

ीरका विकास संस्था, धारममारा संस्**रे, नास संगालित** 

कला व विज्ञान महाविद्यालय,कु-हा

ता.तिवसा, जि.अमरावती ४४४७०९

दुरध्वनी - ०७२२५/२९५०९५

Email : principalasci@gmal.com

www.ascollegekurha.org

अध्यक्ष

मा.अरुणभाऊ ज.अइसड

माजी आमदार विद्यान परिषद भ्रमणध्वनी - ९४२२८५५१११ प्राचार्य **डॉ.सुव्धिश का.आस्वरे** एम.ए.,एम.फील.,वीएव.डी भ्रमणध्वनी - ९९७०२८५०८९

जावक क्र.

दिनांक

Shriram Education Society, Dhamangaon Rly's

## Arts & Science College, Kurha

Tq. Tiwasa, Dist. Amravati
Affiliated to Sant Gadge Baba Amravati University, Amravati
College Code: 160

AISHE Code: C- 43098

Website: https://ascollegekurha.org/

Email: principalase160@gmail.com

#### **Documents**

Criterion VII: Institutional Values and Best Practices

7.1.3: Quality audits on environment and energy regularly undertaken by the Institution.

The institutional environment and energy initiatives are confirmed through the following

- 1. Green audit / Environment audit
- 2. Energy audit
- 3. Clean and green campus initiatives
- 4. Beyond the campus environmental promotion activities



श्रीराम शिक्षण चंस्था, धामणगाव रेल्वे, द्वारा संचालित

## कला व विज्ञान महाविद्यालय,कुऱ्हा

NAAC Accredites - 'B' Grade

ता.तिवसा, जि.अमरावती ४४४७०९

द्रध्वनी - ०७२२५/२९५०९५

Email: principalascl@gmai.com

www.ascollegekurha.org

अध्यक्ष

मा.अरुणभाऊ ज.अडसड

माजी आमदार विद्यान परिषद भ्रमणध्वनी – ९४२२८५५१११ प्राचार्य **डॉ.सुनिल बा.आखरे** 

एम.ए.,एम.फील.,पीएच.डी भ्रमणध्वनी - ९९७०२८५०८९

जावक क्र. 8/2024

दिनांक 20/1/2024

#### Declaration

The information, reports, true copies of the supporting documents, numerical data etc. furnished in the file is verified and found correct.



Arts & Science College Kurha **Shri Ram Education Society's** 

ARTS AND SCIENCE COLLEGE KURHA,
DIST. AMRAVATI



# **GREEN AUDIT REPORT**

2022-2023



INTERNAL QUALITY ASSURANCE CELL (IQAC)

## Arts and Science College Kurha, Dist. Amravati

0

## GREEN AUDIT ASSESSMENT TEAM

Internal

Dr. Sunil B. Akhare

Head, Department of Geography

Maksanele

Dr. Kishor M. Taksande

Department of Geography

External

Dr. S. k. Tippat

Head, Department of Environmental Science Arts, Commerce and Science College, Kiran Nagar, Amravati

Principal

Arts & Science College

Kurha

Dr. Sachin K Tippat
Head, Dept. of Environmental Science,
Smt. Narsamma A. C. Sc. College, Kiran Nagar Amravati.

## Certificate

To.,

The Principal, Arts and Science College, Kurha Dist. Amravati

Sir,

9 9 9

As per your letter, (Re. No. 217/2022 ) dated on 17/2/22 regarding to undertake Green Audit of your institute, I the undersigned pleased to issue this certificate about different aspects covered during the audit. The aspects which are thoroughly explored during the onsite visits are

- 1. Biodiversity survey including possible flora and fauna
- 2. Rain water harvesting, and
- 3. Organic waste management.

The details of each and every aspect are attached herewith.

I hope that the finding of this audit would be used in creating awareness about biodiversity conservation as well as other environmental issues among the different stakeholders of your institute. The audit report also enriches your campus potential toward environmental conservation and management as per NAAC guidelines.

I appreciate the involvement of students, Principal, faculty members as well as the management toward waste management, water conservation and making the campus green.

Arts & Science College Kurha

With regards,

Dr. Sachin K Tippat

9320125680

## **CONTENTS**

43

-3

-4

....

4

4

æ.

4

4

(3

.

.4

-4

•

\*>

Š

ð

3

3

÷

þ

.3

| Şr. No.     | Titles /Topics           | Page No. |
|-------------|--------------------------|----------|
| 1           | Introduction             | 1        |
| 2           | Objectives               | 1        |
| 3           | About the College        | 2        |
| 4           | Biodiversity Audit       | · 3      |
|             | A. Trees                 | 4        |
|             | B. Climbers              | 6        |
|             | C. Seasonal herbs        | . 7      |
|             | D. Ornamental Flora      | 9 .      |
|             | E. Birds                 | 11       |
|             | F. Butterflies           | 13       |
|             | G. Moths                 | 14       |
| 5.          | Water Harvesting         | 15       |
| 6.          | Organic Waste Management | 16       |
| , <b>7.</b> | Annexure –1              | 18       |
| •           | • Annexure – 2           | 20       |
|             | • Annexure – 3           | 23       |
|             | Annexure – 4             | 25       |
|             | Annexure – 5             | 27       |
|             | Annexure – 6             | 30       |
|             | Annexure – 7             | 31       |

#### 1. INTRODUCTION:

A "Green Audit" is a process of systematic identification, quantification, recording, reporting, and analysis of components of environmental diversity of various establishments. It aims to analyze environmental practises within and outside of the concerned sites, which will have an impact on the eco-friendly ambience. A green audit can be a useful tool for a college to determine how and where they are using the available resources; the college can then consider 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 plans. It can create health consciousness and promote environmental awareness, values, and ethics. It provides staff and students a better understanding of the green impact on campus. If self-enquiry is a natural and necessary outgrowth of 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 the college evaluate 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.

#### 2. OBJECTIVES:

In recent times, the Green Audit of an institution has become one of the important features of the self-assessment of the institution. An institutional Green Audit reflects the degree of sensitivity its stakeholders have towards the environment. The college has been making efforts to keep our environment clean since its inception. But the auditing of this non-scholastic effort of the college has not been documented. Therefore, the purpose of the present green audit is to identify, quantify, describe, and prioritise the framework of environmental sustainability in compliance with the applicable regulations, policies, and standards. The main objectives of carrying out a Green Audit are:

- Identification of problems which will affect the effectiveness of institutional processes
- 2. To document the floral and faunal diversity of the college.
- Popularise waste reuse and the use of recycling methodology on campus.

