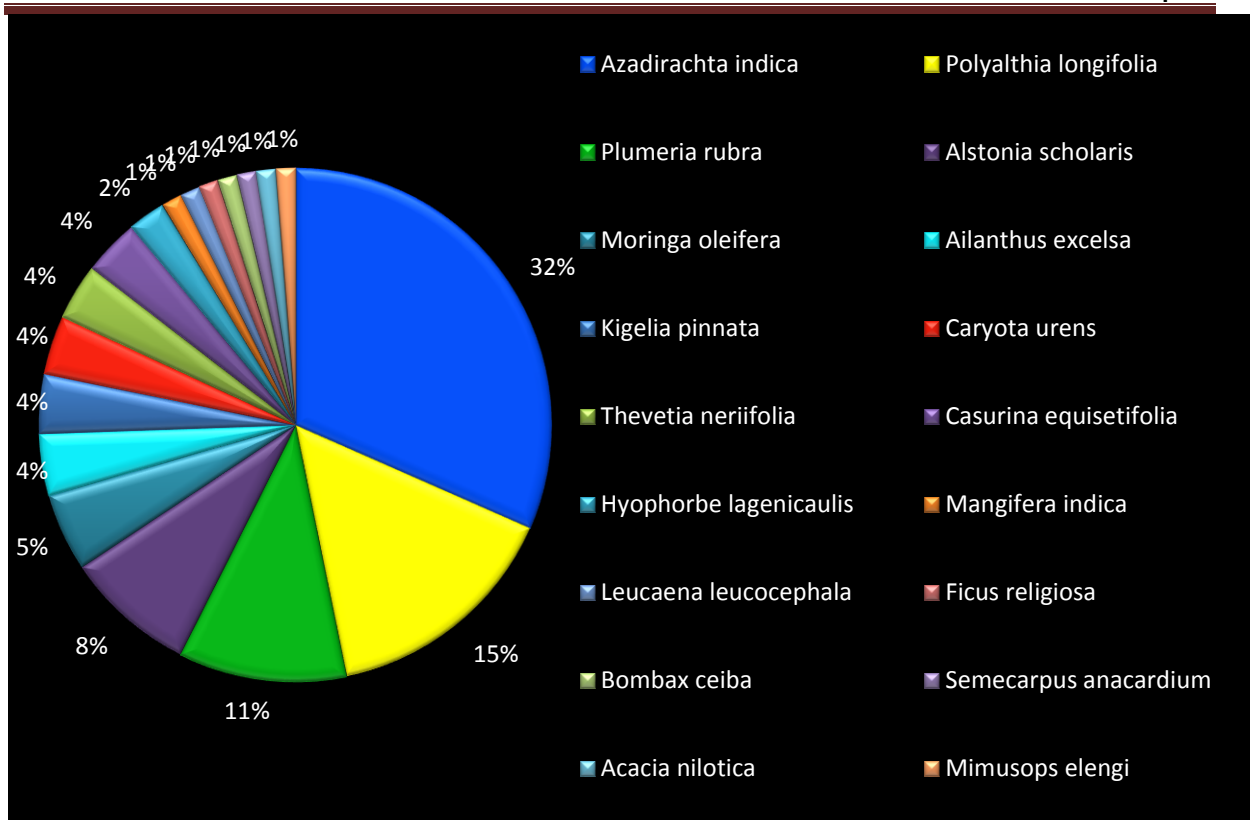
**TABLE 1: LIST OF TREE SPECIES FOUND IN COLLEGE CAMPUS**

No.	Botanical Name	Local Name	Family	# trees
1.	<i>Azadirachta indica</i>	Neem tree	Meliaceae	36
2.	<i>Polyalthia longifolia</i>	Asopalav	Annonaceae	16
3.	<i>Plumeria rubra</i>	Champo	Apocynaceae	13
4.	<i>Alstonia scholaris</i>	Saptparni	Proteacea	07
5.	<i>Moringa oleifera</i>	Saragvo	Moringaceae	04
6.	<i>Thevetia neriifolia</i>	Karen	Apocynaceae	03
7.	<i>Ailanthus excelsa</i>	Arduso	Simaroubaceae	03
8.	<i>Kigelia pinnata</i>	Sausage Tree	Bignoniaceae	03
9.	<i>Casurina equisetifolia</i>	Saru	Casurinaceae	03
10.	<i>Caryota urens</i>	Shiv Jata	Arecaceae	03
11.	<i>Hyophorbe lagenicaulis</i>	Bottle palm	Arecaceae	02
12.	<i>Ficus religiosa</i>	Pipal	Moraceae	01
13.	<i>Leucaena leucocephala</i>	Subaval	Fabaceae	01
14.	<i>Semecarpus anacardium</i>	Bhilamo	Anacardiaceae	01
15.	<i>Bombax ceiba</i>	Simdo	Bombacaceae	01
16.	<i>Mimusops elengi</i>	Borsali	Sapotaceae	01
