M.S.S.P. Mandal Partur's

Swami Vivekanand Senior College,

Mantha Tq. Mantha, Dist. Jalna- 431504

Green Audit Manual

2018-2019

Prepared by

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Approved by

Dr. B.D. Khandare

Principal
Swami Vivekanand Sr.
College Mantha Dist. Jalna

M.S.S.P. Mandal Partur's

Swami Vivekanand Senior College, Mantha

Environmental Awareness Activities

INDEX

Swami Vivekanand Senior College Mantha Dist. Jalna

PRINCIPAL

Swami Vivekanand Sr. College
Mantha Tq. Mantha

GREEN AUDIT MANUAL

1. INTRODUCTION OF THE COLLEGE

Swami Vivekanand Senior College was established in June 1993 by the great visionary of Late. Babasaheb Aakat. It was his conviction that education is the only solution to all problems of the society. Initially higher education in backward, rural and hilly region like Mantha was dream only, but it was came in truth due to striving and tireless efforts of Marathwada Sarvoday Shikshan Prasarak Mandal. Due to the noble efforts of Secretary of M.S.S.P.M., Hon'ble Shri Kapilbhaiya Akat, a light of education is spread in the lives of rural and poor youth in this region that making them self-relient and disciplined for creation of leadership in all walks of life.

It is affiliated to Dr. Babasaheb Ambedkar Marathwada University, Aurangabad and recognized under the section 2 (f) and 12 (B) of the UGC Act 1956.

National Assessment and Accreditation Council (NAAC) Bangalore has re-accredited the college with prestigious "B" grade with CGPA 2.20 in July 2015. The affiliating University also conferred 'Ideal NSS Unit Award' in 2014 to the institute acknowledging its spirit in social activity. Institute has located in 03 acres areas of green and eco-friendly campus. It imparts education to nearly 2000 rural youth every years; 50% of them belongs to SC/ST/OBC. Women and other vulnerable sections of the society. We run traditional programme like B.A., B.Com., B.Sc. and M.A.

Environmental Policy of the Institute

M.S.S.P. Mandal's Swami Vivekanand Senior College, Mantha Dist. Jalna is committed to eliminate or reduce all forms of environmental pollution and encourages all faculty members, staff, students and others to do the same and believe that environmental protection is an integral part of the development. Our environmental policy includes:

- To raise awareness of environmental issues among its staff/students/visitors and encourages initiatives leading towards a clean environment.

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- To promote the 3 R's for waste in the following order: Reduce, Reuse and Recycle and provide convenient waste collection points and guidance for the disposal of Paper, Cardboard, Glass, Plastic, Electrical equipments and white goods, Hazardous waste and e-wastes.
- To plant more and more trees to sustain the biodiversity.
- To explore options for using waste / roof water wherever possible.
- To comply with all applicable legal and regulatory requirements for the protection of the environment.
- To minimize waste generation by developing recycling systems and eco-friendly waste disposal practices.
- To replace, wherever possible old conventional methods by more eco-friendly techniques.
- To develop paperless system wherever possible by giving emphasis on digitalization process.
- To develop operating procedures to conserve natural resources and energy by minimizing their consumption and wastage.
- To develop system and procedures to reduce sound pollution and air pollution.

This environmental policies are reflection to our National commitment towards environmental protection for more safe and healthy working. Environmental conservation is one of the most important aspects to maintain health. It will be definitely a strong Environmental conservation movement, if the awareness about Environmental conservation is instructed to the students from their college days.

Eco-friendly college campus, tree plantation, water conservation, waste management, noise pollution management, air pollution management, water pollution management, Environmental conservation, awareness activities, human health and safety through all such activities the college has made contribution for envoi mental protection. The annual audit for these events is certainly beneficial for the students, society and the college.

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Mantha, Tq. Mantha, Dist. Jalna 431504.

2. COMMITTEE FOR THE GREEN AUDIT

The green audit committee will act as per the environmental policy and shoulder the responsibility of maintaining and protecting environment surrounding the college.

The aim of the committee is to provide advice for the development of environmental policy and practices in the areas of...

- ✓ Waste management
- ✓ Soil management
- ✓ Biodiversity and threatened species preservation
- ✓ Energy use and conservation
- ✓ Eco-friendly techniques
- ✓ Noise pollution
- ✓ Air pollution
- ✓ Paperless operating procedures
- ✓ To create a healthier, tobacco-free campus
- ✓ To maintain plastic free College campus

Constitution of the Committee

Sr. no.	Name	Designation	Title in committee
1.	Dr. B.D. Khandare	Principal	Chairman
2.	Dr. R.B. Kakde	Assistant Professor	Co-ordinator
3.	Dr. V.B. Jagrut	Assistant Professor	Member
4.	Dr. B.S. Kharat	Assistant Professor	Member
5.	Dr. T.B. Dhondge	Assistant Professor	Member
6.	Dr. G.D. Mule	Assistant Professor	Member