- 4. To document the significance and effectiveness of the waste disposal system.
- To raise awareness among students and other stakeholders about real concerns about the environment, its sustainability, and related issues.

#### 3. ABOUT COLLEGE:

Arts & Science College, Kurha is an institution started in the year 1995 and devoted to students' welfare and education of poor people who live in rural areas. We focus on the overall development and empowerment of the student's moral, social, personal, intellectual, and professional abilities and strive to create a career-oriented attitude in them. We concentrate on excellence in every sphere of life and provide them with career-oriented education. In our institution, admitted girl students are more than boy students. The college offers two courses: one UG (Arts) programme and one PG (History) programme affiliated to SGB Amravati University. Amravati. The institution ensures equity and wide access by following the policy of merit and is well represented by students from different geographical areas and socio-economic, cultural, and educational backgrounds.

The vision of the college is to offer general education and cultural improvement, extra-curricular development, and focus on their overall development and to produce students who will be equipped to practise justice, honour, and charity in their various vocations in life.

The college conducts many activities to create environmental awareness among the students. Tree plantation is done every year by the National Service Scheme and Nisarga Mandal. Medicinal plants have also been planted in this Environmental complementary activities such as farms, compost fertiliser production projects, solar power projects, water harvesting, oxygen parks, soil and water testing laboratories, use of LED lamps, use of reading papers are implemented in the college. Through nature tours by the Nature Board, students are introduced to nature by taking them close to nature. A beautiful garden has been created in the college through the Garden Club, and various flowers and ornamental trees have been planted and maintained for the beautification of the college premises. Before Ganesh Chaturthi, a workshop is conducted to make idols of Ganesha made from eco-friendly clay. During the summer, water vessels are distributed to the birds to quench their thirst,

and a world sparrow day programme is organised at the college. Also, students are shown videos on wildlife and guest lectures are organized while celebrating festivals like Vasundhara Day, Wildlife Week, Biodiversity Day, Chimney Day etc. to create awareness about snake and tiger programmes organized by Sarpamitra and wildlife experts.

#### 4. BIODIVERSITY AUDIT

#### **Biodiversity Survey Of Institute**

Biodiversity provides a variety of environmental services from its species that are essential at the global, regional, and local level. The production of oxygen, the reduction of carbon dioxide, reduction in soil erosion, maintaining the water cycle, maintaining the bio-geo-chemical cycles and controlling soil, water and air pollution are some of the important services of plants. Therefore, preservation of biological resources is essential for nature's wellbeing and the long-term survival of mankind.

#### Floral Diversity Of Institutional Campus

Arts and Science College is one of the pioneering institutes of Amravati district, Maharashtra, India. It encompasses an area of about 2 and half acres. The area is immensely diverse, with a variety of trees, shrubs, and herbs as well as climbing species performing a variety of ecological functions. Most of these tree species are planted at different periods of time through various plantation programmes organised by the authorities and have become an integral part of the college. The trees of the college have increased the quality of life, not only for the college fraternity but also the people around the college in terms of contributing to our environment by providing oxygen, improving air quality, climate amelioration, conservation of water, preserving soil, and supporting wildlife, and controlling the climate by moderating the effects of the sun, rain, and wind. The leaves absorb and filter the sun's radiant energy, keeping things cool in summer. Many animals are dependent on these trees, mainly for food and shelter. Flowers and fruits are eaten by monkeys, and nectar is a favourite of birds and many insects. Leaf-covered branches keep many animals, such as birds and squirrels, out of reach of predators. Different species display a seemingly

endless variety of shapes, forms, textures, and vibrant colours. Even individual trees vary in their appearance throughout the course of the year as the seasons change.

The flora on the campus is critically surveyed in different localities of the campus during the late rainy season. Identification of flora was done with the help of taxonomic flora, literature, and the internet. Digital photographs were taken of some of the flora.

A recent study has revealed that the diversity of trees in the campus area consists of about 43 different species belonging to 18 families. The multiple individuals (more than 300) of such a tree flora have not only imparted the greenery but also sequestered a satisfactory amount of organic carbon. Besides trees, the campus also enriches the biodiversity through 25 shrubby species belonging to 17 different taxonomic families.

The wide area of the institution also shows seasonal floral diversity, which is not only a significant part as an ecosystem but also satisfies our academic ecological desirability. The area represents more than 23 species of climbers, comprising 13 families and 30 wild rain-fed herbaceous species belonging to 15 different families.

Thus, as part of welfare, the institute has been playing a significant role in maintaining the environment of the entire Kurha town and its surrounding areas.

The followingare the tree species with whom we are being attached-

A. Table: List of Trees in Campus

| Sr.No. | Name of Plant        | Familiy      | Common<br>Name | No. Of<br>Individuals |
|--------|----------------------|--------------|----------------|-----------------------|
| 1      | Aazadirachtaindica   | Meliaceae    | KaduNim        | 39                    |
| 2      | Acacia arabica       | Mimosaceae   | Babhul         | 03                    |
| 3      | Acacia leucophloea   | Mimosaceae   | Hiwar          | 06                    |
| 4      | Aeglemarmelos        | Rutaceae     | Bel            | 05                    |
| 5      | Albizziaodoratissima | Mimosaceae   | Chinchora      | 02                    |
| 6      | Alistoniascholaris   | Apocyanaceae | Saptaparni     | 08                    |
| 7      | Annonareticulata     | Annonaceae   | Ramphal        | 04                    |

