

Baburao Patil College of Arts and Science Angar

‘Clean Campus Green Campus’

Chairman	:	Dr. R. R. Deshmukh
Member	:	Dr. M. N. Raut
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Institutions of higher education play important role in moving societies toward more sustainable practices. Colleges and universities are involved in process of teaching and critical thinking about sustainability and their primary target group is students. Campuses can create a continuous flow of graduates interested and capable of promoting sustainable development of the society. Considering such role of educational institutes the college has developed the practice of Clean and Green Campus. In this programme students are involved to develop the ethics of environmental education.

Goal:

- To train students to put knowledge acquired in the classroom to practical application (This practice aims to enable students to imbibe higher research culture and “lab to land “practice whereby they can apply what they have learned to practice that can benefit the society and environment.)
- To train students to become protectors of nature and to make a difference to the endangered Planet Earth.
- To promote awareness on environmental issues
- To spread the message of greening and cleanliness

The Context:

- It is a topic of hot debate that the Earth is in desperate need for caretakers who aim at reducing pollution of different kinds. Global Warming, Greenhouse gases, Ozone layer depletion, Ecosystem, Environmental Studies, Earth Day etc., are common place terms now.
- Trees and plants help restore the quality of air we breathe and help to keep earth at the right temperature. Planting of more and more trees curbs global warming, an alarming phenomenon these days.

- Awareness programmes and seminars on the protection of the environment create in students a research orientation on environmental issues. This knowledge is put to practical application through the Green Campus -Clean Campus Practice.
- The institution is highly conscious of its environmental responsibility. The Green Campus -Clean Campus Practice orients the student community about their responsibility to the environment and makes them active participants in greening drives.

The Practice:

A research culture mode is integrated into the practice of the curriculum through frequent invited talks, workshops and seminars. Experts from Government organizations and the fields of Geology, Environmental Studies and Life Sciences are invited for lectures and interactions with the students. There are a number of projects undertaken by faculty and students on ecological concerns in addition to a number of publications.

Efforts undertaken towards Green Campus Clean Campus

- UG Projects undertaken by Environmental Studies and Life Science students give priority to environmental issues like pollution, Biodiversity conservation and remedies to the environmental problems.
- Every effort is taken to keep the campus green and clean. The institution understands the need to preserve Earth.
- No vehicle day twice in a month.
- Reuse of papers.
- Trees have been planted both within the campus and outside. Plants, of the flowering, vegetable and medicinal variety, are visible in the campus.
- Saplings have been distributed to the students and nearby houses through NSS
- Students are encouraged to be active members of the Science club.
- Care is taken to keep the campus, pollution and plastic free.
- There is restricted vehicle entry during working hours and a separate parking lot.
- There are dustbins in strategic places with a system of effective waste disposal.
- Students are encouraged to keep their classrooms and common spaces clean. There is a Cleaning Day for the campus spearheaded by the NSS unit.

Evidence of Success:

The evidence of the success of the practice is the green and clean campus itself. The entrance of the college is lined up with Ashoka trees to provide a lush green look as well as a protection against pollution. The College also has sizeable amount of flowers, vegetables, botanical and medicinal gardens etc. which is a proud testimonial to how the green mission envisaged by the Founders of the Institution continues to be preserved even today.

Problems Encountered and Resources Required:

- Availability of time is the main constraint in the implementation of the practice.
- The tight schedule of the semester system provides very little spare time. Students make use of weekends and special holidays.
- There is also the need for more garden and cleaning equipment.
- Additional spaces can also be allotted in the campus for greening activities.

Notes:

The Green Campus–Clean Campus Practice is a healthy practice that all institutions can adopt. It encourages in students a love of nature and makes them active protectors of the earth. What is required is some specific spaces allotted for greening in the College campus .A feedback mechanism on the practice is mandatory to ensure positive results

The Clean and Green Campus is collaborative move of the four different Committees Science/Nature Club, College Garden Committee, NSS and Environmental Awareness Cell. Clean and Green -Campus is holistic motto aiming to make environmental awareness and action an intrinsic part of the life and ethos of educational facilities. This should include the students, academic staff, non-teaching staff, local peoples, and visitors. Clean and Green - Campus endeavors to extend learning beyond the classroom/lecture theatre to develop responsible attitudes and commitment, both at home and in the wider community. Clean and Green -Campus does not aim to specific environmental improvement only instead it seems long term commitment to continuous improvement from the campus to community through the students.

Mostly people care deeply about environmental issues, and wish to make a positive change in the environment around them. The Green and Clean -Campus Programme provides a means to foster environmental awareness among the students in a way that links to everyday activities and study.