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3. REPORT ON BIODIVERSITY AT THE COLLEGE CAMPUS

Table a: Angiospermic plants studied at College campus

Common name	Botanical name	Family	Medicinal uses	Number of plants
Petari	*Abutilon indicum*	Malvaceae	Demulcent, aphrodisiac,laxative, diuretic, sedative, astringent, expectorant, tonic, anti-inflammatory, anthelmintic, and analgesic and to treat leprosy, ulcers, headaches, gonorrhea	11
Kuppi	*Acalypha indica* L.	Euphorbiaceae	Laxative, antihelmintic, emetic, expectorant, treatment diseases of teeth and gums, stomach ache	08
Babul	*Acacia nilotica*	Mimosaceae	Diarrhea, Dysentery	03
Aghada	*Achyranthes aspera* L.	Amranthaceae	Anti-inflammatory, Hemorrhoids, indigestion, cough, asthma, anemia,jaundice and snake bite	Numerous
Korphad	*Aloe vera*	Liliaceae	Antimicrobial, skin diseases, cough	03
Shishir	*Albizia lebbeck*	Mimosaceae	*leaves* is used to treat Night Blindness, bark is astringent, Diarrhoea , Dysentery and Haemorrhoids	04
Sitaphal	*Annona squamosa*	Annonaceae	Dysentery, Skin disease	08
Ramphal	*Annona reticulata*	Annonaceae	Dysentery, Skin disease	09

Swami Vivekanand Senior College Mantha Dist. Jalna

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Swami Vivekanand Sr. College
Mantha, Tq. Mantha, Dist Jalna-431504.

Piwala Dhotra/ Ringani	*Argemone maxicana* L.	Papavaraceae	Painkiller, diuretic, cholagogue and anti-inflammatory	09
Mogra	*Arabian jasmine*	Oleaceae	Diarrhea, aphrodisiac, sedative	04
Bel	*Aegle marmelos*	Rutaceae	Digestive problems	02
Shatavar	*Asparagus racemosus*	Liliaceae	To increase milk, to overcome body weakness and to improve memory	02
Neem	*Azadirechta indica*	Meleaceae	Cosmetics, skin diseases, cough	18
Panfuti	*Bryophyllum calycinum* Salisb.	Crassulaceae	treatment of kidney stones, diarrhoea, dysentery, cholera, acute nephritis	03
Shivlingi vel	*Bryonopsis laciniosa*	Cucurbitaceae	Aphrodisiac, treatment of female infertility, Seeds: anti-inflammatory, anti-fungal, antimicrobial, analgesic, antihyperlipidemic, spermatogenic and antipyretic properties	06
Sadabahar	*Catharanthus roseus*	Apocynaceae	Ornamental	04
Rantakala	*Cassia sofera*	Fabaceae	Analgesic, anthelminthic, bronchitis	02
Kandvel	*Cissus quandrangula*	Vitaceae	Bone fracture	02
Ruchki	*Calotropis gigentia*	Asclepiadaceae	Rheumatism, filariasis, wounds, glandular swellings, eczema, pigmentation and other skin inflammations.	04
Coconut	*Coccus nucifera* L.	Arecaceae	Diuretic, laxative, antidiarrhoeic	02

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Mantha, Tq. Mantha, Dist Jalna-431504.

Vasanvel	*Cocculus hirsutus*	Menispermaceae	Rheumatism, arthritis, muscle swelling, insect bites, pains	06
Gulmohor	*Delonix reisia*	Fabaceae	Antimicrobial, *Anti*-diabetic activity, *Anti*-diarrheal	03
Bamboo	*Dendrocalamus strectus*	Poaceae	Furniture	02
Avla	*Emblica officinalis*	Euphorbiaceae	Gum problems	02
Nayi/ Katvinayi	*Enicostema axillare*	Gentianaceae	Treat diabetes, rheumatisum, ulcer, hernia, swelling, itching and insect poising	Numerous
Umbar	*Ficus reclmosa*	Moraceae	Diabetes, Dysentery, carminative, astringent	04
Nandruk	*Ficus benjamina*	Moraceae	Ornamental	07
Jaswand	*Hibiscus rosa-sinensis*	Malvaceae	Menorrhagia, liver disorders, high blood pressure and as an aphrodisiac, arthritis, boils and coughs	03
Ghaneri	Lantana camara	Verbenaceae	Antimicrobial, fungicidal and insecticidal, cancer, *skin* itches, leprosy, rabies, chicken pox, measles, asthma and ulcers	08
Subabhul	*Laucaena leucocephala*	Fabaceae	Furniture, cattle fodder	
Amba	*Mangifera indica*	Anacardiceae	Leucorrhea, Dysmenorrheal	02
Shewaga	*Moringa olefera*	Moringaceae	Antioxidant, arthritis, cancer, stomach pain, , astringent, laxative	02
Karry leaves	*Murraya koenigii*	Rutaceae	Enhancing blood circulation, digestion, anti-inflammatory, flavouring vegetables	06
Kanheri	*Nerium indicum*	Apocynaceae	Insecticide, rat poison and parasitic	01

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Mantha, Tq. Mantha, Dist Jalna-431504.

