

**S.N.MOR COLLEGE OF ARTS & COMMERCE & SMT. G. D.
SARAF SCIENCE COLLEGE, TUMSAR. DIST. BHANDARA-
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GREEN AUDIT REPORT 2023-2024

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Green Audit Report

In recent past, due to the rapid urbanization, economic development and heavy industrialization at different level, led to severe damage to the environment. Such type of activities lead to imbalance of the environment, which affected the environment. The consequences of such activities are, increase in the greenhouse gases, increase in temperature, increase in pollution at all levels, reduction in green coverage, reduction in the number of fauna, cumulative effect of above in the imbalance of biodiversity on the earth.

Keeping in mind the present consequences experimenting by the flora and fauna on the earth, it becomes necessary to save the earth and nurture the nature at different level.

S. N. Mor College of Arts, Commerce and Smt. G. D. Saraf Science College Tumsar is deeply concerned and unconditionally believe and soldiering social responsibility that there is an urgent need to address the fundamental issues and reverse the trends at some extents.

The purpose of green audit was to ensure that the practices followed on the campus are in accordance with the green policy adopted by institution.

The methodology included physical inspection of the campus flora and fauna; observation, review, documentation and recommendation.

The green audits includes water conservation, tree plantation, waste management, paperless work, alternate energy, and use of low energy consuming bulbs and tubes.

Keeping in mind, the above mentioned green issues the green audit was started with following objectives.

1. Objective of green audit:

The main objective of green audit is to promote the environment measurement and its conservation on the college campus for sustainable environmental practices by adopting

- a) Identification
- b) Quantification
- c) Documentation
- d) Recommendation

2. Methodology :-

In order to perform the methodology used were –

- i) Physical inspection of campus (Observation)**
- ii) Quantification**
- iii) Documentation**
- iv) Data analysis and measurements**
- v) Recommendation**

The audit was done on the following area on the college campus-

- **Water management**
- **Energy conservation**
- **Waste management**
- **E-waste management**
- **Biodiversity management**

➤ Water management:-

Observations: - The major source of water in the college is the college well; bore well, municipal water connection. The well water is used for toilet, bathroom and gardening. The waste water from RO-water purifier is being used for gardening purpose. The rain water is collected in a container and used as de-ionized water in the laboratories as distilled water. During visit it was observed that no loss of water neither by any leakage nor by overflow of water from overhead tanks. The usage of water has been reduced to the minimum level which includes domestic laboratories drinking purpose and gardening purpose. Rain water harvesting facilities function for recharging ground water table in well.

Recommendation:-

- In campus, small scale reused and recycle of water system be installed.
- Minimize the wastage of water and use of electricity during water filtration process by installing more star rating instruments and undertake regular servicing.

➤ Energy conservation

Energy sources utilized by the campus are electricity and solar panel. The entire outer campus ground area is installed with solar panel where alternate renewable source of energy is being used. The offices and the principal cabin are equipped with LED lamps and Tube lights. The college

classrooms and halls are installed mainly by florescent tubes; however LED tub lights have been installed in some laboratories and rooms. Computers are set to automatic saving mode when not in used. Every room's electricity power is controlled by separate switches. Peons are deputed for switch on/off the fan and lights of the institution rooms, offices after occupancy time.

Recommendation:-

- Gradual replacement of fluorescent tube lights by installing LED lamp/ LED Tubes.
- More star rating instruments / fan / refrigerator.
- Timely servicing of fan should be undertaken
- Installation of more number of solar based renewable energy source panels.

➤ **Waste management:-**

This parameter includes waste produced like paper, food, plastics, and glass, dust and laboratory hazardous chemicals. Solid waste generation and management is burning issue. Unscientific handling of solid waste and chemical waste can create threat to everyone. The audit focuses on volume, type, current management of solid and liquid waste generated on the campus.

Observation:-

The waste is segregated at sources by providing separate dust bins for dry and wet waste and collected by Municipal Corporation Ghanta Gadi and disposed them by their practices. Paperless communication/correspondance is in practice through what's App and other media sources. The waste generated newspapers, magazines, Very less plastic waste is generated by department, office, garden etc... Hazardous chemical waste collected separately and disposed them on bare land.