| 8  | Annonasuamosa          | Annonaceae      | Sitaphal       | 30 |
|----|------------------------|-----------------|----------------|----|
| 9  | Balanitesroxburghii    | Zygophyllaceae  | Hinganbet      | 10 |
| 10 | Bauhinia purpurea      | Caesalpiniaceae | Kachnar        | 04 |
| 11 | Bauhinia racemosa      | Caesalpiniaceae | Apta           | 02 |
| 12 | Buteamonosperma        | Fabaceae        | Palas          | 02 |
| 13 | Cassia fistula         | Caesalpiniaceae | Amaltas        | 02 |
| 14 | Citrus lemon           | Rutaceae        | Limbu          | 03 |
| 15 | Dalbergiasisso         | Caesalpiniaceae | Sisso          | 04 |
| 16 | Dendrocalamusstrictus  | Poaceae         | Bamboo         | 23 |
| 17 | Oroxylumindicum        | Bignoniaceae    | Sonapatha      | 02 |
| 18 | Eugenia jambolina      | Euphorbiaceae   | Jambhul        | 01 |
| 19 | Feroniaelephantum      | Rutaceae        | Kawath         | 02 |
| 20 | Ficusbenghlensis       | Moraceae        | Bargad         | 02 |
| 21 | Ficusracemosa          | Moraceae        | Audumbar       | 01 |
| 22 | Ficusralegiosa         | Moraceae        | Pimpal         | 01 |
| 23 | Leucaenalatisiliqua    | Mimosaceae      | Subabhul       | 06 |
| 24 | Millingtoniahortansis  | Bignoniaceae    | Tree jasmine   | 02 |
| 25 | Peltophorumpterocarpum | Caesalpiniaceae | Sonmohar       | 01 |
| 26 | Phoenix dactilifera    | Arecaceae       | Khajur         | 01 |
| 27 | Phoenix sylvestris     | Arecaceae       | JangaliKhajur  | 02 |
| 28 | Phyllanthusemblica     | Euphorbiaceae   | Amla           | 01 |
| 29 | Pithecellobiumdulce    | Mimosaceae      | English chinch | 02 |
| 30 | Plumeriarubra          | Apocynacea      | Chapha         | 06 |
| 31 | Polyalthialongifolia   | Annonaceae      | Ashoka         | 02 |
| 32 | Pongamiapinnata        | Papilionaceae   | Karanj         | 60 |

| 33 | Psidiumguajava    | Myrtaceae       | Peru         | 03 |
|----|-------------------|-----------------|--------------|----|
| 34 | Roystonearegia    | Aracaceae       | Royal Palm   | 13 |
| 35 | Samaneasamen      | Mimosaceae      | Rain tree    | 02 |
| 36 | Sapindusmukorossi | Sapindaceae     | Ritha        | 01 |
| 37 | Tabebuiarosea     | Bignoniaceae    | Rosy trumpet | 01 |
| 38 | Tamarindusindica  | Caesalpiniaceae | Chinch       | 04 |
| 39 | Tectonagrandis    | Combretaceae    | Teak         | 15 |
| 40 | Terminaliacattapa | Malvaceae       | Kadubadam    | 01 |
| 41 | Ziziphusjujuba    | Rhamnaceae      | Bor          | 03 |
| 42 | Gmelinaarborea    | Lamiaceae       | Shivan       | 04 |

## B. Table: List of Climbers in Campus

| Sr.No. | Name of Plant           | Familiy        | Common Name |
|--------|-------------------------|----------------|-------------|
| 1      | Basela alba             | Basellaceae    | Wavding     |
| 2      | Capparishorrida         | Capparidacea   | Waghata     |
| 3      | Cardiopermumhelicacabum | Sapindaceae    | Ballon vine |
| 4      | Cayratiatrifolia        | Vitaceae       | Fox grape   |
| 5      | Clitoriaternatea        | Papilionaceae  | Gokarni     |
| 6      | Cocculushirsutus        | Menispermaceae | Wasanvel    |
| 7      | Convolvulousnodiflorus  | Convolvulaceae |             |
| 8      | Ctenolepisgarcini       | Cucurbitaceae  | Kidney vine |
| 9      | Cucumismelo             | Cucurbitaceae  | Sherni      |
| 10     | Cuscutareflexa          | Cuscutaceae    | Amarvel     |
| 11     | Diplocyclospalmatus     | Cucurbitaceae  | Shivlingi   |
| 12     | Epipremnumaureum        | Araceae        | Money plant |

| 13 | Hemidesmusindicus     | Asclepiadaceae | Anantmool        |
|----|-----------------------|----------------|------------------|
| 14 | Ipomoea hederifolia   | Convolvulaceae |                  |
| 15 | Ipomoea heterophylla  | Convolvulaceae |                  |
| 16 | Ipomoea muricata      | Convolvulaceae | Bhanvra          |
| 17 | Jasminumsambac        | Oleaceae       | Mogra            |
| 18 | Pergulariadaemia      | Asclepiadaceae | vine             |
| 19 | Rhynchosea minima     | Papilionaceae  | Burn-mouthvine   |
| 20 | Teramnuslabialis      | Papilionaceae  | Rabbit vine      |
| 21 | Thunbergiagrandiflora | Bigniniaceae   | Bengal clockvine |
| 22 | Tilosmapalida         | Asclepiadaceae | Jiwati           |
| 23 | Tinosporacordifolia   | Menispermaceae | Giloy            |

## C. Table: List of Seasonal Flora associated with campus

| Sr.No. | Name of Plant         | Familiy         |
|--------|-----------------------|-----------------|
| 1      | Acalyphaindica        | Euphorbiaceae   |
| 2      | Achyranthusaspera     | Amarantaceae    |
| 3      | Alternantherasessalis | Acanthaceae     |
| 4      | Amarantusspinosus     | Amrantacdeae    |
| 5      | Amarantusviridis      | Amrantacdeae    |
| 6      | Blumealacera          | Asteraceae      |
| 7      | Boerhaviadiffusa      | Nyctaginaceae   |
| 8      | Boerhaviapungens      | Nyctaginaceae   |
| 9      | Casiatora             | Caesalpiniaceae |
| 10     | Cleome viscosa        | Caparidaceae    |
| 11     | Commelinabenghlensis  | Cannaceae       |