17.	<i>Mangifera indica</i>	Mango Tree	Anacardiaceae	01
18.	<i>Acacia nilotica</i>	Babool tree	Mimoaceae	01

**TABLE 2: INDIVIDUAL TREES WITH THEIR GIRTH AND HEIGHT**

Scientific Name	GBH (cm)	height (cm)	Total c per plant
<i>Azadirachta indica</i>	38.47	10.70	105.29
<i>Polyalthia longifolia</i>	12.15	71.7	50.62
<i>Plumeria rubra</i>	29.96	4.82	35.34
<i>Alstonia scholaris</i>	14.04	4.81	27.49
<i>Moringa oleifera</i>	40.33	8.74	16.32
<i>Ailanthus excelsa</i>	71.80	15.87	12.97
<i>Kigelia pinnata</i>	61.09	12.14	12.41
<i>Caryota urens</i>	36.48	9.14	12.34
<i>Thevetia neriifolia</i>	25.35	5.00	11.88
<i>Casurina equisetifolia</i>	8.91	4.44	11.80
<i>Hyophorbe lagenicaulis</i>	17.02	5.34	7.90
<i>Mangifera indica</i>	82.41	13.14	4.28
<i>Leucaena leucocephala</i>	28.64	10.94	4.23
<i>Bombax ceiba</i>	16.54	10.94	4.06
<i>Semecarpus anacardium</i>	13.68	5.54	4.05
<i>Acacia nilotica</i>	42.32	4.94	4.02
<i>Ficus religiosa</i>	42.32	7.34	4.12
<i>Mimusops elengi</i>	28	4.54	3.99