Recommendation:-

- Safe disposal of computer and electric appliances waste.
- Use reusable resources and containers.
- Avoid use of plastic on college campus.
- Avoid use of non-degradable plastic wares in the home- economics laboratories, college canteen and other laboratories of the college.
- Use of both sides of papers while printing.
- Educate the students and others to stop the use of non- degradable plastics and plastic wares.

➤ Biodiversity management:-

Biodiversity includes all the living organisms like plants, animals, fungi, bacteria etc., living on the earth. These organisms show a crucial role in the maintenance of ecological balance as they are living interdependently.

Observation:-

The college is located in the vicinity of a peaceful, pollution free area of the town. The forest area starts about 1.5 km from the college which provides fresh air to the college campus. There is a botanical cum medicinal plant garden present in the college. About 56 plant species are present on the college campus (**Appendix-I**). Tree plantation is observed every year in the college. In the rainy season, a plantation drive was observed along with the students, N.S.S., N. C. C. and plantation committee of the college. However, due to heavy summer heat (47°C- 48°C) most of the plants die. Various tree plantation programs are being organized at the college campus and at surrounding villages through N. S. S., N. C. C. These programmes help in encouraging an eco-friendly environment which adds pure oxygen within the institute and awareness among villagers. The plantation programme includes various types of indigenous species of ornamental and medicinal value plant species in the college medicinal plant garden.

In the college corridor, about 120 potted plants of ornamental value are placed which increase the green coverage inside the building. In the college botanical/medicinal plant garden plants are named scientifically.

Animals are of great importance in cleaning the atmosphere and maintain the earth's ecological balance. On the college campus, animals like Crow, Sparrow, Grasshoppers, Butterfly, Moths, Bugs, Mantis, Dragon fly, Damselfly, Honey bees etc., are in habitat on various objects (**Annexure-II**). Many fungi species are also known to grow on cow dung, dead plant parts, on soil are of great importance, since they are the decomposers.

Various departments of the college organized a programme on environmental protection of the ozone layer. Awareness programs on various issues related to environment and its protection by various ways (like debate, poster exhibition competition, wild life week celebration etc.) indeed, B. A., B. Sc. and B. Com. IInd year students participated in environmental studies as per the instructions of Hon'ble supreme court of India. These green issues were organized with aim to uncalculated the importance of environment among the students.

Recommendations:-

- Increase the frequency of plantation programme outside the college campus with community.
- Select xerophytic plants species or plants which survive in strong heat/ summer for plantation programme, since the area suffers with extreme hot summer.
- Increase the number of medicinal value plant species in medicinal plant garden.
- Involve and encourage more and more students in environmental activities like plantation and programme related to environment.

Conclusion:-

Upon observation and analysis, considering the actual facts the following observations/ conclusions are noted:-

- There are significant activities on environmental issues like organization of plantation programs .The college is located in pollution free zone
- The installation of Solar panels (5 nos.) and rain water harvesting system are noteworthy which reduces the extra load on conventional electric energy.
- There is a good practice of collecting rain water and use as distilled for laboratory work.
- There is well naturally illuminated and ventilated college buildings, class rooms, hall and laboratories.
- Many students, about 90% using bicycle to attend college, some by public transport and others by foot.
- Most of the staff using motor cycles to attend college.
- Overall observation is satisfactory; however there is need to increase the green coverage on the college campus.

(Dr. J. V. Chaudhary)
Convener Green Audit Committee

Members of Green Audit Committee

1. Dr. M. F. Jadhao
2. Dr. P.A. Dhakite

Appendix-I

| Sr. No | Scientific Name of plants | Common/ local Name of plants |
|--------|--|------------------------------|
| 1. | <i>Abrus precatorius</i> L. | Gunja |
| 2. | <i>Andrographis paniculata</i> (Burm. f.) Wall | Bhuincemb |
| 3. | <i>Argyreia nervosa</i> (Burm. f.) Bojer | Samudrashok. |