| 12 | Croton bonplandanium      | Euphorbiacaea  |
|----|---------------------------|----------------|
| 13 | Cynadondactylon           | Poaceae        |
| 14 | Cyperousrotundus,         | Cyperaceae     |
| 15 | Daturaindica              | Solanacaea     |
| 16 | Datura metal              | Solanaceae     |
| 17 | Echinopsechinatus,        | Asteraceae     |
| 18 | Enicostemaaxillare        | Gentianaceae   |
| 19 | Euphorbia geniculata      | Euphorbiaceae  |
| 20 | Euphorbia heterophyla     | Euphorbiaceae  |
| 21 | Euphorbia hirta,          | Euphorbiaceae  |
| 22 | Goniogynahirta,           | Papilionaceae  |
| 23 | Indigoferalinai           | Papilionaceae  |
| 24 | Indigoferalinifolia,      | Papilionaceae  |
| 25 | Jatrophagosypifolia       | Euphorbiacea   |
| 26 | Malvastrum sp.            | Malvaceae      |
| 27 | Meremiagangetica          | Convolvulaceae |
| 28 | Oxalis corniculata        | Oxaloidae      |
| 29 | Papaversomniferum,        | Papaveraceae   |
| 30 | Partheniumhesterophorus   | Asteraceae     |
| 31 | Physalis minima           | Solanaceae     |
| 32 | Peristrophaebicaliculata, | Acantahaceae   |
| 33 | Phylanthus simplex        | Euphorbiacaea  |
| 34 | Polygonumplebejum,        | Polygonacaea   |
| 35 | Rhyncosea minima          | Papilionaceae  |
| 36 | Sidachordata              | Malvaceae      |

| Sidalinifolia        | Malvaceae  |
|----------------------|--|
| Solanumxanthocarpum, | Solanacaeae  |
| Soncusasper          | Asteracaeae  |
| Tephroseapurpurea    | Papilionaceae  |
| Tephroseavillosa     | Papilionaceae  |
| Tribulusterestris    | Menispermaceae   |
| Tricodesmazeylanica, | Scrophulariacea  |
| Tridaxprocumbance    | Asteraceae   |
| Vicoaindica,         | Asteraceae   |
| Withaniasomnifera    | Solanaceae   |
|                      | Solanumxanthocarpum,  Soncusasper  Tephroseapurpurea  Tephroseavillosa  Tribulusterestris  Tricodesmazeylanica,  Tridaxprocumbance  Vicoaindica, |

## D. Table: List of Ornamental Flora domesticated in campus

| Sr.No. | Name of Plant               | Familiy       |
|--------|-----------------------------|---------------|
| 1      | Acalyphawilkesiana          | Euphorbiaceae |
| 2      | Agave sps.                  | Agavaceae     |
| 3      | Aloe vera                   | Liliaceae     |
| 4      | Barleriacristata            | Acanthaceae   |
| 5      | Calanchoeblassofeldiana     | Crassulaceae  |
| 5      | Canna indica                | Cannaceae     |
| 7      | Coleus sps.                 | Lammiaceae    |
| 3      | Commelinabenghalensis       | Commelonaceae |
| )      | Coriopsisauriculata         | Asteraceae    |
| 10     | Crossandrainfundibuliformis | Acanthaceae   |
| 1      | Cycusreticulata             | Cycadaceae    |
| 2      | Cympopogoncitratus          | Poaceae       |

| 14Dianthus chinensisCarryophylaceae15Dieffenbachia spsAraceae16EpipremnumaureumAraceae17EranthemumroseumAcanthaceae  |  |
|--|--|
| 16 Epipremnumaureum Araceae 17 Eranthemumroseum Acanthaceae  |  |
| 17 Eranthemumroseum Acanthaceae  |  |
|  |  |
| William Market and the Control of th |  |
| 18 Euphorbia milli Euphorbiaceae   |  |
| 19 Ficuscompacta Moraceae  |  |
| 20 Ficuselastica Moraceae  |  |
| 21 Gerbera sps. Asteraceae   |  |
| 22 Heliconiasps. Musaceae  |  |
| 23 Ixorasps. Rubiaceae   |  |
| 24 Jasminumsambac Oleacaea   |  |
| 25 Nephrolepisexaltata Polyporaceae  |  |
| 26 Oxalis triangularis Oxalidaceae   |  |
| 27 Poinsettia sps. Euphorbiaceae   |  |
| 28 Rosa alba Rosaceae  |  |
| 29 Tagetiserecta Asteraceae  |  |
| 30 Tecomastans Bignoniacea   |  |
| 31 Thevetiaperuviana Apocynaceae   |  |
| 32 Thujaoccidentalis Cupressaceae  |  |
| 33 GillardiaSps. Asteraceae  |  |
| 34 Hibiscus rosasinensis Malvaceae   |  |
| 35 Allamondacathertica Apocynaceae   |  |
| 36 Senstrumnoctarnum Oleaceae  |  |
| 37 Catheranthusroseus Apocynaceae  |  |
| 38 Neriumodorum Apocynaceae  |  |

#### E. Birds Diversity:

Among all wildlife, birds are one of the most common wildlife in urban areas such as neighbourhoods and cities, and many bird populations have been declining as a result of landscape changes due to urban expansion. At the local level, these major changes include high rates of land conversion into urban uses and increasing human pressure on biodiversity due to rapid population growth.

Due to the important role that birds play in maintaining ecosystems and supporting biodiversity, many seek their protection to manage biological threats and efficiently protect the environment.

Birds fulfil many ecological functions in their habitats. For instance, they are bio indicators of healthy ecosystems. In addition, insectivorous species and raptors regulate disease vectors, including mosquitoes and rodents. Scavenger birds, such as the Pied Crow (*Corvusalbus*), contribute to biomass recycling and to some degree reduce levels of disposable wastes. Frugivorous birds play an important role in seed dispersal of fleshy fruit-producing plants. Birds are also important in plant pollination as demonstrated by sunbirds, which participate in crossbreeding of flowering plants, especially those with bird-pollination syndrome.