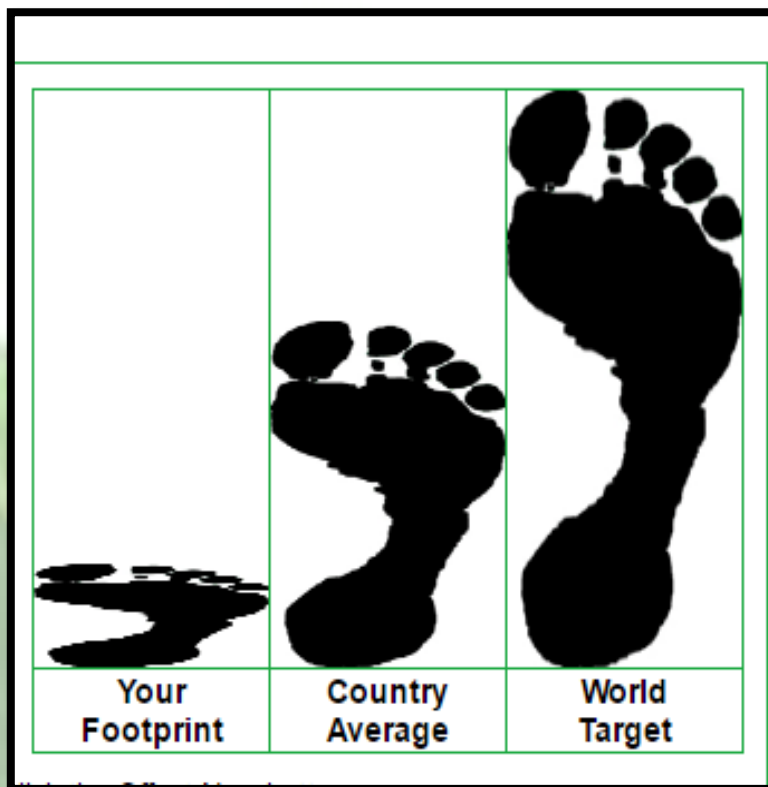


**Figure 4: Carbon storage (%) estimation with respect to available trees in Maniben M.P. Shah Mahila Arts College, Kadi**

Among all the trees, *A. indica* found as dominant species (32 %) which is followed by *P. longifolia* (15%), *p. rubra* (11%), *A. scholaris* (8%), *M. oleifera* (5%), *A. excelsa* (4%), *K. pinnata* (4%), *C. urens* (4%), *T. neriifolia* (4%), *C. equisetifolia* (4%) and *H. lagenicaulis* (2%) in the campus. However, *M. indica*, *L. leucocephala*, *F. religiosa*, *B. ceiba*, *S. anacardium*, *A. nilotica* and *M. elengi* were found very less in the campus (figure 4).

### CARBON FOOTPRINT OF CAMPUS

Using carbon footprint calculator emission of carbon (summing up of vehicular emission such as from car, motorbikes, bus and secondary emission of carbon dioxide such as hostel kitchen emission, during lab analysis, etc.) from the campus calculated and found total emission of carbon is 0.36 metric tons whereas, average footprint for people in India is 1.20 metric tons and from industries 11 metric tons which is shown in figure 5.



**Figure 5: Comparison between carbon footprint of campus with regional and global level**

## Outcomes

The current environmental crisis and condition shows that globally we are facing climate change problem. To overcome this problem, contribution and capacity to sequester the atmospheric carbon by green cover assessment plan may one of the options to combat the climate change. It is necessary to identify the tree species for plantation which can serve one of the good carbon sink in the college campus. Such plantation will serve both the purpose of minimizing GHGs from the atmosphere as per IPCC guidelines and to restore and conserve the natural heritage of Gujarat.

The scopes of Green Audit are as follows:



- ♣ **Creating synergies between current issues and sustainable development that encompasses major national developmental priorities**
- ♣ **Help to list out tree species that has maximum carbon storage capacity**
- ♣ **To provide information about carbon sequestration by different tree species of campus with respect to their girth classes that would be help in planning tree species composition for the campus as well as for planning social forestry.**
- ♣ **Carbon storage analysis would be useful for planners to evaluate tree cover and biomass in terms of carbon credits that would be helpful to improve tree cover in the campus depending upon their carbon sequestration capacity.**

## Recommendation

From 18 tree species, *A. indica* was found noticeable in the campus as dominant species (32%) whereas, *M. indica*, *L. leucocephala*, *F. religiosa*, *B. ceiba*, *S. anacardium*, *A. nilotica* and *M. elengi* found very least in the campus. *A. indica* was observed to capture and store maximum amount of carbon (105.29 ton) and least in *M. elengi* (3.99 ton) from the campus. However, one of the study of Singh, 2013 found that *Ficus* species has maximum carbon storage capacity among the all native tree species. Thus, plantation of such trees which has maximum carbon storage capacity can serve one of the good carbon sink in the campus. Such plantation will serve both purpose of minimizing green house gases from atmosphere by restoring and conserving flora in the campus. Contribution and capacity to sequest atmospheric carbon by green cover assessment plan may one of options to combat climate change by plantation program in the campus.





## Photo Gallery