Tulsi	*Ocimum tenuiflorum*	Lamiaceae	Antimicrobial, to check ear-ache, to reduce tooth-ache	02
Bhui awala	*Phyllanthus niruri*	Phyllanthaceae	Jaundice, dyspepsia, ulcers, wounds, chronic dysentery, diabetes, dropsy and menorrhagia	Numerous
Jangli Jalebi/ Vilayati chinch	*Pithecolobium dulce* (Roxb.)	Fabaceae	Constipation, Fever, brain stroke, sore throat, antibacterial	33
Pandhra chafa	*Plumeria alba*	Apocynaceae	Purgative, remedy for diarrhea, cure of itch, bronchitis, cough, asthma, fever *bleeding* piles, dysentery, blood disorders and tumors	01
Ashoka	*Polyalthia longifolia*	Annonaceae	Grown as ornamental plant, effective in alleviating noise pollution	12
Karanj	*Pongamia pinnata*	Fabaceae	Oil used in rheumatism, leaves: colds, coughs, diarrhea, dyspepsia, flatulence, gonorrhea, and leprosy, roots: *leaning* gums, teeth, and ulcers	09
Peru	*Psidium guajava*	Myrtaceae	Inflammation, diabetes, caries, wounds, pain relief, fever, *diarrhea*, rheumatism, lung diseases, and ulcers.	03
Erand	*Ricinus communis*	Euphorbiaceae	Birth control, constipation, leprosy, and syphilis	03
Rose	*Rosa indica*	Rosaceae	Antimicrobial	01
Hadga	*Sesbania grandiflora*	Fabaceae	Hepatitis	02
Laxmitaru	*Simarouba glauca* DC	Simaroubaceae	Furniture, manufacture of biofuel, soaps, detergents, lubricants, varnishes, cosmetics, and	64

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Mantha, Tq. Mantha, Dist. Jalna-431503

			pharmaceuticals, *diarrhea*, *dysentery*, malaria, anemia	
Snake plant	*Sansevieria trifasciata*	Asperagaceae	Acne, allergy, analgesic	02
Jambhul	Syzygium cumini	Myrtaceae	Bronchitis and asthma, Stomach problems, astringent	02
Badam	*Terminalia catapa*	Combretaceae	Liver diseases, Diarrhea, Dysentery Anitoxident	09
Tantani	*Tridax procumbens* L.	Asteraceae	Antiviral, anti oxidant antibiotic efficacies, wound healing activity, insecticidal and anti-inflammatory activity	Numerious
Tamarind	*Tamarindus indica*	Fabaceae	Jam, jellies, chutney	07
Yellow bell	*Tecoma stance*	Bignoniaceae	*Diuretic*, Tonic, Antisyphilitic and antioxidant	03
Gulvel	*Tinospora cordifolia*	Menispermeaceae	Used in fever	12
Thuja	*Thuja orientalis*	Cupressaceae	Bronchitis, skin infection, cold sore	02
Bor	*Ziziphus jujuba*	Rhamnaceae	Reduces anxiety and insomnia, and as an appetite stimulant or digestive, liver and bladder diseases, sedative	27

Table b: Fungal diseases studied at college campus

Sr. no	Host	Pathogen	Name of disease
1.	*Albizia lebbeck*	*Ravenallia sp.*	Leaf spot
2.	*Arachis hypogaea*	*Cercospora arachidicola*	Tikka disease
3.	*Terminalia catappa*	*Fusarium solani*	Leaf blight disease

Swami Vivekanand Senior College Mantha Dist. Jalna

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Abutilon indicum (Petari)

Annona squamosa (Sitaphal)

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Acacia nilotica (Babhul)

Albizia lebbeck (Shirish)

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Cissus quandrangula (Kandvel)

Delonix reigia (Gulmohor)

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Enicostema axillare (Nayi)

Phyllanthus niruri (Bhui awala)

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Pongamia pinnata (Karanj)

Tinospora cordifolia (Gulvel)

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Table c: Diversity of wood rotting fungi at college campus