Table: List of Birds associated with campus

| Sr.No. | Scientific Name of bird | Common Name              | Marathi Name  |
|--------|-------------------------|--------------------------|---------------|
| 1      | Metacillia alba         | White Wagtail            | Pandharaparit |
| 2      | Metacilliaflava         | Yellow Wagtail           | PiwlaParit    |
| 3      | Athenebrama             | Spotted Owlet            | Ghubad        |
| 4      | Accipiter badius        | Shikra                   | Shikra        |
| 5      | Vanellusindicus         | Red Wttteled Lapwing     | Titwi         |
| 6      | Vanellusmalarbaricus    | YelowWttteled<br>Lapwing | Ran Titwi     |
| 7      | Eudynamysscolopacea     | Asian Koel               | Kokila        |

| 8  | Centropussimensis        | Gretercaucal                 | Bharadwaj     |
|----|--------------------------|------------------------------|---------------|
| 9  | Egrettagarzettre         | Littel egret                 | Bagla         |
| 10 | Ardeolagrayii            | Indian pond Heron            | Bhurhabagla   |
| 11 | Elanuscaeruleus          | Black shoulder Kite          | Kapsi         |
| 12 | Columbia livia           | Rock pegeon                  | GanjliKabuter |
| 13 | Streptopeliadecaocto     | Euresian collar dove         | GorhaHola     |
| 14 | Streptopeliochinensis    | Spotted Dove                 | Kawda         |
| 15 | Streptopeliasenegalensis | Loughing Dove                | Bhori         |
| 16 | Psittaculakrameri        | Rose ringed Parakeet         | Tota          |
| 17 | Halcyon smyrnesis        | White throated<br>Kingfisher | Kilkila       |
| 18 | Alcedoatthis             | Common Kingfisher            | Кһалdуа       |
| 19 | Meropsorientalis         | Green Bee Eater              | WedaRagho     |
| 20 | Coraciasbenghalensis     | Indian Roller                | Nilkanth      |
| 21 | Dicrurusmacrocercus      | Black Drongo                 | Kotwal        |
| 22 | Acridotherestristis      | Common Myna                  | Мупа          |
| 23 | Pycnanatuscafer          | Red-vented Bulbul            | Bulbut        |
| 24 | Terdoidesstriatus        | Jungle babler                | Satbhaí       |
| 25 | Sturniapagodarum         | Brahminy Starling            | BranhiMyna    |
| 26 | Acredotherestristis      | Common Myna                  | Salunki       |
| 27 | Orialusorialus           | Euretian Golden<br>Oriole    | Haldya        |
| 28 | <i>Upupaepops</i>        | Соттол Ноорое                | Hudhud        |
| 29 | Pitta brachyura          | Indian Pitta                 | Navrang       |
| 30 | Lonchuramalberica        | Indian Silver bill Minia     | Mal Minia     |

| Passer domesticus    | House Sparrow  | Chimni   |
|----------------------|--|--|
| Repirhipiduraaureola | White browed Fantail   | ShubhraBhuwaiNartak  |
| Arthrotomussutorius  | Tailor Bird  | Shimpi   |
| Copsychussaularis    | Robin  | Dayal  |
| Copsychusfulicatus   | Indian Robin   | Robin  |
| Nectariniaasiatica   | Purple Sunbird   | Surya Pakshi   |
|                      | Repirhipiduraaureola  Arthrotomussutorius  Copsychussaularis  Copsychusfulicatus | Repirhipiduraaureola White browed Fantail  Arthrotomussutorius Tailor Bird  Copsychussaularis Robin  Copsychusfulicatus Indian Robin |

#### F. Butterfly Diversity

Butterflies play vital role in the ecosystem, there is co-evolutionary relationship between butterflies and plants, their lives are interlinked. Butterflies are also called flying flower, displaying its beauty. These insects enhance the aesthetic value of the environments by their exquisite wing colors. Butterflies are the wild indicators of the ecosystem; these insects tell us everything about the healthier ecosystem. These are effective pollinators, butterflies visit the flower to eat nectar and this is mutually beneficial relationship. Some species of butterflies migrate over long distance; carry pollen to be shared across plants which are far apart from one another. This migration of pollen induces genetic variation in plants species and in turn gives a better chance at survival against different diseases. These insects also provide food for other organisms, for example; birds, reptiles amphibians and also acts as biological pest control. But the population of these insects decline rapidly due to human activities, habitat destruction, uses of pesticides and unawareness of people about the importance of these "flying flowers."

Table: List of Butter flies associated with campus

| Sr.No. | Scientific Name of bird | Common Name           |
|--------|-------------------------|-----------------------|
| 1      | Catopsiliapomona        | Common Emigrant       |
| 2      | Catopsiliapyranthe      | Mottled Emigrant      |
| 3      | Euremahecabe            | Common grass yellow   |
| 4      | Euremaundersoni         | One spot Grass yellow |

| 5  | Euremablanda       | Three spot Grass yellow |
|----|--------------------|-------------------------|
| 5  | Dannuschrysipus    | Plian Tiger             |
| 6  | Dannusgenutia      | Stripped Tiger          |
| 7  | Tirumalalimniace   | Blue Tiger              |
| 8  | Euploea core       | Common Crow             |
| 9  | Melanitesleda      | Common Evening Brown    |
| 10 | Junoniaarithiya    | Yellow panncy           |
| 11 | Junoniahierta      | Lemon Pancy             |
| 12 | Hypolimnasmisippus | DanaidEggfly            |
| 13 | Papiliopalytes     | Common mormon           |
| 14 | Delias eucharis    | Common Jazbel           |
| 15 | Jamidesceleno      | Common Cerulean         |
| 16 | Pelopidas mathias  | Small Branded Swift     |
| 17 | Acraeaterpsicore   | Towny Caster            |
| 18 | Hypolimnosbolina   | Great Eaglefly          |
| 19 | Barbacinnara       | Rice swift              |
| 20 | Gra[phiumagamemnon | Tailed Jay              |
| 21 | Belenoisaurata     | Pioneer                 |

#### G. Moths Diversity

Both adult moths and their caterpillars are food for a wide variety of wildlife, including other insects, spiders, frogs, toads, lizards, shrews, hedgehogs, bats and birds. Night-flying adult moths form a major part of the diet of bats. Many birds eat both adult moths and their caterpillars, but the caterpillars are especially important for feeding the young ones. Moths also play a vital role in telling us about the health of our environment, like the canary in the coalmine. Since they are so widespread and found in so many different habitats, and are so sensitive to changes, moths are particularly useful as indicator species.