| | | |
|-----|---|--------------------------|
| 4. | <i>Annona reticulata</i> L. | Ramphal |
| 5. | <i>Bauhinia racemosa</i> Lam | Bahava |
| 6. | <i>Baliospermum montanum</i> (Willd.) Muell | Danti, Jamalgota, Sapidi |
| 7. | <i>Cassia fistula</i> L. | Bahava |
| 8. | <i>Clerodendrum infortunatum</i> auct. non L. | |
| 9. | <i>Emblica officinalis</i> Gaertn | Awala |
| 10. | <i>Justicia adhatoda</i> L | Adulsa |
| 11. | <i>Nopalea cochenillifera</i> (L.) Salm.-Dyck | Cactus |
| 12. | <i>Pithecellobium dulce</i> (Roxb.) Bth | Chichbul |
| 13. | <i>Sapindus emarginatus</i> Vahl | Ritha |
| 14. | <i>Santalum album</i> L | Chandan |
| 15. | <i>Morus alba</i> L | Shahtut, Tut, Tuti |
| 16. | <i>Plumbago zeylanica</i> L. | Chitrak |
| 17. | <i>Clitoria ternatea</i> L. | Gokaran |
| 18. | <i>Phyllanthus reticulatus</i> Poir. | Pisondi |
| 19. | <i>Tectona grandis</i> L. | Sag / Sagwan |
| 20. | <i>Ficus benjamina</i> L. | |
| 21. | <i>Ficus religiosa</i> L | Papal |
| 22. | <i>Mangifera indica</i> L. | Amba |
| 23. | <i>Ventilago denticulata</i> Willd | Lokhandi |
| 24. | <i>Nyctanthes arbor-tristis</i> L | Parijatak |
| 25. | <i>Asparagus recemosus</i> L. | Shatavari / Marbad |
| 26. | <i>Moringa oleifera</i> Lam | Mungana |
| 27. | <i>Syzygium cumini</i> (L.) Skeels | Jambhul |
| 28. | <i>Azadirachta indica</i> A. Juss | Kadunimb |
| 29. | <i>Aegle marmelos</i> (L.) Corr | Bel |
| 30. | <i>Terminalia cuneata</i> Roth | Arjuna |
| 31. | <i>Vitex negundo</i> var. <i>negundo</i> L. | Nirgudi |
| 32. | <i>Bixa orellana</i> L. | Shendari |
| 33. | <i>Ocimum tenuiflorum</i> L | Tulasi |
| 34. | <i>Euphorbia serpens</i> Benth. | |
| 35. | <i>Geoderum recurvum</i> Alston | Orchids |
| 36. | <i>Datura inoxia</i> Mill | Dhotara |
| 37. | <i>Datura metal</i> L. | Dhotara |
| 38. | <i>Commelina benghalensis</i> L. | Kena |
| 39. | <i>Commelina hasskarlii</i> C. B. Clark | Kena |
| 40. | <i>Curculigo orchiioides</i> Gaertn. | Kali musali |
| 41. | <i>Hybanthus enneaspermus</i> (L.) F. Muell | |
| 42. | <i>Chlorophytum tuberosum</i> (Roxb.) Baker | Safed musali |
| 43. | <i>Amorphophallus margaritifera</i> (Roxb.) Kunth | Suran |
| 44. | <i>Hemidesmus indicus</i> (L.) R. Br. | Khobarvel |
| 45. | <i>Passiflora foetida</i> L. | Gangurali |
| 46. | <i>Tinspora glabra</i> (Burm. f.) Merril | Gulvel |
| 47. | <i>Barleria cuspidata</i> Heyne ex Nees | |
| 48. | <i>Calotropis gigantea</i> (L.) R. Br. | Rui |

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|-----|--|------------|
| 49. | <i>Alstonia scholaris</i> (L.) R. Br | Satvin |
| 50. | <i>Rauvolfia serpentina</i> (L.) Benth. Ex Kurz. | Sarpgandha |
| 51. | <i>Rauvolfia tetraphylla</i> L. | |
| 52. | <i>Withania somnifera</i> (L.)Dunal | Aswagandha |
| 53. | <i>Tribulus terrestris</i> L. | |
| 54. | <i>Dichrostachys cinera</i> (L.)Wight & Arn. | |
| 55. | <i>Sauromatum venosum</i> L. | Kevkad |
| 56. | <i>Typhonium inopinatum</i> Prain | Undirkani |