Botanical name	Common name	Substrate/ Host	Season	Edible
Amanita vaginata (Bull. ex Fr.)	Grisette	Damp soil	Rainy 2018	Yes
Auricularia cornea (Mont.) Sacc.	Wood ear	Woody debris of *Acacia nilotica*	Rainy 2018	Yes
Calocera cornea - (Batsch) Fr.	Jelly fungus	Woody debris of *Acacia nilotica*	Rainy 2018	No
Coprinopsis lagopus var. lagopus (Fr.) Redhead, Vilgalys & Moncalvo, Johnson & Hopple	Hare's foot Inkcap	Grows on humus-rich soil, leaf litter, and increasingly on woodchip mulch.	Rainy 2018	No
Coprinellus micaceus (Bull.) Vilgalys, Hopple & Jacq. Johnson	Glistening inkcap	Debris of Agriculture wastes	Rainy 2018	Yes
Cyathus novaezelandiae Tul. & C. Tul	Nest fungus	Woody debris of *Bambosa* sp.	Rainy 2018	No
Daldinia concentrica (Bolton) Ces. & De Not.	King Alfred's Cake	Woody debris of *Annona squamosa*	Rainy 2018	No
Cerrena unicolor (Bull.) Murrill	Mossy maze	Woody debris of *Azadirechta indica*	Rainy 2018	No
Ganoderma lucidum (Curtis) P. Karst.	Lacquered Bracket	*At the base of Azadirechta indica*	Rainy 2018	Yes
Guepinia spathularia (Schweinitz)	Fan shaped jelly fungus	Babool door slit	Rainy 2018	Yes
Irpex lacteus (Fr.) Fr.	Toothed Polypore	Wood log of *Annona squamosa*	Rainy 2018	No
Marasmius rotula (Scop.) Fr.	Collared Parachute	*Acacia arabica*	Rainy 2018	No
Macrolepiota phaeodisca Bellù	--	Humus rich soil	Rainy 2018	Yes

PRINCIPAL
Swami Vivekanand Sr. College
Mantha, Tq. Mantha, Dist Jalna-431504.

Mycena ascendens (Lasch) M. Geest.	Frosty bonnet	Wood log of *Azadirechta indica*	Rainy 2018	Unknown
Pleurotus dryinus (Pers.) P. Kumm.	Veiled Oyster	*Ficus recemosa*	Rainy 2018	Yes
Polyporus alveolaris (DC.) Bondartsev & Singer	hexagonal-pored polypore	*Acacia nilotica*	Rainy 2018	Yes
Parasola leiocephala (P. D. Orton)	Pleated Inkcap	Grown at crust of brick industry	Rainy 2018	No
Phellinus robustus (L.) Quel.	–	On babool tree	Rainy 2018	Yes
Schizophyllum commune Fr.	Split Gill	*Acacia arabica*	Rainy 2018	No
Schizopora paradoxa (Schrad. : Fr.) Donk	Split Porecrust	Wood log of *Annona squamosa*	Rainy 2018	No
Scleroderma citrinum Pers.	Earthball	Humus rich soil	Rainy 2018	No
Tremella mesenterica Retz.	Yellow Brain	*Annona reticulata*	Rainy 2018	Yes
Xylaria hypoxylon (L.) Grev.	Candlesnuff Fungus	Dry woody stick of *Annona squamosa*	Rainy 2018	No

Amanita vaginata (Bull.) Fr.

Cyathus novaezelandiae Tul. & C. Tul

Swami Vivekanand Senior College Mantha

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Table d: Animal diversity at college campus

Common Name	Scientific Name	Family
Cat	*Felis catus*	Felidae
Cobra	*Elapidae naja*	Elapidae
Chameleon	*Chamaele ontidate*	Chamaeleonidae
Dog	*Cannis familiaris*	Canidae
Frog	*Anura ranidae*	Ranidae
Goat	*Capra hircus*	Bovidae
Housefly	*Musca domestica*	Muscidae
Lizard	*Sauria lacertidae*	Lacertidae
Mouse	*Rodentia muridae*	Muridae
Scorpion	*Archinida scorpionida*	Buthidae
Snail	*Cornu aspersum*	Helicidae
Squirrel	*Rodentia sciurus*	Sciuridae

Chamaeleo chamaeleon (Sarada)

Rana temporaria (Frog)

Cornu aspersum (Snail)

Funambulus palmarum (Squirrel)

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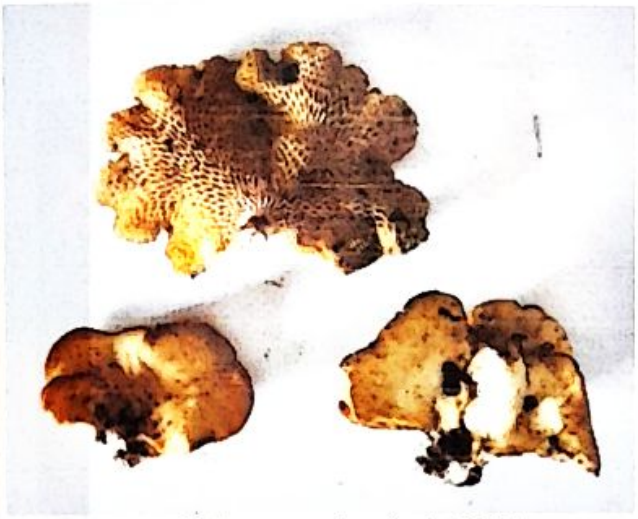
Mantha, Tq. Mantha, Dist Jalna-431504.