Table: List of Moths associated with campus

| Sr.No. | Scientific Name of Moths | Common Name         |
|--------|--------------------------|---------------------|
| 1      | Antheraeapaphia          | Tussar silk Moth    |
| 2      | Trigonodeshyppasia       | Semi-looperMotyh    |
| 3      | Microniaaculeata         | Uranidae Moth       |
| 4      | Manginaastrea            | Borer Moth          |
| 5      | Acherontiastyx           | Hawk Moth           |
| 6      | Hemitheaaestivaria       | Emrald Moth         |
| 7      | Loboschizakoenigiana     | Tortrix Moth        |
| 8      | Morucavitrata            | Mung moth           |
| 9      | Spodopteralitura         | Leafworm Moth       |
| 10     | Theretrasuffusa          | Hunter hawk Moth    |
| 11     | Achaea janata            | Semi-looper Moth    |
| 12     | Daphanisnerii            | Oleander Hawk Moth  |
| 13     | Junoniacoenia            | common buckeye moth |

### 5. Rain Water Harvesting:

Water scarcity is serious problem throughout the world for both urban and rural community. Urbanization, industrial development and increase in agricultural field & production has resulted in overexploitation of groundwater and surface water resources and resultant deterioration in water quality. The conventional water sources namely well, river and reservoirs, etc. are inadequate to fulfil water demand due to unbalanced rainfall. Therefore, the rainwater harvesting system investigates a new water source for the community.

For the conservation of rain water the college management has initiated and executed the rooftop rainwater harvesting of main building of the campus. Rain water is collected from rooftop by down takes, connected to a common header and led to a common pit associated with bore well at back side of the campus. The pit is dug out in the vicinity of bore well to recharge it. The dimension of pit is 3m x 2m x 2m (423.36 Cubic Feet). The pit is filled in sedimentary form using boulder, brick fragments, gravel and sand subsequently. The leading casing pipe is fitted with a porous drum to avoid the choke up and later the drum is dumped at top of the pit. Thus the rain water is channelized through a PVC pipe drainage system to the ground water table directly. The percolated water not only recharges the groundwater table but also provides adequate moisture to the flora in the campus during the summer season.

The total open terrace area of the main building amounts to **2000** square feet. Rainfall calculator: A 10 - square feet area receives 1 litre of water if the rainfall is 1 mm. The average rainfall per year is 800 mm in the district. Hence, the total volume of water received on the 2000 square feet area of the terrace (800 mm  $\times$  2000 square feet) = **16,00,600 litres** per year

#### 6. Organic Waste Management:

For the sustainable development of the society it is very important to judiciously handle the environmental issues like the solid waste management. In order to manage the solid waste effectively we need to understand its composition and all the activities that follow once the waste is generated. Basically composition and characteristics of the waste depend on a whole lot of factors and also vary periodically. Different approaches can be employed for the management of the solid waste, depending upon the factors such as varying composition and quantity. The management of solid waste becomes further more necessary with increasing pollution and other hazardous consequences due to the generation of waste. Waste is growing at an exponential rate in India due to the rapid urbanization and the industrialization.

The solid waste generated at the Institute constitutes large amount of recyclables which can be recovered if proper solid waste management system is used. Thus to mitigate the problem an integrated approach can be adopted for the disposal of the waste. The organic part of the waste can be turned into manure by using sustainable practices such as composting and vermin-composting.

The present Institute has a green campus area (2.5 acre) associated with a more than 300 tree individuals along with avenue garden. Thus the floral diversity generates about 50 Kg solid organic wastes per week. Besides, the campus cleanliness activities also collect adequate organic waste periodically. Thus in order to mitigate the sanitary problem and to satisfy the garden manure need, institute has decided to carry out organic waste composting project.

For the project horticultural waste, such as dried leaves or plant clippings, certain amount of grass waste which is biodegradable collected from garden as well as open spaces is used. The compost pit of 7 feet X 7 feet X 6 Feet (294Sq.Feet) size is constructed at the backyard area. The pit is filled with plant waste, cattle dung and soil in sedimentary form once in a season. About 500 Kg. wet waste is composted after every six months to produce about 300 kg. compost manure.