Appendix-II

| Sr. No | Scientific Name of Animal | Common Name of Animal |
|--------|------------------------------------|-----------------------|
| 57. | <i>Labeo rohita</i> | Rohu |
| 58. | <i>Cirrhina mrigala</i> | Mirgal |
| 59. | <i>Catala catala</i> | Catala |
| 60. | <i>Clarius batracus</i> | Vagur |
| 61. | <i>Ophiocephalus morulus</i> | Marad |
| 62. | <i>Lizards (Wall)</i> | |
| 63. | <i>Lizards (Garden)</i> | |
| 64. | <i>Rana tigrina</i> | Frog |
| 65. | <i>Buffo sp.</i> | Tod |
| 66. | <i>Tortoise</i> | |
| 67. | <i>Crab</i> | |
| 68. | <i>Grasshopper</i> | |
| 69. | <i>Bugs species</i> | |
| 70. | <i>Dragon fly</i> | |
| 71. | <i>Damsel fly</i> | |
| 72. | <i>Butterfly species</i> | |
| 73. | <i>Moths</i> | |
| 74. | <i>Honey bees</i> | |
| 75. | <i>Himantopus himantopus</i> | Black-Winged Stilt |
| 76. | <i>Tringa glareola</i> | Wood Sandpiper |
| 77. | <i>Charadrius dubius</i> | Little ringed plover |
| 78. | <i>Ardea purpurea</i> | Purple Heron |
| 79. | <i>Ciconia boyciana</i> | Oriental stork |
| 80. | <i>Pseudibis papillosa</i> | Black Ibis |
| 81. | <i>Threskiornis melanocephalus</i> | Black Headed Ibis |
| 82. | <i>Meros orientalis</i> | Green Bee-Eater |
| 83. | <i>Eudyna mysscolopacea</i> | Asian Koel |
| 84. | <i>Clamator jacobinus</i> | Pied Cuckoo |
| 85. | <i>Falco tinnuculus</i> | Common Indian Kestrel |
| 86. | <i>Grus grus</i> | Common Crane |
| 87. | <i>Luscinia luscinia</i> | Bluethroat |
| 88. | <i>Luscinia alba</i> | Thrush Nightingale |

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|------|-----------------------------------|--------------------------|
| 89. | <i>Saxico latorquata</i> | Common Stone Chat |
| 90. | <i>Sturnus malabaricus</i> | Chestnut-Tailed Starling |
| 91. | <i>Sturnus roseus</i> | Rosy Starling |
| 92. | <i>Hirundo daurica</i> | Striated Swallow |
| 93. | <i>Riparia riparia</i> | Sand Martin |
| 94. | <i>Hirundo rustica</i> | Bran Swallow |
| 95. | <i>Motacilla alba</i> | White Wagtail |
| 96. | <i>Motacilla flava</i> | Western Yellow Wagtail |
| 97. | <i>Anthusri chardi</i> | Richards Pipit |
| 98. | <i>Lanius collurio</i> | Red-backed Shrike |
| 99. | <i>Acrocephalus bistrigiceps</i> | Blyths Reed Warbler |
| 100. | <i>Oriolus oriolus</i> | Eurasian Golden Oriole |
| 101. | <i>Phyton molurus</i> | Ajagar |
| 102. | <i>Phyton reticulatus</i> | Ajagar |
| 103. | <i>Eryx conicus</i> | Ghonus |
| 104. | <i>Eryx johnii</i> | Dutondya |
| 105. | <i>Oligodon arnensis</i> | Kukari |
| 106. | <i>Lycodon aulicus</i> | Kavdya |
| 107. | <i>Coluber grscilism</i> | Chitrang |
| 108. | <i>Micropisthodon plumbicolor</i> | Gavtya |
| 109. | <i>Xenochropis piscator</i> | Divad |
| 110. | <i>Elaphae Helena</i> | Taskar |
| 111. | <i>Coluber mucosus</i> | Dhaman |
| 112. | <i>Argyrogena fasciolatus</i> | Dhulnagin |
| 113. | <i>Acrochordus granulatus</i> | Ekeri |
| 114. | <i>Boiga trigonata</i> | Manjarya |
| 115. | <i>Bungarus caeruleus</i> | Manyar |
| 116. | <i>Naja naja</i> | Nag |
| 117. | <i>Doboia russellii</i> | Ghonus |