Cerrena unicolor (Bull.) Murrill

Daldinia concentrica (Bolton) Ces.



Polyporus alveolaris (DC.)

Schizophyllum commune Fr.

Tremella mesenterica Retz

Xylaria hypoxylon (L.) Grev.

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Mantha, Tq. Mantha, Dist Jalna-431504.

Table d: Bird diversity at college campus

Common Name	Scientific Name	Family
Cock	*Gallus gallus domesticus*	Phasianidae
Crane	*Grus leucogeranus*	Gruidae
Cuckoo	*Cuculidae cuculiformes*	Cuculidae
Crow	*Corvus corax*	Corvidae
Eagle	*Aquila accipitridae*	Accipitridae
House sparrow	*Passer domesticus*	Passeridae
Mynah	*Acridotheres tristis*	Sturnidae
Owl	*Nocturnalis Strigiformes*	Tytonidae
Parrot	*Psittacula krameri*	Psittacidae
Pigeon	*Columba livia*	Columbidae

Gallus gallus domesticus (Cock)

Grus leucogeranus (Crane)

Cuculidae cuculiformes (Cuckoo)

Passer domesticus (House sparrow)

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Mantha, Tq. Mantha, Dist Jalna-431504.

4. REPORT ON RAIN WATER HARVESTING

a. Mantha is in Marathwada region of Maharashtra, which is water scarce area. Therefore, rooftop rain water harvesting system is installed for recharging ground water and meeting part of the water requirements.

b. Rainwater harvesting recharge pits is provided for bore well.

c. Water from bore well is pumped to storage tank (Sintex, 1000 lit capacity) located on building terrace. Stored water is used for flushing and cleaning.

d. Mops are used for floor cleaning.

e. No leaking faucets were seen anywhere in washrooms.

f. If water leakage is observed, in-house plumber is called immediately to attend to the complaints.

g. Water conservation faucets in washrooms were not seen. Installation of such faucets can save water and will help in minimizing the water footprint of the institute.

h. Dual flushing system is not provided in the washrooms.

5. WASTEWATER MANAGEMENT:

a. Sanitary wastewater generated from washrooms and urinals is disposed in the pits.

b. Chemical wastewater generated in chemical labs in the institute is separated by distillation and also connected to the pits made near the chemistry lab.

c. Waste water recycle is not practiced in the institute as grey water/ sewage treatment /recycle facility is not provided.

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Mantha, Tq. Mantha, Dist Jalna-431504.

6. IRRIGATION FACILITIES

Conservation through efficient irrigation reduces water uses and promotes healthier plants. In order to achieve the maximum water savings, advanced irrigation technology and products must be used in combination with system designed and maintenances water efficiency has been achieved and the reduction of water waste has been tremendous. Irrigation system of the garden is prepared according to structural and herbal landscape, and taking into consideration water necessities, water consumption of tree plants, shrubs and other plants watering distance and watering terms of the plant groups.

The main source of the irrigation facility of the campus is bore well. Irrigation facility system of the college campus provides service to three different green spots of the campus from the main source of water bore well the pipe line is provided to all over. Water out lets and valves are operated by expert water man or concern person.

Drip irrigation is also in working for small herbaceous ornamental plants, which is one of the best water management practices of the campus. Control units are basic elements for irrigation system. Working time of the irrigation is according to water amount to be given to the trees, shrubs, climbers, are watered through pipe line manually as necessity of the plants. Gardeners of the college campus manually watered plants through pipe line so water saving is positively maintained.

In the month of April and May due to scarcity of water, as dry and hot climatic condition water supply problem arises both from natural and artificial sources. Water level of bore well goes down and merely it is dried up day by day. This is the big challenge to the college authority to maintain the flora of college campus. To overcome this problem college authority seeks the help of private agencies to supply water tankers to the campus.

PRINCIPAL
Swami Vivekanand Sr. College
Mantha, Tq. Mantha, Dist Jalna-431504.

7. PURIFIED DRINKING WATER

Water is a fundamental human need. Each person on Earth requires at least 20 to 50 liters of clean, safe water a day for drinking, cooking, and simply keeping themselves clean. Your body weight is more than 50% water. Without water, you couldn't maintain a normal body temperature, lubricate your joints, or get rid of waste through urination, sweat, and bowel movements. Not getting enough water can lead to dehydration, which can cause muscle weakness and cramping, a lack of coordination, and an increased risk of heat exhaustion and heat stroke. In fact, water is so important that a person couldn't last more than five days without it.