#### Floristic richness of the Institute

Annexure: 1





Entry view of the Institute

Side view of the Campus





Front views of the Campus exhibiting Palm Avenue





Border views of Campus showing Floristic richness



Bamboo plantation along with the Campus



Ornamented section of the Campus



Medicinal species plantation



Rich population of Argimone mexicana



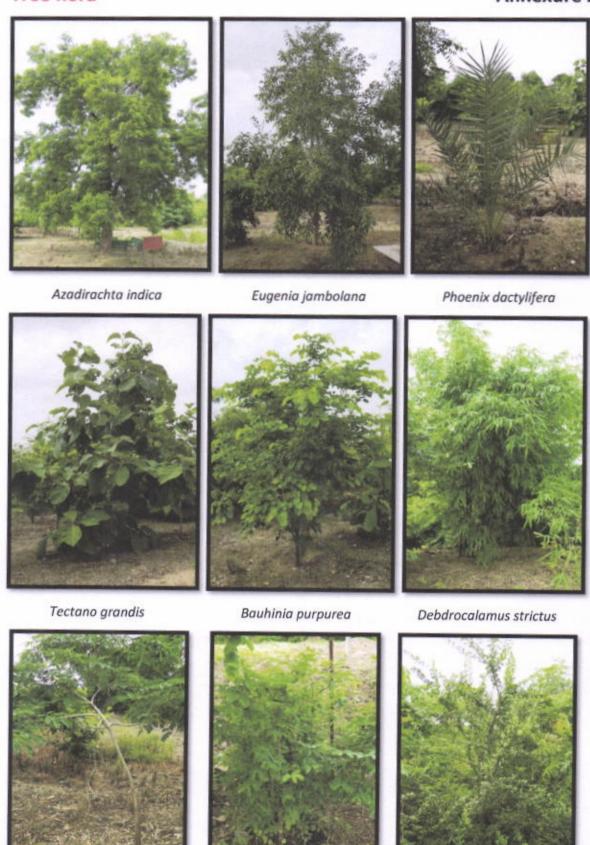
Golden blossom of Thevetia



Helthy habit of Cycas

#### Tree flora

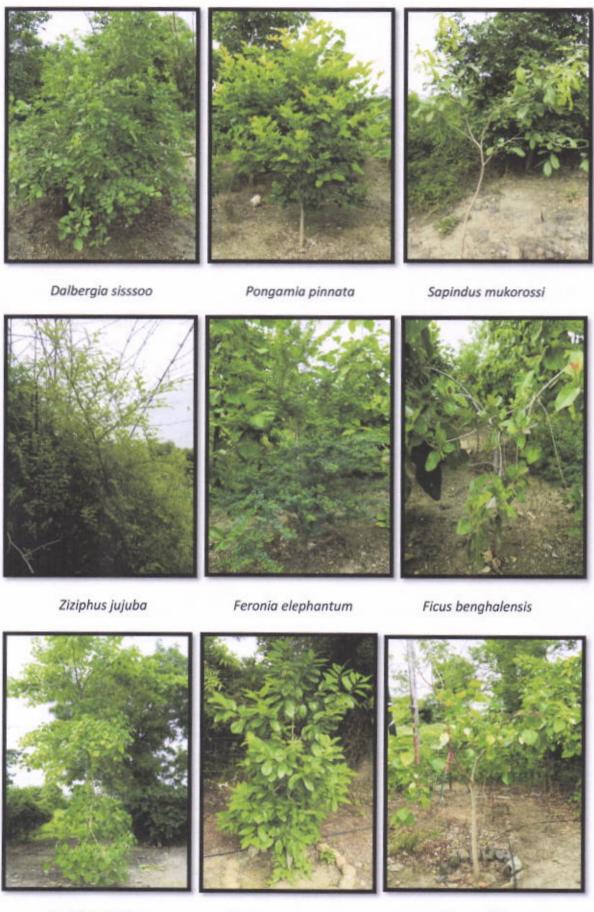
#### Annexure 2



Albizia odoratisiema

Tamarindus indica

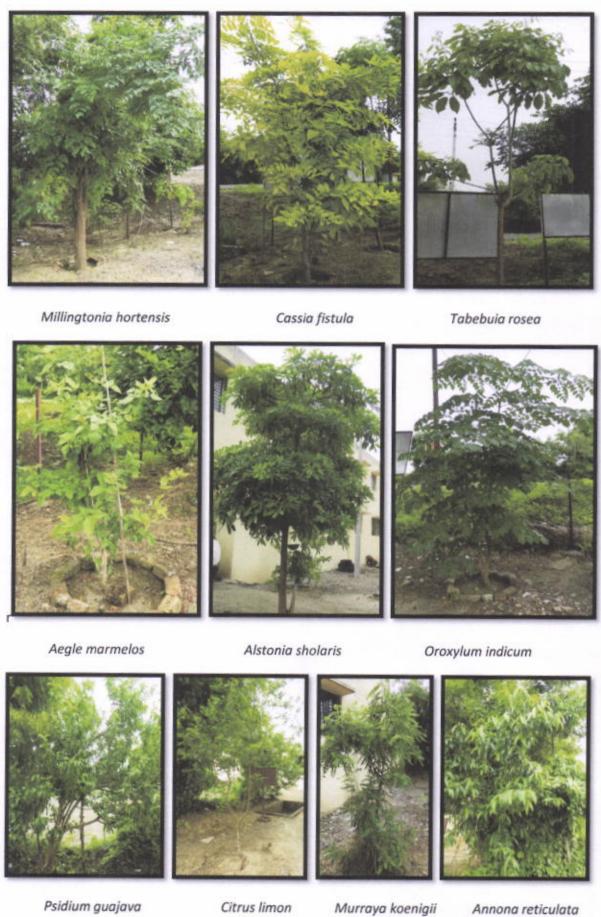
Balanites aegyptiaca



Gmelina arborea

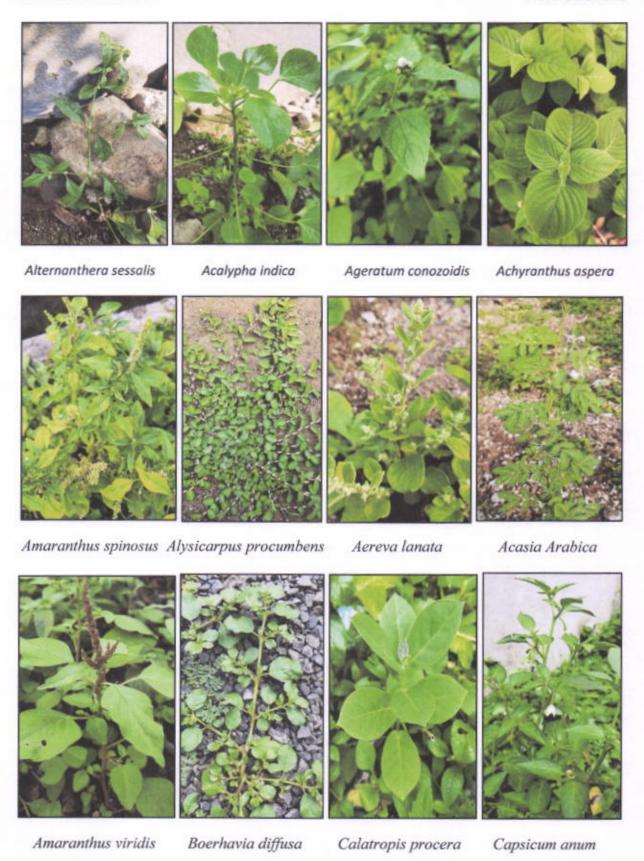
Annona squamosa

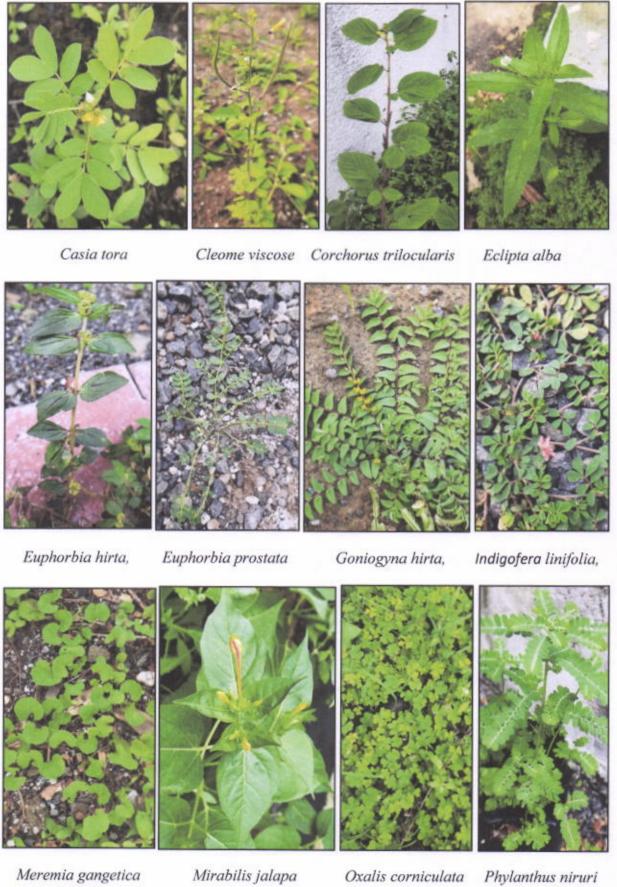
Ficus religiosa

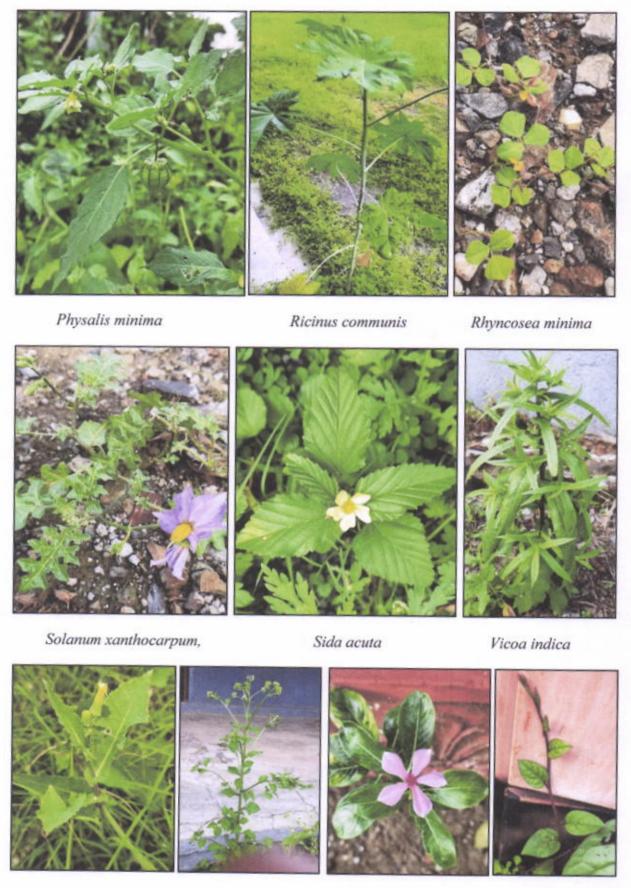


Murraya koenigii

Seasonal herbs Annexure 3







Soncus asper

Vernonia cinera

Vinca rosea

Bassela alba

#### **Ornamental Flora**

#### Annexure 4







Aster amellus

Jasminum sambac

Thunbergia grandiflora







Hibiscus rosa sinensis

Cana indica

Eranthemum nervosum





Thevetia peruviana

Oxalis triangularis







Euphorbia splendance