The Clean and Green -Campus Programme embrace a number of different themes

- *Energy conservation*
- *Use of renewable energy*
- *Water harvesting*
- *Efforts for Carbon neutrality*
- *Plantation*
- *Hazardous waste management*
- *e-waste management*

Activities arranged:

- **Seminar on Environmental issues**
- **Making Posters**
- **Water Testing**
- **Survey on Waste produced in campus**
- **Survey on consumption of electricity & water in campus**
- **Movie Presentation**
- **Power Presentation**
- **Plantation**
- **Drawing Competition**

Garden:

The College did not have large space to develop special garden, but still it has small patches where the plants can be cultivated and maintained. Therefore a large, a grand scale garden is not aimed. In the garden there are some plants like *Polyalthia longifolia* (Sonner) Thw. containing an aspiring group of *Sequoiadendron giganteum* (Wellingtonia), *Calocedrus decurrens*, *Peltophorum pterocarpum* (DC.), *Tectona grandis* Linn.f.etc along with some

flowering shrubs like *Ixora coccinia* L. *Indigofera linifolia* Retz *Hibiscus rosa-sinensis* Linn
Duranta erecta Linn.

On the inner side there is space where some flowering plants have been cultivated for decoration purpose. A short wing of medicinal plant is under the development. Various types of colour combinations have been used in the garden, from complementary pink, greys, purples and blues etc. On the side of canteen there is border of *Duranta* and *Hibiscus* which gives a look to the canteen as well as garden.

Energy conservation

Energy conservation has been a top priority at in the PNM Campus and the various measures taken towards energy conservation. Use of energy saving/economic infrastructural plan and instruments like CFL/LED Lamps. The construction of college building is used as per the optimum use of natural light and air flow in the class rooms. The college campus is switching over to Compact florescent light (CFL/LED) bulbs from the ordinary incandescent light bulbs. The other electric instruments are selected on the merit basis of their consumption of electricity.

Green Team

Students contribute to the green project through their representation in the college Green Team/NSS volunteers. The Green Team representative have to take care of the electric instruments like bulbs, tubes, fans, computers, water cooler and any other in the classroom/laboratories and premises. They are informed about their responsibilities in using these instruments. This makes putting off lights/fans etc. a simple and easy task.

Use of renewable energy

There are various types of Renewable energy sources available, but adoption of solar energy under renewable energy was the best course of action in the existing circumstances. Solar technologies are broadly characterized as passive or active solar technologies depending on the way these equipments capture, convert and distribute solar energy. Active solar techniques include the use of photovoltaic panels and solar thermal collectors to harness the energy. Passive solar techniques include orienting a building to the Sun, selecting materials with favorable thermal mass or light dispersing properties, and designing spaces that naturally

circulate air. Since the structure (building) of PNM is though 40 years old, it is according to active solar techniques. Along with this PNM also adopted Passive solar techniques. Solar Power pack of 5 KW has been installed by spending the amount of Rs 375000. It has installed on the roof by considering the convenience and availability of sun light to trap solar energy. This initiative has helped reduce power consumption from MSEB. This will be helpful in the reduction of carbon emission.

Organic Composting

Recently the college has started the facility of composting in the campus for recycling the biological waste produced/obtained in the college campus through various activities. Composting is a simple way to add nutrient-rich humus which fuels plant growth and restores vitality to depleted soil. It's also free, easy to make and good for the environment. The facility is used in multiple ways, as demonstration for students and visitors, as awareness tool for students about the eco-friendly method of waste management and as a provider of fertilizers to the college garden.

The organic composting plays important role in the environmental problems by

Soil conditioning: With compost, you are creating rich humus for lawn and garden. This adds nutrients to your plants and helps retain moisture in the soil.

Recycling kitchen and yard waste: Students are inspired for the composting at their home. Composting can divert as much as 30% of household waste away from the garbage can.

Introducing beneficial organisms to the soil: The organic composting results in to the healthy soil micro-flora. Microscopic organisms in compost help aerate the soil, break down organic material for plant use and ward off plant disease.

Goodness for the environment: Composting offers a natural alternative to chemical fertilizers. It helps by dual mean in the eco-friendly approach by recycling and reducing the industrial pollution.

Reducing landfill waste: Most landfills in all over the world are quickly filling up; many have already closed down. One-third of landfill waste is made up of compostable materials.