Cryptosporidium is a pathogen that sometimes gets into water supplies. It can cause a gastrointestinal disease that could be fatal. *Nitrates* can contaminate water and pose an immediate threat to infants. In the intestines, nitrates are converted to nitrites, which prevent blood from transporting oxygen. An enzyme present in the system of older children restores the blood's ability to carry oxygen. *Lead* can cause both physical and mental developmental problems in infants and children. Adults who have been drinking lead-tainted water for a number of years can experience kidney problems and high blood pressure. Polluted water isn't just dirty—it's deadly. Some 1.8 million people die every year of **diarrheal diseases** like **cholera**. Tens of millions of others are seriously sickened by a host of water-related ailments—many of which are easily preventable.

Education suffers when sick children miss college. To avoid this, institute has installed RO water purifier plant in college campus of cost Rs. 97, 500/-. This plant purify 1000 liter of water in 30 minutes. Purified water has its more importance in rainy season as this season brings number of diseases caused due to drinking of contaminated water. Students and all college staff benefited by this plant.

Swami Vivekanand Senior College Mantha Dist. Jalna

PRINCIPAL
Swami Vivekanand Sr. College
Mantha, Tq. Mantha, Dist. Jalna-431504.

REVERSE OSMOSIS WATER PURIFIER UNIT

RO Purified water filter plant was inaugurated by the auspicious hands of M.S.S.P.M. Secretary Hon'ble Shri Kapilbhaiya Akat, Principal Dr. B.D. Khandare, Vice Principal Dr. S.K. Kamalkar and Dr. B.P. Sarwade, Dr. Netaji Muley, Dr. Rajendra Kakde, Dr. Jawalekar, O.S. Mr. Kharabe etc.

Hon'ble Shri Kapilbhaiya Akat inaugurated RO Purified water filter plant by switching on the button in presence of Principal Dr. B.D. Khandare, Vice Principal Dr. S.K. Kamalkar and Bhagwan Rathod

PRINCIPAL
Swami Vivekanand Sr. College
Mantha, Tq. Mantha, Dist Jalna-431504.

SOLID WASTE MANAGEMENT

a. Plastic free environment

Our campus is plastic free zone and is also creating awareness amongst the students and staff members regarding the bad effects of plastic by display boards and other programmes.

b. Dustbins in the premises

In order to avoid the spreading of litter, all the laboratories, class rooms, cabins and corridor are provided with dust bins.

c. E- Waste management:

E-Waste materials are kept in a separate store-room with a dead stock register. Drives, Monitors, Keyboards, Cartridges, etc. is disposed through outside agencies as a scrap. UPS batteries are recharged/repaired/exchanged by the suppliers. The cartridge of laser printers is refilled outside the college campus.

d. Minimum use of Xerox / printing

In our college maximum data is converted to soft copies and procedures are digitalized which minimizes the use of printing papers. We also put warning stickers on each Xerox / printing machines to minimize use. Whatsapp, Messenger app and E-mail facilities are used to send the notice instead of paper print. Hence, maximum working procedures are paperless.

8. HARMFUL CHEMICAL MANAGEMENT FROM LABORATORY

For this two separate atrophy pits were made. First of all chemicals discharged from Chemistry, Botany and Zoology lab were separated by distillation process. Then separated less hazardous chemicals were allow to discharge in one pit. In another pit solid chemicals were disposed. Chemical utensils, cans or containers were collected scientifically and sent to professional cans, containers collectors, due to that soil pollution is prevented.

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Partur Tq. Partur, Dist. Jalna-431504.

9. SOUND (NOISE) POLLUTION MANAGMENT:

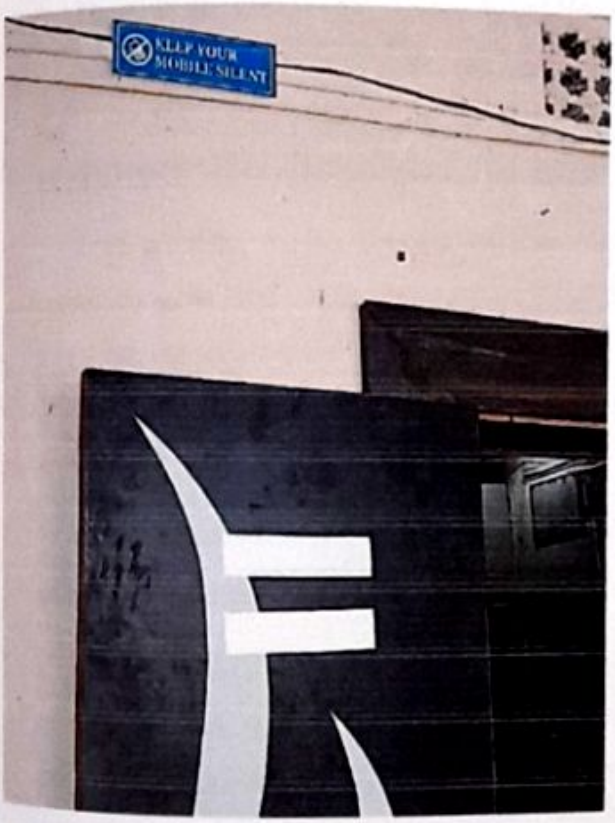
In order to avoid sound pollution in the college campus, or to avoid causing noise, the college has tried various means to prevent sound pollution.