Acalypha wilkesiana

Rosa alba





Ixora coccinea

Heliconia rostrata







Barleria cristata

Agave Americana

Mimosa pudica

## **Bird Fauna Associated with Campus**

#### Annexure 5







Pycnotus cafer







Merops orientalis







Halcyon smyrnensis

Ciconia episcopus

Ardeola grayii







Female - Eudynamys scolopacea Male

Turdoides striata







Oriolus oriolus

Egretia garzetta







Cosychus saularis

Passer domesticus

Nectarinia asiatica







Columba livia

Upupa epops

Vnellus indicus

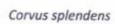




Streptopelia senegalensis

Pavo cristatus







Centropus sinensis

### Insect fauna Annexure 6







Junonia coenia

Eurema hecabe

Euploea core







Dannus chrysipus

Papilio demoleus

Moth



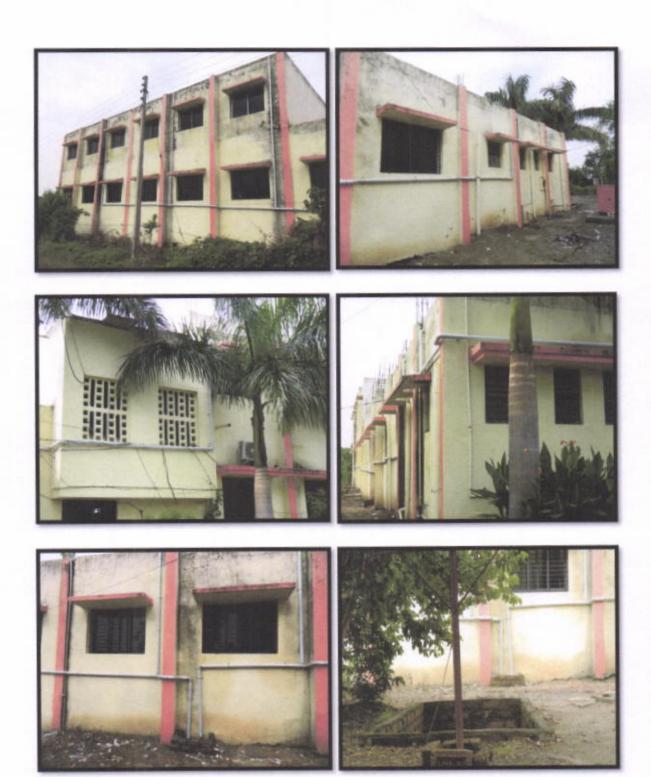




Moth

Xylocopa spp.

Apis dorsata



Water Harvesting Network covering all the catchment area

#### **Eco-Friendly Activities**

#### Annexure 8

#### **Water Harvesting**



Rain Water Harvesting Farm pond



Solid waste management system

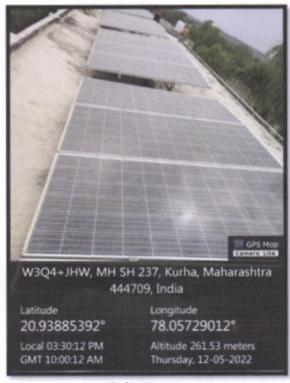
#### **Invited Talks**



Wildlife Conservation Week



**Earth Day** 



Solar Energy