Water harvesting

Though the BPCAS Angar is located in the Sina river basin due to declining rainfall in last few years, every summer (period from March to June) it has to suffer from extreme water scarcity problems. To overcome this water shortage BPCAS in 2019 introduced the concept of water harvesting. There are mainly two main techniques of rainwater harvesting -Storage of rainwater on surface for future use and Recharge to groundwater. **On BPCAS campus rain harvesting was done through recharge to groundwater.** The concept was implemented by making a refilling pit around the bore well in the college premises. The water from most of the roof portion collected with the help of PVC pipeline and filtered before refilling it. To implement the scheme the management of BPCAS spent some money. The striking feature of the project was that it was developed in-house by the non teaching staff with the help of ex-students of the college. The immediate impact of the scheme was.

No water scarcity problems at all times

No water refills (water tankers) needed to overcome water shortage

No financial burden for extra water supply.

Efforts for Carbon neutrality

Certain other steps taken at BPCAS to reduce carbon emission-

- **No vehicle day** – The College has a system of no Vehicle day twice in month. On every 15th and 30th of month all staff members use public transport system to come to the college. This is a small step of college towards the carbon neutrality.
- Library Automation - Through library automation the use of paper has been reduced which is step towards paperless office.
- Transformation from paper to electronic mode (Notices to teacher and students, Notes to the students etc).
- For Students note are provided in the soft copy format this also helped in the reduced paper wastage.
- Guests greeted with Saplings- To spread awareness of environmental conservation and promote greenery PNM follows a culture of presenting saplings (in place of flowers/bouquets) to guests and experts invited in the college.
- Printing on both the sides of the sheets to control usage of paper.
- One side printed papers used for the printing of less important and/or temporary documents.

- *Village and campus Cleanliness Drive*-On the occasion of Ganpati immersion on 'Anantchatudasi' river banks are strewn with plastics, thermacol and some biological waste which eventually lead to pollution and global warming. Science club, NSS Volunteer and Nature Club member students of BPCAS act as 'Police Mitra' and 'Nisarg Mitra' on the said occasion every year.

Plantation

- In addition to various steps taken by Science/Nature club of BPCAS to offset carbon emissions, encouraging students to respect environment and conserve it through plantations is advocated. In the last five years BPCAS has planted saplings within the premises and outside. This has helped to accelerate the Clean and Green Campus project. The junior college students are also trained to be part of the project.
- The lectures of experts in Ayurved, Environment, Pollution, and Water Conservation etc. are arranged for the student and staff.

Hazardous Waste Management

- The water coming from chemistry contains different types of chemicals in it. There for this water instead of direct libration fro campus to the drainage it is stored in the pit to settle down the contaminants and the used for garden plants. The water Separation of toxic waste like chemicals, batteries etc from tame waste is followed at MDSMC. Such toxic waste could contaminate soil, air, and water if left to mix with landfill. The collected items are disposed off separately.

E-Waste Management

The management policy on e-waste management is –

- to donate old working computers to the needy staff
- The useful hardware spare parts are retained in e-waste collection area and put to use later
- Practical learning of hardware through old computers

Baburao Patil College of Arts and Science Angar

Student Research 'Avishkar'

Chairman : Dr. R. R. Deshmukh

Member : Dr. M. N. Raut

Member : Dr. Shirame S. P

Member : Mr. V.N.Kadam

Objective-

1. Identify the hidden innovative scientific talent and capacity of youth.
2. Providing opportunities for inculcating attitude of the youth.
3. Promoting talent researchers to participate in university/ state/ national events.
4. Involving the teachers to guide the students through take minor and major research projects.

Context-

The college level research competition was initiated by IQAC and research committee with the permission of Honorable principal a very unique title Avishkar. Research is an outcome basically of innovative minds in the modern era with the support of well-equipped laboratories and such other infrastructure. If the same is made by the institution at right age, if not only stimulate activity but will help to identify the student to groom further as acclaimed research in their respective field. Practice- Science the philosophy of Avishkar is to encourage the original research and develop innovative minds inculcating research culture in the institute.

In college following disciplines are taking in to consideration for participate in the research Avishkar.

a. Humanities, language and fine arts.

b. Pure Science.

c. Agriculture and animal husbandry.

d. Medicine and pharmacy.

At the beginning of academic year IQAC and research committee decide the organization of research Avishar at college level in the month of December and January. They notify the all the faculty members and research guides in the college. On the basis of above theme faculty members choose the students and work on the particular field. For academic year 2019-20, 13 faculty members are participating in the Aishkar and 21 students are participating in various disciplines. Students make the power point presentation and models for presenting the Avishkar work. Experts from the university and other colleges are invited to evaluate the research Avishkar. They evaluate the students and mention the two numbers for university level Avishkar. Out of these 21 student 6 student are nominated for university research Avishkar.