a. Silence Zone:

The campus has been declared as silence zone and the students have been instructed with the help of boards of silence zone.

b. Notification on Using Mobile in Silent Mode:

An instruction has been given to students to operate mobile phones in silent mode by displaying small boards especially at the library.



Swami Vivekanand Senior College Mantha

PRINCIPAL
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Mantha, Tq. Mantha, Dist. Jalna 431504

10. ELECTRICITY USE AT COLLEGE

a. All the computers have LED screens; Computers are always kept on standby mode with power saving screensavers.

b. In order to save energy, the college saves energy by using LED tubes and bulbs.

c. Since the design of classrooms is intended in a such a way that , the classrooms will remain well ventilated and full of light so the requirement of tube lights and fans will be very less hence energy can be saved.

d. Non-teaching staff switches on all lights & fans in morning and shut down directly in evening.

e. There are no signage encouraging users to switch off light and fans to save electricity. Providing signage through screensavers & posters near electrical switches will help in making students responsible for conservation of electricity.

f. There is no renewable source of energy used e.g. Solar, Wind. However, the institute is planning installation of solar panels to meet the electricity requirements in the FY 2019 - 2020.

11. TREE PLANTATION AND ENVIRONMENTAL CONSERVATION

Tree planting is the process of transplanting tree seedlings, generally for forestry, land reclamation, or landscaping purpose. It involves planting seedlings over an area of land where the forest has been harvested or damaged by fire, disease or human activity. Tree planting is grounded in forest science and if performed properly can result in the successful regeneration of a deforested area.

Because trees remove carbon dioxide from the air as they grow, tree planting can be used as a geoengineering technique to remove CO_2 from the atmosphere.

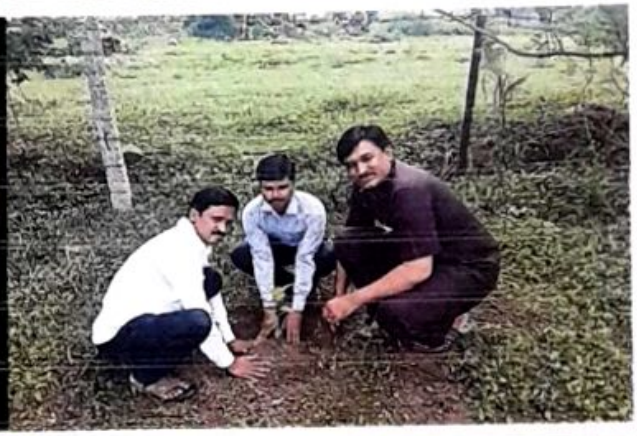
Environmentalism is an ideology that evokes the necessity and responsibility of humans to respect, protect, and preserve the natural world from its anthropogenic (caused by humans) afflictions. Environmental awareness is an integral part of the movement's success. Environmental awareness proves important for several reasons; it fosters a sense of connection to the natural world, promotes sustainable development and encourages conservation of irreplaceable natural resources and vulnerable plant and animal species.

In developing country like India, due to globalization, industrialization and urbanization forest and biodiversity is going to decline so along with tree plantation environmental awareness is also

PRINCIPAL
Swami Vivekanand Sr. College
Mantha, Tq. Mantha, Dist Jalna-431504.

important. There is provision of a subject of environmental awareness to every graduation. Apart from that our collage takes initiative for the tree plantation and environmental awareness. College authority forms a committee for tree plantation programme and environmental awareness, this committee continuously worked throughout the year. College also arranged 'Vanmohatsav', 'Vruksharopan' Programme during rainy season. N.S.S. students arranged 'Vrukshdindi' in town for the awareness of tree plantation.

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Mantha. Tq. Mantha, Dist Jalna-431504.

12. AIR POLLUTIOIN MANAGEMENT

In college campus vehicle pollution is the introduction of harmful material in to the environment by motor vehicles. These materials, known as pollutants, have several bad effects on human health and the ecosystem. Examples of such pollutants include Carbon monoxide, Hydrogen, Nitrogen Oxide, particulate matter, Ammonia and Sulphur Dioxide. Transportation is a major source of air pollution in many countries around the world due to the high number of vehicles that are available on the roads today. An increase in purchasing power means that more people can now afford cars and two wheeler vehicles and this is bad for the environment. Vehicles introduce toxic materials into the atmosphere through different ways. Given that they are machines, they emit several substances as waste products, and these substances are the ones that cause environmental pollution.

In the college campus number of vehicles are used for transportation by staff members and students also, air pollution become a major problems, but to overcome this problem college authority manages the transportation pattern of the college campus. Majority of the students and staff of campus come from nearby villages so they prefers bus services for transportation. Some students from town mostly girls students prefers bicycles, which is one of the most advantage of this transportation management programme.

Types of vehicles are classified like, two wheelers, car (petrol), car (diesel), etc. Two wheeler users are also found more. Parking facility of campus is found eco-friendly, parking shade, covered by plantation of big trees like *Delonex regia, Simarouba glauca, Ficus recimosa, Annona reticulata*, etc. are found. In order to maintain greenery, four wheeler parking and two wheeler parking are separate. Smoking and any type of material burning that causes air pollution is restricted in the college premises. To contribute world environmental awareness programme and to face the challenges of energy crises, in the campus **"No vehicle Day"** in a week, is maintained. Students and staff members strictly follow No vehicle Day in a week. This initiative has helped to reduce air pollution and create awareness about air pollution to students and community

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Swami Vivekanand Sr. College
Partur Dist. Jalna, Maharashtra

13. RECOMMENDATIONS/ SUGGESTIONS:

I. For Improving Energy Consumption:

a. Every classroom and lab with central switch board should have a diagram linking place of tube light, fan etc. with corresponding switch. This will ensure that correct fitting is switched on/ off and can save time & unnecessary operation.

b. Installation of automatic lights with sensors can be considered.

c. Conduct energy audit and determine the lux levels within institute. Based on which reduction in number of light fittings in the institute could be considered.

d. For purchasing new electronic appliances, star rating provided by Bureau of Energy Efficiency (BEE) should be considered. The equipment which has maximum star ratings could be purchased, which will consume less energy, ensure environmental sustainability and also operate at low cost.

e. Usage of light reflectors is recommended as the reflectors can spread light to relatively large areas.

f. If possible, computers should be switched off from main power connections.

g. Notices/ signage can be put up/ displayed near switches and on notice boards, informing students and staff to switch off all electricals when not in use.

h. Use of renewable energy should be considered.

II. Water Conservation:

a. Encourage efficient water use and reporting by installing water meters at key locations. Provide information on water usage and savings to students/ staff through notices, screen savers in computer labs.

b. Minimize/ reduce water usage by installing water saving faucets such as tap pressmatic taps, tap aerators, jet sprays etc.

c. Dual flushing system can be installed for toilet flushing which saves considerable amount of water.

d. Grey water/ sewage recycling system can be installed for flushing toilets. This will reduce the fresh water footprint of institute.

e. Installation of waterless urinals can be considered to reduce water consumption.

PRINCIPAL
Swami Vivekanand Sr. College
Mantha, Tq. Mantha, Dist Jalna-431504.

f. Water balance diagram can be prepared to quantify the water consumption by installing water meters at key points. Based on data gathered, appropriate measures can be taken to reduce the water consumption. Encourage efficient water use.

III. Paper and other Solid Waste Reduction

a. Inventories of all solid waste generated in the premises must be maintained.

b. There should be solid and liquid waste segregation practices at source by providing separate bins.

c. Enhance recycling. This can be done by creating a group where students can recycle books, personal clothes and other material to needy students. This can be an initiative under green program.

d. Standard Operating Procedures (SOP) for Solid and E-waste management and for recycling of waste should be prepared & practiced. The SOP's may include collection, segregation and reuse of different types of wastes, if any (e.g. biodegradable waste for composting). This will help in safe disposal of waste to recycle agencies.

e. Training as well as awareness programs should be organized on segregation of biodegradable wastes and recycling of waste. Efforts should be taken to inform students about recycling options and signs should be posted on appropriate bins indicating what could be dumped in each bin.

f. The college can introduce online medium/ app, which can be useful for conducting internal exams, assignment/ reports submission. This system can also be used for displaying important notices, timetables.

IV. Others

a. Environmental advisory committee could be formed. The discussions/ information sharing among different departments can generate lot of ideas and awareness on green issues.

b. Maintain minutes of meetings of environmental committees; evaluate the effectiveness of various environmental programs conducted by the institutes. Set annual targets for Green Initiatives & monitor them closely. Create 'Green Champions'.

c. Since student uses computer lab, the screen savers can be set up for creating environmental awareness. Short 30 second pop up can be displayed on computer screens when they are on

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